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Project Matrix: a Virtual Experience Platform for RE-Conciling Human Ecology & Urban Ecology



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ABSTRACT: A flashback to previous centuries testifies extraordinary human-lead technological prowess; from the invention of the telescope in the 17th-century, the telephone in 19th-century, the Worldwide-Web and technological revolution of 20th-21st century; it is undeniable that Humans constantly strive to overcome challenges through technological innovation by empowering/advancing humanity. Yet, we've witnessed a global disruption by a pandemic that exposed unforeseen weaknesses and exacerbated existing issues (human negligence or not). Suddenly all well-structured and reliable system-organization failed, exposing inadequacies, causing chaos and harmful damages of interconnected components including *the flows of people, health, matters, information, economy, politic, materials, communication networks, deadlines, etc.* Covid-19 spread across the globe defeated technological advancements. How could that happen in such technological era? Is Human in control of digital evolution or is the technology we invent holding us on leash? Was technology in place to leverage and tackle risks? Where we not prepared to it, or were we focused on the wrong tracks? In any case, whether by failure or negligence, Covid-19 has made history and will continue generating ink flow for decades to come. It is to help address these multi layered-multidimensional and highly complex socio-technical and temporal systems that this project intends to develop a series of applications in alignment with the SDGs. The focus is to blend the capabilities of environment scanning Apps with that of the human habitus-emotions capture, tracing and feedback collector in time and place. It requires advance analytical studies to fully understand interdependencies while respecting the relationships of all subsystems.

KEYWORDS: Geo-Information, Urban-ecology, Human-Ecology, Geospatial AI enabled Apps., Human centered Design, Therapeutic Ecology.

INTRODUCTION

At a time when we found ourselves more exposed to systems shutdown (Covid-19), when more data is collected than we know what to do with, and when more applications on smart Phone can scan our environment with accuracy like never before (*3DSizeME, 3D-Creator, Canvas, 3D Scan-Anything etc...*), it seems essential to implement an individual's efficient data collection capacity that strategically fuses scientifically-rooted studies and patterns via artificial intelligence-(AI) with geolocation to provide an intersecting node that connects; academia (*research-testing Lab-pilot projects*), industry (*startups- entrepreneurship*) and City governments (*Geo-community - Geo-Health*). This project explores systemic model-builder approach through users' engagement and participation into the development of cross-collaborative platform that intends to celebrate individual differences of users and maximize their contribution to the cloud-based *Geo-Info-HUB*¹ that will house the collective effort. This work creates research possibilities for user-centered-design and urban analytics with enhanced integration of Geoscience applications, machine-learning and automated sensors in the making of highly efficient urban and building systems. To start, we use ArcGIS *Quick-Capture-App*² (originally developed for *field capture*), for its flexibility and interoperability with other Apps such as ArcGIS Survey 1,2,3³. Students in *Human Centered Design* class customize *Quick-Capture-*

¹ Use here as a cloud-Based HUB that contains information's from users of various geographical locations that act as an *information Goods* of human psychogeography experiences and interior uses of the space across the selected research sites.

² ArcGIS QuickCapture is a field data capture app that allows you to capture data quickly. You can capture both the location and attributes of assets or incidents as you travel. *A project author determines the arrangement of buttons, how they appear, and the information they collect.*

³ ArcGIS Survey123 is a simple and intuitive form-centric data gathering solution. Create, share and analyze surveys in just three easy steps.

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app to focus on issues at hand in their area-of-interest. Other applications such as *Shmapped*⁴ have been developed for measuring user emotions, but the studies are limited to the emotions around green spaces and parks and does not provide open access or multi-location capture, it therefore limits the analysis to one specific and restricted area and can hardly help in the large-scale decision-making. Additionally, despite the improvement of online questionnaire used today, there are still issues related to accurate location during the event and users' delayed feedback, which constitute the essential components of the data collected; because in most cases, users' responses are tied to specific time and place. Having advanced tools for urban analytics is not enough, especially when most tools are focused on environment scanning and tracking users' activities without user direct feedback or opinion on the *WHYs*. To bridge the gaps, our work supports urban analytics and user emotive responses on-site, with no interference or filter by a third-party company. This reinforces the core idea of this work in developing ways to value the individuals as a key-player who contributes by making personal decision on what feedback to share of their experience. This represents an added value for user's voice to be heard, at the same time, it asks important/intimate questions; *What data or information about my mind-body-health can/should be shared with others? What rights and responsibilities do I have when it comes to changing the essence of what I have enjoyed as freedom of our individual privacy? What code are we creating for the future generation? And how does that translate to a generation that lives a different experience?* This work also explores the question of; *How to use existing networks to support a low-tech data infrastructure building created by users?* Our development will extend these capabilities by synchronizing existing data with the user's spatiotemporal data inputs. Because Urban-Science and Citizen-Science need to go well beyond advanced analytics of objective/subjective data that are not always used where they help the most, since most values of cities are rooted within the data their users generate in correlation with the built environment.

Another focus of this research is on the Systemic design through two major components: Urban Ecology (*infrastructure-energy-atmospheric*) and Human Ecology (*emotive-mobility-experiential-temporality-communication, etc....*); it explores the values that emerge from interlocking homogenous and heterogenous data. To successfully implement such fusion, new methods should be Re-imagined where objectives heterogeneous data (*location intelligence, traces, and patterns of human habitus*), coalesce with subjective data (*emotional, biased, individual, internal, instinctive, intuitive, impressionistic*) in ways that maximize and optimize unexpected new dynamics emerging from the processes. The question therefore becomes; *How do we engineer and implement a platform that permits a smooth yet engaging participation of the users to the process of building together an environment that empowers, celebrates groups and individual uniqueness as essential part of the puzzle that makes up a viable city?*

1. Research project development

This research has its focus around Social-Science and Human-Ecology and its inherent connections to Urban-Ecology. This model is developed and tested in the school of Human-Ecology at Georgia Southern University⁵ and envisions many interdisciplinary collaborations. The effectiveness of this model will depend partly on the Geo-Information HUB set up and the student's ability to collaborate, apply research into the App-building, and, on the quality of data obtained by personal device (*App., cameras, and sensors*). The project is set up as a participatory project where 74 students research and analyze an area of choice. Activities include analyzing CENSUS data, ESRI⁶'s community analyst, demographics, survey, and environment data to make diagnostics tests on the urgency, which then guides the diagnosis and development of a suitable *App* for addressing the human-centered-Design challenges of the location. The project anticipates that the tools will perform the best with the latest and more up to date devices which, then raises another challenge of inequity. Nevertheless, this work intends to use artificial intelligence technology to improve the design process by appending this layer of user information to augment the design process toward a more participatory and therapeutic design solution for all.

The result promises to create a user-centered experience model that can inform on new urban morphologies based on the reactions of individuals or groups to the existing. This research is part of a transdisciplinary framework engaging five schools "Human Ecology, Computer Science, Fashion-Merchandizing, Human-Development and Family-Science, and recreation and tourism," at Georgia Southern University. Another development will focus amongst other things on 1. *_ therapeutic approach to place and space planning for healthier and augmented social life*, 2. *_ participatory mapping and quantifying non-tangible and ephemeral events of complex urban ecosystem*, 3. *_ advancing transdisciplinary academia research based on Scientifically rooted diagnostics for therapeutic design solutions that heals the environment which in turn augments its user's performance, wellbeing, and wellness toward a superior enjoyment of life.*

⁴ *Shmapped* is an app that allows you to map your city and measures your experience of city living.

⁵ Georgia Southern University is a public research university in the U.S. state of Georgia. The flagship campus is in Statesboro, and other locations include the Armstrong Campus in Savannah and the Liberty Campus in Hinesville.

⁶ ESRI: Environmental Systems Research Institute

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2. Origins and Motivations

The difficult awakening from a pandemic that disrupted all known functions of a world we thought we understood and forced us to acknowledge the underlying and essential interconnectivities of our global ecosystems down to the city and individual level. The spread of the virus reminded us of the law of nature residing in the core interdependencies between systems; that cities and people cannot be siloed in their treatments because human habitus and life is blended with its environment in ways that cannot be extracted but analyzed in context. Our project then proposes to leverage existing geoscience tools with Artificial-Intelligence to allow social-emotional capture built-in with scanning Apps that could in the long run, trace, and collect emotions, thoughts, heartbeats, blood flow etc. with geolocation and temporal attributes to help bring into the environment and building design, yet another layer of anonymous users' information. This development proposes then to leverage geoscience tools with Artificial Intelligence to allow social-emotional capture built-in with scanning Apps that trace, collect emotions/ thoughts, to bring into design another layer of information that opens new venues into research-based design in academia to broaden and deepen knowledge in citizen science for more accuracy and understanding of the decisions made during the "corps-à-corps" with the built environment (urban-natural-personal space). Because "... *There is no logic that can be superimposed on the city; people make it, and it is to them, not buildings, that we must fit our plans*"⁷.

3. State of the question

If it is true that the AEC⁸, Design and urban planning remain essential fields in the future job market, it is also true that these fields have now reached a pick and in urgent need of a paradigm shift, to be able to measure with an increasingly complex urban and social systems. The need to integrate emerging tools in the areas of intelligence, Geoscience and geomatic cannot be overemphasized, as we witness our cities evolving through complex stages of transformations (*spatial, physical, social, geographical, and environmental*), which directly affect the user's experience and the quality of life in urban space. We can't hope that existing technology developed out of context will adjust and tackle current issues such as the spike in urban population growth; a change which will generate enormous challenges in terms of the city's ability to sustain its core and vital infrastructure networks, while accommodating this overwhelming flow of population, with intense circulation of citizens, in need of housing, work, entertainment etc..... This high demand cannot be satisfied with the existing urban industries and infrastructures for the simple reason that this new urban population will form new social diversities, new inequalities from which emerge new forms of discriminations with spatial differentiations hitherto unknown. Hence, the importance of using Geoscience and intelligence to help bring the users at the table to participate to decision making of an environment designed for them.

If it is premature to answer these questions at the start of this proposal, it is however necessary to declare that the development of this work will attempt to elucidate on the uncertainties using geospatial application intersecting with *CAD-BIM-GEO* on an education platform that fosters community participation through student-leaders acting as a catalyst for reconnecting the community served. The Geospatial applications integration to design application [*GeoBIM*] tends to re-engineering design education around Earth Science and Human ecology as they relate to the health and wellbeing of its essential players (Humans). This work takes the position that "*if Humans invent technology, then technology must serve humanity*". It is in those terms that we frame this work around advanced scanning Apps with emphasis on user's real-time collection of objective and subjective data in the built and natural environments where the user can capture data, gather information, push into the cloud for analysis. The informed solutions promise an innovative blend of existing and new software architecture, based on user-server communications to leverage environment and analytics data with those of the users collected via handheld devices (tablets, smart phones etc..), all which will contribute to the development of a more inclusive *Smart City by Smarter citizens*. This transdisciplinary focused research extends to; _ understanding the effect of urban and personal space on user's wellness or deterioration of wellbeing, _ quantifying non-tangibles and spatiotemporal reactions to the urban ecosystem, and _ using results as add-on set of needed and sensible information of the lived experience (low-tech) to help inform decision making. The framework mimics a **Metaverse-Play** concept that involves users in the game of Out-innovating the alternative city-place-space that does not yet exist or cannot yet be generated by current technology blends. Jane Jacobs⁹ sums it up in this quote: "*Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody*".

3.1 Rationale for the proposed strategy

With the emergence of Augmented Reality [*AR*], Mixed Reality [*MR*], Virtual Reality [*VR*], digital twin transformation and the Internet of Things [*IoT*], we can now collect a vast amount of data, to develop strategies in systemic approach that help improve citizens interaction and human well-being in the environments. We are witnessing a technological revolution that transpires all the way down to the

⁷ Jane Jacobs on "*People-Centered Urban Planning*".

⁸ AEC: Architecture, Engineering and Construction.

⁹ Jane Jacobs is a Canadian American author, human rights activist, and philosopher of architecture and town planning. His theories significantly modified North American town planning.

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individual user; most handheld devices are now grounded to a true geospatial network that facilitates the feasibility of crowdsourcing with the ability to quickly generate credible virtual models that allow to meet the growing needs in terms of resilient urban system. The use of *QuickCapture* App in this proposal will help create a wealth of *Information-Goods(IG)*, for the free market economy of knowledge and approaches. Research in the urban domain and human ecology reveal the importance and need for accentuated global studies in the behavioral and social aspect of the city and building dweller as well as the spatiotemporal interaction in the city, which is an important aspect of human health, but one which is often taken lightly in analytical space and place making.

This work approaches the built environments as socio-technical systems with various sub-systems: physical (with form), and nonphysical/dynamic (*emotional-intellectual*), augmented with spatial technology on Crossfield-platforms that integrate Geoscience and GIS¹⁰ as the X-Ray for informed-holistic sustainable Design solutions. With the increasing demanding lifestyle in an associated increasingly complex physical environment that is more and more densified, there is need for new data-collection-sets and methods that are trans-applications and interoperable to deal with, Complexity in DATA collection and processing. This complexity is due to the heterogeneity of objective/subjective data, including organized and loose data; not to mention the data variability, which makes the interpretation of similar data values very sensitive to the context and time in which it is collected. Additionally, there is the issue of data uncertainty and bias, because of the subjective nature of the data. *Objective and subjective DATA* are often in conflict; however, their interdependency and conflicting nature is essential to this work as their spatialization engages into a *push-pull* effect that allows the emergence of unexpected and somewhat organized chaos resulting in out innovating.

3.2 Metaverse-Play; a participatory approach of scenario-builders (building blocks) for alternative and Re-imagined experience emerging from playing with urban Dynamics and Tensions.

In the present momentum, most reliable Data capture and solutions are controlled by few large organizations or private companies and most require license to access Data that are already filtered, this takes away individual freedoms or any ontology in general. It is why this proposal is concerned with Re-registering the user (1) in a non-controlled and organic symbiosis with the natural environment, where the high-tech permits to design a hybrid platform that stitches back together “*similarities*” and “*opposites*” with no disruption to the humans’ natural way of life, but rather supporting-exploiting low-tech dynamics to augment the high-tech; and (2) in an emotion state that happens at a social-collective-individual level, and call out the essence of humanity, moral, social responsibility of Human beings among themselves and the care and concern for the environment to help care for one another.

3.3 Scan2GeoSpatialBIM/CAD process and user engagementThe process of a 3D global replica of the built environment has been made ubiquitous with the support of depth sensors released on iOS and android devices since 2017. We have now seen LiDAR chips in smart phones by integrating SLAM¹¹ Algorithms into devices with depth sensors to obtain a highly accurate scan of indoor and outdoor environments feasible by individual user. This proposal mirrors the process developed for extracting 3D Building Information and Node Network from Scan results in data and schema like those released for *IndoorGML*, where the user’s Smart Phone is provided with a true light-weight 3D map and network graph of their environment of interest, this sets ground for the use of ESRI¹²s *QuickCapture app* in this work, for its interoperability capabilities to pull in information from various other sources and Applications such as ESRI Survey 1,2,3, with a user input that allows to track experience in time. The 3D Map and Data scan is a built-in infrastructure to be appended to users’ emotive experience developed in this work.

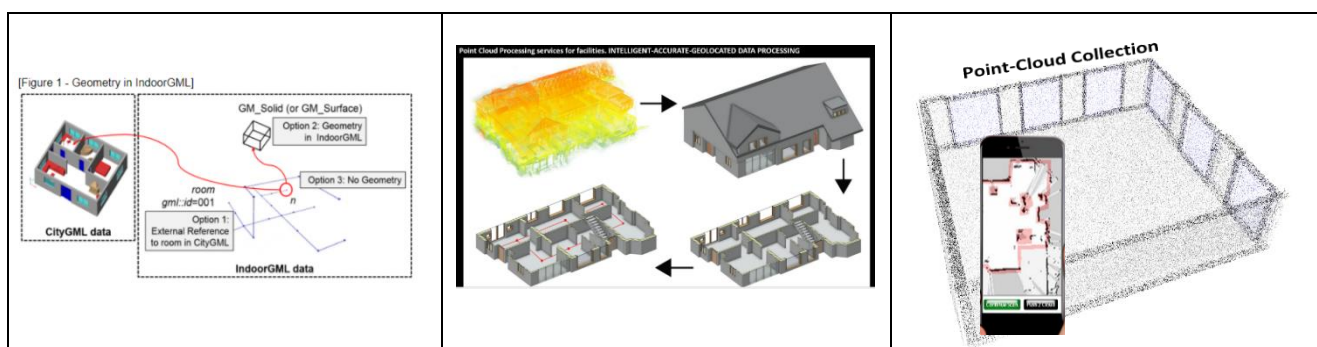


Figure 1: (Left) Existing Geometry in Indoor GML appended with the traces and human experience (blue line). (Center) Light-weight 3D extraction map and tracing graph (red lines) of user’s experience in environment. (Right), Point-cloud Collection by user’s smart phone. Images courtesy of Geoff Taylor Denzel Zang. 2017.

¹⁰ Geographical Information System

¹¹ SLAM: *Simultaneous Localization and Mapping*

¹² ESRI: *Environment Systems Research Institute, represent 43% of the global market in GIS.*

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4. ESRI's Quick-CAPTURE-App

Quick-Capture-app is used in this work to develop new use cases pertaining to building urban geo-emotional data infrastructure and to develop systems that can identify users' patterns through capturing and remembering spatiotemporal interactions, and re-use computed data to carry out predictions, and ultimately educate on performing informed actions with speed and accuracy. This yields opportunities in research toward a *therapeutic* urban design approach focused on real diagnostic on human ecumene¹³, the socio-cultural and environmental interrelatedness that fits into a transdisciplinary framework with focus into the *_dynamics of urban social life_ understanding of live experience; _ how city can be repurposed to satisfy evolving needs.* How do we develop a model that that is user-led, location-culture-individual and time specific? In contrast with the off-site static paper-survey questionnaires, this proposal focusses on an *On-site live survey*. Because after-the-fact *static questionnaires* lack vital components such as location-time, and struggle to process and deploy a massive amount of data.

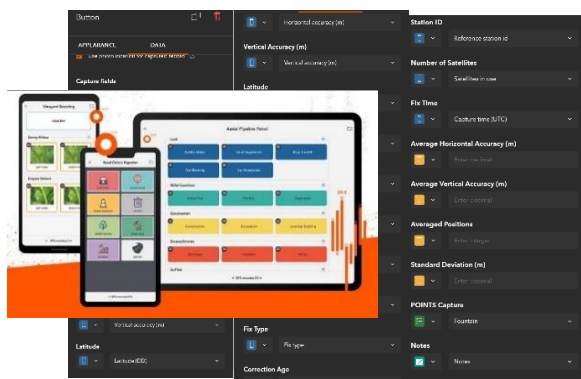


Figure 2: (in black) ArcGIS Quick-Capture-app Attributes showing available inputs and user feedback mechanism including and not limited to (time, speed, duration, direction, altitude, latitude, user's notes, and selection of options etc....). (Forward) Quick-Capture-app user interface for; (Left) vineyard data collection. (Center low) Road Debris collection and (Right) Arial Pipeline patrol.

4.1 Project stages (including methodology)

The concept: The development of the App includes a variety of category that we do not know yet, it is made to readjust by location-users, and interest. The figure below presents the draft of different capture categories that can be crossed. This user participation multi-layered effort will lead to various content collections that have never been crushed together yet. It then will open new venues for advanced urban analytics research that will deepen knowledge in (1) *Spatial Definers of Human Performance*, (2) *Spatial Cognition in mental and graphical representation of space utilization*, (3) *Spatialized temporality*; and (4) *Tackle the tensions that emerge from the opportunistic meeting between low-tech and High-tech, efficiency and amateurish, precision and imperfection, digital and tactile.* Can these studies help fuse cultural-religious or geographical contradictions toward a positive outcome that transform rejection or tension of societal "nonconformity" to an area of study and growth?

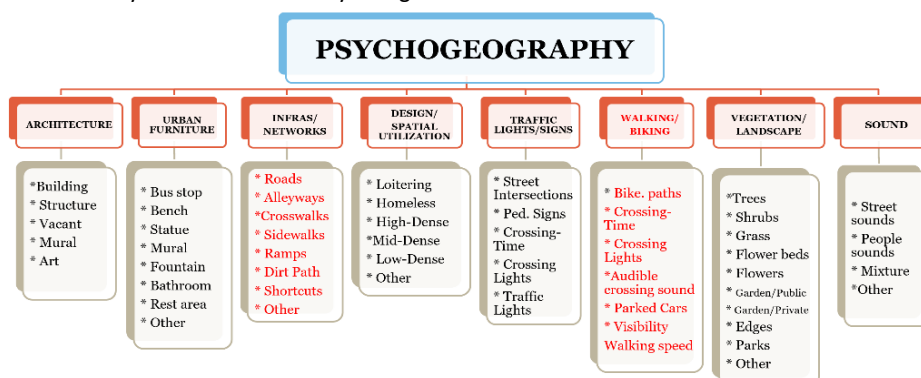


Figure 3: Draft categories that can all be made into capture. The user can either pick or recreate their own and use the edit control on the app to redesign the interface.

¹³ Kopytoff (1987:10) defines the ecumene as a "region of persistent cultural interaction and exchange. Kroeber (1948:423), recalling that the Greeks in antiquity used this term for "the inhabited world, "comments that it "has a modern utility as a convenient designation of the total area reached by traceable diffusion influences ...". Again, a world culture ordered by center-periphery relationship.

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4.2 Step 1: Creating the basis for the app

This process is set up by individual students who sets up what the app will capture and how it is design based on their area of research and interests, to start this process, the student conduct ten interview in the neighborhood and select candidate that agree to participate. The Apps is built around the interview responses and shared with the candidates who then engage in data collections. If the process shown here is basic, it is to allow for most users to customize the interface. The *Quick-Capture-app* framework provides sufficient information to draw from. The sample on *Fig :2* shows the consistent use of the app in “after the fact” context to capture different conditions.

4.3 Step 2: Developing attributes for Capture

The Geo-Emotions function on the *Quick-Capture-app* is developed for more users’ freedom (customizing, decide what to capture, design the buttons) as they see fit with the context and personal-cultural preferences. The flexibility makes it attractive for participatory “Metaverse-Play” style and can leverage on spatially enabled data for urban applications, - catalyze the development of 3D geo-information by Citizen, _make sense of big geospatial data and digital twins in the built environment, _cater to disciplines such as architecture, Fashion, Interior Design, History preservation, urban planning, game, real estate, etc...to serve the 3D GIS ecosystem while continuously exploring new frontiers in the evolution of city design and building design through system thinking. The proposal uses 3 basic attributes to represent what is captured on the map.

Points are for all visible physical structure or infrastructure (bus stop, road, light, building etc.), represented as a point on the map
Lines are for movement capture and tracing the trajectory of the users, represented as a line on the Map. **Polygons** are for creating close loops of an area of studies. (e.g. in a park, area can be outlined to show site of intervention).



Figure 4: the three built attributes for capture and their representation on a map. **Points** (with camera option), **Lines** (with tracing option) and **polygons** (tracing option).

5. Designing user interface and capture

The user interface can be designed based on the user’s needs. This step is done by the students. One or all categories can be used, and Data capture can be tied to individuals, groups or community, the ideal scenarios is at the city/community/neighborhood level, hypothetically, a city is considering launching a citizen-engaged campaign to better understand how the designs and improvements in the city will/are affect(ing) the citizen to better rethink city planning and learn from the users and to better serve future neighborhoods. This approach is in line with sustainable future and healthier alternatives to encourage more citizen experiences in the buildings and streets. To support this effort, users use *Quick Capture* to collect emotions DATA to serve the ongoing conversation about the future project by spatializing their thoughts through the mapping and visualization.

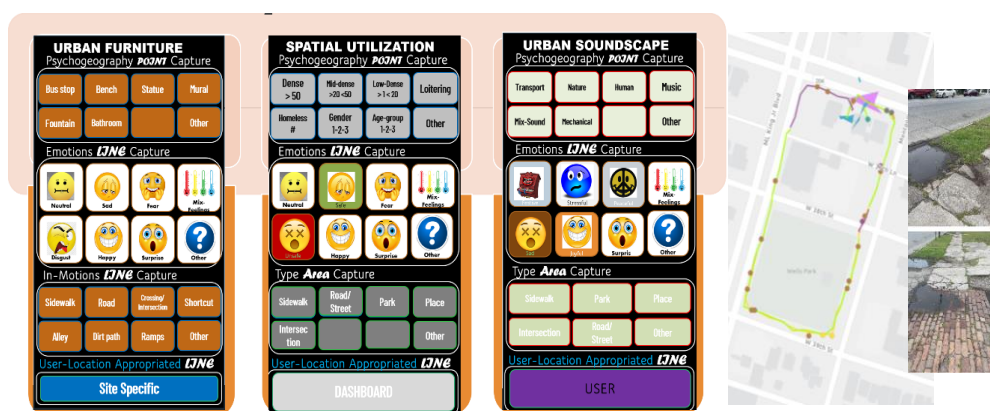


Figure 5: (Left) three draft of a user interface showing *Urban Infrastructure - Spatial Utilization and Urban Sound*, the choices are illimited and the App will be built to address customization for each individual user to reimagine the capture as needed. (Right) a proposed basic capture as it will spatialize in a Map. The lines represent the trace of the user with the emotion in a color coded. The points are the relevant pictures of the experience.

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Procedure: _users join a *geo-Hub Group* hosted at Georgia Southern University through a link _ they download the App. _start the experience by selecting the emotion button with the mood. All three categories can be used concurrently; this means that a user can be *surprised* and *happy* at the same time and as the emotion ends, the button can be turned off independently. The same is repeated for all categories, with possibility to take pictures that attach to the map. Fig. 5 (Right).

5.1 Geo-Registration and Cloud Data process and management

Emotion's captures are reregistered following the same process as Scanning (Fig.3). Captures are immediately uploaded to the cloud, processed, and finally geo-registered. This mix of textual, lines, points and Map, can then be leveraged to (1) – allow users to produce a crowdsourced digital representation of their real-experience with emotive attributes. Fig. 1. left (2) – append the space model with the trace of their experience Fig. 1. Center (3) – participate to increasing the performance of device platform for AR/VR/M/R applications (*as the environment will require scanning less often*), and (4) – increase the accuracy of where objects are placed in relation to the user within the environment in AR/MR applications.

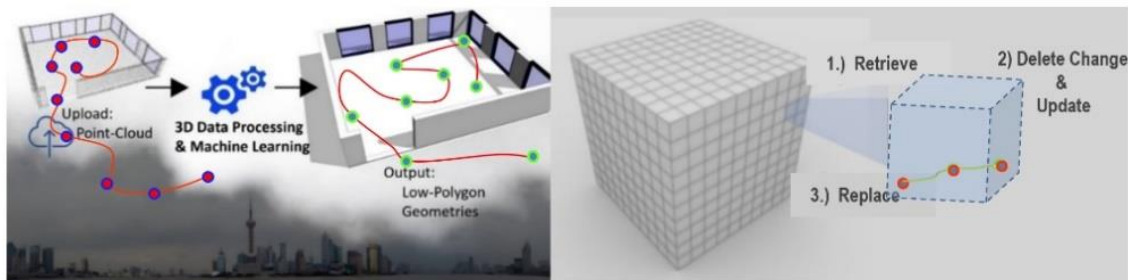


Figure 6: Left: Point, line, and Polygons as they will be represented on the map, (center) Data processing scheme through Machine Learning with trace of experience indoor, (right) 3D Cube LiDAR grid dataset retrieved-Detected & Updated, then deleted and replaced. Images courtesy of Geoff Taylor+ Christine Wacta. 2017.

5.2 Expected results

Geo-Emotions-Capture App design: develops and design *Emotions-Capture App*, to give individuals freedom to capture/share emotions and thoughts as they emerge from urban encounters and experiences and help create and enhanced human habitus modeling and mapping efforts for urban human emotion capital in quantifiable means through the creation of a *Geo-info-HUB* with monitoring Dashboard; - Developing methods to link observed behavioral patterns of the user's urban lived-experience to changes of habitus or emotional reactions; - and Analyzing the spatial pattern of human habitus of spatiotemporal and the utilization volume (*density of user in a space and time*) .

5.3 Geo-Info-HUB

With the develop of a cloud-based platform with open-source capability to provides accessible platform to the public for a collective intelligence gain on people experience on a global scale. Data spatialized is compared-contrasted by location, time, and culture.

Web Story Maps: develop a series of web story Maps with students work results shared online for education. This proposal hopes to help close the gap between the office architect/Designer of today and the solution engineer Designer of tomorrow. The *AI* integration will expand the architect and designer's training into a broader array of new and innovative cross-fields where the future graduate is transformed into an entrepreneur, a start-up leader whose mission is to evolve, Re-imagine and RE-purpose the design services based on research and complexity of the urban and human systems, with the skills to deduce how to gain strategic advantage using different kinds of intelligences for helping evaluate the appropriateness of urban applications for machine learning in urban computation. A *collective-intelligence* approach will be developed as an integrated core to curriculum component through "*pilot projects*" and *workshops* by Georgia Southern University where the *Geo-Hub* is being set up. The *solution-designer* will then spearhead new research initiatives in the domains of 3D geospatial urban data and AI, uhuman analytics, and Geoscience in ways that advance the study of the influence of geographical environment on the mind behavior of the user in *psychogeography* and space making studies.

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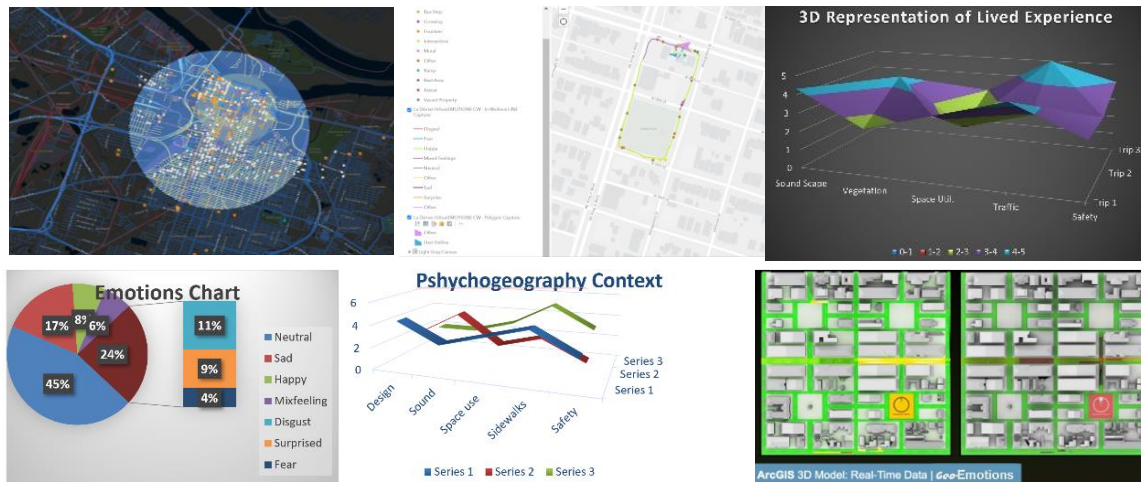


Figure 7: sample expected visuals. (Up left) Map of a city showing all experiences at once. (Up Center) sample capture viewed on the map showing points and lines. (Up Right) suggested spatialization showing a 3D surface projection. (Bottom Right) Projection Mapping of real time data on 3D printed Model. (all suggestions)

6. Benefits

Collaboration and Pilot with the community: Our work sets the scenes for integrating intelligent subjective data collection and analysis processes in urban and human analytics, which is particularly useful in urban and design studies.

Testing feasibility in Design schools: Georgia Southern School of Human Ecology will facilitate a holistic integration of scientific research component with (AI) through App builder and testing into research and education, this will provide a new milestone for small- and large-scale data analytics and help build on the Physical infrastructure: existing data infrastructure of *extruded city*, *Google 3D*, *OpenStreetMap* etc... the curriculum will gain from a tested methodological approach and from theorizing of this proposal, _ Universities across the globe will be invited to test and expand this research toward more discoveries with national and international communities where groups will gain visibility in making their individual voice heard and gaining greater access through increased understanding and inclusiveness; _ local planners and officials will benefit through increased competence resulting from capacity building and heightened knowledge of encouraging Collective Social Responsibility to urban experience.

7. Potential for Collaborations

Dissemination and Networking Activities: ESRI is involved in a wide range of research, education, consultancy programs with established links to renown international networks [UN, Defense, Government, Association for Tourism and Leisure (ATLAS), and various universities and non-governmental enterprises. Our use of Geoscience tools in design allows us to connect with scientific research activities and finally bring visibility to one of the CORE and essential field in the history of humanity.

Skills Development-Advanced Training: students will take the stage and present their research at international conferences and participate to essential discussions on environment. conferences, research seminars and workshops will expand this work and help students develop effective tested results, build a *geo-Hub*. The development-deployment involves *pilot project with hands-on training in (AI)* and its applications in the design experience and reinforces student learning.

Dynamics of Discovery: innovation on an open-source platform can be a complex, social process, hosting this research in an academic institution allows to work in a forward-thinking environment with direct application-testing for innovative technical adaptations in design-architectural field.

CONCLUSION

This research proposes a necessary overhaul of technological, human-environmental approach for a pragmatic therapeutic and healing urban design, supported by geoscience and cognitive sciences, where the advancement of technology with embedded (AI) capability supports optimizing, streamlining, expanding human experience. This contrasts with conventional methods as it develops emotive information, spatiotemporal live feedback. We argue that striving for statistical significance in human-urban science requires moving away from conventional methods, which typically silo data-collection phase from data-analysis, this proposal performs data collection and analysis concurrently, using intelligent processes in real-time to guide the subsequent data collection steps. The analysis of users' feedback through *AI-based feature extraction* and the combination of feedback with location promises significant acceleration and superior results. The spatiotemporal reaction is crucial for the *Cause and Effect* without delay. If COVID-19 took the world by surprise,

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it also helped break down deficient-redundant systems, and exposed the core issues. Current enhanced smart technologies are equipped to tackle increasingly complex environment while respecting interdependencies.

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The Connection between Oil Revenue, Health Expenditure and Nigerian Economic Growth (1980-2020)



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ABSTRACT: This study attempts to examine the nature of the relationship between Oil Revenue, Health Expenditure and Nigerian Economic Growth. The nexus between these variables has come under scrutiny as mixed evidence have been found in the literature about their contribution to the Nigerian economic growth within the study period. The study made use of ARDL and Bound Co-integration test to analyze the short and long run relationships between the variables. The results show that the coefficient of determination (R^2) indicates that about 99.8% of the variations in LRGDP is explained by the independent variables. Long-run dynamics of the relationship between real gross domestic product and the independent variables are LGHEX, LOILR, and MS. There is no significant relationship between LRGDP and LOILR, LGHEX, LMS and CPI which indicate that no long run relationship exists among the variables in the model. Short-run dynamic model estimated in this study shows that ECT (-1) value is negative and significant at 1% level of significance. The negative and significant value of the error correction term which is -0.070 ($p = 0.0016$) indicates that the model is stable at 1% significance level. The Study recommends among other things that the Federal Government should increase the pay pegged to the work hours of nurses and doctors in Nigeria, increase the availability of health workers and subsidize usage of healthcare facilities to enable more people to contribute to Nigeria's economic growth.

KEYWORDS: Oil Revenue, Health Expenditure, Economic Growth, Nigeria and ARDL

I. INTRODUCTION

Petroleum, limestone, columbine, iron ore, and other natural resources are found in Nigeria. Prior to the discovery of crude oil, Nigeria's national income was mostly derived on the export of basic commodities like cocoa, palm oil, rubber, and groundnuts (Ali, 2019). Then, farming provided a living for around 60% of the labour force. Thus, in the 1980s, there was a drift away from agrarian monoculture toward a reliance on the production and exportation of petroleum. The oil industry contributed 22% of Nigeria's GDP, 80% of the country's overall government revenue, and 90% of its export revenues. Also, the structure of the policy framework encouraged import substitution with little incentives for non-oil exports. (Ali, 2019)

Royal Dutch Shell-BP made the oil discovery in Nigeria in 1956, near Oloibiri, specifically in Bayelsa State of the Niger Delta (Onaolapo, Fasina & Adegbite, 2018). Soon after, offshore production started in the coastal community of Nigeria when Nigeria's first oil field began producing 5,100 bpd in 1958, and it became a producer of oil (Onaolapo, Fasina & Adegbite, 2018). Other foreign businesses were given access to exploration rights in onshore and offshore regions bordering the Niger Delta after 1960. One of the biggest industries in Africa is the oil and gas sector and it is in Nigeria. About 90% of foreign exchange earnings and 80% of federal revenue were derived from oil, which also helped to increase the GDP growth rate (World Bank, 2012). The petroleum sector has not only played a dominant and strategic role in the economic growth of Nigeria, but also fundamental in the development of the health sector.

Although the Nigerian oil industry was established at the turn of the century, it was not until the end of the country's civil war (1967–1970) that it really started to dominate the economy of the nation (Adegbie and Fakile, 2018). Nigeria, which has the second-largest oil reserves in Africa, has long been the continent's top oil producer behind Libya. Nigeria has the tenth-largest global oil reserves (Omoriegbe, 2019).

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According to Moradi (2017), illegal oil bunkering in Nigeria is one of the ongoing issues that has had a significant impact on these countries' oil revenues. According to a recent analysis by the Nigerian Navy, crude oil theft costs the nation over \$20 billion yearly, and in 2016 alone, oil thieves stole an average of 1,656,281 barrels every month, or 55,210 barrels per day (Khadijat & Taophic, 2018). On the other hand, a special report by the United States Institute of Peace, an independent, nonpartisan organization, in 2016 revealed that oil thieves operating in the coast of Cabinda carted away between 30,000 and 300,000 barrels of oil per day and that approximately US\$100 billion was lost from the region's oil production.

According to a similar assessment from the UN's office for drugs and crime in 2009, up to 150,000 barrels of crude oil are stolen from the Niger Delta each day, costing the nation \$6 billion a year (Khadijat & Taophic, 2018). Therefore, the three main objectives of this study are to determine the impact of oil revenue on Nigeria's health expenditure, the impact of oil revenue and health expenditure on the country's economic growth, and the causal relationship between oil revenue, health expenditure, and economic growth in Nigeria.

Health expenditures cover all costs associated with providing health services, family planning, nutrition, and emergency help with a focus on health, but do not include costs associated with providing clean water and sanitation (Adedeji & Oboh, 2017). A vital part of health systems is health financing. According to Abdul-Rahamoh, Taiwo, and Adejare (2017), national health accounts offer a broad range of indicators based on data on expenditures gathered within an internationally acknowledged framework.

Public consumption, public investment, and transfer payments made up of income transfers (pension, social benefits) and capital transfers are all included in what is referred to as government expenditure (Aregbeshola & Khan, 2020).

II. LITERATURE REVIEW

In many developing countries, oil and gas extraction is a significant source of export revenue and, to a lesser extent, of employment. But the fiscal role that the oil and gas sector play in generating tax and other government money is the greatest significant advantage for a country from its development (Nour, 2016). The fiscal system must be carefully planned to guarantee the state, as the owner of the resource, receives a proportionate share of the economic rent produced by oil and gas exploitation. The ground is a significant asset that belongs to the government as resource owner. This resource, which is a deposit of crude oil or natural gas, can only be used once. The government must attract capital on terms that ensure it receives the best value for its resistance in the face of uncertainty regarding the worth of the resources to convert this asset into financial resources (Naomi & Sule, 2015).

The upstream, downstream, and services sectors make up the bulk of Nigeria's oil business (Success, Success & Ifurueze, 2016). Crude oil and gas exploration and production are what define the upstream industry. The upstream sector is the most significant economic sector, contributing more than 90% of the nation's exports and 80% of federal government revenue (Saheed, Abarshi & Ejide, 2014). Three distinct basins—the onshore Anambra, the offshore Benin/Dahomey, and the Niger delta—produce crude oil. The Niger Delta and Benin basins, which contain most reserves and are also the source of the current production, have been acknowledged as the richest basins. According to Perry, Ogunkola, Olivera, and Fowowe (2017), the joint venture, production-sharing contracts, service contracts, and marginal field concessions are the main types of oil and gas agreements in Nigeria's upstream sector. Transporting crude oil to refineries, refining the crude, and distributing and marketing refined petroleum products are the major characteristics of the downstream industry. There are four refineries in Nigeria, two of which are in Port Harcourt, one in Warri, and one in Kaduna. Since these refineries are not operating at full capacity, the nation must import refined petroleum products to satisfy domestic demand. The Department of Petroleum Resources (DPR) oversees these actions to prevent the importation of subpar goods. For Nigeria's growth and development as a nation, the oil and gas sector are crucial. About 90% of Nigeria's foreign exchange revenues and 83% of its GDP come from oil and gas (Success, Success and Ifurueze, 2012).

Recurrent expenditure, according to Ayunku and Etale (2015), includes all payments made for items other than capital assets, such as wages and salaries, employer contributions, interest payments, subsidies, and transfers. It also includes payments made for goods and services.

Recurrent spending on goods and services, according to Ayange, Udo, Abner, and Ndubuaku (2020), is spending that does not lead to the production or acquisition of fixed assets (new or second-hand). It mostly comprises of spending on wages, salaries, and other compensation, buying products and services, and using up fixed assets.

The nation's defense, infrastructure, health, and welfare are all supported by government spending. Governments also support emerging industries or sectors like agriculture and transportation that cannot grow their businesses through private sector investment. While unemployment benefits depend on the economic cycle, that is, whether the economy is in a recession or an upswing, transfer payments for pensions are a less flexible tool of fiscal policy (Apanisile & Okunlola, 2014). In contrast, income

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transfers in the form of financial and fiscal incentives to private businesses encourage investment and employment. In this way, government spending makes it possible to redistribute income.

In developing economies, spending on health is strategically important for the oil and gas sector. The processes and causal pathways that underpin the complex link between health and income are crucial to developing policies that improve health, reduce poverty, and reduce inequality around the world. This is seen as challenging, uncertain, and only partially understood (Adekanola, 2018). Everyone is aware of the significance of health as a fundamental human right. Health, in the opinion of Adedeji and Oboh (2017), is a form of empowerment that gives human life value. Individual growth potential and financial security for people and their families will result from it. Since the 1960s, there has been significant worry about the rising percentage of government money going into health care spending in all developing economies. As a result, a lot of study has concentrated on figuring out what causes increases in health care cost. Government money has been noted as having the greatest influence (Adegbie & Fakile, 2018). A positive correlation between government revenue and health care spending may exist for a variety of reasons.

Theoretical Literature

Keynes was one of the most well-known economists who examined the link between public spending and economic growth due to his opposing perspective on the matter. Keynes views government spending as an exogenous force that may be used as a tool to advance economic progress. According to Keynesian theory, government spending can promote economic expansion. Therefore, through multiplier effects on aggregate demand, an increase in government consumption is likely to result in an increase in employment, profitability, and investment. Government spending increases aggregate demand as a result, which leads to higher output depending on expenditure multipliers.

The Solow Growth Theory

Solow's model was first propounded in 1956 by Robert Solow and T.W. Swan. They also go by the names Solow-Swan model and Solow model. In Solow's model, population growth and saving/investment rates play significant roles in determining economic growth. Higher rates of saving and investment result in greater capital accumulation per worker and, consequently, greater output per worker. On the other hand, rapid population growth is bad for the economy since it requires more savings to maintain the same capital-to-labour ratio in countries with rapid population expansion. Because of diminishing returns, an increase in capital per worker would not be matched by a comparable rise in output per worker in the absence of technical development and innovation. Chude and Chude (2013) pointed out that capital deepening would reduce the rate of return on capital.

Peacock and Wiseman's Theory of Expenditure

Peacock and Wiseman (1961) put up an alternate model of the factors that influence government spending, which contends that during times of adversity like war, starvation, and drought, individuals are more likely to be willing to pay higher taxes, leading to an increase in government expenditures. They found that when government spending rises momentarily during a crisis, people anticipate a quick return to normalcy once the crisis is over. However, government revenue is shifting upward, making it potentially impossible for the government to cut spending even after the crisis, to its original level. Barro (1987) in a study in the United Kingdom, provided an argument in support of Peacock and Wiseman (1961). However, Barro (1987) also finds that temporary increase in government military spending influences macroeconomic variables like interest rate as compared to a permanent increase.

Empirical Literature

A study on the impact of the petroleum profit tax (PPT) on the Nigerian economy from 1970 to 2010 was conducted by Fasina and Adegbite (2016). They used exchange rate, inflation, petroleum profit tax, and Gross Domestic Product (GDP), as factors for the study. The data were analyzed using multiple regression. The study discovered that natural resources had a favourable correlation with economic growth and development and that crude oil money had been immensely helpful to Nigeria's economy during the review period.

Serdar (2015) looked at the connection between Turkish government spending and economic expansion. A Feder-Ram Approach was used in the study as an estimating method. According to the results, there was a positive correlation between government health spending and economic growth during the study period. In other words, as government spending on health care improves, economic growth increases as well. In a related study, Bakare and Olubokun (2011) looked at economic growth and health care spending in Nigeria. The estimating method used in the study was ordinary least square. The study's findings showed a strong and favourable correlation between health care spending and economic growth in Nigeria throughout that time. Idowu Daniel (2014) looks at how Nigeria's economic growth as it is impacted by health. Co-integration and Granger Causality techniques were applied to the analysis of Nigerian quarterly time series data from 1995 to 2009. According to the study, per capita GDP is driven by health

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indices, which have a positive long-term impact on GDP. It demonstrates that economic growth is influenced by health indices. Therefore, the effects of health are long-term occurrences. The study's main policy recommendation is that, especially if the population's health is currently in poor shape, increasing it can lead to rapid economic growth.

The impacts of crude oil prices on agricultural production in Nigeria between 1981 and 2010 were examined by Binuomote and Odeniyi (2018). Augmented-Dickey Fuller (ADF), unit root test, co-integration test, and Error Correction Model were the analytical techniques used in the study. In contrast to currency rate, labour, and capital, which are long-term factors of agricultural production, the study found that crude oil is a significant short-term determinant of agriculture. The outcomes further demonstrated that the error correction mechanism (ECM) revealed feedback of around 112.5% of the long-run domestic agriculture production disequilibrium from the previous year. Onaolapo, Odularu (2018) examined the connection between crude oil production and Nigeria's economic growth. The study, which used the Least Squares Regression approach, demonstrated how domestic crude oil consumption and exports have improved the Nigerian economy. Ogbonna and Ebimobowei (2018) investigated how oil money affected the Nigerian economy. The Pearson Correlation Coefficient, Ordinary Least Squares Method, and Descriptive Statistics were utilized to examine both primary and secondary data. The study's conclusions showed that petroleum revenue had a favourable impact on Nigeria's GDP and per capita income.

Gopar, Dalyop, and Yusuf (2017) conducted a longitudinal study to examine the effects of Nigeria's petroleum earnings tax on economic growth. The study looked at the relationship between Nigeria's economic growth from 1999 to 2015 and the tax on petroleum revenues. The Central Bank of Nigeria Statistical Bulletin, 2015 edition, the Annual Report and Accounts of the CBN, for 2014, and journal articles were used to gather pertinent information on real gross domestic product, petroleum profits tax, companies' income tax, and value added tax. The regression line was estimated using ordinary least squares (OLS), the stationarity of the variables was tested using the Correlogram Q-Statistics, and long-term relationships between the variables were established using the Johansen Cointegration test, and the nature and direction of the causal relationship between the petroleum profits tax and economic growth in Nigeria during the relevant years were determined using the Granger causality test. The report suggested, among other things, that the government should diversify the economy and enhance the business climate to promote trade and business, which can increase the tax base at its disposal.

The impact of the petroleum profit tax on the profitability of Nigeria's publicly traded oil and gas businesses was examined by Gbegi, Adebisi, and Bodunde (2017). Ten (10) chosen oil and gas companies' financial statements for the years 2011 to 2015 were used to gather secondary data. To determine the impact of PPT rate on the profitability of oil and gas enterprises, panel data was used along with both descriptive statistics and multiple regression techniques. Oil and gas companies' profitability was found to be significantly impacted by the petroleum profit tax. According to the report, the profitability of the oil and gas businesses is negatively impacted by the taxes paid by those industries. In their recommendation, government should reduce tax rate to enable oil and gas firms thrive, especially during this economic recession.

In Nigeria, the relationship between the petroleum profit tax, the personal income tax, and economic growth was examined by Lyndon and Paymaster (2016). The CBN Statistical Bulletin was used to gather data for the study from 2005 to 2014. The Ordinary Least Squares (OLS) method was used in the investigation. The analysis's findings demonstrated a strong positive association between personal income tax and economic growth for both the petroleum profit tax and other taxes. Based on the findings, the study recommended that government should strengthen the tax administration system to broaden the tax income and embark on tax education to ensure voluntary tax compliance.

Ogbonna and Bimobowei (2018) used the co-integration test and Granger Causality test as a method to study the Petroleum Profit Tax and Economic Growth of Nigeria from 1970 to 2010. The results of the co-integration test showed that economic growth and the petroleum profit tax have a long-term link. The granger causality test also demonstrated that the petroleum profit tax has a causal effect on Nigeria's economic expansion. Additionally, it was discovered that Nigeria's economic growth for the studied year was significantly influenced by the petroleum profits tax.

Whether corporate tax evasion practices improve shareholder interests, was explored by Desai and Dharmapala (2019). The OLS estimates indicated that the average effect of tax avoidance on firm value is not significantly different from zero but is positive for well governed firms as predicted by an agency perspective on corporate tax avoidance. The IV estimates yield larger overall effects and reinforce the basic result that higher quality firm governance leads to a larger effect of tax avoidance on firm value. Taken together, the results suggest that the simple view of corporate tax avoidance as a transfer of resources from the state to shareholders is incomplete given the agency problems characterizing shareholder-manager relations.

III. METHODOLOGY

This research work made use of annual time series secondary data on oil revenue, domestic sales of oil, export of crude oil and Gas and total government expenditure on health in Nigeria. The data cover the periods between 1980 to 2020 due to lack of data

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availability. The data are sources from different database which include; the Central Bank of Nigeria (CBN) statistical bulletin and annual reports and World Bank Database.

Model Specification

$$\begin{aligned} \Delta \ln GHEX_t &= \alpha_0 + \sum_{i=0}^p \gamma \Delta \ln GHEX_{t-i} + \alpha_1 \Delta \ln OILR_t + \alpha_2 \Delta \ln CPI_t + \alpha_3 \Delta \ln RGDP_t \\ &+ \sum_{i=0}^p \alpha_1 \Delta \ln OILR_{t-i} + \sum_{i=0}^p \alpha_2 \Delta \ln CPI_{t-i} + \sum_{i=0}^p \alpha_3 \Delta \ln RGDP_{t-i} + \rho ECM_{t-1} + \varepsilon_t \end{aligned}$$

The long run effect of oil revenue on health expenditure, the model is expressed as;

$$\begin{aligned} GHEX_t &= f(OILR_t, CPI_t, RGDP_t, \varepsilon_t) \\ \ln GHEX_t &= \alpha_0 + \alpha_1 \ln OILR_t + \alpha_2 \ln CPI_t + \alpha_3 \ln RGDP_t + \varepsilon_t \end{aligned}$$

Where Δ is the first-difference operator and $\alpha_0, \alpha_1, \alpha_2, \alpha_3$ are the coefficients.

RGDP = Real Gross Domestic Product

GHEX = Total government health expenditure

OILR = Oil Revenue

CPI = Consumer Price Index

ε = Error Term

$$\begin{aligned} \Delta \ln RGDP_t &= \beta_0 + \sum_{i=0}^p \gamma \Delta \ln RGDP_{t-i} + \beta_1 \Delta \ln OILR_t + \beta_2 \Delta \ln GHEX_t + \beta_3 \Delta \ln CPI_t + \beta_4 \Delta \ln MS_t \\ &+ \sum_{i=0}^p \beta_1 \Delta \ln OILR_{t-i} + \sum_{i=0}^p \beta_2 \Delta \ln GHEX_{t-i} + \sum_{i=0}^p \beta_3 \Delta \ln CPI_{t-i} + \sum_{i=0}^p \beta_4 \Delta \ln MS_{t-i} + \rho ECM_{t-1} + \varepsilon_t \end{aligned}$$

The long run effect of oil revenue and health expenditure on economic growth, the model is expressed as;

$$\begin{aligned} RGDP_t &= f(OILR_t, GHEX_t, CPI_t, MS_t, \varepsilon_t) \\ \ln RGDP_t &= \beta_0 + \alpha_1 \ln OILR_t + \beta_2 \ln GHEX_t + \beta_3 \ln CPI_t + \beta_4 \ln MS_t + \varepsilon_t \end{aligned}$$

Where Δ is the first-difference operator and $\alpha_0, \alpha_1, \alpha_2, \alpha_3, \alpha_4$ are the coefficients.

RGDP = Real Gross Domestic Product

GHEX = Total government health expenditure

OILR = Oil Revenue

CPI = Consumer Price Index

MS = Broad Money Supply

ε = Error Term

IV. RESULT INTERPRETATION AND DISCUSSION OF FINDINGS

Descriptive Analysis

The average real gross domestic product (RGDP) is ₦36,843.40b with median RGDP of ₦25,914.08b indicating that RGDP is positively skewed. The standard deviation of 19785.11 shows a widespread across the average value, a minimum value of 16048.31 and a maximum value of 71387.83. Also, the average oil revenue (OILR) ₦2,487.90b and median OILR of ₦1,411.26b indicates that OILR is positively skewed. From the result, the standard deviation 2712.807 shows a widely spread series with a minimum value of 7.253000 and maximum value of 8878.97. Similarly, the total government health expenditure (GHEX) on average is ₦82.33534b indicating a positive skewness given the median value of ₦20.58052b. As indicated by the value of the standard deviation (115.8820), there is evidence of wide variability from the average value with a minimum value of 0.041315 and a maximum value of 423.3298.

The average consumer price index (CPI) in Nigeria of 17.39032 percent with median CPI of 11.94646 percent indicates that CPI is positively skewed. A standard deviation of 18.42718 percent indicating a small spread across the average CPI with a minimum and maximum value of 0 and 76.75887, respectively. Finally, the average money supply (MS) of ₦459.9046b and median of ₦30.52860 shows that money supply is positively skewed, minimum MS of 0 and maximum MS of 4027.902 with standard deviation of 898.039 indicating relative spread across the average value of MS. Conclusively, RGDP, OILR, GHEX, CPI and MS are positively skewed with RGDP having a widespread.

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Table 1. Summary Statistics

Variable	Mean	Median	Maximum	Minimum	Std. Dev.
RGDP	36843.40	25914.08	71387.83	16048.31	19785.11
OILR	2487.900	1411.264	8878.97	7.253000	2712.807
GHEX	82.33534	20.58052	423.3298	0.041315	115.8820
CPI	17.39032	11.94646	76.75887	0.000000	18.42718
MS	459.9046	30.52860	4027.902	0.000000	898.0391

Source: Author's Computation 2023

Analysis of Correlation among the Variables

Multicollinearity may not be a severe problem if the magnitude of the correlation coefficient is low. Thus, testing for correlation among the variables in the model helps to avoid the problems of multicollinearity. However, a high correlation coefficient of 0.8 above is a pointer that there is a severe problem of multicollinearity in the model. Table 2 shows that the highest correlation coefficient and their associated probability. From the result, total health expenditure (LGHEX), oil revenue (LOILR) and money supply (LMS) have significant correlation with economic growth (LRGDP) in Nigeria. Furthermore, oil revenue (LOILR) and money supply (LMS) have significant correlation on Nigeria's total health expenditure (LGHEX). In all, there is no correlation coefficient that exceeds 0.5. This implies that the correlation between any two variables in the model is low or moderate.

Table 2: Correlation Matrix

Correlation Probability	LRGDP	LGHEX	LOILR	LMS	CPI
LRGDP	1.000000 -----				
LGHEX	0.929458 0.0000	1.000000 -----			
LOILR	0.885077 0.0000	0.966329 0.0000	1.000000 -----		
LMS	-0.600123 0.0000	-0.353214 0.0254	-0.247381 0.1238	1.000000 -----	
CPI	-0.207504 0.1989	-0.134388 0.4084	-0.116431 0.4743	0.214204 0.1844	1.000000 -----

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Lag selection

The optimum lag selection is at lag 2 because it has the lowest log likelihood, Akaike information criteria, schwarz information and Hannan-Quinn information criteria.

Table 3: Lag Length Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1098.980	NA	349.0892	25.72046	25.92023	25.80086
1	-572.0367	955.8503	0.005217	14.60550	16.20368*	15.24870*
2	-517.9258	89.34586*	0.004733*	14.48665*	17.48323	15.69263

Source: Author's Computation 2023

Table 4: Bound Cointegration Test

Critical value	F- Statistics	Lower Bound Value	Upper Bound Value
10%	2.81	2.45	3.52
5%		2.86	4.01
2.5%		3.25	4.49
1%		3.74	5.06

Source: Author's Computation, 2023

The Connection between Oil Revenue, Health Expenditure and Nigerian Economic Growth (1980-2020)

ARDL Analysis of effect of oil revenue and health expenditure on economic growth in Nigeria

From the table, the co-efficient of determination (R^2) indicates that about 99.8% of the variations in LR GDP is explained by the independent variables. The adjusted R^2 further confirms that 99.7% of the variations in LR GDP will still be explained by the explanatory variables. Also, the Durbin Watson statistics of 2.27 suggests the absence of serial correlation. The F-statistics is highly significant at all levels of significance (0.0000).

Table 5: ARDL Estimate

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LRGDP (-1)	1.179227	0.136090	8.665074	0.0000
LRGDP (-2)	-0.240167	0.124999	-1.921356	0.0657
LOILR	0.014752	0.013835	1.066236	0.2961
LOILR (-1)	0.021432	0.015480	1.384474	0.1780
LGHEX	-0.020404	0.009591	-2.127420	0.0430
LMS	-0.001733	0.003103	-0.558672	0.5812
CPI	-0.000584	0.000368	-1.587055	0.1246
CPI (-1)	-9.54E-05	0.000463	-0.206288	0.8382
CPI (-2)	0.000702	0.000451	1.556731	0.1316
CPI (-3)	-0.001247	0.000384	-3.244668	0.0032
C	0.508124	0.414227	1.226679	0.2309
R-squared	0.997780	Mean dependent var		10.42493
Adjusted R-squared	0.996926	S.D. dependent var		0.516991
S.E. of regression	0.028665	Akaike info criterion		-4.024486
Sum squared resid	0.021364	Schwarz criterion		-3.545565
Log likelihood	85.45299	Hannan-Quinn criter.		-3.855644
F-statistic	1168.399	Durbin-Watson stat		2.275744
Prob(F-statistic)	0.000000			

*Note: p-values and any subsequent tests do not account for model selection.

Source: Author's Computation, 2023

ARDL Analysis of the long run effect of oil revenue and health expenditure on economic growth

Table 6 shows the long-run dynamics of the relationship between real gross domestic product and the independent variables are LGHEX, LOILR, CPI and MS. There is no significant relationship between LR GDP and LOILR, LGHEX, LMS and CPI which indicate that no long run relationship exists among the variables in the model.

Table 6: Cointegration and long run

Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOILR	0.576459	0.360678	1.598264	0.1216
LGHEX	-0.295211	0.279110	-1.057685	0.2996
LMS	-0.021302	0.036892	-0.577402	0.5685
CPI	-0.017904	0.012289	-1.456902	0.1567
C	8.344312	1.226985	6.800666	0.0000

Source: Author's Computation, 2023

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ARDL Analysis of the short run effect of oil revenue and health expenditure on economic growth

The short-run dynamic model estimated in this study shows that ECT (-1) value is negative and significant at 1% level of significance. The negative and significant value of the error correction term which is -0.070 ($p = 0.0016$) indicates that the model is stable at 1% significance level. In Table 8 there is a negative significant relationship between LR GDP and CPI and between LR GDP and LGHEX indicating that there is a short-term relationship between LR GDP, CPI and LGHEX. This implies that a one percent decrease in CPI will cause LR GDP to increase by 0.12 percent. Also, the positive significant relationship between LR GDP and LGHEX implies that one percent increase in LGHEX will cause an increase LR GDP by 2 percent.

Table 7: Cointegration and short run

Cointegrating Form

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOILR)	0.016377	0.014481	1.130892	0.2680
D(LGHEX)	0.020741	0.010056	-2.062585	0.0489
D(LMS)	-0.001497	0.003251	-0.460361	0.6489
D(CPI)	-0.001264	0.000403	3.138298	0.0041
CointEq (-1)	-0.070259	0.042721	-1.644588	0.0016

$$\text{Cointeq} = \text{LRGDP} - (0.5765 * \text{LOILR} - 0.2952 * \text{LGHEX} - 0.0213 * \text{LMS} - 0.0179 * \text{CPI} + 8.3443)$$

Source: Author's Computation, underlying data from CBN bulletin

V. CONCLUSION AND RECOMMENDATIONS

This study examines the connection between oil revenue, Government health expenditure and Nigerian economic growth over the period (1980-2020). The findings show that a short-run positive relationship exists between health expenditure and economic growth while a short-run negative relationship exists between inflation rate and economic growth. Also, no relationship exists between oil revenue and economic growth in Nigeria. This indicates that when health expenditure increases, economic growth is stimulated in Nigeria in the short run. The short run results which further show that there is a negative and significant relationship between inflation rate and economic growth means that increase in the rate of inflation has negative effect on economic growth in the short run.

Based on the findings there is a need for an increase in government spending on health. The Government of Nigeria should redesign health policy tailored towards expenditure allocation to health and fully utilize the statutory 15% budgetary allocation to the health sector to cover for lapses in the Nigerian health sector. In addition, there is a shortage of qualified health practitioners in Nigeria. Therefore, the Federal Government should increase the pay pegged to the work hours of nurses and doctors in Nigeria, increase the availability of health workers and subsidize usage of healthcare facilities to enable more people to contribute to Nigeria's economic growth.

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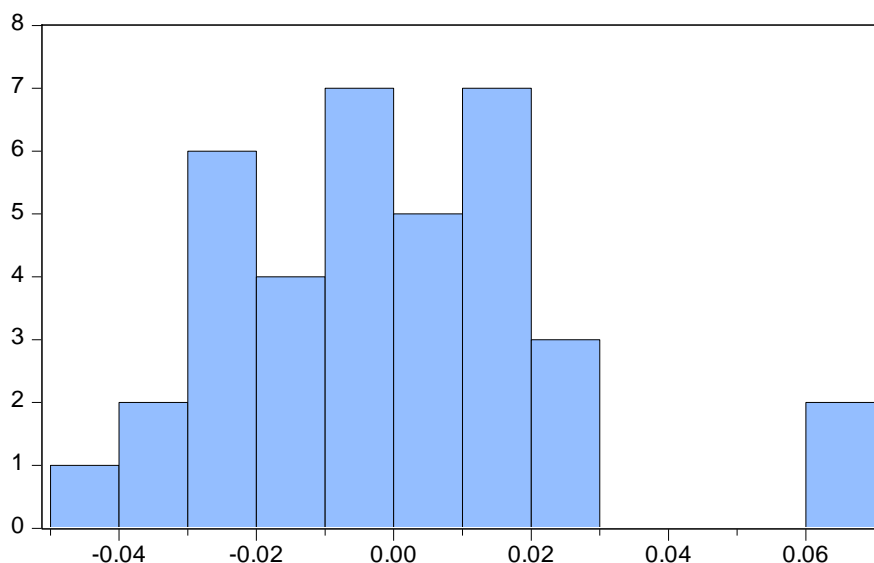
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APPENDICES

Diagnostic Test effect of oil revenue and health expenditure on economic growth

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.841481	Prob. F (2,24)	0.4434
Obs*R-squared	2.424549	Prob. Chi-Square (2)	0.2975



Series: Residuals	
Sample 1984 2020	
Observations 37	
Mean	2.29e-15
Median	-0.000662
Maximum	0.064421
Minimum	-0.047528
Std. Dev.	0.024361
Skewness	0.571792
Kurtosis	3.542360
Jarque-Bera	2.469653
Probability	0.290885

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Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	2.900529	Prob. F(10,26)	0.4011
Obs*R-squared	19.51077	Prob. Chi-Square(10)	0.3042
Scaled explained SS	12.24686	Prob. Chi-Square(10)	0.2689

Variable	Trend and Intercept Model		
	Level	1 st Difference	Remark
Log of RGDP (RGDP)	-1.054009 (0.7234)	-3.773117 (0.0067) ***	I (1)
Log of Government Health Expenditure (GHEX)	0.443246 (0.0004)	-5.498778 (0.0000) ***	I (0)
Log of Oil Revenue (OILR)	-1.569861 (0.4881)	-6.153950 (0.0000) ***	I (1)
Consumer price index (CPI)	-2.902196 (0.0542)	-4.843713 (0.0004) ***	I (1)
Log of money supply (MS)	-1.202730 (0.6636)	-6.169657 (0.0000) ***	I (1)



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UI/UX Design Web-Based Livestock Sale Using Design Thinking to Rapid Prototyping



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ABSTRACT: The livestock sector is one of the income sources for people in Laupakam Village who are engaged in poultry farming, goats, buffaloes and other types of livestock planning to sell and market online but are constrained by website-based application information systems to sell and market various livestock products. In addition, the sale of livestock that is commonly done is also still traditionally done such as selling around the village using a freight car or marketing in traditional markets which slows down sales and does not guarantee sales. Based on the above problems, the author provides a solution by designing a user interface user experience website for livestock sales that creates the final result in the form of a prototype and can be used directly to users for the testing stage. So that with this design it can make it easier for people to sell and buy livestock products and easily and to improve the economy in Laupakam Village. This design process uses the design thinking method which includes five stages, namely empathize, define, ideate, prototype, and test. Then testing in this study includes aspects of effectiveness, efficiency and user satisfaction using the usability testing method. Based on these tests, the effectiveness aspect obtained a value of 78.9%, the efficiency aspect obtained a value of 85% and the user satisfaction aspect obtained a value of 82.7%. So, the design of the livestock sales website solution gets a value of 81.78%, this value is included in the very good category.

KEYWORDS: User Interface, User Experience, Design Thinking, Prototype, Usability Testing

I. INTRODUCTION

Indonesia has a fairly large scope of livestock farming and affects the national economy, the cultivation, processing and trading of livestock to other farmers and to consumers is the most important part of the livestock sector. The livestock sector plays a very important role in terms of economic development in Indonesia, especially in rural areas. Laupakam Village is one of the villages geographically located in Mardinding District, Karo Regency. Laupakam Village is one of the villages in Karo Regency whose residents earn income from the livestock sector, such as cows, goats, chickens and buffaloes. However, in reality there are still many people who have not exploited their livestock and have not been able to optimally carry out a strategic role. This is due to the fact that most livestock businesses are still managed traditionally, so they have not been able to provide welfare that can be obtained by the community.

In response to current technological advances, the livestock sector's seller or buyer groups should have developed rapidly because they have used technology as a medium for buying and selling transactions to facilitate and improve the economy.

So, by looking at the above phenomenon, this research was carried out to solve the problems that occurred in Laupakam Village as one of the community associations engaged in animal husbandry and planning to sell and market online but constrained by a website-based application information system to sell and market various livestock products. In addition, based on initial observations made by researchers, the people of Laupakam Village still sell their livestock traditionally, such as traveling around the hamlet to sell livestock and transporting them using a freight car with a long distance without a guarantee of being sold, then livestock products are also often sold in traditional markets, buying and selling livestock traditionally like this often occurs buying livestock at relatively cheap prices but reselling them at quite high prices. This is due to the lack of market price information between sellers and buyers of livestock. Therefore, it is necessary to design an application for buying and selling livestock with an ideal standardized selling price that is appropriate so as not to harm the seller or buyer of livestock. In addition, the price that has been set is in accordance with the standardized selling price of livestock so that the price is fixed in the sense that there is no bargaining.

In the solution of designing a livestock buying and selling website, a website-based livestock sales User Interface User Experience design will be carried out which applies the design thinking method as a reference in designing this website. This

UI/UX Design Web-based Livestock Sale Using Design Thinking to Rapid Prototyping

UI/UX Design is because if the website is implemented, it can meet the needs of the target users. To meet these criteria, there are five stages that will be carried out, namely: Emphatize, Define, Ideate, Prototype, Test. This method is done because it prioritizes user centric and easy to use.

It is hoped that the UI/UX Design of the livestock sales website using the design thinking method can make it easier for people to process the business of buying and selling livestock via the internet by doing good and attractive documentation so that buyers are interested in the products being marketed.

II. METHODS

In carrying out this research took place from December 2022 to January 2023 in Laupakam Village. Kec. Mardinding. Kab. Karo.

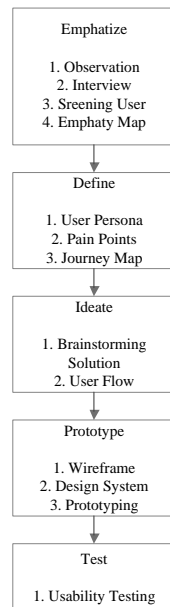


Fig 1. Research Method

The stages carried out in this study can be seen in Figure 1.

A. Emphatize

The first stage in this process is centered on user-focused design and in this stage the designer conducts observations, interviews and audience studies to gain an understanding of the activities and characteristics of potential users and identify problems experienced by potential users.

B. Define

The define stage aims to build ideas and ideas as a foundation in designing the prototype to be made. This process is a transition from formulated problems to solving user problems.

C. Ideate

The ideate process is the process of collecting ideas through brainstorming with the aim of getting ideas after problem solving.

D. Prototype

The prototype stage is a process in designing the design of a website or android-based application that will be made and ready to be tested on users. In designing this design is done using figma software.

E. Test

The last stage is the testing stage which is carried out to obtain feedback from potential users according to the results of the prototype that has been designed to determine whether the solution made has answered and overcome the problems experienced by users. This testing stage uses the usability testing method by emphasizing aspects of effectiveness, efficiency, and user satisfaction. These four aspects will be tested one by one to obtain the solution design.

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III. RESULT AND DISCUSSION

A. Emphasize Result

In the empathize stage which is the basis of this design thinking method which aims to explore the problem, understand who the target users of the livestock sales website are and who plays a role in design and development.

Table I. User Roles in the System

Users Group	Role in System
Parents/Common People	As a user who will order livestock products that will be made in a web-based sales application
Student	As a user who will order livestock products that will be made in a web-based sales application
Breeders	As a user who will sell their livestock products on the application

B. Define Result

Based on the data that has been obtained and the role of the user group in the system that has been determined, the next stage is the creation of a user person. The information needed in creating a user persona is the persona group, what problems are faced, and what expectations are desired by the persona. One of the buyer and seller personas that have been created based on the data that has been studied can be seen in Figure II.

Table II. User Persona

User Persona		
Persona	Frustrations	Goals
Buyer	Limited livestock booking places	Purchasing livestock can be done easily
Seller	The number of livestock that must be sold out of town because there are still people who do not know where to buy livestock.	The existence of an application or website service that can help market livestock products

Furthermore, making pain points is a problem definition process that is carried out by describing every possible problem experienced by users when using this livestock sales website based on testing and user interviews. The results of the problem definition process until a clear information is obtained. Pain points made consist of two based on persona groups, namely buyers and sellers, which can be seen in Figure 2 and Figure 3.

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Fig 2. Buyer Pain Points



Fig 3. Seller Pain Points

After the pain points of sellers and buyers are made, then the next step is to determine the pain point solution which aims to group the problem and make what is needed by users and what solutions can be offered. Participants are involved in finding solutions so that the solution is right in solving the problems experienced by participants. Below is one of the pain point solutions made by researchers based on the problems experienced by users can be seen in table III.

Table III, Pain Point Solution

Problem	User Needs	Functional	Respondents' Suggestions
The sale and purchase of livestock is still traditional.	Need a web-based application that offers sales and purchases farm animals	The livestock sales website is easy to reach or see and easy to use.	The design results are designed to meet the needs of respondents

C. Ideate Result

After grouping a problem and looking for solutions to the problem, the next process is to brainstorm solutions. This stage is a process of collecting ideas through brainstorming which aims to get ideas for solving existing problems. The number of ideas is not limited and the results of the brainstorming process will be processed and sorted according to aspects of user interests and aspects of livestock sales website development. The results of brainstorming can be seen in Figure 4.



Fig 4. Brainstorming Solution

After the brainstorming is complete, the next step is to create a user flow in the form of a flow diagram that explains the flow of the process or activities of prospective users in operating the designed application design. The buyer's user flow starts when the user logs in on the login page. If the user is a new user, the registration process is carried out first. If the user has logged in using his account, the user will be displayed on the home page. On the home page, users can select a destination page such as livestock product search, basket, notification, menu, view user profile, search history, scroll down to see contact person and social media from the application.

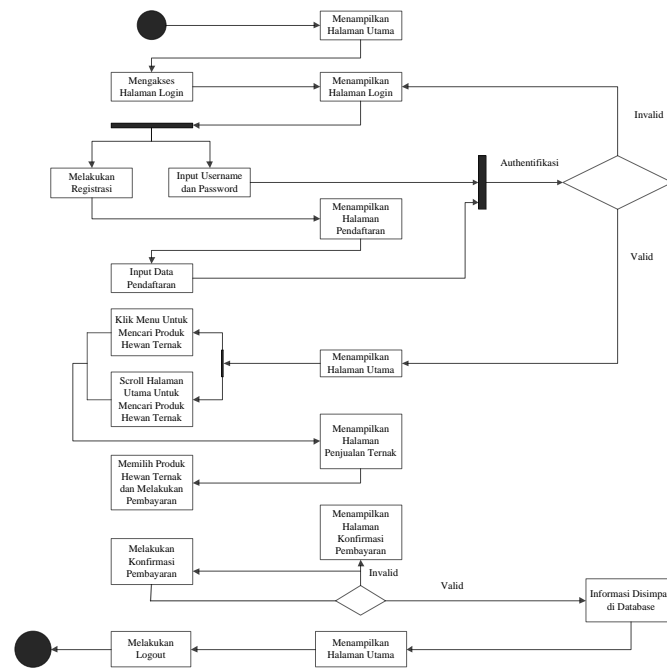


Fig 5. Buyer User Flow

While the seller's user flow starts with the user logging in on the login page. If the user does not yet have an account to log in, then first register a new user on the registration page. On the home page, users can select the profile menu to view statistics and user details as a seller and can list livestock products that they want to sell. In addition, on the profile page there are several menus that can be run such as edit profile, settings, sales status, transaction details.

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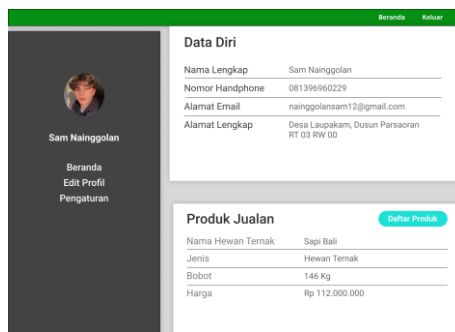


Fig 9. User Profile

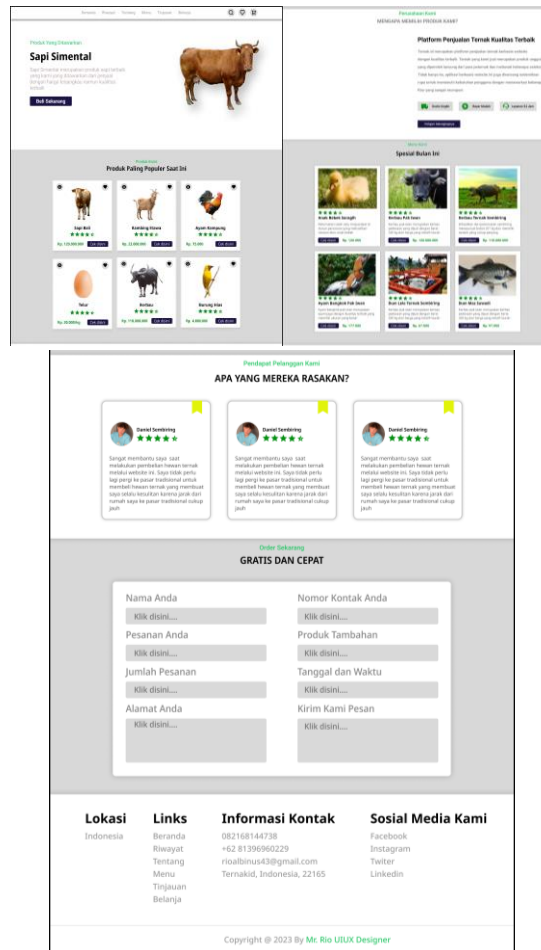


Fig 10. Home

E. Test Result

Testing is done using usability testing which includes aspects of effectiveness, efficiency and user satisfaction. In the effectiveness aspect, respondents are required to complete 15 tasks given by researchers to 100 respondents. A series of successful tasks is a task that is completed until the end. A partially successful task is one in which the user makes a mistake midway through the task or on a portion of the assigned task. A failed task is a task that fails to be performed until the final stage. The test results based on the effectiveness aspect can be seen in Table IV.

Table IV. Effectiveness Testing Results

Total Tasks Completed	
Task Outcome	1376
Partial Bewail Duty	124
Task Failed	0

$$\text{Success Rate} = \frac{\{B + (SB \times 0.5)\}}{\text{Number of Task} \times \text{Number of Users}} \times 100\%$$

$$Success Rate = \frac{\{1376 + (124 \times 0.5)\}}{15 \times 100} \times 100\%$$

$$Success Rate = 78.9 \%$$

The efficiency aspect is measured through the time in seconds or minutes required for participants to complete the task until the final or successful stage. The results of the time to complete the task are in Table 1 and the total time required in Table 5.

Table V. Efficiency Testing Results

Total Time Completed	
Total result time	1376
Total overall time	124

$$Overall\ relative\ efficiency = \frac{\sum_{j=1}^R \sum_{i=1}^R n_{ij} t_{ij}}{\sum_{j=1}^R \sum_{i=1}^R t_{ij}}$$

$$Overall\ relative\ efficiency = \frac{191799}{191799} \times 100\%$$

$$Overall\ relative\ efficiency = 100\%$$

The last aspect is the user satisfaction aspect. This aspect is measured using the USE questionnaire which consists of 30 questions and includes 4 aspects, namely usefulness, ease of use, ease of learning, and satisfaction.

Table VI. USE Questionnaire

Question Category
Usefulness
This livestock trading website helps me be more effective
This livestock trading website helps me be more productive.
This livestock trading website is very useful
The livestock trading website is very useful for the tasks I do.
The livestock trading website makes things that I want to achieve easier to do.
The livestock trading website saves me time when using it
The livestock trading website suits my needs
The livestock trading website works/operates as I expect it to.
Ease of Use
Livestock trading website is easy to use
The livestock trading website is practical to use
The livestock trading website is easy to understand by users
The steps of operating the livestock buying and selling website are very practical
The livestock buying and selling website can be customized according to user needs
No difficulties when using the livestock buying and selling website
The livestock trading website can be used without written instructions
I did not notice any inconsistencies during my use of the livestock trading website
Users who rarely or regularly use it will like the livestock trading website
I can easily recover from mistakes when using the livestock trading website
I can use the livestock trading website successfully every time I use it.
Ease of Learning
I learned to use the livestock trading website quickly
I easily remember how to use the livestock trading website

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The livestock buying and selling website is easy to learn how to use.
I quickly became skillful when using the livestock buying and selling website.
Satisfaction
I am satisfied with the livestock trading website
I would recommend the livestock trading website to others
The livestock trading website is fun to use
The livestock trading website works the way I want it to
The livestock trading website is very good
I feel compelled to own and use the livestock trading website
The livestock trading website is convenient to use

Table VII. Percentage Satisfaction Score

<i>Parameter</i>	<i>Percentage Satisfaction Score</i>
Usefulness	82.1%
Ease Of Use	93.3%
Ease Of Learn	94.75%
Satisfaction	86.4%

$$\text{Overall relative efficiency} = \frac{\text{effectiveness} + \text{efficiency} + \text{satisfaction}}{3}$$

$$\text{Overall relative efficiency} = \frac{95.86\% + 100\% + 89.14\%}{3}$$

$$\text{Overall relative efficiency} = 81,78\%$$

Based on the percentage of usability values obtained by the kanecater catering application solution design, the value is 81.78%, this value is included in the very good category.

IV. CONCLUSION

At the empathize stage, the results obtained in the form of discussion results in extracting problems at this stage are the desire of sellers and buyers to create a livestock supply chain.

Then at the define stage or defining a problem there is a need to design a livestock buying and selling website. There is a mapping of problem definition in the form of user personas which includes problems experienced by personas and persona expectations. Then making pain points for buyers and sellers using sticky notes to categorize the problems experienced by users.

The next stage is ideate which is the result of brainstorming solutions from the previous problem grouping. Brainstorming solutions get results by designing features that are able to answer user problems, namely login, registration, product menu, notifications, profile, history, purchases, cart, list of livestock products that you want to sell. Then create a user flow based on the wireframe

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The Effect of Playdough Play on Early Childhood Fine Motor Improvement in Yogyakarta National Kindergarten



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ABSTRACT: This study aims to determine the effect of playing playdough on fine motor improvement in early childhood. This type of research is an experiment with design one group pre test and post test. The population in this study was 38 children from Yogyakarta National Kindergarten. The sample in this study was 10 people taken using purposive sampling techniques. The instruments used are to measure fine motor using (1) pattern thickening test, (2) coloring test, (3) memola test (4) cutting test, (5) bead meronce test with string thread. The data analysis technique used is the paired sample t-test. The results showed that there was a significant influence of playing playdough on the improvement of early childhood fine motor from the initial test and the final test there was an increase with a difference of 3.09 kg m / sec, namely from an average score of 9.3 in the pre-test to 15.1 in the post test, and strengthened by the results of the t test using a paired sample t-test with a t value of -7.127 and a p significance value of $0.000 < 0.05$. The conclusion in this study is that there is a significant influence of playing playdough on the improvement of fine motor skills in early childhood, Yogyakarta National Kindergarten.

KEYWORDS: Playdough, Fine Motor, Early Childhood

I. INTRODUCTION

The world of world education is very important in human life. Human beings who are always accompanied by education, life will always develop in a better direction. Human life is constantly changing. All life is centered on education, because education is the printer of the next generation of the nation in human life. The development of educational life experiences dynamics that are increasingly developing and trying to adapt to the dynamic movement of life development. Education has an important role in childhood, because the improvement of personality abilities, mental and intellectual attitudes is formed in early childhood (Hastie & Wallhead, 2016). Quality in the early days of children including preschool is a mirror of the quality of the nation to come. Early childhood education is defined as the basic foundation for the child's subsequent education.

One of the abilities that needs to be developed in early childhood education institutions, especially in kindergarten, is motor skills. Fine motor development is related to the child's ability to use limbs. Motor processes involve a coordinated system of movement patterns (brain, nerves, muscles, and skeletons) with complex mental processes, referred to as the process of motion creation. The four elements cannot work individually, but are always coordinated (Cameron et al., 2016). If one of the elements is disturbed, the movement carried out can be disturbed. The movements made by the child are consciously influenced by a stimulus from his environment (verbal or oral information, images and other tools) to which the child can respond (Iivonen & Sääkslahti, 2014).

The position of early childhood is in a vulnerable and unstable period so that children need to get positive and thorough stimulation. The provision of stimulation through early childhood education needs to be given comprehensively, in the sense that children not only educate their brains, but are intelligent also in other aspects, because the fact that in the field there are still many problematic individuals seen from fine motor movements and independence, such as not being able to write correctly, not being able to button clothes independently, writing, drawing, still guided by the teacher (Van der Fels et al., 2015). This often causes problems and often makes the child get obstacles when completing their tasks.

This can be seen when the child holds a pencil, colors, pastes drawings, makes patterns, matches shapes. Children's fine motor skills that are not optimal are also caused because learning media has been used frequently and is no longer attractive to children. Strategies that are less helpful stimulate the improvement of children's fine motor skills so that children often have problems in carrying out tasks at school. This can be seen in the media used by teachers to improve fine motor skills, namely using children's worksheets such as reading so that children feel bored and not motivated to do learning activities in class. Learning

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activities are not structured through play so that children feel burdened by the tasks given by the teacher. Educators should support the improvement of children's motor skills through instructionally appropriate fine motor skills improvement programs.

Based on preliminary observations made by researchers in January 2023 at the Yogyakarta National Kindergarten from two classes of kindergarten teachers B Suryaningsih and Eni Handayani, it was revealed that the children's fine motor skills were still low. This is evidenced by the data obtained from two grades of 38 children of TK B Yogyakarta National Kindergarten obtained an average fine motor score of 1, when viewed in normative data, of course this is included in the category of less, while the standard value is worth 3. Play programs to train children's fine motor skills are also still lacking. Motode played before using motode playing, jumping rope, walking on a small sidewalk, putting the ball in the basket, imitating animal movements, of course this game trains the child's gross motor movements, does not train the child's fine motor skills.

Early childhood development efforts can be done in various ways, including play activities to improve their fine motor skills. Fine motor aims to assist the child in moving the limbs, especially part of the child's hand movements, thus giving birth to a meaningful independence (Linda & Suryana, 2020). Early childhood in the age range of 5-6 years is in the golden age everything is very valuable, both physically, emotionally, and intellectually (Bakken et al., 2017; Hasanah & Deiniatur, 2020). Early childhood is very much energy, so it requires very precise learning so that fine motor skills increase.

Training fine motor skills really requires eye and hand coordination, one form of play that trains eye and hand coordination is playing playdough. Playdough is a fun play activity at a low cost and has the value of flexibility, both for teachers and for children in designing patterns to be made according to plan and imagination. (Setiawati, 2022). According to previous research, it has shown that there is an influence of playing playdough in providing stimuli for children's fine motor improvement (Sutapa et al., 2018). Playing playdough can improve children's fine motor skills, indirectly children will be able to improve their abilities through squeezing, pressing, cutting, and matching pattern shapes according to their imagination.

This ability of muscles and nerves is what will be able to improve fine motor abilities such as squeezing, tearing, forming patterns, sticking (Kristiantari & Negara, 2017). The child's fine motor delay is due to the lack of opportunities for the child to learn fine motor skills and exercises. Playing playdough is a solution in improving children's fine motor skills so that educational activities are held that are interesting and meaningful for children. According to the previous opinion, the child instinctively has the urge to develop from a dependent position (dependence) to an independent position (being independent) the independent child will act confidently and not always rely on the help of adults in acting (Chen et al., 2019).

The position of early childhood is in a vulnerable and unstable period so that children need to get positive and thorough stimulation (Lisa et al., 2020). The provision of stimulation through early childhood education needs to be given comprehensively, in the sense that children not only educate their brains, but are intelligent also in other aspects, because the fact that in the field there are still many individuals who have problems seen from fine motor movements and independence, such as not being able to write correctly, not being able to button clothes independently, writing, drawing, still guided by the teacher. This often causes problems and often makes the child get obstacles when completing their tasks. Most of the motode play taught earlier use motode playing, jumping rope, walking on a small sidewalk, putting the ball in the basket, imitating animal movements, of course this game trains the child's gross motor movements, does not train the child's fine motor skills. The purpose of this study was to determine the effect of playing playdough on improving early childhood fine motor skills in Yogyakarta National Kindergarten.

II. MATERIAL AND METHODS

This study used an experiment research model with a one group pre-test – poest test design. This method is validation, which is to test the influence of one variable on another. This experimental study used one group that received the same treatment, namely the provision of playing playdough. The population in this study was 24 people, and the sample in this study was 10 people. Sampling technique using purposive sampling technique. This study has received approval from all samples that have filled out a statement of ability to become a research sample and have met the requirements of the research code of ethics. Data collection techniques in this study are tests and measurements. Instruments for measuring fine motor using (1) pattern thickening test, (2) coloring test, (3) memola test (4) cutting test, (5) bead meronce test with string thread. After that, treatment or exercise was given as many as 16 meetings with a frequency of 3 times a week. And ended with taking the final test or post test to measure fine motor skills in early childhood using with the aim of knowing the difference in fine motor scores in early childhood after treatment.

The data analysis technique used in this study using SPSS 22 was to use a paired sample t-test. at the significance level $\alpha=0.05$. Before arriving at the use of paired sample t-test, it is necessary to carry out prerequisite tests, which include: (1) normality test and (2) hypothesis test with paired sample t-test.

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III. RESULTS AND DISCUSSION

In the research results and discussion section, it will be presented sequentially, including: data on the results of the research pre-test and post-test, prerequisite test, and hypothesis test. The hypothesis test in this study will be presented according to the formulation of the problem, namely: (a) The effect of playing playdough on the fine motor improvement of early childhood. In full it will be presented as follows.

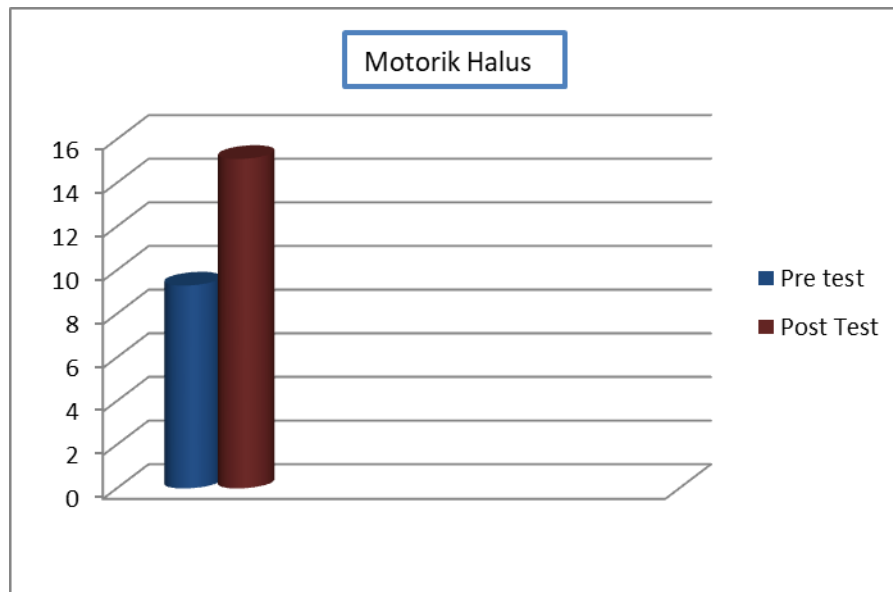


Figure 1. Early childhood fine motor pre test and post test bar chart

Based on Figure 1 above, it shows that early childhood fine motor is an average pretest worth 9.3 and has an increase at the time of posttest worth 15.1.

1. Prerequisite Test Results

a. Normality Test

The data normality test in this study used the Shapiro-Wilk method. The results of the data normality test conducted in each analysis group were carried out with the SPSS version 22.0 for windows software program with a significance level of 5% or 0.05. The summary is presented in Table 1 as follows.

Table 1. Summary of Normality Test Results

Group	P	Significance	Information
Fine Motor Pre test	0,813	0,05	Usual
Post Fine Motor Test	0,074	0,05	Usual

Based on the statistical analysis of the normality test that has been carried out using the Shapiro-Wilk test, all fine motor pretest and posttest data were obtained from the normality test results of the data significance value $p > 0.05$, which means that the data are normally distributed.

Hypothesis Test Results

Research hypothesis testing is carried out based on the results of data analysis and interpretation of paired sample t-test analysis. The results of hypothesis testing adjusted to the previously formulated hypothesis, as follows: "The hypothesis has the effect of playing playdough on the fine motor enhancement of early childhood" Based on the results of the analysis obtained data in Table 3 as follows.

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Table 2. Results of paired sample t-test with playdough on early childhood fine motor enhancement.

Paired Samples Test

	Paired Differences	t	df	Sig. (2-tailed)
	95% Confidence Interval of the Difference			
	Upper			
Pair 1 Pre test Motorik Halus - Post test Motorik Halus	-3.95912	-7.127	9	.000

From the results of the paired sample t-test test Table 2 above, it can be seen that the significance value of p is 0.000 and the value of t is -7.127. Since the significance value of p is $0.000 < 0.05$, it means that H_0 is rejected. Thus there is a significant influence of playing playdough on the fine motor improvement of early childhood. This means that the research hypothesis that states that "There is a significant influence of playdough play on the fine motor enhancement of early childhood", has been proven.

DISCUSSION

The discussion of the results of this study provides a further interpretation of the results of the data analysis that has been put forward. Based on hypothesis testing produced three groups of analysis conclusions, namely: (1) there is a meaningful influence of the main factors of the study. The discussion of the results of the analysis can be further explained as follows.

"There is an effect of playing playdough on early childhood fine motor improvement"

Based on the results of the analysis carried out, it was found that the fine motor skills of early childhood experienced a good improvement by being given training using the playdough playing model. These results are consistent with previous studies stating that there is a significant influence of playdough play on fine motor skills in kindergarten (Setyaningsih & Fitri, 2022; Syawalia et al., 2022). Playing playdough has an effect on improving children's fine motor skills because when doing playdough play activities regarding the strength of the palms and fingers, coordination between the hands and eyes, and the flexibility of the palms of the fingers. This proves that the use of playdough can help children practice physical skills by hand, when the child manipulates the playdough with his fingers. According to some previous literature, it describes children's motor abilities, especially fine motor skills aged 5-6 years as follows: (1) drawing something meaningful to the child, (2) using finger movements during play, (3) coloring a pattern, (4) cutting simple shapes (Maurer & Roebbers, 2019; Vaneza & Suryana, 2020)

The results of the study showed that the motor skills activities of children using tools with playdough allowed children to discover the properties of this bending material (Hikmawati et al., 2022; Sutapa et al., 2021). According to the stated that playdough is an excellent play tool for children to develop fine motor skills, concentration, and patience. In addition, with playdough children can make various shapes either by using molds or not. Playing playdough can be used as an effort to help kindergarten children to develop their fine motor skills. Previous research can be used as a reference and can be supportive in conducting this research because it makes a positive contribution in developing the fine motor skills of kindergarten children. Play helps the child to master fine motor skills (Mutiah, 2016). It is beneficial to develop small muscles and large muscles of the child, fine motor is one of the important aspects to develop.

IV. CONCLUSION

Based on the results of the research and the results of the data analysis that has been carried out, the following conclusions are obtained. There is a significant effect of playing playdough on early childhood fine motor improvement. The results showed that the playdough playing method is an effective method used for early childhood. The implications of the results of the study that to improve the fine motor skills of early childhood can be done by striving for the application of playdough play models. This means that children are given a play model that is in accordance with their characteristics so that in the learning process children feel happy and motivated to follow the learning process, so that learning objectives will be achieved. Then another implication is to encourage teachers to apply suitable learning models that can trigger children's fine motor movements in learning.

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An Investigation of Academic Dishonesty among Undergraduates in Four Universities in Laos: Critical Analysis of Students' Final Reports



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ABSTRACT: The purposes of this study were to examine academic dishonesty, which focuses on plagiarism, in final reports written by English-majored students at four different faculties in four public universities and to study the in-text citations and references used in the final reports.

A survey research was adopted in the current study, in which 80 final reports written by English-major students between 2014 and 2020 at four faculties—the faculty of languages (Souphanouvong University), the faculty of linguistics and humanities (Savannakhet University), the faculty of education (National University of Laos), and the faculty of education (Champasak University)—were collected through simple random selection. The Plagiarism Checker X was used to analyse and detect plagiarism in the students' final reports, and the number of plagiarized words and improper in-text citations and referencing are presented in the frequency.

The results showed that 30,819 (67%) out of 45,999 words written by students at the faculty of languages (Souphanouvong University) were plagiarized, followed by 13,219 (63%) out of 20,982 words created by students at the faculty of education (Champasak University), and 27,735 (66%) out of 42,022 words were also cited as plagiarism at the faculty of linguistics and humanities (Savannakhet University). In contrast, only 9,674 (36%) out of 27,123 words written by students at the faculty of education (National University of Laos) were plagiarized. Another key finding of the current study is that 623 (76%) out of 926 references in the 80 manuscripts were checked and found to be inappropriately referenced, while 966 in-text citations were checked and showed that 45% (434 citations) were found to be incorrect.

KEYWORDS: Academic Dishonesty, Plagiarism, In-text citation, Referencing

I. INTRODUCTION

Academic dishonesty among university students is on the rise, posing a serious concern for professors and administrators. With today's fast technological advancements, academic dishonesty has become a growing trend among university students, which is a problem at all levels of education, especially higher education across the world (Eminoğlu & Nartgün, 2009; Simpson, 2016; Murdock & Anderman, 2006). Understanding the elements that influence academic dishonesty is necessary for the creation of creative strategies and treatments for reducing dishonest behavior (Megan et al., 2019; Maloshonok & Shmeleva, 2019).

In Laos, the Ministry of Education and Sports (2020) emphasizes the importance of preparing university students to be academically ethical. The MOE has included academic honesty in the education and sports sector development plan 2021–2025 to emphasize its importance. Furthermore, some universities incorporate the concept of academic integrity into their policies, missions, and slogans to encourage students to practice academic morality in their learning and research (National University of Laos, 2021). Despite the promotion of academic integrity, plagiarism has increased significantly among students at universities across the country. This has become a concern for teachers, lecturers, and universities. The data, however, concerning this issue is widely debatable and controversial among scholars and academics because of the shortage of research in this area.

In the past two decades, several researchers have sought to determine the factors influencing students' engagement in academic dishonesty. A study with 357 undergraduates by Megan et al. (2019) found that the chance of participating in academically dishonest behaviours was predicted by social rational orientation and perceived course value. Bozdağ (2021)

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demonstrated that students' academic dishonesty inclinations rise as their fear of bad assessments from instructors and professors grows. Subjective standards, which were found to be the largest predictor of academic dishonesty, and dishonesty were shown to be positively associated with perceived behavioural control (Maloshonok & Shmeleva, 2019; Zhang, Yin, & Zheng, 2018) were two major factors influencing students' engaging in academic dishonesty. Research by Costley (2019) stated that the sporadic nature of the activity as well as the students' perception that academic dishonesty was a normal part of their learning experience among Korean students

However, MacLeod and Eaton (2020) found that administrative considerations are two of the key elements highlighted by teachers as leading to academic dishonesty. Due to the significant difficulties of dealing with paperwork and producing proof, many faculty members feel backed by their administration and are hesitant to publicly report academic dishonesty. Furthermore, unprepared students and overseas students who struggle with language challenges and the Canadian academic framework are also important contributors to academic dishonesty. In comparison, in the context of the College of Basic Education in Kuwait, academic dishonesty is extremely likely to be quite widespread among CBE students since they may profit from it, while the likelihood of discovery and severity of punishment are thought to be quite low (Alsuwaileh, Russ-Eft, & Alshurai, 2016). Kam, Hue, and Cheung (2018) revealed that only the subjective norm against cheating was substantially associated with self-reported cheating behaviour. Attitudes toward cheating, perceived behavioural control, and moral duty were all positively connected to the intention to cheat. Individual, environmental, and ethical factors have been shown to influence academic dishonesty rationalization, and this rationalization determines actual academic dishonesty behaviour. Furthermore, in higher education, the lack of well-defined regulations on academic dishonesty is a key driver of academic dishonesty among students (Ellahi, Mushtaq, & Khan, 2013). A longitudinal study (2005–2013) by Molnar (2015) reported that an examination of the data reveals that student acceptability of various forms of academic dishonesty has declined over the last nine years. In a study in China, students' opinions on the acceptability of cheating and cheating behaviour in mathematics were linked to engagement and task orientation in the classroom (contextual aspects) as well as intrinsic and utilitarian value (personal elements) (Cheung, Wu, & Huang, 2016).

Nevertheless, there is little study on academic dishonesty in the context of Laos, and the data associated with academic dishonesty is scarce. For this reason, this research is essential and a must to increase the understanding of the proposed problem within the Lao context. The current study aimed to analyze the final reports written by English-majored students to identify plagiarism and study the use of in-text citations and referencing to determine whether it was correct or not.

MATERIAL AND METHODS

The purposes of this study were to examine academic dishonesty, which focuses on plagiarism, in final projects written by English-majored students at four different faculties in four public universities and to analyze the in-text citations and references used in the final reports. To achieve the objectives, a survey design was adopted, and secondary data were collected in the study. According to Johnston (2017), secondary data analysis is the examination of information gathered by someone else for a primary reason. For researchers with limited time and resources, using existing data is a feasible choice. In this study, the 80 final reports written by English-majored students between 2014 and 2020 at four different faculties—the faculty of languages (Souphanouvong University), the faculty of linguistics and humanities (University of Savannakhet), the faculty of education (National University of Laos), and the faculty of education (Champasak University)—were collected through simple random selection. The final projects, which were completely written by English-majored students at four different faculties and universities and stored at the central library, were randomly collected by scanning the whole texts of the final projects. Prior to data collection, ethical considerations were taken into consideration, and a consent form was signed by the authorized organizations at each university. The final projects were uploaded into Plagiarism Checker X to detect student plagiarism in the students' final projects; the number of plagiarized words was analyzed into a percentage and displayed in the figure, while the number of in-text citations and references were manually analyzed based on the APA 7th edition and the incorrect number of citations and references were shown in the figure.

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RESULTS AND DISCUSSION

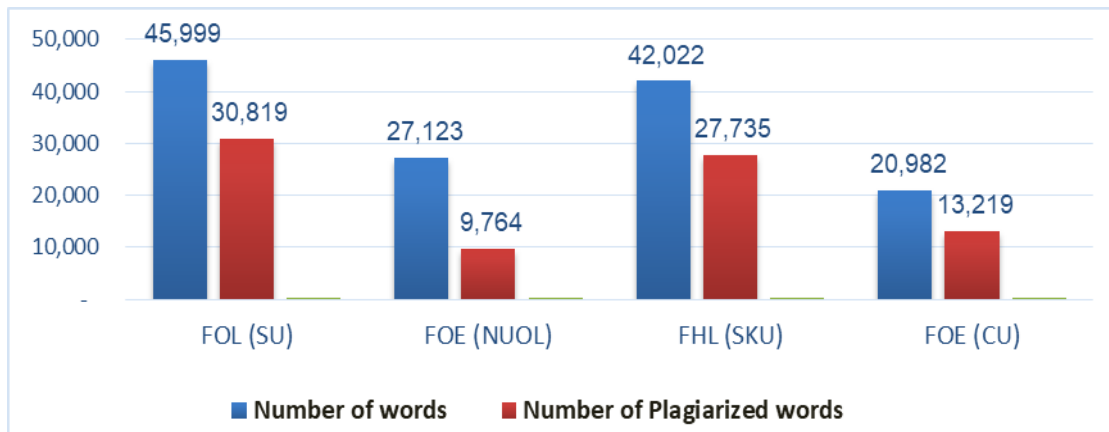


Figure 1. The Number of Words and Plagiarized Words in Students' Final Reports

Note: FOL = Faculty of Languages; FOE = Faculty of Education; FHL = Faculty of Linguistics & Humanities; SU = Souphanouvong University; NUOL = National University of Laos; SKU = Savannakhet University; CU = Champasak University.

Figure 1 above illustrates the variations of plagiarism at four faculties in four public universities in Lao PDR. As can be seen from the figure (above), the number of manuscripts (which equals 45,999 words) was scanned at FOL (SU), and it was found that 30,819 (67%) of the manuscripts were plagiarized, while students at FOE (NUOL) found only 9,764 (36% out of 27,123 words) of the manuscripts to be plagiarized, followed by FHL (SKU), where 66% (equals 27,735 out of 42,022 words) were also cited as plagiarism and 13,219 (63%) out of 20,982 were plagiarized, respectively.

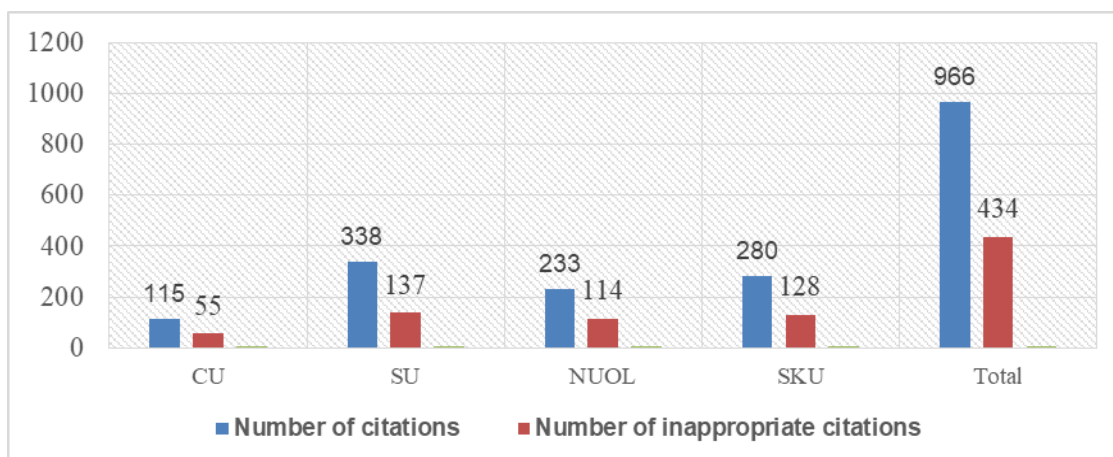


Figure 2. The Number of Inappropriate Citations Used in Students' Final Reports

As shown in Figure 3, students from the National University of Laos (NUOL) are found to be dominant in citing inappropriately (49%), followed by Champasack University students, which account for 48%. In comparison, 46% of Savannakhet University students were found to have inappropriate citations, while 41% of Souphanouvong University students were unable to cite appropriately. Overall, 966 citations were checked for correctness, and it was found that 434 citations (45%) made by students at four faculties were found to be cited inappropriately.

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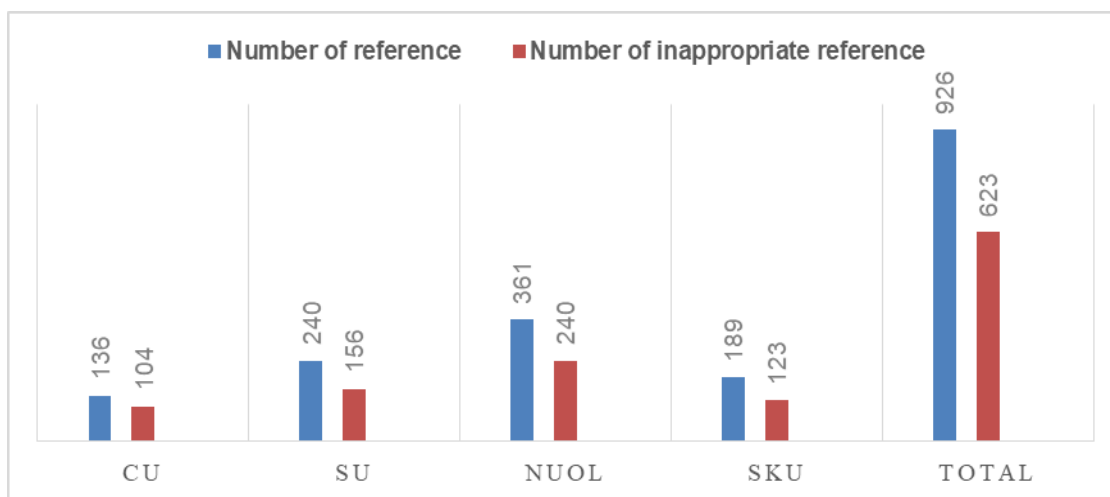


Figure 3. The Number of Inappropriate References Used in Students' Final Reports

Note: FOL = Faculty of Languages; FOE = Faculty of Education; FHL = Faculty of Linguistics & Humanities; SU = Souphanouvong University; NUOL = National University of Laos; SKU = Savannakhet University; CU = Champasak University.

As can be seen from the figure above, the largest number of inaccurate references (76%) is found to be committed by students at FOE (CU), whereas 66% of references are found to be referenced inappropriately by students at FOE (NUOL). At the same time, 65% of the references made by students at FOL (SU) and FLH (SKU) are inaccurate. Overall, 623 out of 926 references appearing in students' manuscripts were found to be referenced inappropriately, which accounts for 67%.

DISCUSSION

According to current data, the majority of words in final reports written by students at Lao universities were found to be plagiarized. These results corroborate the findings of a great deal of the previous work by Tran, Huynh, and Nguyen (2018) from 2013 to 2015, in which 977 samples were taken from 1434 compulsory graduation reports produced by senior undergraduates in the economics and management fields, which found that 91.7 percent of the graduation reports were found to be plagiarized at the university, with 61.7 percent of the reports copied using the program. The major source of this problem was the use of material from the internet without crediting the original authors. In addition, an investigation with university graduate students in Pakistan found that many respondents did not know what plagiarism was, and a large percentage of students have openly admitted to plagiarizing written works on purpose (Ramzan, Munir, Siddique, & Asif, 2012).

Furthermore, the current study shows that almost 50% of the citations in the final reports were cited inappropriately. In accordance with the present results, previous studies have demonstrated that students often make mistakes when doing citations, such as not including the year of publication, not including page numbers, journal names, volumes, and issue numbers, quoting too much, and not manually inserting reference lists (Nkateng & Makoko, 2021). In a similar study by Lee, Hitchcock, and Casal (2018), the results indicate that L2 students are prone to demonstrate deference to the perceived authority of published sources because they mostly take a non-committal attitude by just acknowledging or excluding themselves from references. Citation analysis was used in this work to monitor the quality and current state of the reference list. These results are in accord with recent studies indicating that the most significant mistakes in citations were shown to be those made while writing secondary citations and author names. The most important inaccuracies in the reference list were those that were italicized. According to the survey results, seventh semester students were knowledgeable, but the majority of them still struggle with article writing, which is thought to be a major factor in the percentage of errors made by seventh-semester students, the majority of which were significant in poor criteria (37.5%) (Tridianti & Eryansyah, 2023).

Moreover, the study also found that a significant number of references in the final reports were wrong based on the APA manual. A study by Yap (2020) also examined twenty master's theses uploaded to an open institutional repository, which were examined in the article. Findings revealed that the 2019 theses submitted exhibited more errors than those submitted in 2018. The reference list's information retrieval section had the most frequent problems, such as missing publication dates and/or volume and issue numbers. In addition, references in publications published in respected peer-reviewed journals must be accurate, fair, balanced, and impartial. Studies on the reliability of references in diverse scientific fields, however, show a

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25%–54% mistake rate. These mistakes can range from simple inaccuracies in the citation information to serious ones that change the original meaning and content of the source material (Rivkin, 2020).

CONCLUSION

The main goal of the current study was to determine the amount of plagiarism in students' final reports from four public universities in Lao PDR. The present study has shown that the largest numbers of texts used in students' final reports are found to be plagiarized. This means that plagiarism is widespread among undergraduate students, except for final reports written by students at the National University of Laos. Furthermore, most in-text citations and references made by students are found to be cited and referenced improperly based on the APA style. Based on current findings, it is recommended that educators incorporate research skills, which include summarizing, paraphrasing, quoting, citing, and referencing sources, in the classroom. In addition, it is also suggested that an APA manual be developed and provided to students to utilize as a key reference when citing and referencing the sources. Furthermore, educators should teach students how to use reference management software such as Mendeley, RefWorks, and Zotero. Another suggestion is that educators should recommend students deploy the state-of-the-art AI, for instance, Quill Bot, to summarize and paraphrase the texts when conducting research and write a final report in the future.

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The Struggle for Gender Equality and Educational Values Collection *Sihir Perempuan Short Stories* by Intan Paramadita



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ABSTRACT: The problem of gender equality between men and women often occurs both in the world of work, household, public space, and politics. The struggle for gender equality arises because of the many kinds of oppression against women. This study aims to reveal the struggle for gender equality experienced by the main character in Intan Paramadita's collection of Witchcraft of Women short stories and to explain the educational values contained in the collection *Sihir Perempuan* short stories by Intan Paramadita. This study uses the theory of feminist literary criticism. The research method used in this research is descriptive qualitative. The data collection technique used in this study is the reading, observing, noting (BSC) technique. Data analysis methods and techniques are using the content analysis method and using data analysis techniques according to Miles and Huberman which have three stages, namely data reduction, data presentation, and drawing conclusions. Research data in the form of words, phrases, sentences, and discourse. The results of this study indicate that the form of struggle for gender equality found in the collection of short stories *Sihir Perempuan* by Intan Paramadita is the struggle for women's rights and justice. Public and productive role, freedom in choosing for women, and toughness in dealing with various problems. While the educational values found in the collection of short stories *Sihir Perempuan* by Intan Paramadita are moral values, cultural values, and religious values.

KEYWORDS: Struggle, Feminism, Gender, Values.

INTRODUCTION

The discussion about women cannot be separated from the traditions that are inherent, including in Indonesia, in general, the role of women is often considered below that of men. Even though women have iconic images related to liberation where they are the nucleus and foundation of society (Hijazi, 2019). The reality is that society views women as figures who must be feminine and men must be masculine so that they are identified with everything that is considered to be both feminine and masculine according to the concept of society in general (Hasibuan, 2017). The position of women is always placed in the second position or the second sex, Xu (2017) reveals that from the perspective of sociology, psychology and physiology, it is revealed that men are the culprits for women becoming number two. Even though women are brave figures who are able to think critically, and not only about the womb and household affairs (Nafia et al, 2022). The best way for women to be equal to men is to accept the roles that are actually meant for men, and not by accepting the roles of a lower order created by men (Mikulan, 2009).

The nature of a woman when she is married is no stranger to the stamps attached to it, namely the kitchen, the well and the mattress. Women are treated as second-class citizens, and they are brainwashed with doctrines, policies, and programs that push them into the domestic sphere (Candriay, 2018). Even before marriage, women are considered not to have a higher education because it is not important. In line with Mahyuddin's thoughts (at al, 2020) who stated that one of the most difficult problems for women when talking about their relationships with men is the stereotype of women in the family. The general view that has so far been confirmed in the minds of the people is that women are only "workers" in the domestic sector, unable to think rationally and lacking the courage to take risks. The differences between men and women, which are constructed socially and culturally so that the differences in characteristics and characteristics between men and women are known. Men are considered strong, rational, manly, mighty, while women are gentle, emotional, motherly and so on. At its extreme, the men are outside the house while the women are staying indoors. Likewise in various areas of life, be it socio-political, economic, religious, or cultural, the position of women has always been and is still being marginalized under the domination of the superiority of men (Simanungkalit, 2020).

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Mosse (2007) also stated that girls receive a rudimentary education or none at all, it is very difficult to face the world. They do not have the resources to enable them to effectively overcome their poverty. Without basic education, most of the secondary education is closed to them, therefore economic opportunities are limited to the informal sector. Much of the education offered to girls is a "double-edged sword", in that it reinforces and enhances their feelings about their shortcomings as girls.

Currently, the term patriarchy has a more general meaning for a term that keeps women controlled by men in various ways. This is in line with Beauvoir's statement (1993: 147) which states that "history has shown us that men have always kept in their hands all concrete powers; since the earliest day of the patriarchy they have thought best to keep women in a state of dependence; their codes of law have been set up against her; and thus she has been definitely established as the Other" which has the conclusion that men always want to dominate women because they feel more powerful than women. Men have done that since the emergence of the term patriarchal culture, women were made to depend on men, then made all kinds of rules to regulate and make women's boundaries. As long as patriarchal culture is still upheld in social life, discrimination and injustice against women will not end (Mamus, 2017).

Women's issues are generally associated with gender or the feminist movement. Gender does not only refer to the distinction of sex. Gender is specifically defined as the differentiating roles and positions of women and men in society. (Munira et al, 2018). In line with this, Samatan (2018) in his research argued that the phenomenon of Indonesian women refers to the perspectives of the Feminists in representing the conditions of social, cultural and religion that are considered to believe in women and cause gender inequalities in society. This means that the phenomenon of Indonesian women refers to the perspective of feminists in representing social, cultural and religious conditions which are considered to limit women and cause gender inequality in society. For this reason, the feminist movement was carried out to break gender inequality, fight for women's rights, and uphold women's dignity (Mustikawati et al, 2022).

Feminists take advantage of the spirit of emancipation to fight for quantitative gender equality for women so that men and women have the same role, both outside and inside the household (Fadilah, 2018). This needs to be underlined that women also want to have the same opportunities as men, both in the fields of education, work, social and family. This movement does not intend to fight against existing customs, but to fix that women have the same rights does not mean that they want to compete with men. Women also want to be respected, women also want to be respected, women also want to have the freedom to choose a job, women also have the right to have a higher education.

The perspective of feminism is described not only in real life but also in a literary work. This is understandable because literary works also become a vessel as a manifestation of events experienced in real life or are limited to literary criticism as described by the author. One of the female authors in Indonesia who raises the theme of women's problems and gender issues is Intan Paramadita. Intan paramadita is a female figure who participates in the world of writing literary works, both novels and short stories. The Sydney Morning Herald identified Intan as part of a new wave of female writers working on issues around women's bodies, power, identity and resistance. Intan Paramaditha is known for *Witchcraft of Women*, a collection of short stories which was included in the top five of the Khatulistiwa Literary Award (Kusala Sastra Khatulistiwa) in 2005.

A collection of short stories entitled *Sihir Perempuan* is a dark story about disobedient women. Women can be anything: Mothers, children, good employees, to porcelain dolls. In *Magic for Women*, Intan Paramadita cultivates the horror genre, myths and old stories from a feminist perspective. This book is equipped with eleven short stories arranged with a variety of uniqueness, especially the focus on female characters who are always the main characters in each sub-chapter of the story title.

In addition to the issue of women's rights, Intan Paramadita's collection of *Magic Women* short stories also has many character education values that can be drawn from the stories. Value is something that is valuable, valuable, quality, which shows a quality and will be useful for human life. A Value will reveal what actions are praised and blamed, which views of life can be shunned or which can be adhered to, and what things are upheld. In a literary work, both short stories and other literary works must contain values that can be taken from it. There are several kinds of educational values as follows: (1) Religious educational values, (2) Social educational values, (3) Cultural educational values, (4) Moral values, and (5) Aesthetic values.

The researcher chose a collection of short stories *Witch of Women* as the object of research because it is based on several things as follows, a collection of short stories *Sihir Perempuan* is Intan Paramadita's first work which raises women's issues or a feminist perspective. In addition, it has never been studied, so the whole story in the collection of *Women of Magic* short stories, especially what are the problems of gender issues in society and the struggle for gender equality. Moreover this book is being republished after twelve years. re-published in 2017 with an interesting cover, namely a portrait of a woman crying blood but in a relaxed state, this indicates that the story in it really tells of a woman who fought for her life,

This study uses a feminist literary criticism approach as a tool in examining the struggle for gender equality in the collection of short stories *Sihir Perempuan* by Intan Paramadita. This approach is suitable for analyzing the collection of short stories *Sihir*

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Perempuan by Intan Paramadita because this book tells a lot about women's lives. The approach of feminist literary criticism in this research can utilize the theory of feminism in determining the focus on the struggle for gender equality and educational values in the collection of short stories *Sihir Perempuan* by Intan Paramadita.

This research on the struggle for gender equality is not the only one in existence, but there are several studies that have studied using a feminist literary criticism approach, namely research on the Jember State University student thesis entitled "The Struggle for Gender Equality in Educational Aspects in the *Kenanga* Novel by Oka Rusmini: A Critical Approach" *Feminist Literature*" compiled by Ari Minarni (2018). The subject of this research is the *Kenanga* novel by Oka Rusmini. The object of this research is the struggle for gender equality in the educational aspect.

The aim is to describe the forms of gender inequality and the struggle for gender equality in female figures in the educational aspect. The results of Ari Minarni's research (2018), found a form of gender inequality in the educational aspect found in the novel *Kenanga* by Oka Rusmini in the form of physical and psychological violence from the husband experienced by the character Kemuning. The form of the struggle for gender equality experienced by three female figures in the educational aspect experienced success in the figures Luh Intan and *Kenanga*, while the failure occurred in the Kemuning character because there were several reasons that made the Kemuning character not dare to advocate feminism which ultimately led to gender injustice which triggered occurrence of violence. Data collection methods and techniques in Ari Minarni's research (2018), used the documentation analysis method. Data analysis methods and techniques in Ari Minarni's research (2018), use the content analysis method.

The similarities and differences in this research with Ari Minarni's research (2018) are found in the objects, subjects and research objectives. The similarity is that the research object used by Ari Minarni (2018) with this research is that they both examine the struggle for gender injustice. The difference is that the subject used by Ari Minarni (2018) uses the *Kenanga* novel by Oka Rusmini. While the subject of this research is a collection of short stories *Sihir Perempuan* by Intan Paramadita. The purpose of this research is a form of gender inequality and the struggle for gender equality. While the purpose of this study is to describe the struggle for gender equality and the values of character education in the collection of short stories entitled *Sihir Perempuan* by Intan Paramadita.

Etymologically feminist comes from the word *femme* (woman), which means women (singular), who fight for women's rights (plural) within the scope of social class (Ratna, 2004: 184). Feminism is a movement carried out by women to reject everything that is marginalized, subordinated and degraded by the dominant culture, both at the economic, political and other social life levels (Suaka, 2013: 126).

"The feminists had only one model, one image, one vision, of a full and free human being: man. For until very recently, only men (though not all men) had the freedom and the necessary education to realize their full abilities, to pioneer and create and discover, and map new trails for future generations. Only men had the vote: the freedom to shape the major decisions of society. Only men have the freedom to love, and enjoy love, and decide for themselves in the eyes of their God the problems of right and wrong" (Friedan, 2001: 106).

In connection with the quote above, Friedan (2001) states that feminists only have one model, one image, one vision, of a complete and free human being: human beings. Because until recently, only men (though not all men) had the necessary freedom and education to realize their full potential, to pioneer and create and discover, and chart new paths for future generations. Only men have voting rights: the freedom to shape major decisions in society. Only human beings have the freedom to love, and to enjoy love, and to decide for themselves in the eyes of their God the matter of right and wrong.

"The problem of identity was new for women then, truly new. The feminists were pioneering on the front edge of woman's evolution. They had to prove that women were human. They had to shatter, violently if necessary, the decorative Dresden figurine that represented the ideal woman of the last century. They have to prove that woman is not a passive, empty mirror, not a frilly, useless decoration, not a mindless animal, not a thing to be disposed of by others, incapable of a voice in her own existence, before they could even begin to fight for the rights of women needed to become the human equals of men" (Friedan, 2001: 104).

The Development of the Feminism Movement The feminist movement can be divided into three waves. The first feminist movement developed from the 1800s to around the 1930s. In general, this first wave has the aim of increasing the equal rights and degrees of women with men in this matter concerning the right to vote. Feminist figures in the first wave were Mary Wollstonecraft, Sejourner Truth, and Elizabeth Cady Stanton. The first wave was divided into three major groups, namely liberal feminism, radical feminism, and socialist feminism (Anoegrajekti, 2010:31).

Fakih (2013: 12-13) says that gender inequality manifests itself in various forms of injustice, namely marginalization or processes of economic impoverishment, subordination or presumption that it is not important in decisions, stereotype formation or negative labeling, violence, large workloads, and ideological socialization of role values. gender.

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As a modern movement, feminism, which began to develop messages around 1960, began to have a broad impact. This movement makes people aware of the position of women which is almost ignored. The impact of this activity is also felt in the field of literature. Women are starting to realize that even in literary works there are inequalities in the human outlook on the characters. This is what ultimately gave rise to feminist literary criticism. Feminist literary criticism is a variety of literary criticism that utilizes the theoretical framework of feminism in interpreting and evaluating literary works. Furthermore, feminist literary criticism is a variety of literary criticism which is based on the idea of feminism which wants equality or justice in viewing the existence of women (Wiyatmi, 2012:11).

Wiyatmi (2012: 11), the aim of feminist literary criticism is to analyze gender relations, the socially constructed relationship between women and men, among other things, to describe situations where men are more dominant over women. Through feminist literary criticism, it will be described the oppression of women contained in the literary work. In its development, there are several kinds of feminist literary criticism. Showalter 1986 (in Wiyatmi, 2012: 30) distinguishes the existence of two types of feminist literary criticism, namely: 1) feminist literary criticism that sees women as readers (the woman as reader/feminist critique), and 2) feminist literary criticism that sees women as writer (the woman as writer/gynocritics). In this research, using a variety of feminist literary criticism that sees women as readers, namely focusing on studies on the image and stereotypes of women in literary works, looking at the misunderstanding and neglect of women's rights, and looking at forms of women's struggle for their rights. So that in a literary criticism feminists can use women as readers with awareness to dismantle the preconceived notions and ideology of male power which is endocentrism or patriarchy (Yoder in Sugihastuti and Suharto, 2011:17).

METHODS

This type of research is descriptive qualitative. The subject of this research is a collection of short stories entitled *Sihir Perempuan* by Intan Paramadita. the object of this research is the struggle for gender equality in the study of feminist literary criticism. The struggle for gender equality that will be examined in this study is divided into two parts, namely; (a) the struggle for gender equality, (2) Forms of educational values.

The data collection technique used in this study is the reading, observing, noting (BSC) technique. The reliability used to check the validity of the research data used intra-rater and intra-rater techniques. Test the validity of the data in this study using data triangulation.

Data analysis methods and techniques are using the content analysis method and using data analysis techniques according to Miles and Huberman which have three stages, namely data reduction, data presentation, and drawing conclusions.

ANALYSIS AND DISCUSSION

Gender Equality Struggle

Following are some forms of struggle from the results of research in the collection of short stories *Sihir Perempuan* by Intan Paramadita.

Struggle

Every human being has the same rights including women. The struggle that women carry out in demanding justice and their rights is a form of feminism. Therefore, the role of women is very important in fighting for their rights. One proof of the form of struggle in the novel *Sihir Perempuan* by Intan Paramadita can be seen in the following quotation.

"Larat did not live happily ever after as many people think. She died giving birth to her 6th daughter. Almost every year she gets pregnant because the kingdom needs a crown prince. She was no longer beautiful, she was covered with fat and her stomach was soft like tofu. He died from prolonged bleeding." (pg 33)

The quote above is a form of a woman's struggle to fulfill her husband's wish to have sons. Larat is a beautiful woman in her city. After marriage, her body changed and even more sadly, Larat died after giving birth to her sixth daughter. For the sake of the husband who wants a son so he doesn't think about his wife's safety.

Public and Productive Role

The role of women is not only limited to the domestic or household sphere. But it can also play a more productive role in the public sphere. Women can be anything, for example teachers, lecturers, doctors, pilots, engineers, businessmen, entrepreneurs, writers, actresses, etc. Women who have a career in the world of work usually have a productive role. In the novel *Sihir Perempuan* by Intan Paramadita, this public and productive role can be seen in the main female characters as follows.

"It's great, even though their mother is busy working. I really fought hard so that nothing skipped a bit in my life. Growing career. Very sweet children. If there's an award for a superwoman, a woman with six hands, I'm the one who deserves it." (pg 37)

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The quote above shows that a mother acts as a career woman as well as a mother and wife. Even though Karin works as a doctor, she is not negligent in taking care of her children. Karin fought hard for a good future for her children, so it's not a coincidence that she has children who have achievements but it was because of her hard work in educating her children even though she is a career woman.

Freedom of Choice for Women

Every human being has the same right to determine the freedom to choose his way of life. Including women also have the right to choose the freedom of their lives. In the novel *Sihir Perempuan* by Intan Paramadita, this freedom of choice for women can be seen in the main female characters as follows.

"The night before my car broke down, Bram and I had a big fight. Now that I think about it, it seems pointless. I don't want my family to fall apart and risk returning to zero. There is no reward for those who fail. So later, after Bram returns from abroad, I will be sweet. You want me to make you warm bread in the morning or do Kegel exercises every time you drive, Bram? Not a problem. Life is a series of compromises. So let's toast the glorious ending." (pg 37)

The quote above shows that women have the freedom to choose their own way of life even though it has risks and consequences that they have to accept. Karin is a career woman who works as a doctor. Karin and her husband are both busy in the world of work, so they rarely see each other because her husband is often abroad. But even so, that doesn't mean Karin doesn't know that her husband is having an affair with his own staff. After knowing that her husband was playing behind her, Karin tries to accept Bram's mistakes. Karin chose to remain silent and maintain her household which had been built from scratch, as well as protect the feelings of her children who were at school. Not choosing to divorce, Karin chose to continue to improve her relationship with her husband.

Tendency

Rigidity is the main foundation in realizing gender equality. Women often feel that they are weak creatures compared to men. Therefore, it is very important for women to have the courage to be able to escape from oppression. In the novel *Sihir Perempuan* by Intan Paramadita, this toughness can be seen in the main female characters as follows.

"Let's bury it tightly, Bram. Forget that I know of your affair. Forgivable petty infidelity in the household ark. Even if you get bitten by a shark, plastic surgery is always available. Embarrassing divorces don't need to happen because anything can be patched up and covered up. Save all microscopes. No one needs to wonder: Was your marriage unhappy with Karin, that you had an affair, Bram? Is your wife too busy with her own world? Is he boring in bed?" (pg 42)

The quote above shows that Karin is very strong in facing her household problems. Even though Bram was cheating on her behind his back, he didn't even exaggerate the problem with his husband and even pretended he didn't know. Karin doesn't want anyone to know that their household is not doing well. Karin doesn't want to take big risks so she is strong in facing problems in her family.

EDUCATIONAL VALUES IN A COLLECTION *SIHIR PEREMPUAN* SHORT SHORT STORIES

Moral values

Moral values are teachings that lead to good or bad received regarding attitudes, actions, obligations, ethics, etc. Moral is often referred to as manners and morality. In the novel *Sihir Perempuan* by Intan Paramadita, this moral value can be seen in the main female characters as follows.

"Come on, he won't last long. Her siblings took turns donating, and since two years ago the daughter has officially been underemployed. They buy large televisions so they don't get bored. Dahlia never complains even though she doesn't often go out with her friends or on dates." (pg 51)

The quote above shows that moral values. The character Dahlia is the youngest daughter who is loved by her father so much that her older siblings are a burden to look after her father who is retired and old. So Dahlia gave in and sacrificed her future to protect her father. The moral value that can be taken from the quote is the positive value that was carried out by Dahli who gave in to protect his father.

Culture value

Cultural values are abstract concepts regarding basic issues that are very important and valuable in human life. The culture set forth by the author in this collection of short stories is Malay culture which has customs when there is a celebration after two weeks of marriage, in addition to this customary custom when there is a wedding, that is, all residents gather, especially mothers who help each other make dishes for the preparation of the event while Gentlemen, you only need a little bit. In the novel *Sihir Perempuan* by Intan Paramadita, this cultural value can be seen in the following quotation.

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"You don't know there is a big banquet, the celebration of nunduh in law after two weeks of my wedding. You weren't invited. The large black-floored kitchen was muddy and thick with the smell of chilies and saffron and garlic and armpits. Dozens of women sat kneeling or stretching in front of a large basket filled with different vegetables. They use their rough, scaly hands and sometimes dull kitchen knives to cut, slicing, and tearing. They gossip, joke, laugh sometimes in Malay which I don't understand." (pg 64)

The quotation above shows that there is cultural value because it shows the cultural traditions that have been carried out by the Malay community, namely the Ndownload Mantu activity which is carried out after two weeks of the wedding. Besides that, the activities of mothers cooking in mutual cooperation are also a form of cultural values that have been carried out by the Malay community for a long time.

Religious Value

Religious value is a belief that is religious or divine value. Religious values have a high spiritual level that comes from human belief and belief in their god. In the novel *Sihir Perempuan* by Intan Paramadita, this religious value can be seen in the following quotation.

"Ustadzah said. Your mistakes are not the responsibility of your parents anymore, but yourself. So bow your head when you see a man. Have some shame. Don't talk loudly." (pg 122)

The quote above shows that there is a religious value because it shows the level of belief that God exists and believes that a sin is a form of a mistake that humans make when they make mistakes.

CONCLUSIONS

The stories of female characters in the collection of short stories entitled *Sihir Perempuan* by Intan Paramadita reveal several problems in the form of the struggle for gender equality. This can happen because there are various assumptions that men and women have significant differences such as power, role, position, rights and customary alignments that men dominate, while women occupy second position. So that there are several forms of struggle carried out by women to fight oppression and gender injustice. In addition, Intan Paramadita's collection of Magic Women short stories also contains educational values that are applied in everyday life.

The form of struggle for gender equality found in the collection of short stories *Sihir Perempuan* by Intan Paramadita is the struggle for women's rights and justice. Public and productive role, freedom in choosing for women, and toughness in dealing with various problems. While the educational values found in the collection of short stories *Sihir Perempuan* by Intan Paramadita are moral values, cultural values, and religious values.

RECOMMENDATIONS

A collection of short stories by Intan Paramadita shows that there are various forms of struggle for gender equality and also educational values that are closely related or often occur in real life. Apart from that, the various roles of women who are the main characters of this collection of short stories give a lot of messages and impressions of the struggle of a woman who is still a teenager, an adult, even an old woman that women have the right to get rights and justice.

- a. The results of this study are expected to be useful for students to be used as a reference for learning literary appreciation, by analyzing literary works with feminism studies.
- b. The results of this study are expected to be a reference for research related to the study of feminism.

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The Effect of Virgin Coconut Oil (VCO) on Malondialdehyde, Glutathione Peroxidase, and Cortisol Hormone Levels



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ABSTRACT: Vigorous physical activity is a physical movement that produces excessive free radicals due to leakage of electrons from the mitochondrial transport system. The body's antioxidant system is reduced due to the inability of the body's defenses to reduce the production of free radicals resulting in oxidative stress, so it requires a supply of antioxidants from outside the body such as Virgin Coconut Oil (VCO). The purpose of this study is to determine the effect of VCO administration on malondialdehyde levels, glutathione peroxidase levels and cortisol hormone levels in male Wistar rats subjected to strenuous physical activity. The research method uses an experimental with posttest only control group design. The experimental subjects were 24 male Wistar rats which were randomly divided into 4 groups (K1, K2, K3, and K4). The administration of VCO at dose of 25 mL and 50 mL are based of human weight 70 kg and the conversion dose in mice (BB = 200 g) resulted in 0.45 mL/200 g BW/day and 0.9 mL/200 g BW / day which is made into a 1 mL solution and given orally for 28 days. K3 and K4 groups were given strenuous physical activity and given VCO at a dose of 0.45 and 0.9 mL/200 g BW/day. The measurement of malondialdehyde levels using the TBARS method. The glutathione peroxidase (GPx) and the cortisol hormone using ELISA method at PSPG UGM in June 2022. The lowest average levels of MDA and GPx were in the K1 group. One-Way Anova test result showed that the levels of malondialdehyde, glutathione peroxidase, and the cortisol hormone in the K3 and K4 groups had significant differences with K2 group ($p < 0.05$). The administration of VCO at doses of 0.45 mL/200 g BW/day and 0.9 mL/200 g BW/day could affect the levels of malondialdehyde, glutathione peroxidase, and the hormone cortisol in male Wistar rats subjected to strenuous physical activity.

KEYWORDS: Virgin coconut oil, malondialdehyde, glutathione peroxidase, cortisol hormone

I. INTRODUCTION

Physical activity is a physical movement that generates free radicals as a result of electron leakage from the mitochondrial transport system in metabolic processes.(1) Excessive strenuous physical activity triggers an increase in cortisol levels which are regulated by the hypothalamus through Hypothalamus-Pituitary-Adrenal (HPA) axis.(2) Excessive production of free radicals can cause oxidative stress resulting in increased lipid peroxidation which is marked by increased levels malondialdehyde (MDA) in blood endothelial cells. One of Antioxidants produced by the body are glutathione peroxidase (GPx), which will decrease when there is an increase in free radicals, therefore antioxidants are needed from outside the body.(3) Virgin Coconut Oil (VCO) is pure coconut oil made from fresh coconut meat which is processed without heating, which is rich in antioxidants α - *tokoferol* and polyphenols which can reduce oxidative stress. So far research on the effect of VCO administration on MDA levels, GPx and the hormone cortisol in strenuous physical activity are still limited.(4)

Excessive physical activity can cause fatigue that affects immune function, causing respiratory infections in athletes. Psychological and physiological factors also play an important role in the relationship between exercise and respiratory infections.(5) Heavy physical activity causes oxidative stress due to increased free radical production which exceeds the capacity of antioxidant enzymes in the body. The increase in free radicals in strenuous physical activity can be neutralized by consuming antioxidants from outside the body such as Virgin Coconut Oil (VCO).(6) VCO is food that is easily available, affordable and convenient to consume. VCO contains antioxidants (*a-tocopherol*, *beta carotene*, and high phenolic compounds which are effective in counteracting free radicals. Sinaga (2014) proved that administering VCO at doses of 1 mL/day, 2 mL/day, and 3 mL/day can reduce MDA levels in rats with maximum physical activity for 4 weeks.(7) Angrela (2020) proved that giving VCO at a dose of 4 mL/200 g BW for rats/day for 28 days can reduce blood creatinine levels in male rats *Rattus Norvegicus*.(8)

The use of animals as models in biomedical research is common in experiments directly on humans. Apart from being at risk of threatening health, it is also considered unethical and can cause physical and psychological disturbances which can be fatal. According to Fitria (2014) rats of the Wistar strain *Rattus Norvegicus* species are one of the most ideal laboratory animals so they are often used in preclinical research.(9)

The Effect of Virgin Coconut Oil (VCO) on Malondialdehyde, Glutathione Peroxidase, and Cortisol Hormone Levels

II. MATERIAL AND METHOD

The research type is experimental with posttest only control group design. The research sample consisted of 24 male Wistar rats using simple random sampling techniques according to the inclusion criteria and then divided into four groups, namely the control group and three treatment groups. The rats are given food pellets, the standard Citra feed™ and drinking water in the form of distilled water, the temperature of the maintenance room is around 28^o– 32^o C with sufficient ventilation and room area.

Research Instruments

The rat cages build in dimensions of L: 40 cm, W: 30 cm, H: 30 cm with food place. Nigushi Scale™ mouse scales, gloves, dropper pipette, Eppendorf tube, spectrophotometer, micropipette, ELISA reader.

Sample Preparation

A 24 of male Wistar rats were acclimatized in the PSPG UGM laboratory and divided into 4 groups there are control group and three treatment group and each group are consisting of 6 rats. The rats were adapted for 7 days before giving a treatment. The experimental animals were given a standard food consisting of 20-25% protein, 45-55% starch, 10-12% fat, and 4% crude fiber and drink the same water every day for 7 days.(10)

Physical Activity

Swimming in a container which is no way out as hard as it can until almost exhausted and drowning. The Swimming duration is approximately 30 minutes for 28 days.

The Administration of Virgin Coconut Oil (VCO)

The Virgin Coconut Oil (VCO) using SIOLA™ is given orally at a dose of 0.45 mL/200 g BW/day and 0.9 mL/200 g BW/day for 28 days.

Malondialdehyde (MDA)

The measurement of MDA levels (mg/dL) in the blood of male Wistar rats using the TBARS method and spectrophotometer at 532 nm. The blood samples were taken on 28th day.

Glutathione Peroxidase (GPx)

The measurement of GPx levels (ng/mL) in the blood of male Wistar rats which using ELISA method and ELISA reader at 450 nm. Blood samples were taken on 28th day.

Cortisol Hormone

The measurement of hormone cortisol levels (ng/L) in the blood of male Wistar rats using the ELISA method and ELISA reader at 450 nm. Blood samples were taken on 28th day.

Data analysis

The average levels of malondialdehyde (MDA), glutathione peroxidase (GPx) and the hormone cortisol are presented descriptively in the form of tables and graphs. Data normality was tested using Shapiro Wilk and data homogeneity was tested using Levene test. The distribution of grade data MDA, GPx and cortisol hormone were found to be normal and homogeneous, so it was continued with parametric One-Way Anova test those who get a value of p <0.05 continue with Tukey test.

III. RESULT

The effect of Virgin Coconut Oil (VCO) on the levels of malondialdehyde (MDA), glutathione peroxidase (GPx) and the hormone cortisol in male rats with heavy physical activity was carried out for 28 days. Until the end of the study, none of the experimental animals were sick or died. The results of examining levels of MDA, GPx and the hormone cortisol are listed in Table 1.

Table 1. Test for Normality, Homogeneity, and Mean Levels of MDA, GPx, and Cortisol Hormone

Variable		Group				Sig.(p)
		K1 N=6	K2 N=6	K3 N=6	K4 N=6	
up to MDA (nmol/mL)	Mean	1.43	8.96	3.63	2.47	
	Std. deviation	0.26	0.36	0.32	0.26	
	Shapiro Wilk	0.985*	0.648*	0.439*	0.583*	
	Levene Test					0.806**
	One Way Anova					0.000***

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up to GPx (u/mL)	Mean	73.70	23.67	54.92	65.47	
	Std. deviation	1.44	1.67	2.04	2.46	
	<i>Shapiro Wilk</i>	0.960*	0.963*	0.863*	0.983*	
	<i>Levene Test</i>					0.496**
	<i>One Way Anova</i>					0.000***
Hormone Cortisol (ng/L)	Mean	21.88	15.13	21.24	18.32	
	Std. deviation	0.33	0.35	0.48	0.48	
	<i>Shapiro Wilk</i>	0.873*	0.242*	0.151*	0.573*	
	<i>Levene Test</i>					0.503**
	<i>One Way Anova</i>					0.000***

Information: * *Shapiro Wilk* $p > 0,05$ ** *Levene Test* $p > 0,05$ *** *One Way Anova* $p < 0,05$

Table 1 shows the average of MDA levels. The lowest average was in the K1 group which only received standard feed without being given heavy physical activity, then followed successively by group K4 who was given VCO at a dose of 0.9 mL/200 g BW/day and group K3 who was given VCO at a dose of 0.45 mL/200 g BW/day and both were given physical activity heavy. In group K2 which received standard feed and given strenuous physical activity to obtain the average of MDA level the highest. Based on Shapiro Wilk test all groups of MDA levels were normally distributed ($p > 0.05$) and homogeneity test using Levene test the results are homogeneous ($p > 0.05$). One-Way Anova test results showed significant differences in all groups ($p = 0.000$).

The highest average levels of GPx was in the K1 group which was giving standard feed without being given heavy physical activity, then successively followed by group K3 who was given VCO at a dose of 0.45 mL/200 g BW/day and group K4 who was given VCO at a dose of 0.9 mL/200 g BW/day and both were given physical activity heavy. Group K2 which was giving standard feed and strenuous physical activity have the lowest average levels of glutathione peroxidase. Based on Shapiro wilk test result, all group of glutathione peroxidase were normally distributed ($p > 0.05$) and homogeneity test using Levene test the result is $p = 0.496$ ($p > 0.05$) means that the data is homogeneous so that the data analysis uses One-Way Anova test fulfilled. One-Way Anova test result shows a value of $p = 0.000$, which means that there is a significant difference in all groups.

The lowest average of cortisol hormone levels was in the K2 group which was giving the standard feed and were given strenuous physical activity, followed successively by group K4 who were given VCO at a dose of 0.9 mL/200 g BW/day and group K3 who were given VCO at a dose of 0.45 mL/200 g BW/day and both were given physical activity heavy. In the K1 group that received standard feed without being given strenuous physical activity obtained the highest average cortisol hormone. Based on the Shapiro Wilk test result, all groups of cortisol hormone levels were normally distributed ($p > 0.05$) and the homogeneity test results using Levene test get a value of $p = 0.503$ ($p > 0.05$). One-Way Anova test results get a value of $p = 0.000$ which means there are significant differences in all groups.

Malondialdehyde (MDA) Levels

The differences in MDA levels between the two groups is known by the text after this using the Tukey test as presented in Table 2.

Table 2. Results of analysis of MDA levels with the Tukey test

Group	<i>p-Value</i>
K1 vs K2	0.000*
K1 vs K3	0.000*
K1 vs K4	0.000*
K2 vs K3	0.000*
K2 vs K4	0.000*
K3 vs K4	0.000*

The Effect of Virgin Coconut Oil (VCO) on Malondialdehyde, Glutathione Peroxidase, and Cortisol Hormone Levels

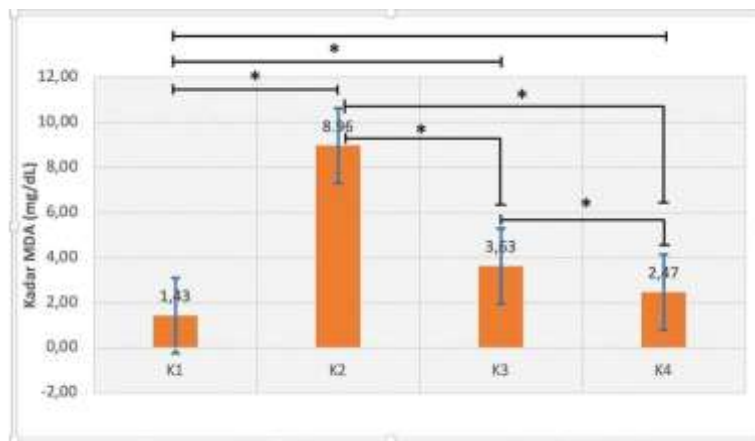


Figure 1. Average graph of Malondialdehyde levels

(Remarks: Posthoc test and Tukey test * $p < 0.05$)

Tukey test results in Table 2 and Figure 1 show that MDA levels in the K1 group were significantly different from those in the K2, K3, and K4 groups with a value of $p = 0.000$ ($p < 0.05$). There is a significant difference between K2 and K3 ($p = 0.000$), and K4 ($p = 0.000$). The K3 group was significantly different from K4 ($p = 0.000$). It can be concluded that administration of VCO at a dose of 0.45 mL/200 g BW/day and a dose of 0.9 mL/200 g BW/day had a significant effect on MDA levels in male Wistar rats subjected to strenuous physical activity.

Glutathione Peroxidase (GPx) Levels

The difference levels of glutathione peroxidase between the 2 groups known by test after this using Tukey test which is presented in Table 3.

Table 3. Analysis of GPx Levels with the Tukey Test

Group	<i>p-Value</i>
K1 vs K2	0.000*
K1 vs K3	0.000*
K1 vs K4	0.000*
K2 vs K3	0.000*
K2 vs K4	0.000*
K3 vs K4	0.000*

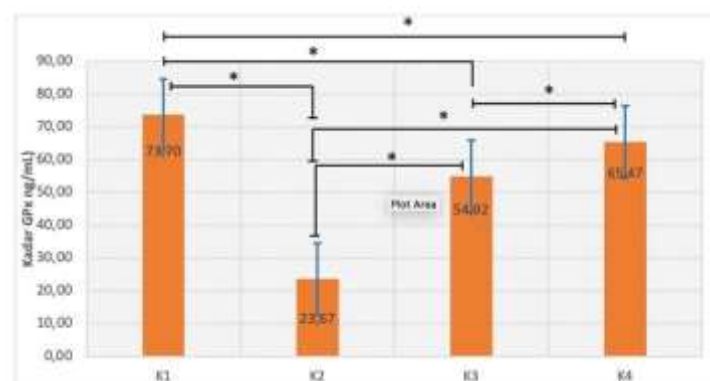


Figure 2. Graph of Mean Levels of Glutathione Peroxidase

(Remarks: Posthoc test and Tukey test * $p < 0.05$)

Tukey test result in Table 3 and Figure 2 shows the levels of glutathione peroxidase K1 is significantly different from K2, K3, and K4 with $p = 0.000$ ($p < 0.05$). There was a significant difference in GPx levels between K2 and K3 ($p = 0.000$), K4 ($p = 0.000$). GPx K3 levels were significantly different from K4 ($p = 0.000$). It can be concluded that administration of VCO at a dose of 0.45 mL/200 g BW/day and a dose of 0.9 mL/200 g BW/day has an effect on the levels of glutathione peroxidase in male Wistar rats subjected to strenuous physical activity.

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Cortisol Hormone Levels

The difference in cortisol hormone levels between the 2 groups using Tukey test as presented in Table 4.

Table 4. Results of Analysis of Cortisol Hormone Levels with the Tukey Test

Group	p-Value
K1 vs K2	0.000*
K1 vs K3	0.067
K1 vs K4	0.000*
K2 vs K3	0.000*
K2 vs K4	0.000*
K3 vs K4	0.000*

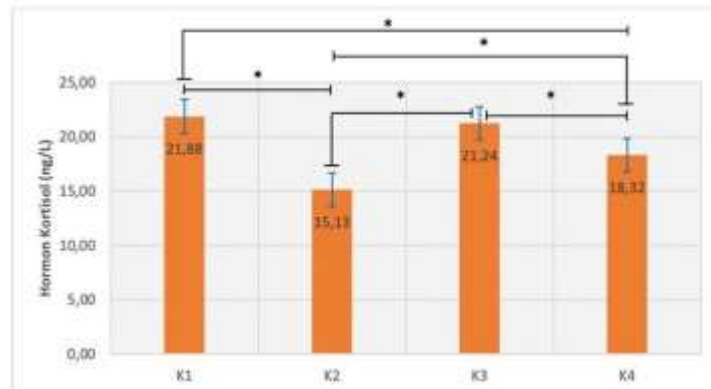


Figure 3. Graph of Average Cortisol Hormone Levels

(Remarks: Posthoc test and Tukey test * $p < 0.05$)

Tukey test result in Table 4 and Figure 3 show that cortisol levels in the K1 group were significantly different from those in the K2 and K4 groups with a value of $p = 0.000$ ($p < 0.05$). Cortisol hormone levels in the K1 group were not significantly different from those in the K3 group ($p = 0.067$). The results of cortisol levels in K2 were significantly different from those in K3 ($p = 0.000$) and K4 ($p = 0.000$). The K3 group was significantly different from K4 ($p = 0.000$). Based on the data above, it can be interpreted that administration of VCO at a dose of 0.45 mL/200 g BW/day and a dose of 0.9 mL/200 g BW/day has a significant effect on cortisol hormone levels in male Wistar rats given strenuous physical activity so that the hypothesis is accepted.

IV. DISCUSSION

Heavy physical activity is excessive physical activity, caused by too much activity volume, too high activity intensity, too long activity duration, and too frequent activity frequency. Strenuous physical activity can increase the formation of oxidants which form free radicals resulting in oxidative stress.(11) The group of rats that were treated with strenuous physical activity were K2, K3 and K4. The results of examining MDA levels in the K2 group that were given strenuous physical activity without VCO administration experienced a significant increase as shown in table 1. This means that the rats were already in a state of oxidative stress. MDA levels are a marker of lipid peroxidation as a result of oxidative stress. The increase in plasma MDA levels is due to the high activity carried out every day for 28 days, resulting in an imbalance between the amounts of antioxidants and free radicals in the body. The amount of antioxidants will be greatly influenced by the amount of free radicals that are formed in the body during high physical activity.(12) The results of this study are in line with research conducted by Arsana (2014) that the group with excessive physical activity has the highest average of MDA levels.(13) Research by Rosidi (2013) also states that there is an increase in MDA levels after physical activity.(14)

The decrease of MDA levels in the K3 group which was given strenuous physical activity and VCO administration at a dose of 0.45 ml/200 g BW/day experienced a significant difference with the control group (K1) and the treatment group with a dose of 0.9 mL/200 g BW/day (K4) as in table 1. This is because the antioxidant content in VCO seems to be able to bind the free radicals that are formed. This study is in accordance with that conducted by Sinaga (2014)(7) stating that VCO can prevent increased production of free radicals due to maximum physical activity.(7) The results of this study are in line with research conducted by Dosumu et al.,(2010)(15) reported that VCO at a dose of 6.7mL/KgBW could reduce testicular MDA levels of rats induced by giving alcohol at a dose of 7mL/KgBW.

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The GPx test results in the K2 group that was given strenuous physical activity without administration of VCO experienced a significant decrease as shown in Table 1. This is due to high levels of free radicals in the body during strenuous physical activity resulting in decreased activity of endogenous antioxidants such as glutathione peroxidase so that the body is unable to neutralize free radicals. Naturally the body has the ability to ward off free radicals by forming endogenous antioxidants produced by the body whose levels can be measured through GPx (Glutathione Peroxidase), catalase and Superoxide Dismutase (SOD) activity.(16)

The increase of glutathione peroxidase levels in the K3 group that was given heavy physical activity and given VCO at a dose of 0.45 mL/200 g BW/day experienced a significant difference with the control group (K1) and the treatment group at a dose of 0.9 mL/200 g BW/day (K4) as in table 1. This is because Virgin Coconut Oil (VCO) contains antioxidants such as polyphenols *α-tokoferol*. The high polyphenol content in VCO is able to maintain normal levels of parameters in tissues and serum, and increases the antioxidant enzyme glutathione peroxidase (GPx) so that it can bind reactive oxygen in plasma. Similar research conducted by Hayatulina, *et al* (2018) stated that the polyphenols in virgin coconut oil prevented lipid peroxidation in MC3T3-E1 cells that had been treated with H₂O₂ by increasing the activity of antioxidant enzymes.(17)

The results of hormone cortisol levels in the K2 group that were given strenuous physical activity without VCO administration experienced a significant increase as shown in Table 1. Changes in the internal environment of the body during strenuous physical activity, namely physical and psychological stress. The stress reaction to stressors directly increases ACTH secretion (adrenocorticotropin) and consequently cortisol secretion also increases. This research is in line with that conducted by Huldani (2021) that twelve minutes of medium-intensity aerobic exercise causes a higher increase in cortisol levels in students who are trained in basketball than students who are not trained.(18)

The decrease of cortisol hormone in the K3 group which was given heavy physical activity and VCO administration at a dose of 0.45 mL/200 g BW/day experienced a significant difference from the control group (K1) and the treatment group at a dose of 0.9 mL/200 g BW/day. days (K4) as in table 1. This is due to the presence of the content *α-tokoferol* in VCO which acts not only as an antioxidant but also has an effect on stress hormones. Content *α-tokoferol* may reduce the response to stress by reducing stress-induced radical formation of adrenal catecholamines thereby reducing corticosterone release. Novalia's research (2019) concluded that vitamin E supplements (*α-tokoferol*) can reduce stress conditions as seen from the levels of the hormone cortisol in male Wistar rats. (19) A similar study was conducted by Hidayatik, *et al* (2021) showed that giving vitamin E had a significant effect on decreasing cortisol in albino rats with chronic variable stress (CVS) for 4 weeks.(20)

The results showed that the heavier the physical activity, the more oxidants were released and the decrease in antioxidants resulted in an increase in oxidative stress and an increase in MDA. The presence of MDA can cause tissue damage so that high MDA levels also play a role in aggravating tissue damage. Nevertheless, the results of our study were successful in showing that MDA levels in strenuous physical activity were enforced which were quite sensitive but not specific for detecting tissue damage due to strenuous physical activity.

The research limitation is that the TBARS examination using the spectrophotometric method has several weaknesses, namely some aldehyde compounds other than MDA can also react with TBARS and in the spectrophotometric examination it is also measured at the same absorbance as MDA. In addition, MDA is not a specific product in the lipid peroxidation process so that it can cause false positives which results in a low positive predictive value. Another method, namely High Performance Liquid Chromatography (HPLC), is reported to increase the specificity of examining MDA levels. This study used a posttest only control design which only measured laboratory parameters after treatment. So that it cannot know the description of MDA, GPx and cortisol levels before and after treatment.

V. CONCLUSION

The administration of Virgin Coconut Oil (VCO) can reduce the Malondialdehyde and cortisol hormone levels but can increase the levels of Glutathione Peroxidase (GPx) in male Wistar rats that given strenuous physical activity.

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Applying Taylor Rule in a Heterogeneous Currency Union: Case of UMAC



DIAM A ABOUEM Hamed

ABSTRACT: Our objective is to show that the Taylor rule is the monetary policy practice of BEAC its effectiveness is limited due to the structural and cultural heterogeneity of the currency union. In this light, we identify the reaction function of BEAC show that it includes additional variables namely, the interest rate and inflation differential with the Euro zone, as well as the currency reserve ratio that must cover at least 20% monetary issue. Given the objectives and instruments used and the reaction function built, we estimate a forward-looking Taylor rule using the GMM, similar to the one proposed by Clarida et al. (2000) and find that the interest rate setting of BEAC could be captured using a Taylor rule. From our estimations using the we actually find that BEAC's monetary policy or more precisely its interest rate setting can be effectively captured using a modified Taylor rule taking into consideration the specificities of the monetary union and external constraint despite the heterogeneous nature of the union. As seen from the results obtained we can realize that the Central Bank mainly focuses on the fight against inflation and mainly strives at maintaining internal stability in the sub region. This fight can be deemed successful given the low inflation results that are observed in our period of study, even though it can be mitigated with the influence of the region of anchor (the Euro zone) in this stability.

KEYWORDS: Taylor rule, currency union, heterogeneous, CEMAC, Currency Union

1. INTRODUCTION

The objective of this work was to verify the effectiveness of the Taylor (1993) rule in a heterogeneous Currency Union, considering UMAC¹ as our case study. Due to numerous problems caused by discretionary monetary policies, Central bankers and scholars such as Kydland and Prescott (1977) and, Barro and Gordon (1983) proposed rules that could pin down the expectation of economic agents in order to rebuild their confidence towards monetary authorities. In an attempt to analyze one of these rules, we consider the case where it has to be applied to a currency union with heterogeneous states and cultures. For this purpose we firstly highlight the different monetary policy practices which prevailed before the coming up of the Taylor rule and even those currently implemented by Central bankers. We consecutively analyze the classical intermediate inflation targeting through the different nominal anchors, then we further appraise the fashionable direct inflation targeting and its relation with the Taylor (1993) rule.

Theoretical evidence has shown that the Taylor rule has undergone a number of mutations through the works of some authors such as Clarida et al. (1998, 2000) or Judd and Rudebusch (1998), among others. However the basic properties of the original Taylor rule have been maintained (that is the nominal, real interest rates and the output and inflation gaps). From an empirical setting, the Taylor rule has largely been used by Central Bankers in recent years and has had different fortunes. It has been used in the developed world, the emerging economies as well as in the developing countries, but there has been evidence that the rule is good at either describing the conduct of the monetary policy of Central Bankers, or permitting them to enter into a cooperative game with other economic agents in order to solve the problems of expectations and the time inconsistency difficulties.

Our objective is checking the effectiveness of the Taylor rule under a heterogeneous currency union as UMAC. Our postulate is that is the monetary policy practice of BEAC² its effectiveness is limited due to the structural and cultural heterogeneity of the currency. In this light, we show that BEAC includes additional variables in its reaction function. These include the interest rate and inflation differential with the Euro zone, as well as the currency reserve ratio that must cover at least 20% monetary issue. Given the objectives and instruments used, we build the reaction function and estimate a forward-looking Taylor rule using the GMM,

¹ UMAC : Union Monétaire de l'Afrique Centrale

² BEAC: Banque des Etats de l'Afrique Centrale

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similar to the one proposed by Clarida et al. (2000) and found that the interest rate setting of BEAC could be captured using a Taylor rule.

We estimate the fixed effects across countries and our results show that due to a high degree of heterogeneity, countries react diversely to interest rate targets. The interest rate smoothing coefficient estimated shows that, whenever an interest rate target is set, Gabon and the Central African Republic (CAR) react very highly to the slightest change comparatively to Congo or Cameroon. This proves therefore that countries respond asymmetrically to any interest rate chock because, while the chosen rate will be adapted to some countries leading to minimized inflation and output gaps, in other countries, the gaps widen. This illustration has shown that the traditional forward looking Taylor rule is not adapted in a heterogeneous monetary union as UMAC.

We estimated the fixed effects and our results show that there is a high degree of heterogeneity. The interest rate smoothing coefficient estimated shows that, when the interest rate is set at any given level for instance, Gabon and the CAR react very highly to the slightest change comparatively to Congo or Cameroon. This proves therefore that countries respond asymmetrically to any interest rate chock because, when BEAC sets a single interest rate that must be applied to all the countries of the sub region, this interest rate will be adapted to some countries and the inflation and output gaps will be minimized while for other countries the gap will widen. This illustration has shown that the traditional forward looking Taylor rule is not adapted in a heterogeneous monetary union as UMAC. However, we try a proposal of a more adapted rule which is not consistent with theory but is more robust and fits the sub region in a better way.

We proceed in the next section by giving a the overall evolution of monetary policy practice, both theoretically and institutionally, before presenting the data and methodology used in this work in section 3, while results and their discussions are given in section 4, and section 5 concludes the work.

2. INSTITUTIONAL AND THEORETICAL CHANGES IN MONETARY POLICY PRACTICE

Historically, Central Banks have used a nominal anchor to have a reliable unit of account. The main nominal anchor then was the gold standard or pegging the domestic currency to another strong currency, but the collapse of the Bretton Woods system of fixed exchange rates in the 1970s, combined with high inflation, led to a search for new anchors, notably monetary aggregates.

In the late 1960s, economists were in support of policies that are focused towards obtaining an output close to its full employment level at all times due to the existence of long run trade-off between inflation and unemployment (Phillips, 1958; Samuelson and Solow, 1960). According to advocates of this view, the monetary authorities could maintain a permanently low rate of unemployment by accepting some degree of inflation, and vice versa. However, Friedman (1968) and Phelps (1968) independently refuted this activist monetary policy supporters' point of view by arguing that, there is no long-term tradeoff between inflation and unemployment and they showed that the monetary policy makers face a long run Phillips curve that is vertical.

Indeed, the most severe recessions of the postwar period were experienced in 1973-74 and 1981-82, and the prevailing high levels of inflation confirmed this point of view. As a result, during the 1980s, monetarism became the principal monetary policy orthodoxy and Central Banks main aim was to control prices through money supply. This is because in the short term, higher prices could affect the production level, growth as well as unemployment. In the long term, due to the adaptive expectations of agents, they will want to regain their purchasing power and as such, will push their employers to bring back their wages to a corresponding level; consequently, output and unemployment will come back to its natural level (Friedman, 1968). The end result being higher inflation in the long term, with unemployment and output remain around their natural levels. This shows that « benefits » of expansionary policies (such as lower unemployment) are largely transitory, while the « cost » of such policies (such as inefficiencies in linked to higher inflation) tends to be permanent in nature. For these reasons and more, monetary authorities continuously develop strategies in order to control this long run inflation level.

Some studies such as those of McCandless and Weber (1995) followed by those of King (2000) show that there exist a correlation between an increase in money supply and an increase in inflation; De Gravwe and Polan (2005) try to verify if inflation is always a monetary phenomenon and they demonstrate this assertion at different levels³. Following this main reason, most if not all Central Banks embark on controlling the amount of money in circulation. These elements are outlined in different works with theoretical and empirical evidence, moving from traditional inflation targeting to modern forward and backward looking methods used by most Central Banks (Mishkin; 2009a, 2011).

2.1. Traditional intermediate inflation targeting

It is the responsibility of the Central Bank to establish and maintain a nominal anchor for the economy. This can generally take two forms: quantity-based nominal anchor and price-based nominal anchor. The final target for these sets of anchors is the

³ They show that there exist a difference between highly inflationist countries and those responding less to quantitative pressures of money. This absence of proportionality is simply because the velocity of circulation varies from one country to the other.

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inflation rate, but to attain them, we can either use a quantitative intermediate target concerned with money supply, or a price-based intermediate target, namely, the exchange rate and the interest rate.

a) Exchange rate anchor

Exchange rate anchor formerly dubbed “international monetarism” anchors the domestic inflation rate to that of a trading partner country and it could be adjusted based on some predetermined scale to affect their inflation differential (Corden, 1990). Despite the fact that this type of monetary policy framework is not very popular in recent literature, it has been revealed that 46.6% of IMF members practice exchange rate anchor as compared to 13.1% and 17.8% for monetary targeting and inflation targeting respectively⁴. Using exchange rates as nominal anchor for a country or group of countries restrains the monetary authority in practicing inflationary policies in order to send a credible signal to economic agents about inflation prospects. In this situation, it is the exchange rate that leads, that is the domestic country’s currency is fixed to that of a low inflation country (usually Germany or the United States); this is why Dollarization⁵ is still very high in such contexts.

This has taken the form of different types of monetary regimes including: fixed peg, crawling peg and managed float amongst others (Keller and Richardson, 2003). This monetary policy regime has a set of advantages but has numerous drawbacks, as we shall respectively see in the following paragraphs.

Dornbusch (1986), Yeager (1981), Dornbusch and Fischer (1986), Bruno et al. (1988) and Bruno (1991) showed that in almost all hyperinflation stabilization attempts, the use of exchange rates was highly successful due to the rapid effects it had in curbing inflation. Fischer (1986) investigated to find out whether a choice of exchange rates as a nominal anchor was reasonable by examining the case of a small open economy with a perfect mobility of capital and wage contracts set for one or two periods, thus explicitly bringing in some nominal stickiness. His model assumes rational expectations and that any change in policy will be instantaneously credible. He compares monetary anchor to exchange rate anchor in terms of the ratio of total loss of output to the fall in inflation rate over two periods to have the sacrifice ratio and he concludes that despite some exceptional cases, the exchange rate stabilization is less costly. He shows that for the same drop in inflation, there is a smaller fall in the quantity of money under reduced exchange rates adjustments than under a monetary option with a flexible exchange rate. This means that under exchange rate stabilization, with the smaller reduction in the quantity of money, given wage stickiness, output loss is smaller. However, Fischer shows that under a zero interest elasticity of the demand of money, exchange rate stabilization produces a higher sacrifice ratio than money growth stabilization.

Similar to Fischer’s (1986) model, Howitt (1987) discusses an optimal disinflation policy of the Central Bank under two assumptions on wage stickiness that is a backward looking stickiness under a dynamic Phillips curve and a forward-looking stickiness arising from the lack of credibility. Under this model, the Central Bank is presumed to maximize an infinite sum of squared output and inflation terms. Under backwards stickiness, the optimal speed of disinflation becomes an increasing function of the weight attached to inflation of the objective function and the slope of the Phillips curve. He showed that a monotonic reduction of monetary expansion is not generally optimal. In addition, a similar result was found for forward looking stickiness resulting from lack of credibility, as private agents are not aware that the government has no tolerance of inflation. The speed of disinflation therefore depends on a variance ratio that measures the severity of the Central Bank’s credibility.

The problem of credibility is a call for concern in countries with relatively “soft” governments where there could be a tendency for the government to influence the Central Bank to operate activist monetary policies in times of election without considering the future disequilibrium that could be caused by the consequent inflation. This situation encourages these governments to attach themselves to “strong” governments’ conservative⁶ Central Banks through a fixed exchange rate. Inflation prone countries such as France and Italy adopted this strategy in the 80s by tying their currency to the Deutsch Mark (Giavazzi and Giovannini, 1989, Bruno, 1991, Ftiti, 2010) and they were able to maintain a low inflation rate around 3% while the United Kingdom had a two-figure inflation rate within the same period. The entry of the United Kingdom in this European Monetary System in October 1990 made its inflation rate to drop from 10% to 3% in 1992.

Usually, the problem of credibility of Central Banks lies on the fact that other economic agents do not really believe when the monetary authority makes announcements and, even if it undertakes some measures, there is still doubt about their persistence. For this reason, it is usually asserted without any formal justification that the benefit of an exchange-rate anchor is its visibility, because everyone can easily observe it due to its simplicity and clarity (Mishkin, 1999). Bruno (1991) argues that exchange rate anchor has a great stabilizing effect as it can be observed on a daily basis while Persons and Tabellini (1994) say this will permit

⁴IMF Annual report on exchange rate arrangement for 2014.

⁵Most credits and loans and other transactions are denominated in Dollars.

⁶This is the case of Germany where the fight against inflation is a key element for the country and low inflation objective is even mentioned in their constitution.

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the private sector directly monitor broken promises of the Central Bank. It is in this light that Keller and Richardson (2003) build a model to analyze the credibility and the visibility of actions of the Central Bank. This model relies on two assumptions: firstly, they assume that information on the Central Bank's actions is incomplete and the public is not sure of its true preferences, as a result, they try to predict these by using information from monetary authorities' past actions. Secondly, they assume that even if the authorities' actions were complete, the public cannot efficiently observe it and they will rather rely on noisy proxies of these actions. They conclude that, the Central Bank cannot convince the public by simply proclaiming that it is determined to reduce inflation. It must instead demonstrate its will with actions rather than announcements, and a commitment to a nominal anchor, such as a fixed exchange rate is one such action since this sends signals to the public that the government is willing to submit its actions to close scrutiny. This is simply because the public can easily detect changes in exchange rates whereas changes in the monetary base will only be detected after months (Keller and Richardson, 2003).

Despite these positive effects of exchange rate nominal anchor, several drawbacks could discourage Central Banks in using this as a monetary policy strategy. The exchange rate of any country just as the price of any other commodity must be realistic and adapted to the real value of the commodity in question. If this basic condition is not fulfilled, there shall be serious economic consequences just as what was seen during the 1980 debt crisis. The market condition must be considered because if a currency is overvalued for instance, it may lead to domestic currency flight and the development of parallel currency market that will be difficult to control by the Central Bank.

Many authors (Mishkin, 1999; Croce and Khan, 2000) have identified the different difficulties economies could face when practicing exchange rate nominal anchor. Even though inflation was successfully controlled in the 1980s by exchange rate anchor, this was for a short period. Undesirable effects of this policy could be felt, as shocks in the country on whose currency has been pegged could be imported. This was the case in Germany in 1992 where high interest rates experienced due to reunification of Eastern and Western Germany were exported to countries such as France, Italy, and England amongst others. The continuous adherence of these countries to fixed exchange rates significantly slowed down economic growth and consequently increased unemployment. Even though exchange rate anchor was successful in stabilizing inflation in most emerging countries, it becomes very risky for the economy due to movements of the capital market. In fact, disequilibrium experienced in the exchange position generally calls for devaluation. When agents on the financial market foresee this, they react through speculative attacks leading to severe financial crisis (Mishkin, 1999).

Given the above facts, many countries practicing an exchange rate target have progressively adopted new strategies such as currency boards (Argentina) or simply letting the currency to float freely. Currency boards have the advantage of easily curbing inflation but are also problematic as under this regime, the Central Bank does not have an independent monetary policy hence, it cannot intervene as lender of last resort thereby exposing the economy to a banking crisis, as was the case in Argentina in 2002. Adopting a floating exchange rate gives the Central Bank a certain degree of autonomy but it also causes the problems of credibility and the high exposure of the economy to external shocks. This therefore suggests that exchange rate can be used as anchor in the early stages of sharp stabilization but once credibility has been developed, the Central Bank should move towards a flexible exchange rate in order to moderate capital movements and provide a more active role for monetary policy. Therefore, despite the stabilizing effects exchange rate anchor on inflation, this cannot hold for the long term and this practice entails a lot of external constraints and risks. When external real shocks are predominant, it is not so important trying to establish a credible policy with the use of exchange rate anchor. In this case, a floating exchange rate is more adapted and this gives room for an autonomous monetary policy that usually takes the form of manipulating monetary aggregates.

b) Monetary targeting

Setting aside the disadvantages of using the exchange rate as nominal anchor, it will still be difficult for some countries or group of countries to implement this policy strategy due to their size, which prohibits them from having another currency apart from theirs on which they could have an anchor. In addition, for strategic reasons, some countries may prefer not to peg their currencies to other currencies. This justifies why exchange rate targeting cannot be an option for countries like the United States, Japan or even the European Monetary Union. The numerous problems caused by exchange rate anchor naturally call for alternative strategies amongst which monetary targeting. This policy framework consists of using monetary aggregates as an intermediary objective in order to attain the final objective of price stability. This follows the Monetarist point of view⁷ which underlines the importance of money supply in influencing short term nominal GDP, as well as the long term general price level. Given that one of the main problems posed by exchange rate anchor was the control of long-term inflation, Friedman proposed this as an alternative strategy to obtain long-run price stability by showing that changes in nominal income were irrefutably linked, if not

⁷ The founder of this school of thought is Milton Friedman (1968) who highlighted the fact that « inflation is always and everywhere a monetary phenomenon »

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proportional⁸, to changes in the money supply. Following a monetary policy with the use of monetary aggregates as intermediary target means that, the Central Bank will first determine the final inflation target and then increase money supply with respect to economic growth in order to attain this.

It is advantageous to use monetary aggregates because contrary to an exchange rate anchor, the Central Bank can freely define its monetary policy, sets its own inflation target that may be different from those of other countries and be able to adjust its policy to impact on output in case of any domestic chock (Mishkin, 1999). This means that monetary aggregates permit the Central bank to have an autonomous monetary policy, define its own objectives and intervene in other secondary objectives such as stabilizing economic activity. The frequent information that follows this strategy concerning monetary aggregates gives sufficient knowledge to the public as well as markets about the Central bank's monetary policy. This then makes the policymakers to be immediately accountable and not be time inconsistent. However, all these advantages of monetary targeting and any monetary policy strategy strongly depend on two conditions: a strong and reliable relationship between the target variable and the anchor and solid relationship between the targeted aggregate and the monetary policy instruments.

In fact, the monetarists' vision of monetary policy is demonstrated with the use of the Quantity Theory of Money (QTM), which stipulates that money supply must increase at the same rate with growth in production in order to stabilize prices. In fact maintaining price stability entails a proportionate increase of money supply and real growth rate, hence, the Central Bank does not have direct control on money supply. This suggests that the velocity of circulation must be very stable for a successful monetary targeting (Mishkin, 1999). In order to have a durable anchor for low inflation anticipation, other variables (GDP growth or its fluctuation) must guide the monetary authority's decisions, considering the observable instability of the velocity of circulation. In the 1980s the United States, Canada and the United Kingdom abandoned monetary targeting because it was not successful in controlling inflation. In fact, the relationship between monetary aggregates and inflation and nominal income had broken down because monetary targeting was not pursued seriously (Mishkin, 1999) and the velocity of circulation became very instable.

However, monetary targeting has been very successful in controlling inflation in some countries such as Germany and Switzerland. In fact, from potential output growth and velocity trends, a quantity-equation framework is used to back out the target growth rate for the monetary aggregate as shown by Neumann and von Hagen (1993), Bernanke and Mishkin (1992), Bernanke et al. (1999). Added to this, monetary targeting far from being rigid has been quite flexible in practice and there was a lot of communication and a high degree of transparency. This success has surely led to the existence of strong advocates of this policy regime and its use in the European Central Bank the official regime today (Mishkin, 1999).

The Central bank should equally be capable of controlling monetary aggregates well so that it will give out clear signals and be easily accountable. This is because, the relative ease in controlling M1, it is more complex for the other components of monetary aggregates (M2 and M3). The choice of the components of the monetary aggregates to be used as target is problematic due to the difficulty faced in determining the monetary aggregate to be used. By choosing narrow monetary aggregates (i.e. M1 and M2), prices of certain assets playing a key role on price stability may not be accounted for, but considering broad monetary aggregates (M3) permits the anchor variable to contain many assets valued at market prices, which are difficult to control (Ftiti, 2010). Due to perfect mobility of capital, monetary authorities find it difficult to identify the quantity of money in circulation making such policies to fail (Clarida and Gertler, 1997, Mishkin, 1999).

We notice from the above that monetary targeting has been able to solve the problem of long-term inflation control even though Germany and Switzerland did not follow a strict rule. Despite the fact that these countries did not apply this policy as Friedman advocated, they prepared the road for a new policy regime as they put the basis for direct inflation targeting by applying a "hybrid inflation targeting" with the use of key elements such as flexibility, transparency and accountability (Mishkin, 1999).

c) Taylor rule and direct inflation targeting

In the years leading up to Taylor's 1993 paper, various institutional and procedural transformations were creating a new policy-making environment and culture in the US and other countries. Due to the progressive breakdown of the relationship between monetary aggregates and inflation, scholars and central bankers they have continuously strived towards other frameworks for monetary policy. The two current "competing" frameworks are used in recent economics literature, for monetary policymaking: *instrument rules* and *targeting rules* (Svensson, 2003; McCallum and Nelson, 2005; Svensson, 2004b)⁹. Bernanke (2004) refers to these frameworks as *simple feedback policies* and *forecast-based policies* in order to avoid the connotations of the term "rule", which may suggest a rigid and mechanical policy prescription. The debate concerning these frameworks is based on how the monetary authority should formulate and implement his monetary policy in order to better attain the objectives of price stability

⁸Mentioned in Keller and Richardson (2003).

⁹See Bernanke, 2004

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and full employment over time. The main difficulties to be dealt with, concern informational constraints and pinning down expectations (Bernanke, 2004). This is because it is very difficult to collect economic data without errors, added to the fact that most of this data becomes available with a lag, and Central Bank's interest rates do not measure the policy stimulus perfectly, as most of economic agents' decisions on long-term rates depend rather than short term rates.

Despite the difficulties, rules as opposed to discretion help policymakers to solve the credibility and time inconsistency problems (Kydland and Prescott, 1977; Barro and Gordon, 1983) and we are interested in knowing which type of rule is more adapted. There is a hence need for policymakers to stick to long-term goals so that they will not be tempted to deviate from them and take advantage of its benefits in the short run to the detriment of the long run. We are mainly concerned in analyzing simple feedback policies or instrument rules (particularly the Taylor rule), therefore, we shall first focus on the relevant literature concerning the Taylor rule then highlight its differences as compared to forecast-based policy.

2.2. Development of the Taylor rule

Policymakers just as individuals need to stick to a goal that requires a long-term commitment, which generally takes the form of a rule that will help them stay firm whenever they are tempted to deviate from it and gain something good in the short run. In the new monetary policy paradigm, interest rate is the main monetary policy instrument used by the Central Bank and Taylor rule permits the monetary authorities to commit themselves to a strict way of determining this interest rate. According to Jenifer Smith, "Taylor's rule is a formula designed to provide 'recommendations' for how a central bank should set short-term interest rates to achieve both its short-run goal for stabilizing the economy and its long-run goal for inflation". From a descriptive point of view, the Taylor rule is often used to study the behavior of a Central Bank in conducting monetary policy. The modeling of the reaction function of Central Banks permits them to have a more effective and robust monetary policy, making their actions more stable. It also helps other economic agents to understand the actions of monetary authorities on one hand and to anticipate temporal changes in short-term interest rates on the other hand.

a) Theoretical evolution

Taylor (1993) demonstrated that a simple reaction function with a policy instrument responds to movements of a relatively small number of macroeconomic variables. These variables can either be directly observed (such as employment and inflation) or estimated from current information (such as the economy's full employment level of output). He found out that this rule closely followed the observed path of the US economy between 1987 and 1992. Taylor rule has four components, that is, the Fed's long-term inflation target, the "natural" real federal funds interest rate as well as current or observed inflation and output. This is an interest rate rule that takes the form:

$$-i(t) = r^* + \pi^* + \alpha(\pi^t - \pi^*) + \beta(Y(t) - Y^*) \quad (1)$$

Where: i is the Central Bank's short term nominal interest rate, r^* the equilibrium short term interest rate, π^* the inflation target, π^t the current inflation rate, $Y(t)$ the real GDP Y^* potential GDP and α, β the reaction coefficients where $\alpha, \beta > 0$.

Taylor (1993) establishes this rule with the aim of bringing up a simple and easily understandable model, which could give results comparable to those got from simulations using many other models. He did not econometrically estimate this model but simply attributed some values to the parameters that he assumed could broadly describe the Fed's behavior during its glorious days of Allan Greenspan between 1987 and 1992. He did not intend to fully describe the behavior of the Central Bank, but simply give a normative recommendation on the way in which the interest rate had to be modified. Taylor (1993) attributes the values 0.5 to both α and β and this could still be written differently by replacing the nominal interest rate with the real rate and the parameters α and β shall be $\alpha = 1.5$ and $\beta = 0.5$:

$$i(t) = i^* + 0.5(\pi^t - \pi^*) + 0.5(y^t - y^*) \quad (2)$$

$$\text{Or } i(t) = r^* + \pi^* + 1.5(\pi^t - \pi^*) + 0.5(y^t - y^*) \quad (3)$$

With i^* the real interest rate equals to $r^* + \pi^*$.

In this same spirit, Nelson (2000) found similar coefficients to those found by Taylor with 1.3 and 0.5 during the period 1992-97 even though the coefficients were very different for previous years, with coefficients on inflation much lower than 1 and varying output gap responses. Taylor (1999) equally gives an alternative to his 1993 rule, by attributing a greater weight to the output gap (that is a value of 1 rather than 0.5 to β) but leaves the rest of the 1993 relation unchanged. According to him, it better describes the FOMC's response to economic conditions and he is supported by Yellen (2012) who demonstrates that the Taylor (1999) better matches the optimal control path if the Federal Funds Rate than the Taylor 1993 rule.

This rule has a stabilization role on both inflation and output as it prescribes that the Central Bank should "lean against the wind" when setting interest rates; that is, when current output is higher than its potential level (an overheated economy), the Central Bank must raise interest rates to stabilize the economy, vice versa. The same process must be followed when inflation is higher than its long-term target, but in this case, the nominal interest rate should be raised more than proportionately, meaning, the real

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interest rate should be made higher than the natural rate whenever inflation is above the target. It should be noted that unless the long-run coefficient of inflation is above 1, the Central Bank will not attain its inflation target on average. This is called the “Taylor principle” (Carlstrum and Fuerst, 2003). In simple terms, considering Taylor (1993), this rule says that the nominal funds rate should be set at 2%¹⁰ plus 0.5 times the deviation of inflation from its target, plus 0.5 times the output gap.

Taylor rule has however faced some criticisms because despite its apparent simplicity, it is usually difficult to estimate potential output and the real equilibrium interest rate (Jamie and Côté, 2000). In addition, there is a problem of stationarity as the results obtained with data used by authorities when they put in place the policy are usually different from those obtained after the data has been revised (Orphanides, 1998; Evans, 1998). As reported by some authors, Clarida et al. (1998, 2000), Judd and Rudebusch (1998), among others, estimated reaction functions for the recent period tend to show an aggressive response to deviations of inflation from some target value and a significantly smaller response to stabilization of the economic activity.

However, some answers and contributions to these criticisms have led to a number of modifications on the original Taylor rule in order to make it more appropriate and realistic. Some of these modifications describing the US monetary policy for the same period, that is, between the late 1980s and the early 1990s are presented in Table 1 below.

Table 1. Short List of Proposed Rules for the U.S. Data

Paper	Rule
1. Taylor (1993)	$i_t = 1.00 + 1.50\pi_t + 0.50y_t$
2. Clarida, Gali, and Gertler (2000)	$i_t = 0.79i_{t-1} + 0.21(r^* - 4.12 + 2.15E_t\pi_{t+1} + 0.93E_t y_{t+1})$
3. Orphanides (2001)	$i_t = 0.66i_{t-1} + 0.34(1.80 + 1.64E_t\pi_{t+4} + 0.97E_t y_{t+4})$
4. Ball and Tchaidez (2002)	$i_t = 1.47 + 1.54\pi_t - 1.67(u_t - u_t^*)$
5. Orphanides and Williams (2003)	$i_t = 0.72i_{t-1} + 0.28(r^* + 1.26\pi_t - 1.83(u_t - u_t^*) - 2.39(u_t - u_{t-1}))$

Source: Carare and Tchaidez (2005)

Besides the ease with which the Taylor rule represents a complex process with a small number of parameters, a number of studies for the US have shown that, it sufficiently describes how monetary policy has been conducted within the period studied. It has been shown that the Taylor (1993) rule actually tracks broadly the movements of the Fed’s funds rate even though we can equally discover a good number of large and persistent misses. However, according to proponents of the rule, these misses are normal because Taylor rule was not designed to be followed mechanically but it was simply designed to serve as a guideline for monetary policy.

McCallum (1999a) assumed that, given the delay that occurs in policy response and considering that, it is not possible to have all the output and inflation data of the period within which the policy is being undertaken, it is more realistic to introduce lags. There has been equally the introduction of forward-looking behavior making short-term interest rates a function of the predicted output gap and inflation instead of their contemporary values. Other authors such as Clarida et al. (1998, 2000), Judd and Rudebusch (1998) and Kahn (2012) have attempted to fit the Taylor rule to real time data by using formal econometric approaches for interest rate-smoothing behavior (including a lagged short-term interest rate among the fundamentals). This is the single most popular modification of the Taylor rule and although the necessity of including an interest rate-smoothing term has not yet been proven theoretically, it seems rather intuitive for a number of reasons¹¹. In this same light of estimating forward-looking Taylor rules, Coibion and Gorodnichenko (2011) have estimated forward-looking interest rate rules for the Fed to test the hypothesis of interest rate smoothing versus persistent shocks based on the Greenbook data set and on the Survey of Professional Forecasters (SPF) and their results show that the Fed practices interest rate smoothing¹².

Taylor (1999) and Orphanides and Williams (2003) show that as it is not possible for the traditional Taylor rule to account for all the factors affecting the economy due to reactions of policymakers to other movements such as the exchange rate, stock market and political developments, etc. Orphanides and Williams (2003) introduce a new variable which they call a policy shock variable, reflecting the judgmental element of the policymaking process. They suggest the use of unemployment gap as opposed to output gap, in order to improve the fit of the data, as suggested by Okun’s (1962) law, which links the output gap and the unemployment gap. This type of rule tends to perform quite well in terms of stabilizing economic fluctuations, at least when natural rates of interest and unemployment are accurately measured.

¹⁰Taylor (1993) set the natural interest rate at 2% and the inflation target of the FOMC was equally 2%.

¹¹See Alina Carare and Robert Tchaidez (2005)

¹² See Nikolay Markov and Thomas Nitschka (2013)

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Recently, there have been investigations on a potential non-linearity of Taylor rule. Gerlach and Lewis (2010) have estimated gradual regime switching Taylor rules for the ECB based on a Logistic Smooth Transition Regression (LSTR) methodology, where they found that there existed nonlinearities in the Taylor rule. In addition, following this reasoning, Owyang and Ramey (2004), Sims and Zha (2006), Assenmacher-Wesche (2006), Alcidi, Flamini and Fracasso (2011) have found nonlinearities in the Taylor rules of other Central Banks and for different periods. Kahn (2012) and Taylor (2014) show the use of policy rules is undoubtedly very important for the practice of monetary policy and they argue more attention must be paid to rules such as the Taylor rule. For Taylor (2014), the Fed practiced Taylor rule until around 2003 and from 2003 to 2006, a discretionary policy has been practiced and this must surely be one of the causes of the 2007 financial crisis. It is in this light that Kahn (2012) proposed that, during periods when both output and inflation are stable, reaction functions had to be estimated in order to guide policymakers' response to incoming data on output and inflation.

Damjan Pfajfar and Blaz Zakelj (2015) study the effectiveness of an alternative monetary policy design in the case where there are deviations from inflation expectation from agents as well as deviations of current inflation from the target. Taylor-type rules are modified to respond to these two types of deviations. According to them when expectation formation is not perfectly rational, a forward-looking Taylor rule with a reaction coefficient of 4 where they find that it gives lower inflation variability as compared to that of 1.5 or 1.35. They find that instrumental rules that are less aggressive are more vulnerable to the emergence of potentially destabilizing forecasting mechanisms. A number of researchers amongst which Svensson (2003) are skeptical about the effective use of the Taylor rule and consequently advocate for an alternative rule for monetary policy. However, McCallum and Nelson (2005) as well as other proponents of the Taylor rule relentlessly defend the rule, as we shall see in the next paragraph.

b) Targeting versus instrument rules

Svensson (2003) highlights a number of reasons why he claims that targeting rules are superior to instrument rules in attaining monetary policy objective. According to Svensson, policy is not well defined by Taylor rule (an instrument rule) and policymakers should not follow it. He argues that commitment to a general targeting rule, which amounts to a commitment to a specified objective function and specific targeting rules amounting to first-order conditions are better than instrument rules for the conduct of monetary policy. He shows that as there is a lag between monetary policy actions and its impact on the Central Bank's target variable, monetary policy is more effective if it is guided by forecasts (Svensson, 2010). Policymakers should hence predict how the economy is likely to respond in the medium term to alternative plans for monetary policy and work at stabilizing inflation around a given target. This means that policymakers should take into consideration each policy plan and try to guess how the economy will evolve and equally assess the likelihood of other outcomes different from the principal scenario in case this plan is implemented. He defends his point of view with a number of criticism which he thinks shows "what is wrong with Taylor's rule". However, his points do not distract McCallum and Nelson who consider that the description made by Svensson is inaccurate. They consequently bring forth points, which according to them justify the use of Taylor rule.

An instrument rule is an explicit formula for setting a controllable instrument variable (for example the interest rate) in response to variable that are currently observed (McCallum and Nelson 2005). Here, the instrument is closely linked to the behavior of variables that can either be observed or estimated. These variables usually reflect the objectives of the Central Bank and the policy instrument is adjusted in order to keep the variables at their desired level. A good example of such rules is the Taylor (1993) rule. However, Svensson (2003) argues that, simple instrument rules do not describe monetary policy adequately especially targeting rules. For him, these rules are simply guidelines and are too vague to be operational so it is not advisable to use it in describing monetary policy. He goes on by bringing forth some 'objections' that he thinks could be raised against instrument rules.

The first objection brought forth by Svensson is that a Taylor uses only two variables namely output gap and inflation, it will not be optimal to use this rule because other state variables such as real exchange rates, terms of trade, foreign output and foreign interest rates etc. are left out. So according to him, simple instrument rules do not contain all relevant variables so there is a problem of specification seriously reducing optimality, this is why they are not adapted for a small open economy. According to Ball (1999), adding the exchange rate to Taylor rule would add stabilizing properties in the case of a small open economy. But McCallum and Nelson (2005) counter these by arguing that the variables left out may not be important this is why in the case of a small open economy, Clarida et al. (2001) as well as McCallum and Nelson (1999a, 2000b) showed that an open economy, a model can also be formulated using only two variables as Taylor did.

Secondly, according to Svensson (2003), "A second problem, is that a commitment to an instrument rule does not leave any room for judgmental adjustments and extra-model information..." He argues that as the coefficients are given, all the duty of the Central Bank will be to in order to set interest rates will be simply to measure inflation and output gap every period. But, McCallum and Nelson (2005) reject this point of view by saying there is sufficient scope for adjustments when the need arises as the policy maker could deviate from the original rule by either setting above (or below) the rule. However, Svensson (2005) in answering to

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McCallum and Nelson (2005) critics say that it is contradictory considering the spirit of 'policy rules', which is to depart from discretionary policies. For him, McCallum and Nelson (2005) seem to say that commitment to a rule could be consistent with discretionary adjustments, which is contradictory.

The third objection of objection Svensson brings forth is that if any central Bank commits to an instrument rule, there will not be any possibilities to react to a shock or any new information about transmission mechanisms. McCallum and Nelson (2005) as well as Taylor (1999, 2012, 2014) rather claim that the formula is not designed to commit to it mechanically but rather it is just a procedure that has to be followed so there must rather be commitment to a framework.

Svensson goes further to say that there has not been any Central Bank which has committed to an instrument rule because had it been the case, they would have announced publicly or published Taylor rule coefficients, output gap as well as inflation to gain more credibility. However, McCallum and Nelson (2005) reject this point of view by arguing that no Central bank has equally committed to an explicit objective function. They say if it were the case, deviations from the coefficient of the output gap would have been announced as well as the specified model used by the Central bank.

These and more points have been brought for the by Svensson (2003) countered by McCallum Nelson (2005), some of which include: the fact that instrument rules do not fit Central Banks behavior well and those of them known to follow inflation targeting have procedures which are more characterized by targeting rule than instrument rule. However, Svensson (2005) comes up again to show "what is wrong with McCallum and Nelson by defending his previous point of view and highlighting what he thinks is not logical with McCallum and Nelson (2005) points¹³.

Nevertheless, Bernanke (2004) thinks that the best policy should be that which better solves the problem of informational limitations faced by policymakers and the need to account for private sector expectations.

3. EMPIRICAL JUSTIFICATION

Generally, when we establish a rule it is important to know the exceptions that exist to that rule. The Taylor rule does not depart from this reasoning, but here, we are interested in knowing whether it applies to every country or Central Bank and if yes, the way it applies to each country. This rule as any other theoretical developments would only be sufficiently consistent when it has been empirically tested and the results obtained show a good degree of robustness in the properties of the theory. It is no secret that the Taylor rule has seriously influenced theoretical debates on monetary policy within the last two decades. But has this rule been so influential as far as the practice of monetary policy is concerned? We think the answer to this question is 'yes' given the good number of reports of monetary policy meetings that mention this fact¹⁴. Asso et al. (2010) even think that "the Taylor rule have revolutionized the way many policy makers at Central Banks think about monetary policy". Martin (2014) recently noted that "since late 2008, the Taylor rule has prescribed a zero nominal interest rate, which coincides with the policy rate set by the FOMC". From different empirical works, we can note that the Taylor rule has actually been used either by Central Banks or by scholars to capture the behavior of the monetary authorities in a number of developed and developing countries. The particularity of these cases is that the Central Banks were those of single countries and most of these countries were under a floating exchange rate regime. The Franc zone is specific with regard to the above characteristics. In fact, it is divided into currency unions, which all have distinct monetary policies tilted towards the satisfaction of interest of member states. Nevertheless there exists a fixed exchange rate regime with the Euro area (formerly France) and some accords have been signed to assure a smooth and coherent monetary cooperation between France and its former colonies. This is why the Central banks of the main currency unions are faced with constraints that they have to respect while conducting their monetary policy. Our concern here is to know whether these Bank's policies could equally be understood using the Taylor rule and how their reaction functions may look like when estimated using the Taylor rule. We shall therefore consecutively examine the empirical evidence that the Taylor rule has actually been used or could be used in either the estimation of the nominal interest rates or in understanding the policies of these monetary entities in the UEMOA and CEMAC.

a) Monetary policy reaction functions in the BCEAO Franc zone.

For the BCEAO, monetary aggregates are the main instrument that it uses to attain its objectives. It indirectly manages the money supply using short term interest rate as its main policy instrument. Tenou (2002) used a rule to estimate a reaction function, which

¹³There are more developments about this part in Svensson (2005) and Jenifer Smith's notes on Policy reaction functions : inflation forecast targeting and Taylor rule.

¹⁴ For example Governor Janet Yellen's remarks at the FOMC of January 1995 saying: «It seems to me that a reaction function in which the real funds rate changes by roughly equal amounts in response to deviations of inflation from a target of 2 percent and to deviations of actual from potential output describes reasonably well what this committee has done since 1986. ... If we wanted a rule I think the Greenspan Fed has done very well following such a rule, and I think that is what sensible central banks do.»

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permits to understand the setting of the interest rule and its evolution in UEMOA. The specific rule that he uses is the Taylor rule and it is applied both for quarterly and yearly data for his estimations. His first estimates are done on yearly data between 1970 and 1999, where his results show that the Taylor rule describes in an adequate way Central Bank's interest rate between 1987 and 1999. He equally uses quarterly data to show how compatible his results were and he finds that between 1991 and 1999 the interest rate is relatively well explained by the reaction function and according to him, the results obtained show that fundamental economic variables played an important role in the conduct of monetary policy after the devaluation of the CFAF. He concludes that despite the good econometric results, the Taylor rule should not be used mechanically, but should nevertheless be used as a reference or an additional element that the Central Bank has to take into consideration when taking its decision.

Bationo (2013) undertook some studies for the BCEAO to estimate its reaction function in order to know the importance attributed to price stabilization as well as output growth by the monetary authorities. The objective of his study is to estimate a reaction function using an "augmented Taylor rule containing the main variable Targeted by BCEAO. This rule is particular because the fixed exchange rate of the sub region adds an additional constraint that the Central Bank must take into consideration when undertaking its monetary policy namely the exchange reserves coefficient. The data used is annual time series between 1970 and 2011 and the method used is the Generalized Moment Method where the Johansen co-integration test is used to see the long run relationship between the interest rate and its explanatory variables. This estimation is done within two periods: first the whole series (1970-2011) then a shorter series to take into considerations the policy reforms undertake in 1990 by the BCEAO (i.e. 1990-2011). The results obtained in the first estimation show that the fixing of the interest rate largely takes into consideration the exchange reserves meaning before the 1990 reforms constituting currency reserves was very important for the Central Bank. However he equally finds that the results of the second estimation of the sub sample (1990-2011) show that the monetary authorities gave much importance to inflation as well as output stabilization. This means that added to the currency reserves the BCEAO had to constitute, the Taylor rule equally shows that the fight against inflation and the minimization of the output gap or striving towards increasing economic growth.

b) Monetary policy reaction functions in the BEAC Franc zone.

Kamgna et al. (2009) estimate the reaction function of BEAC using the Taylor rule in order to see how credible the policy can be perceived by building a model which best represents the interest rate setting of the Central Bank. Given the special conditions under which BEAC conducts its monetary policy considering the monetary agreements with France due to the fixed exchange rate, they first estimate a rule in which they introduce the money supply growth as well as inflation differential with France to build an adapted reaction function with rational anticipations. They use quarterly data between 1986 and 2006, and apply GMM to estimate a forward looking rule and their results show here that the monetary policy is highly dependent of the past interest rate. Their rule describes the interest rate setting mechanism well and it shows that BEAC gives more weight to price stabilization than supporting output growth. This method however, according to the authors does not throw sufficient light on the stationarity of the output gap that is why they decide to estimate a second rule using the vector error correction model of Johansen (1991) and they had better results on the output gap calculated with the Hodrick and Prescott filter. However, they find that the rule estimated is more linked to the real monetary policy within the period after devaluation as Tenou (2002) obtained in his research. Dramani (2010) also estimates the neutral or natural interest rate in CFA zone that is UEMOA and CEMAC using another generation of policy rules namely generalized Taylor rule that incorporate to the Central Bank's reaction function other variables in addition to the original variables of the Taylor rule. He uses panel data estimations for the period 1970 to 1999 using iterative least squares and obtains a neutral interest rate between 1.65% for the CEMAC zone. From the results obtained, it could be concluded that BEAC has a preference for an interest rate smoothing rule even though the coefficient of the output gap was not very significant; he thinks the results are generally consistent with theory. However, the results obtained on the real and equilibrium interest rates show that BEAC's monetary policy is highly tilted towards the fight against inflation.

4. DATA AND METHODOLOGY

a) Data and variable description

The data used for this part of our study are yearly data within the time range 1993-2012 and they are got from different sources as follows: The GDP per capita at constant prices for CEMAC is constructed from the countries' data of the World Development Indicators (WDI, 2016) of the World Bank and it is taken in its log form. The inflation, exchange reserve coefficients and the interest rate data for CEMAC are got from BEAC database and the yearly reports of the Banque de France. The interest rate of the Euro zone is got from the yearly reports of Banque de France and the data base of BCE.

Concerning the variables used in this study, we have: The endogenous variable the interest rate, which is in fact, the main interest rate used by BEAC for refinancing operation and it is named "Taux d'intérêt d'Appel d'Offres (TIAO)". Inflation gap ($\pi_{Ft} - \pi^*$) is

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got from the arithmetical difference between the actual inflation of the CEMAC sub region and the implicit target of 3%. The output gap ($y_t - y^*$) is got from the difference between the GDP per capita and the Hodrick-Prescott filter and considered in its quadratic form then taken in its log.

The graphs in appendix 1 present the evolution of these main variables and we can see that the interest rate has steadily decreased since the monetary reforms engaged in 1990. Concerning the inflation gap, we can equally observe that it has been very stable around zero except for 1994 where we have a peak of more than 30% due to the devaluation of the CFAF. The output gap has been very unstable from observation and the sub region has mostly been under its capacity except between 2004 and 2008, where the economy seems to have been over heated.

b) Methodology

We shall estimate our model in using the Generalized Moment Method to take into consideration the anticipations of agents. Given that agents conduct their behaviors with forward-looking expectations, GMM method is useful in obtaining consistent estimators for the model parameters. In this section, we lay out the forward-looking Taylor rule equation to be estimated by GMM and show how factors are added to the information set. This method shall equally permit us detect any signs of endogeneity in explanatory variables. The application of GMM may encounter a problem where the instruments are weakly correlated with the endogenous variables leading to the weak instruments or weak identification problem. If this occurs, the resulting GMM estimators would have non-normal sampling distributions and the following statistical inferences, such as point estimates, hypothesis tests and confidence intervals, are no longer reliable. That is why it is necessary to examine whether or not the instruments are weak before conduct the GMM estimation.

The starting point of the empirical analysis is to check whether the panel data is stationary. Therefore, we shall describe a panel-based framework to conduct panel unit root testing methodologies in order to determine the order of integration of all variables under study and correct the possible non stationarities in the series. Traditionally, the Dickey-Fuller (DF) or Augmented Dickey Fuller (ADF) tests are usually used to test for the presence of unit roots in univariate time series data, but in recent years, a number of investigators have proposed alternative tests. They include Maddala and Wu (1999), Hadri (2000), Levin et al. (LLC) (2002) and Im et al (IPS) (2003) who have developed panel-based unit root tests that are similar to tests applied to individual series, while Abuaf and Jorion (1990) and Taylor and Sarno (1998) have suggested a multivariate version of the augmented Dickey and Fuller test. Baltagi and Kao (2001) for instance, show that if a cross sectional dimension is added to the traditional unit root tests, it can increase the power of the tests due to the information in the time series is enhanced by that contained in the cross-section data. Given that the LLC and homogeneous type of Hadri test statistics are restrictive in the sense that all cross-sections have or do not have a unit root, we shall operate all the tests and focus more on less restrictive IPS and Fisher ADF Chi-square test statistics that can lead to more accurate results about integration properties of the variables.

We subsequently make panel regressions in order to identify variations in responses of individual countries to the application of its specific Taylor rule and how much of this variation is accounted for by each country. By having these effects, we shall be able to capture the heterogeneity, which is important because if we consider that all the individual states of the currency union behave in the same way this may lead us to important specification biases. We shall therefore need to detect these effects in order to account for the individual disparities that exist across countries. If we assume that in a panel data regression the inflation coefficient is significant for example, this means that the inflation coefficients in this case will be adapted to describe how countries respond to monetary policy. We shall thereafter estimate a new reaction function corrected from heterogeneities to present the most appropriate way to estimate the Taylor rule in case of asymmetrical responses to shocks.

Our exercise in illustrating heterogeneity then proposes a better model corrected from these heterogeneities. Therefore, we shall proceed in two stages:

Stage 1: we estimate the country-specific reaction functions based on panel data estimations in order to get an impression about the extent of existing heterogeneity, though we impose some degree of homogeneity by performing pooled or fixed-effects estimation. We are interested in knowing here whether when a general rule is established, it would be possible to say that such general specification is applicable to any country and at any given time. This is why we shall make cross-country comparisons of monetary policy dynamics in order to know whether the interest rate policy of BEAC can be efficiently applicable to each country of the CEMAC sub region.

Stage 2: The procedures we shall use to estimate the dynamic panel data equation across the countries of the CEMAC sub region is the two-steps SYS GMM. The preferred estimation for BEAC's reaction function shall be given by this estimator proposed by Arellano and Bover (1995) and Blundell and Bond (1998) who have significantly improved the original Arellano and Bond (1991) dynamic panel data GMM estimator. The basic idea of the original estimator is to first differentiate the equation to remove the

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unobserved individual heterogeneity. Removing these heterogeneities will permit us have a corrected model which is more optimal than the simple model estimated by the GMM.

c) Econometric specification

Table 2: Econometric results of BEAC's monetary policy

Dependent Variable INTER	
Annual Data	From 1994:01 To 2012:01
Usable Observations	19
Degrees of Freedom	13
Mean of Dependent Variable	6.036
Std Error of Dependent Variable	1.436
Standard Error of Estimate	0.320
Sum of Squared Residuals	1.337
Durbin-Watson Statistic	2.143

Variable	Coeff	Std Error	T-Stat	Signif

1. a	6.078	1.530	3.970	0.000
2. i_{t-1}	0.302	0.162	1.859	0.062
3. $\pi_{Ft} - \pi^*$	-0.052	0.014	-3.712	0.000
4. $y_t - y^*$	-0.102	0.040	-2.532	0.011
5. $exc - 0,2$	-0.027	0.009	-2.979	0.002
6. i_{ϵ}	0.336	0.081	4.123	0.000

From the above results we can observe that the behavior of the monetary authorities of BEAC can be depicted using a Taylor rule, but the sign of the coefficients of both inflation gap and output gap are not consistent with theory and their values equally do not follow the Taylor principle. However from observation, the output gap has a negative coefficient meaning when BEAC decreases the interest rate by 1 point, there is a tendency for the gap to widen by 10%. A similar situation can be observed concerning inflation gap with of 1: 0.05 a ratio. Moreover, the "Taylor principle" is not respected here because despite the fact that BEAC has a price stability objective, its monetary policy only impacts at the rate of 5% on the inflation rate. This is probably because most of the low inflation results got in the sub region is due to imported stability from the Euro zone considering its fixed exchange rate regime with CEMAC. We can equally observe that the lagged interest rate is considerably accounted for. This should be due to the concern of the Central Bank to maintain its credibility and the fear to face adapting costs. These factors have

What then about external stability? As we can see from our results the coefficients attached to both the interest rate of the Euro and the reserve coverage ratio are significant and a lot of importance is comparatively put on the interest rate of the Euro area in setting the BEAC rediscount rate. This shows that the constraint faced by BEAC to respect the interest rate differential is taken seriously by the monetary authorities. This is probably to make sure that the fixed exchange rate regime shouldn't cause a high capital inflow which may lead to high inflation that may be harmful to the relatively weak economies of the sub region. For the currency reserves, the quantity has been on average more than four times the desired amount due to the favorable position that the sub region as an oil exporting zone so, the Central Bank has not really been alarmed about constituting the required currency reserve.

The reaction function of BEAC is therefore as follows:

$$i_t = 6.07 + 0.302i_{t-1} + 0.052(\pi_{Ft} - \pi^*) - 0.102(y_t - y^*) + 0.027(exc - 0,2) + 0.336i_{\epsilon} \quad (4)$$

It is assumed that the monetary policy reaction function is common across the 6 countries of the sample. The policy instrument is the nominal interest rate as seen above and the policy goals are to stabilize the economy both internally and externally. For country j in period t , the following expression is given for the target level of the nominal interest rate:

$$i_t = a + \rho i_{t-1} + b(\pi_{Ft} - \pi^*) + c(y_t - y^*) + dE_t + \epsilon_t \quad (5)$$

Where π_{Ft} is the inflation rate of the CEMAC zone; π^* the inflation rate targeted by the monetary authorities of CEMAC; $(y_t - y^*)$ the output gap, and; E_t the external elements taken into consideration by BEAC in its monetary policy practice. The above Equation (5) is a cross-country version of the Taylor (1993) rule adapted to the CEMAC region. However, as noticed by several authors in single country analyses, this static version of the rule is too restrictive to describe actual central banks' behavior. Essentially, it

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assumes immediate adjustment of the monetary policy instrument and ignores the tendency of central banks to smooth interest rate changes. A more general approach can be taken by assuming a partial adjustment of the actual interest rate to its target level, as given by the following first-order partial adjustment model:

$$i_{jt} = a_0 + a_j + \rho i_{jt-1} + b(\pi_{Fjt} - \pi^*) + c(y_{jt} - y^*) + dE_{jt} + \varepsilon_{jt} \quad (6)$$

Where the constant ($a_0 + a_j$) is decomposed into an observable country-specific heterogeneity which is stable over time a_j , and a common constant a_0 . Knowing that according to (6), the central bank of country j adjusts the actual interest rate to the desirable level by $(1 - \rho)$ each period t . The degree of interest rate smoothing is represented by ρ .

Our model corresponding to the Taylor rule relevant for empirical estimation is therefore equation (6). From this equation, we can be able to estimate the reaction function capturing heterogeneity across the different countries as see in the next section.

5. RESULTS AND DISCUSSION

a) Illustrating Heterogeneity: Country-Specific Reaction Functions

We shall not discuss the properties of the coefficients in table 3, because as we know, our model is a dynamic panel model and the coefficients estimated here are biased. What interests us, is the estimation of fixed individual or specific effects, even though it is obvious that the by “contagion”, they must equally be biased. However, the fixed effects are very visible as we can see a large degree of heterogeneity across the countries. In fact, these effects are non-random and they vary considerably from one country to the other as can be seen in their chronological order of importance in table 1 of appendix 3.

Table 3: Estimation of fixed effects across countries.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
$a?$	4.170	0.448	9.298	0.000
$(\pi_{Fjt} - \pi^*)$	-0.023	0.010	-2.286	0.024
$(y_{jt} - y^*)$	0.021	0.038	0.548	0.584
i_{ϵ}	0.978	0.067	14.395	0.000
$exc - 0,2$	-0.017	0.003	-4.686	0.000
Fixed ffects (Cross)				
_CMR-- a	-0.338			
_RCA-- a	0.768			
_CON-- a	-0.303			
_THC-- a	0.020			
_EQG-- a	-0.200			
_GAB-- a	0.053			

The chronological appearance of fixed effects across CEMAC, depicting high degree of heterogeneity, can be seen in table 1 in appendix 3. From table 3 above, we can see that there is a very large difference between RCA and CAM for instance. In fact these figures show that if the Central bank has to set an interest rate which must be adapted to each state, every country must have its own interest rate except for CON and CAM which have approximately the same response to interest rates movements. It should be reminded that the coefficient estimated here is the interest rate smoothing coefficient, therefore, when the interest rate is set at any given level, Gabon and the CAR react very highly to the slightest change comparatively to Congo or Cameroon. In such contexts, there is a serious problem because countries respond asymmetrically to any interest rate chock, given that, when BEAC sets a single interest rate that must be applied to all the countries of the sub region, this interest rate will be adapted to some countries and the inflation and output gaps will be minimized while for other countries the gap will widen. This means intuitively that, the same interest rates will largely increase or decrease inflation in some countries while in others it will be stabilized around the target. In this light, the specificities of each country must be taken into account when setting interest rates in order to let all the countries respect the convergence criteria. These asymmetrical socks therefore give rise to the different patterns as we can see from the graphs in appendix 2.

In appendix 2, we observe that every country has her pattern, which is sometimes totally opposite to the others. This means, for the same year, some countries may be having an expansion or even an overheating while others are having a recession or

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underemployment. Therefore, some countries may need to have an inflation shock in order to boost production while for others the slightest increase in prices may be detrimental to the economy. These graphs clearly show us how the different countries behave and as we can see, almost all the countries have their individual movements, which therefore make it difficult to practice an inflation or output stabilizing policy with a single instrument, not taking into consideration all these movements. It is to solve this type of problem that we use a dynamic panel setting of Arellano and Bover (1995) and Blundell and Bond (1998) in order to clear all the possible heterogeneities and obtain an estimation which could be considered to fit most of the countries despite their heterogeneous nature. We shall hence proceed by estimating a corrected model that accounts for the heterogeneities and corrects them so that we could have an effective model for the sub region.

b) Robust estimation results

Taylor rule can only be effective if using it to set the interest rate, permits us to obtain a long term stability of macroeconomic variables. This means, in the long term the monetary policy should permit us have the convergence of the principal economic variables across countries. From our regression and estimations, we see that there has been the persistence of fixed effects over time and from the above graphs, we don't have the impression that the Taylor rule has stabilized the variables around the average across countries. This is why we think it is necessary to correct the rule such that it may in the long run permit the convergence and stability of the principal macroeconomic variables.

The preferred estimation considered here is given by the one-step SYS GMM estimator, proposed by Arellano and Bover (1995) and Blundell and Bond (1998). As mentioned before, it has significantly improved the original Arellano and Bond (1991) first-differenced GMM estimator. The estimation results in table 4 indicate that BEAC follows anti-inflation monetary policy but the coefficient on CPI inflation is significantly less than one and negative but output gap coefficient is not significant, so this is different from the rule proposed by Taylor (1993). There is, however, a considerable interest rate smoothing, as captured by a first-order autoregressive term of 0.5 and some importance is still attached to the interest rate of the Euro zone even though to a low extent with a significant coefficient of 0.3.

Table 4 : System dynamic panel-data estimation

One-step results

i_{jt}	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
i_{jt}						
L1.	.508	.062	8.18	0.000	.386	.630
$(y_{jt} - y^*)$.034	.027	1.27	0.205	-.018	.087
$(\pi_{Fjt} - \pi^*)$	-.040	.008	-4.94	0.000	-.056	-.024
i_{ϵ}	.299	.045	6.58	0.000	.210	.389
exc	-.023	.003	-6.14	0.000	-.030	-.015
_a	2.893	.533	5.42	0.000	1.848	3.939

The new rule that could be proposed for BEAC and that is more adapted to the environment of the CEMAC sub region with new parameters is proposed in equation (5) below.

$$i_{jt} = 2.893 + 0.508i_{jt-1} - 0.4(\pi_{Fjt} - \pi^*) + 0.034(y_{jt} - y^*) + 0.299i_{\epsilon} - 0.023exc \quad (5)$$

6. CONCLUSION

Our objective in this chapter was to detail describe the BEAC's monetary policy as well as the institutional settings within which it is found. We have been able to attain this objective and we have seen that BEAC has one main objective of monetary stability, and in order to realize this goal, it uses a certain number of instruments namely refinancing limits, reserve requirements and above all the short term nominal interest rate. We assumed that the Central bank follows a rule in the implementation of its monetary policy and from the different objectives and instruments we have been able to construct a reaction function for BEAC passing through the objective or loss function. From our estimations using the Generalized Moment Method we actually found that BEAC's monetary policy or more precisely its interest rate setting can be captured using a modified Taylor rule taking into consideration the specificities of the monetary union and external constraints. As seen from the results obtained we can realize that the Central Bank mainly focuses on the fight against inflation or more, it mainly participates in maintaining internal stability in the sub region.

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This fight can be deemed successful given the low inflation results that are observed even though it can be mitigated with the influence of the region of anchor (the Euro zone) in this stability.

Therefore, from what precedes it can be concluded that the application of the Taylor rule could be of great interest to BEAC not only in order to anchor the expectations of agents hence engage in a cooperative game which will enhance its credibility and consequently make it more effective, but equally give it an additional instrument in the conduct of monetary policy. Nevertheless, the above results though interesting may simply be under contexts of a particular country but not in the case of a monetary union made up of several countries (six for CEMAC). If every country was to apply its own Taylor rule in the CEMAC sub region would the same results be obtained? Or rather are the interest rate and the inflation target of the sub region an optimal one for every country in the monetary union? If the answers to these questions are negative, what could be proposed which fits best to the UMAC monetary union? We shall attempt to answer these questions in the following chapter.

We finally showed that the CEMAC sub region is a heterogeneous one and therefore the different countries react asymmetrically to the monetary policy of BEAC particularly the use of the traditional forward looking Taylor rule to estimate the reaction function. We therefore started by estimating the fixed effect (FE) with the SUR weighting in order to have the country specific reaction functions and illustrate the different heterogeneities that exist. It has been shown that this estimator gives biased results in the dynamic setting because of the correlation between the lagged dependent variable and the error term (Nickel, 1981). These heterogeneities are mainly cultural in nature, and could lead to numerous effects such as bias whereby residents of one country may prefer for instance the consumption of imported goods than those domestically produced thereby lowering regional trade and negatively affecting synchronization. Therefore, the interest rate policy gives different results as concerns external stability, particularly the currency reserve ratio. There is equally the possibility of heterogeneities originating from different degrees of nominal rigidities. Finally, we have performed specific GMM estimation for dynamic panel proposed by Arellano and Bover (1995), consisting in the differentiation of the mode and the expansion of the instruments. This transformation permits to remove the fixed effect from the equation, which is the source of bias in the previous case. This estimation gives us a more robust reaction function for BEAC that can better capture the interest rate setting clearing the first model from its heterogeneities.

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APPENDIX 1

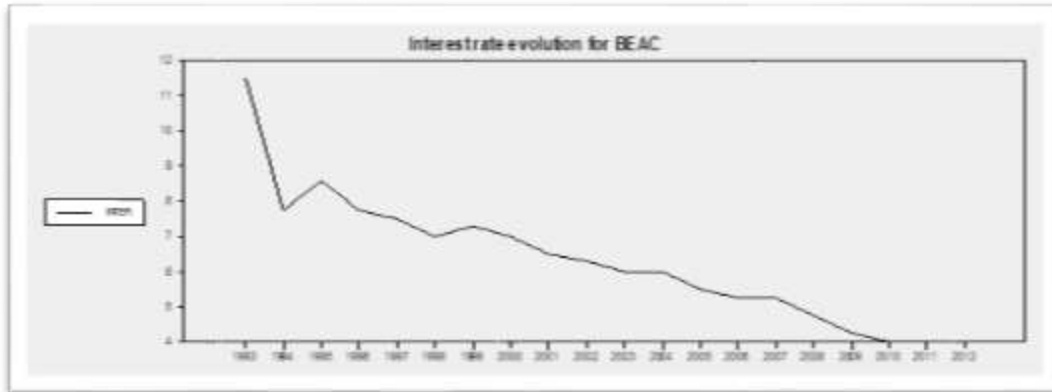


Figure 1: evolution of interest rate

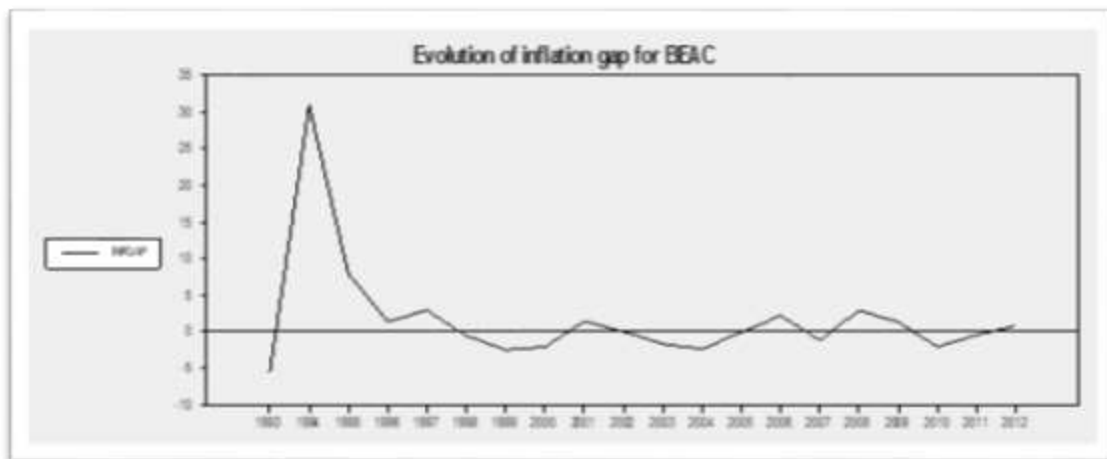


Figure 2: evolution of inflation gap

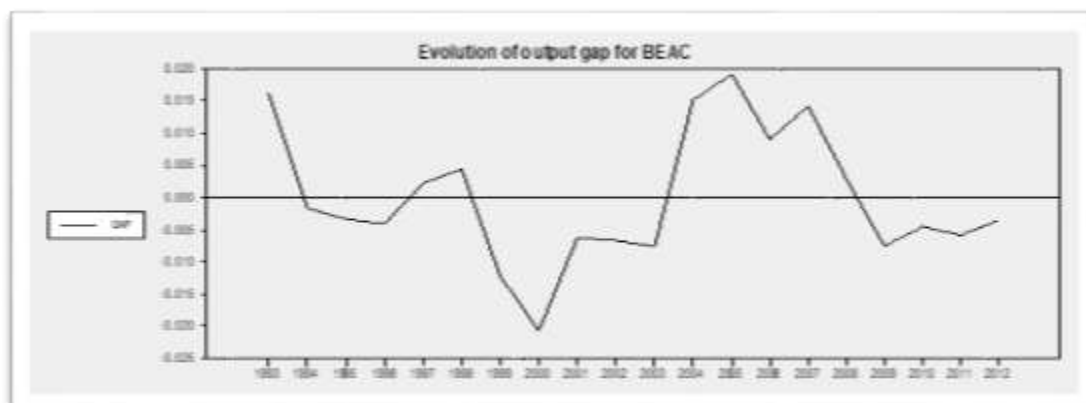


Figure 3: evolution of output gap

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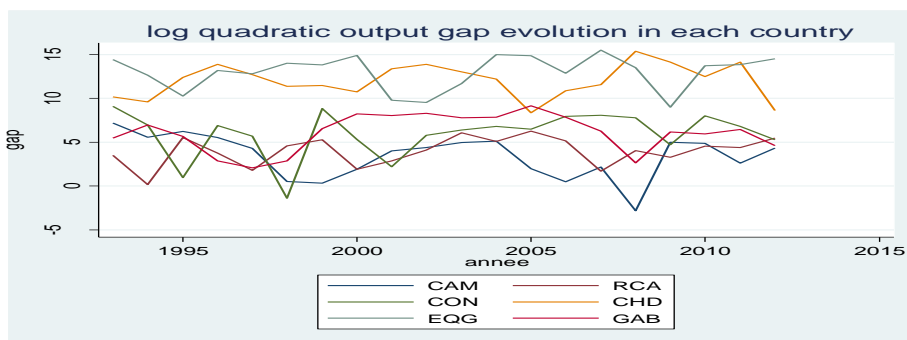


Figure 4

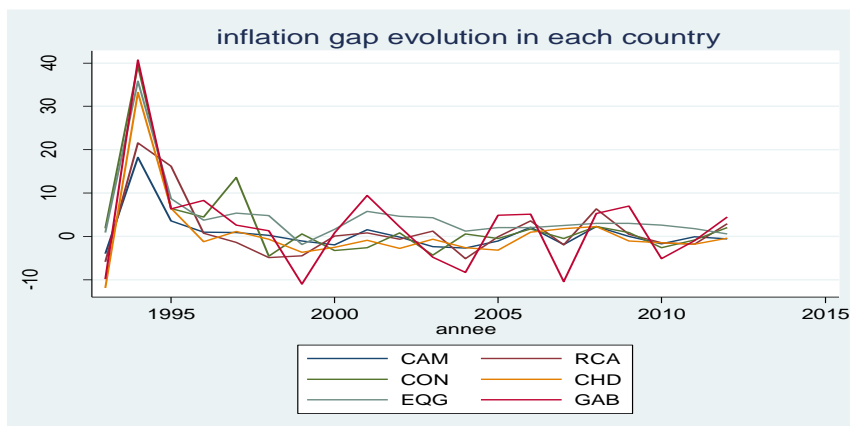


Figure 5

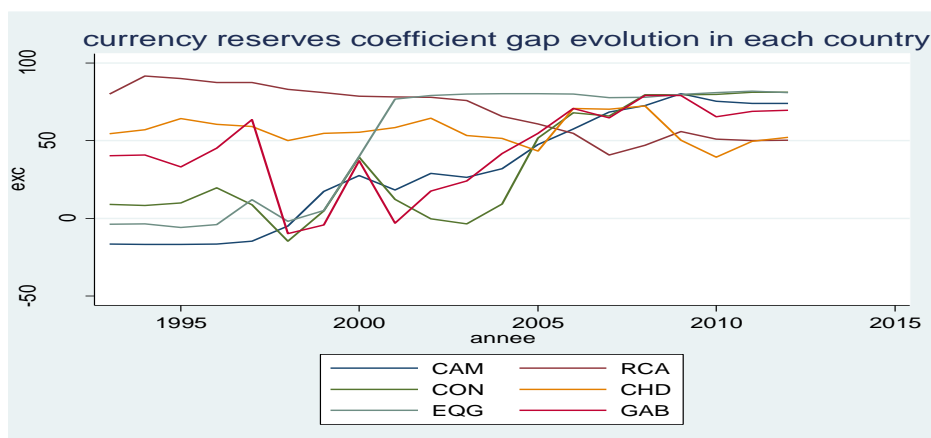


Figure 6

Appendix 3

Table 1

Fixed Effects (Cross)	
$_RCA--a_{RCA}$	0.768
$_GAB--a_{GAB}$	0.053
$_THC--a_{TCH}$	0.020
$_EQG--a_{EQG}$	-0.200
$_CON--a_{CON}$	-0.303
$_CMR--a_{CAM}$	-0.338



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Rubber Plant in the Social - Economic Process of Binh Phuoc Province (1997 - 2022) – Situation and Solutions



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ABSTRACT: The study was carried out using historical methods to generalize the process of introduction and development of rubber trees in Binh Phuoc, learn about the history of formation, the origin of rubber trees as well as the origin of rubber trees. linkage between rubber growers in the area. From there, analyze and evaluate advantages and disadvantages of smallholder farmers in the process of growing and producing rubber; describe the current situation of rubber latex prices under the influence of the world market in order to analyze and offer some solutions to contribute to promoting sustainable linkages, meeting new regulations and trends of the market. domestic and export towards sustainable production of rubber plantation and exploitation by local smallholder farmers. Research results show that the cultivation of rubber trees in Binh Phuoc province brings high economic efficiency, changing the economic and social life of Binh Phuoc province.

KEYWORDS: Binh Phuoc; rubber tree; Binh Phuoc agriculture; current situation; solutions.

1. MAKE A PROBLEM

Rubber trees are present on the basalt red land from the beginning of the twentieth century and become a tree associated with the history of developing this land. It can be said that, formerly the golden age of rubber trees because rubber export price continued to increase, rubber has become a crop that brings high income without any match. In addition to economic benefits, the development of rubber trees also contributes to building and expanding new economic areas, creating jobs for millions of workers, contributing to poverty reduction, bringing clear efficiency. socially. It can be said that rubber trees are becoming a key crop in poverty reduction in Binh Phuoc, because no crops in Binh Phuoc have speed and bring economic efficiency as fast as rubber trees. Economic efficiency from rubber trees compared to other crops is higher, so the growth of rubber trees in recent years in Binh Phuoc has contributed significantly to the economic development of this locality. , helping many farmers escape poverty and become rich households in the locality. In Binh Phuoc, there are conditions for topography and soil of the province in accordance with the conditions for developing rubber trees. Over the past years, the strong price of rubber in the market has affected the transition from other crops to rubber trees increased sharply. In 2005, the rubber area in Binh Phuoc was only about 99,179 ha to 2013 rubber area of the province increased to more than 230,000 ha, more than 70% for exploitation, output of over 269,000 tons/year. (N Le, 2015, P70-73). The evaluation of the rubber industry, the current price of latex is not really stable because it depends heavily on the increase and decrease of world oil prices and the increase in latex exploitation in rubber export countries. Currently, the proposal of solutions to develop rubber trees to improve production and quality to meet the needs of the market is very necessary and urgent work. In the context of the current latex price is not really stable because it depends heavily on the increase and decrease of world oil prices and the increase in latex exploitation in rubber export countries.

2. RESEARCH CONTENT AND RESULTS

2.1 Correct rubber trees in Binh Phuoc province

2.1.1. The introduction of rubber trees into Binh Phuoc

Rubber trees are introduced to our country quite early and are tested in many places. In 1878, when the pharmacist Raoul planted in Saigon Botanical Garden 2,000 rubber trees, the new rubber planting was considered to be officially started in Vietnam. However, rubber actually planted successfully was in 1892 at Ong Yun garden (Ben Cat, Binh Duong today). (Tran, 1979, Ward 6). Binh Phuoc land in the first colonial exploitation process, French capitalists focused on investing in reclamation to develop rubber and sugarcane plantations, of which rubber is mainly. In 1908, Terres Rouges Company (Terres Rouges)

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reclaimed the first rubber plantation in Xa Trach village, Hon Quan district (Thanh Binh commune, Hon Quan district today). This is the earliest rubber plantation established in Binh Phuoc. Rubber trees have been planted in Binh Phuoc since 1982, since 1993, the new rubber model was implemented because at this time, people were aware of the effect of rubber trees and had the support of 327 capital. of the program "Land green, bare hills" lending without interest. The area of rubber trees is concentrated in Loc Ninh, Bu Dop, Phu Rieng, Dong Phu and Hon Quan districts; Binh Long and Phuoc Long today. However, due to small capital, only 40-50% of investment processes, the majority of poor people have no capital to supplement, the small rubber garden tends to decline and in 1997, the capital source 327 For rubber growing no more, the small rubber model is interrupted. By 2000, thanks to the project of agricultural diversification in the 2000-2006 period, the small rubber model began to develop. The model of developing rubber trees on the land owned by farmers, individuals and types of private enterprises, organization participating in rubber planting, production development area usually a few hectares A few dozen hectares. This policy is implemented in Binh Long, Loc Ninh, Dong Xoai and Hon Quan districts. This policy was born as a stream of birth when new, everywhere, farmers raced to explore the wild hilly land to grow rubber. After only a few years of the hills of the Tranh grass were replaced with the immense green of rubber trees. Not only reclaiming new land, arable land areas are being grown by farmers with crops, short and other long -term industrial crops, which are also transferred to rubber. It must be said that the time when planting rubber in Binh Phuoc has developed the strongest starting from the end of 1999, after the area of pepper, cashew and other crops have not been expanded and increased prices. Perhaps that is why the Binh Phuoc farmer has shifted to focus on developing rubber trees. According to statistics, Binh Phuoc is the locality with the largest rubber tree area in the country with more than 230,000 ha, of which more than 60% of the area of state companies, the rest of households. Of the total area of over 230,000 ha, more than 70% for exploitation, output of over 269,000 tons/year. The average yield of nearly 1.9 tons/ha, of which state -owned enterprises own more than 90 thousand hectares, the remaining rubber of private enterprises and Tieu Dien. (Le & Giang, 2015, P69-73). Compare rubber productivity in Binh Phuoc higher than 5-6 quintals/ha compared to rubber average in the Central and Central Highlands. This is also a testament to the production - trading of rubber in Binh Phuoc is still much better than other localities. According to the statistics of the status of rubber development in the period of 1997-2013 as follows:

Table 1: Area, productivity, rubber production in Binh Phuoc province

Year	Area (ha)	Area for products (ha)	Output (tons)	Productivity (weight/ha)
1997	77.670	38.303	36.277	9,47
1998	82.159	42.816	46.727	10,91
1999	84.319	44.990	54.089	12,02
2000	86.961	51.162	67.000	13,10
2001	84.057	52.200	68.891	13,20
2002	88.327	60.913	71.716	11,77
2003	88.738	67.195	81.117	12,07
2004	90.641	72.804	92.505	12,71
2005	99.178	77.489	110.562	14,27
2006	110.562	82.445	131.386	15,94
2007	118.151	84.194	147.520	17,52
2008	133.809	86.598	160.564	18,54
2009	144.024	91.143	172.911	18,97
2010	164.179	98.262	191.837	19,52
2011	203.427	110.873	218.606	19,72
2012	223.134	124.400	234.163	18,82
2013	232.051	142.981	264.902	18,53

Source: Socio -Phuoc socio -economic statistics in the period of 1996 - 2013, pp.72

Rubber production continuously increased over the years, which shows that the location of rubber trees in the province is very important in local economic development in recent years. In 2006, the price of rubber soared and highly profitable made many people rush into rubber. By this time, some rubber areas in the province have started to harvest, the quality of latex is guaranteed. This is something that can be affirmed that rubber trees are implemented in the province's area is very good development and have many prospects and directions in the local economic development goals. Rubber prices increased,

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farmers in Binh Phuoc did not regret the cashew garden and other crops to grow rubber. As a result, the rubber area has increased sharply between 2009 and 2011. The rubber area has increased continuously in the past 5 years, of which the sharp increase in the period 2009-2011 is the time when the price of latex and the demand for natural rubber in the world increased sharply. (Tran, 2018, P6-7). Besides, people's awareness about the value of rubber trees are increasingly focused, so the rubber tree area increases rapidly. According to the rubber area statistics in the province in 2006 was 110,562 ha, in 2011 was 164,179 ha. In which, the rubber area has been put into operation of 16,855 ha. Rubber production also increased significantly during this period, in 2006 the output was 82,445 tons, until 110,873 tons. The average growth rate of rubber area in the area in the past 5 years is about 6% increased by about 4,000 hectares concentrated in Binh Long, Loc Ninh and Dong Xoai districts. The introduction of rubber trees into the farming area is a right direction in the province's economic development strategy. In addition to exploiting all the potential strengths in the hilly area, it also solves jobs and increases income for farmers. The locality has formed "rubber towns" and "rubber commune", with hundreds of billion dong revenue each year. Binh Phuoc has many bare mountains and mountains, people everywhere come here to start a business at the beginning, planting rice, planting noodles ... Since rubber trees have been grown by many other households, all other crops are less. " Thanks to the price of latex, many households can buy plows, build solid houses, fully equipped. Many farmers get rich, build an industry from rubber trees. Mr. Tung said: If compared to cashew trees, harvested from rubber in recent years is much higher, stable yield. Rubber harvested for 10 months/year, so people have money to cover their daily life, not to borrow money first and later. Planting cashew trees for many years, most people only convert 1/2-2/3 of the total area to rubber. When rubber for harvest, farmers have capital to invest in buying fertilizers to take care of cashew garden, so the productivity and output increases. Many households save more to buy fields, expand the area of crops. Typically, Mr. Ngo Van Cu's household in Tan Xuan Quarter, 20 years ago, only 2 hectares, now his family owns 7 hectares of rubber. The income from Mr. Cu and his wife has conditions to invest in 2 daughters in college. Mr. Cu confided, because he was poverty, but he had to live with his life. All thanks to rubber trees! The change in famous neighbors growing pepper of the last 3 decades of the twentieth century is the most obvious testament to the change of life thanks to rubber. These are residential areas along the streams adjacent to the rubber garden of Loc Ninh Rubber One Member Limited Company, the previous pepper villages are covered with immense green of rubber. Typically, Mr. Le Van's family walked in Ninh Thanh Quarter (Loc Ninh Town), a stable life when 1 ha of rubber intercropped in cashew garden for harvest. Now rubber price decreased by only two-thirds of 2013 but his income was still higher than 1 ha. According to the survey, the price of rubber latex on March 25, 2021 in Binh Long - Binh Phuoc ranges from 310 - 320 VND/latex degrees. Phu Rieng - Binh Phuoc rubber latex price ranges from 310 - 320 VND/ latex degrees. The price of Dong Phu rubber - Binh Phuoc ranges from 310 - 320 VND/latex degrees. Rubber price has soared to the highest level in the past 3 years, causing growers to excited. Due to the skyrocketing demand from the Chinese market, rubber prices began to increase from the middle of September 2020, from 8,000 - 9,000 VND/kg increased to 13,000 - 14,000 VND/kg of water latex. (Hoang, 2016, P.1-4).

2.1.2 The difficulties and challenges of the Binh Phuoc Rubber industry

Rubber is one of the mainly exported agricultural products, but is currently facing many difficulties and challenges due to the continuous decline in latex prices. The rubber industry is implementing synchronous solutions, from planting to rubber processing, wood, diversifying products ... in order to improve the competitiveness of rubber products in the domestic and international markets. The formation and development of Binh Phuoc Rubber industry, especially in the last 10-15 years, has been affected by many factors, which are especially included in the increase in the demand for natural rubber consumption of world market.

a. Loss of market

In fact, for many years, not only rubber products, many agricultural products have also lost the market, causing growers and export businesses to suffer. The market for rubber latex consumption is not stable, leading to low economic efficiency, so many farmers are looking for a direction to convert rubber to other crops. The first reason is that many local businesses are limited in strength, so it is difficult to expand the consumption market. Secondly, there are still many businesses that lack the determination to build a brand, making it difficult for businesses to expand the market. This leads to the competitiveness of the export market of Binh Phuoc rubber in particular and Vietnamese rubber in general less than some countries such as Thailand, Malaysia and Indonesia.

b. Rubber export tax

Rubber enterprises in Binh Phuoc are particularly focused on the technology of producing and planting rubber varieties mainly producing latex rubber. However, due to the consumption of latex rubber, when exports, they must pay 3% of tax (according to Circular 145/2011/TT-BTC dated October 24, 2011 of the Ministry of Finance) on the selling price, causing revenue to decrease by 3%, leading to 3%, leading to. The average price in the year decreased. While other rubber products do not have to pay

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export taxes, only centrifugal rubber latex must pay 3% of export tax. In our opinion this is unreasonable and proposed the Provincial People's Committee to propose the Ministry of Finance to consider leaving the payment tax of Ly centrifugal rubber latex.

c. Rubber area increases sharply

By the end of 2013, rubber growing area in the whole province of Binh Phuoc reached 142,981ha compared to the plan to 2015. The reason is that the previous years due to the price of rubber led to the massive phenomenon of people. Rubber planting. Besides, the price of natural rubber has decreased sharply since the beginning of 2014 until now in the world market due to the slow growth demand while the supply increases faster, causing too high inventory, creating pressure on the thrust. Rubber prices decreased continuously from 2012 to 2014 and the need to slow down. The area of the local rubber plantation area increases in excess of the plan, leading to the development of unsustainable rubber trees, leading to the fact that farmers have to destroy rubber gardens. Present in Bung Se hamlet, Tan Thanh commune, Dong Xoai town (Binh Phuoc province), I witnessed dozens of hectares of rubber trees being harvested by people. The households we met were all pity when they had to cut down the rubber garden when only a few years ago helped them get rich. At that time, rubber trees were like "white gold" and some people became billionaires thanks to this tree. The area of newly planted rubber or business is cut down to other crops, mainly taking place in Binh Long, Loc Ninh and Bu Dop.

Many years ago, rubber trees have brought a prosperous life to the people here, but in recent years, due to the influence of the general situation, the price of rubber in the market has "slipped Brake", causing rubber growers to be low profits, even with losses, so many people cut off rubber trees (mainly small rubber) to switch to planting other crops such as noodles, sugarcane, custard apple Hope to bring higher economic efficiency.

According to many rubber farmers, the price of rubber latex purchasing is low (only about 12,000 VND/kg), along with the scarcity of tapping workers, while the pressure to repay bank loans, causing dozens of Households forced to remove adult rubber trees to switch to planting short-term trees and large timber trees for higher economic efficiency; In order to solve the livelihoods in the immediate future, combine to rotate the debt. In addition to the reason for the low price, significantly reducing income compared to previous years, there are other causes. According to local assessments, the rubber area grown on soil is not suitable or taken care of and harvested in contravention of techniques as mentioned above is not small, in the context of the current low rubber price, it will be, it will be. There are more rubber areas that have been cut into other crops. Rubber purchasing prices decreased sharply, causing the income of the planted household to decrease, the amount of money collected in is not enough to meet the types of expenses and making profits for growers. This causes many rubber growers to make the exploitation status in moderation, many places also reduce the area of rubber growing to switch to some other varieties. The main influence from oil prices, the decline of the world economy, especially the increase in rubber production in the world. Also do not forget to mention the decline in rubber consumption from the main markets such as China, Japan, or Europe. Rubber price in this stage is extremely influenced by the amount of rubber inventory in the exchanges. High yields, rubber trees in the exploitation period (high latex price period 2011 - 2012 new planting area of rubber trees increased extremely high). This period witnessed the price of rubber latex and crude oil prices are no longer as tight as in previous stages. The world market witnessed new economic crises, trade wars between China and the US. All make the rubber price maintain low. Many households now say that although rubber has reached the age of tapping, it is not harvested nor investing and caring anymore, because with the current price after deducting workers, fertilizer money, there is no profit, even hole. Currently, the average of 1 ha of rubber is well cared for about 60kg of water. Price of 6,500 - 6,700 VND/ kg of latex, each hectare after deducting tapping wages (160,000 - 170,000 VND), the left garden owner is about 200,000 VND/ time. In Binh Phuoc, the purchasing price of rubber latex decreased from 255 VND/degrees to 240 VND/degree. Many households want to cut off the rubber garden to switch to other crops. Hundreds of rubber growers still maintain moderately, even let go of no care. In the first 6 months of the year, nearly 3,000 hectares were cut down. (Hoang, 2016, P1-4)

With the above confession of rubber growers, it is clear that the cause of people cutting off the garden for several years is due to low rubber prices, while the cost of input (fertilizer, plant protection drug, The tapping) is always high, so it is less profitable, not to mention many rubber areas grown on unsuitable lands, so the economic efficiency is not as expected. It is so, although there is a large area, appropriate soil, there are not many farmers in the Southeast region affirmed to dare to "send the fate" with the small rubber, the tree used to be like "golden white" in the past. According to local assessments, the rubber area grown on soil is not suitable or taken care of and harvested in contravention of techniques as mentioned above is not small, in the context of the current low rubber price, it will be, it will be. There are more rubber areas that have been cut into other crops. Rubber purchasing prices decreased sharply, causing the income of the planted household to decrease, the amount of money collected in is not enough to meet the types of expenses and making profits for growers. This causes many rubber

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growers to make the exploitation status in moderation, many places also reduce the area of rubber growing to switch to some other varieties. According to the Department of Agriculture and Rural Development of Binh Phuoc Province, over the past time, more than 1,800 hectares of rubber were cut down to switch to planting other crops, of which mainly 1,000ha rubber. In addition, another reason for the conversion of crops is from 1992 to 1997, rubber is encouraged to grow under the Government's afforestation project, or invested by farmers, from rubber cultivation. Partly to cover the bare hilly land and get more income from latex exploitation to improve life, but due to lack of investment capital, poor skills have made rubber trees with low productivity. In addition, many rubber areas have not yet reached the age of exploitation, but seeing that the rubber is priced many farmers have gained and pressed rubber trees for the product early, so the garden quickly exhausted.

With the current difficulties and challenges in the context of the global economy, the export market is decreasing, especially in recent years, the weather is very erratic, the rubber industry has been hidden. risks. The problem is that businesses in the rubber industry need to expand investment, improve management capacity, promote production activities to improve the quality of export products to be able to compete in the international market and the market. Create branding for Vietnam's rubber market. In the long term, the growth potential of the rubber industry is still very good, so the opportunity to invest in the industry is positive. The macroeconomic factors in the country are currently optimistic signals, controlled inflation, interest rates are tending to decrease, gasoline prices in the world are tending to increase again, the demand of other countries Consumption continues to increase. This creates favorable conditions for businesses to operate in the rubber field with sustainable development conditions.

2.2. Solutions for developing rubber trees in Binh Phuoc province

Developing rubber area in the area is the largest and most correct policy of the Resolution of the XIII Provincial Party Committee. With the goal of contributing to increasing local budget revenue, creating jobs for local labor force, contributing to ensuring the environment and national security. Rubber industry is facing some market difficulties, rubber prices have decreased due to global demand decline due to economic degradation in the period of 2011 - 2013, this is an influence that the rubber industry is full. The bridge encountered and Binh Phuoc was no exception. Rubber is a key economic crop of Binh Phuoc to bring high economic value to the country as well as create many jobs for people. The price of rubber latex continuously for more than 6 years has greatly affected the economy and makes it difficult for the lives of rubber growers. After many policies set out, the price of rubber latex is still low, the condition of cutting rubber continues, the workers of unemployed pus, rubber people are always in a state of worries about the price of latex. The author suggested that the agencies need to have more appropriate solutions to rescue rubber trees, helping the people feel secure to develop rubber trees, facilitating this important economic sector's maintenance and development of the economic sector of country.

a. Development investment orientation has a master plan

For rubber, the Department of Agriculture and Rural Development of the province directs local rubber to grow rubber and specialized units to review and adjust appropriately for sustainable rubber development. With rubber gardens developed outside the planning area or in unsuitable lands, poor garden quality, so people switch to other purposes or to other crops that are encouraged and supported by the State. aid. Depending on the conditions of each region and each place, the appropriate measures can contribute to extending the business time, increasing income and increasing the efficiency of rubber growers, especially the small rubber. The managing branches and authorities of Binh Phuoc province guide people to avoid spontaneous production investment, leading to an imbalance of crop structure.

b. Improve the quality of rubber latex

The problem of pus inputs of units in Binh Phuoc in recent years is ominous for natural rubber consumptions when coming to learn the market here. However, this situation has been significantly improved in recent times, especially from the beginning of 2018 until now all companies in the area have begun to pay more attention to the quality and volume of pus raw material. At the garden. The purchasing units must organize well the management and focus on the quality of raw pus, well manage the cleaning of latex harvesting tools according to TCCS 111: 2016 of VRG. Thereby the quality of purulent material received at the factory has been significantly improved, the input pus is cleaned in the garden. Seriously overcome the limitations and exist in the collection of clean pus. At the same time, in the processing, it is necessary to invest in essential infrastructure for processing plants to meet the requirements of the inspection team. (Phan, 2020, P5-6)

c. Expand markets

Local authorities need to create favorable conditions for the Rubber Industry Association to export markets, as well as build a stable product consumption market. The province's agricultural sector must coordinate with relevant units to build trademarks and expand market promotion. In order to develop sustainably in the future, the Binh Phuoc rubber industry needs to have effective shifting steps to restructure the supply chain, from focusing on exporting raw products, to valuable products. high and

Rubber Plant in the Social - Economic Process of Binh Phuoc Province (1997 - 2022) – Situation and Solutions

developed the domestic market. At the same time, it is necessary to collect and build a complete database, regularly update information in the supply chain and market needs. Share with stakeholders to have a basis for assessing the situation and proposing appropriate solutions for sustainable development, reducing risks. (Vuong, 2000, P.3)

d. Solution of scientific and technical progress

Currently, the labor source, especially the area of small rubber, in remote areas, has not complied with techniques. In some places, the manpower tapping rubber is also a difficult issue, difficult to attract young workers due to competition with other industries. Therefore, it is necessary to apply technical measures in the stages of care, fertilizer, exploitation to improve productivity, reduce investment costs, contribute to increasing production value through strengthening guiding people Planting, tending, tapping rubber properly. Encourage models to intercrop agricultural forestry combined with rubber trees to increase income. A number of other measures such as planting carpets, green gardens in the 1st, 2nd year have limited soil erosion, improving the fertility and increasing the quality of garden. Solutions to build drainage ditches for rubber gardens combined with multi - purpose holes have been applied over hundreds of thousands of hau ha from the Northern mountainous to the Southeast.

e. Intercropping rubber soup with other crops

Rubber has the ability to intercrop with other crops (cashews, cassava, sweet potatoes, chili ...), and combine breeding, help increase income, reduce risks when prices fluctuate and maintain multiple Biological form. In order to raise income on the unit area for workers in recent years, the model of intercropping noodles under the canopy of rubber forest in Hon Quan, Binh Long, Bu Dop, Dong Xoai brings economic efficiency, without affecting the growth of rubber development. This is a long-term effective measure because rubber trees are at least 5-6 years of industrial crops for latex. Increasing cultivation both produce income while waiting for latex for latex can use the maximum land area.

3. CONCLUSION

Binh Phuoc province has many potentials and opportunities for developing rubber trees with very favorable natural conditions (land, climate, ...) people with long -term experience planting rubber trees. Is an important basis for forming and developing the rubber tree economy in Binh Phuoc province. With the available potentials very convenient, if the province has appropriate development solutions and the interest of the relevant authorities, Binh Phuoc province will become a rubber tree economic zone. The largest in the country, bringing economic benefits to people, contributing positively to the local socio -economic development. Economic efficiency from rubber trees has changed the face of the countryside and improving the income for farmers' lives, these are practical bases to confirm the direction of continuing planting and economic development rubber tree.

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Policy Law Enforcement of Crime Sexual Violence against Children Based on Law Number 11 of 2022



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ABSTRACT: The presence of Law Number 11 of 2022 concerning Crimes Sexual Violence seeks to provide legal umbrella for existing problems, as well as manifestation Child Protection which has not been accommodated, especially in the criminal burden perpetrators of sexual crimes and the stages of efforts to recover victims due to sexual crimes they have experienced. It can be said that TPKS Law is synchronization of Child Protection Law by emphasizing sexual violence against children, through structuring stages of recovery given by children as well as in order to improve judicial process as special treatment needed by children. This research uses normative legal research methods through the approach of applicable laws and regulations and literature studies. The statutory regulation approach originates from primary data in form Law Number 35 of 2014 concerning Child Protection and Law Number 11 of 2022 concerning Sexual Crime Crimes and literature studies. The results this study will show that presence of TPKS Law has had a positive impact and new legal protection efforts for vulnerable people, especially children as victims sexual crimes.

KEYWORDS: Children, Crimes Sexual, TPKS

I. INTRODUCTION

All forms of crime must be avoided when considering a child's development in order to protect their interests. However, the reality is that there are more instances of children becoming victims of crimes, with sexual assault being the most common crime against them. It definitely poses a threat to the younger Indonesian generation over time, so effective law enforcement is required to keep an eye out for any potential criminal activity. A setback in the development of the idea that children should receive training to develop their identity in the future has been made clear by the revelation in several cases that children were used as objects of sexual stimulation by adult actors. (Aryani, 2021)

The growing number of child sexual crimes indicates that Indonesian law enforcement has not taken this issue seriously, as evidenced by the high number of child sexual crimes that occurred in 2020, which accounted for 52% of all cases, or 2700 cases. Children are the next generation that the state works to maintain their dignity, even though they need protection in order to improve the quality of the country's future generations. (Arief, 2016)

There issues of crime in general and child sexual crimes are different in that the long-term effects of sexual crimes are very serious because they cause gradual psychological and physical harm that impedes the emotional development of children who are crime victims. The existence of Law Number 17 of 2016 with weighted criminal threats and criminal consequences in the form of chemical castration, installation of electronic detection devices, rehabilitation, and public disclosure of the identity of the perpetrator for perpetrators of sexual violence, however, has provided sufficient legal tools. From the victim's perspective, it is still necessary to obtain recovery for what happened to him. (N. Hidayati, 2014)

It should be progress that the changes are solely to impose sanctions more severe punishment for perpetrators of sexual crimes against children since Law Number 23 of 2002, as amended by Law Number 35 of 2014, contained regulations protecting the interests of children. It is claimed that this law is a paradigm that is necessary to safeguard the interests of children because it explains that one of the highly prohibited acts is sexual crime. However, a new focus on regulations is required because sexual crimes affect both women and children of all ages and come in many different varieties, and the current criminal penalties have no deterrent effect. (Kusworo & Fathonah, 2022)

The persistence of sexual violence in all societal contexts is not accompanied by a community understanding of the problem; rather, it is merely perceived as an immoral crime without taking into account the harm experienced by the victim. In actuality,

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the victim experiences prolonged trauma, which inspires him to commit suicide. The complexity of the issue ultimately resulted in the adoption of a new law on April 12, 2022, known as Law Number 11 of 2022 concerning Crimes of Sexual Violence.

It is easy to see the stages that went into creating the TPKS Law, which began in 2012 and was originally known as the PKS Bill. It was eventually added to the DPR's Priority National Legislation Program (Prolegnas) in 2016, but was ultimately delayed in the ratification process until it was repealed in 2020. It will be discussed again in 2021.

Birth of the TPKS Law was based on the concerns of the government and society, especially for children, that the process of settling cases of sexual crimes did not always provide justice for the victims, plus the large number of complaints of sexual crimes which over time could not be handled because there was no firmness over the existing legal framework. so that it becomes an obstacle for law enforcement officials in exploring the appropriate context of sexual crimes. This ratification is interpreted as an important benchmark for the government to be responsible for preventing and resolving all types of sexual crimes, up to how to treat victims in order to recover from these acts as a whole. (Lathif et al., 2022)

The crime of sexual violence does not escape the criminal elements that are fulfilled at the will of the act, according to the explanation in Article 1 Point 1 of the TPKS Law, which states that all forms of sexual violence are a form of violation of human rights that eliminate human dignity and are a form of discrimination that must be avoided. By developing criminal procedures based on modern justifications, ensuring that the threat of imprisonment will be increased, and optimizing the implementation of special rehabilitation, especially for children convicted, this provision aims to reduce, if not entirely eliminate, sexual violence. The Child Protection Act, on the other hand, governs the conditions under which children whose rights have been violated by sexual crimes they have witnessed can be restored. Although the certainty of legally and sustainably granting rights has not been fully explained. According to Article 90 of Law No. 11 of 2012 Concerning the Juvenile Criminal Justice System and Article 64, Paragraph 3 of the Child Protection Act, rehabilitation for children who have been victims is implemented both outside and inside of institutions. (Sagala, 2020)

It is also stated that children have the right to receive medical legal assistance and psychosocial rehabilitation in other provisions, specifically in Law Number 13 of 2006 concerning the Protection of Witnesses and Victims. To restore the physical health of children who have been victims or witnesses, medical rehabilitation places a greater emphasis on all comprehensive treatment efforts. Additionally, the Child Protection Law has changed the way that sexual crimes are viewed by the law as a category of crimes that harm children. As a result, the punishment for committing a sexual crime is now punishable by more than just imprisonment; there are also additional repercussions that serve as a warning to future offenders.

In accordance with the law, each law enforcement agency has established a special division and its procedures to handle sexual crime cases. However, in some regions, not all divisions and procedures have this authority, and they also lack adequate facilities for handling victims. Then, based on the legal culture, it is examined to determine whether law enforcement officials have up to this point continued to adopt societal norms regarding morality and sexual violence, not even a few victims have been held accountable for the sexual violence that has occurred.

In this case, the TPKS Law aims to offer a legal framework for ongoing issues as well as a type of child protection legal reform that hasn't been taken into account, particularly in the weighting of crimes against sexual crime offenders and the stages of efforts to recover victims as a result of sexual crimes they have experienced. The TPKS Law, which emphasizes sexual violence against children, synchronizes the Child Protection Law by establishing stages of recovery for young victims of sexual crimes and by enhancing the juvenile justice system to better meet the needs of children.

The TPKS Law is not exempt from implementation issues, of course, which call for alterations and the development of a new way of thinking among law enforcement officials. On the basis of the background information provided above, a thorough discussion of the design of criminal law enforcement against crimes involving sexual violence and the difficulties associated with putting the TPKS Law into practice will be held in an effort to protect children who have been the victims of such crimes. Based on the background above, the author will analyze the construction of criminal law enforcement against crimes of sexual violence against children and the challenges of implementing the TPKS law in efforts to ensure child victims of sexual crimes

II. LITERATURE REVIEW

There is no special legal protection for victims. Criminal acts of sexual violence are broken down into two categories in the Criminal Code the crime of rape for sexual intercourse, which is governed by Article 285, and the criminal act of sexual harassment, also known as the criminal act of obscenity, which is governed by Article 289 of the Criminal Code. Law Number 12 2022 Concerning Crimes of Sexual Violence further regulates this. Sexual violence is defined as any sexual act, attempt to perform a sexual act, comment or suggest sexual behavior that is unintentional or otherwise, an act of violation to have sexual intercourse by coercion against someone. Any sexual activity that is performed forcibly on a child by an adult or on another child by a child is considered sexual violence. Child prostitution and commercial use of children in sexual activity, as well as the

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solicitation of or coercion of children into participating in sexual activity, all constitute sexual violence. either intentionally or accidentally engage in sexual behavior. Sexual violence is when someone is coerced into having sexual contact against their will. In Indonesia, there has been an increase in the number of cases of sexual violence from year to year. The community is alarmed by the complexity of this crime of sexual violence. There are significant gaps in the protection of victims of sexual violence crimes, and the Indonesian Criminal Procedure Code is the primary source used by legal professionals to apprehend sexual violence offenders. There is no special legal protection for victims. Criminal acts of sexual violence are broken down into two categories in the Criminal Code the crime of rape for sexual intercourse, which is governed by Article 285, and the criminal act of sexual harassment, also known as the criminal act of obscenity, which is governed by Article 289 of the Criminal Code. Law Number 12 2022 Concerning Crimes of Sexual Violence further regulates this.

III. RESEARCH METHODS

There focusing on relevant laws and regulations as well as conducting literature reviews, this study employs normative legal research techniques. The law number 35 of 2014 concerning child protection and law number 11 of 2022 concerning sexual crime crimes and literature studies serve as the primary sources for the statutory regulation approach. Additionally, the author employs the deductive method to analyze using a descriptive analysis approach. Secondary data from various research publications, books, journals, and other legal materials makes up the data source. The process of conducting a literature study involves finding, reading, analyzing, comprehending, and citing a variety of literature that is relevant to the topics covered in this study. This literature can take the form of applicable laws and regulations, legal texts such as books, articles, and journals, as well as jurisprudence, court decisions with lasting legal effect, and other legal materials. Data was collected through a literature review, which involved searching, reading, researching, studying, and examining a variety of literature, including relevant laws and regulations, legal books, articles, journals, jurisprudence, court decisions with lasting legal effect, and other reading materials related to the legal issues to be discussed.(Sonata, 2015)

IV. RESULT AND DISCUSSION

In essence, sexual crimes against children are a violation of human rights (HAM). Children should be treated with respect so that they can live decent lives, based on the fundamental rights that God Almighty bestows upon them before and at the time of birth. Children will receive legal protection for children who are perpetrators or victims of criminal acts so that every aspect of their life is guaranteed, as stated in the Convention on the Rights of the Child (KHA) that children are categorized as not yet reaching the age of 18, that is, if they are still included in this scope. Because their identity and strength have not yet developed into those of adults, children at this age often have the potential to become victims and are therefore more vulnerable to becoming the victims of sexual crimes. They lack a strong enough mind to refuse invitations from sexual offenders and are therefore very easily persuaded by others. This starts with sexual deviations by perpetrators, known as pedophiles and opportunists. Opportunists tend to be more inclined towards adults who have a desire for both, specifically towards minors due to the opportunity, as well as have a desire for adults as a desire for sexual orientation in general.(Sari et al., 2022)

Law Number 11 of 2022 Concerning Crimes of Sexual Violence, which, if examined in the politics of criminal law policy, will improve all sub-systems in the criminal law system, is currently the embodiment of the renewal of law enforcement on sexual violence. Because systematic flaws in earlier law enforcement were discovered when it was examined in light of the legal system, resulting in less than ideal law enforcement implementation. Therefore, through the ratification of the TPKS Law, reforms that focus on the legal sub-system that consists of legal substance, legal structure, and legal culture are urgently required.(Zulfiko, 2022)

If we examine law enforcement factors starting with legal considerations, law enforcement personnel, facilities and amenities, society, and culture, it should be obvious that it needs to get monitoring, renewal, and evaluation in tandem with the dynamics of the times. It is necessary to rebuild or create new laws that focus on sexual crimes due to legal considerations, especially given how these crimes are perceived in society. If we examine criminal law policies more closely, the TPKS Law is one method of resolving issues with law enforcement. A criminal policy is intended to be a comprehensive function of the law enforcement apparatus, including the mechanisms of the police and courts, according to Prof. Sudarto's definition of the term in his definition of the legal substance of the TPKS Law.(Mokalu, 2022)

If we look more closely at the academic text of the TPKS Law, it becomes clear that one of its four main points of protection, which is for children, is a shift in the way the state and society view sexual crimes committed by children as a category. Sexual violence is seen as a type of crime that can be prevented by identifying the root cause of the issue, such as the gap in the position of children of the female sex as one of the vulnerable groups who are more subordinate than man, which is seen as a form of crime that is dangerous against children and even eliminates the dignity of the child in the future. In the fundamental

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paradigm, the state also accepts the exact opposite, namely that children and adults have equal rights and even require special consideration.

The TPKS Law combines both criminal and civil sanctions. TPKS is dealt with through criminal means. This entails that the nine different types of TPKS as well as a number of criminal acts have been made illegal. Criminalization is the action or determination of the authorities with regard to certain actions that are perceived by the community or groups of people as an act that can be punished as a criminal act (criminal act/ delict) or transforms an action into a criminal act so that it can be punished by the government.

Although if we look at sexual crimes it turns out that it can happen to anyone without exception to children and women who have a greater potential to become victims of sexual crimes, this provision is only intended for children as victims of sexual exploitation. Regarding the area of law enforcement, substance, structure, and legal culture are the three main considerations that must be made in order to comprehend children as victims of sexual crimes. In Indonesia, there is currently no comprehensive legal framework that governs various forms of sexual violence, making children's victims of violence and discrimination unprotected from all of its ramifications. Even though the Child Protection Act and other implementing regulations exist, they still only apply to crimes against children that are sexual in nature. (Rahayu, 2021)

In order to prosecute any type of sexual crime and ultimately uphold the victims' rights, a shift in legal thinking regarding how to position the various types of sexual crimes is based on an assessment of the experiences of child victims. The legal system has also changed, with the creation of a special procedural law that aims to give women and children more flexibility in accessing the justice system. Building a legal foundation for legal politics that results in sexual abuse of children. (Moeljatno, 2009)

In fact, if we look at the laws that are currently in place, there are already legal provisions in the Criminal Code and Criminal Procedure Code, as well as specifically in Law No. 13 of 2006 concerning the Protection of Witnesses and Victims, which has been amended by Law No. 31 of 2014. Children's rights must be upheld through assistance from institutions like the Witness and Victim Protection Agency (LPSK) or other authorities in order to give them a sense of security, according to the definition of protection for children in the law currently in effect. However, the existence of the TPKS Law only serves to protect victims of sexual crimes in response to an uptick in cases from year to year, giving victims the impression that they have received adequate care and can obtain justice in the form of assistance and recovery for themselves. In addition, every law enforcement agency has a legal structure that frequently puts young women in awkward situations. For example, when reporting sexual crimes, victims are not asked about the crime itself but rather what clothing was worn, where the incident occurred, when it occurred, and how long it took the offender to leave his house. This question, which causes victims to be re-victimized, needs to be changed so that kids receive special treatment right away during the examination stage. (N. A. Hidayati, 2022)

The TPKS Law is a *lex specialis* from other TPKS legislation because it is a specialization of norms in looking at sexual violence. The formulation's implementation will center on national legal politics that are modified within the context of achieving national ideals, none other than ensuring the security and social welfare of those who are most at risk of becoming sexual violence victims, particularly children. Integrated Criminal Justice System for Handling Cases of Violence Against Women is a new step in the criminal justice system's structuring that is made possible by the TPKS Law (SPPT-PKKTP). In accordance with the TPKS Law, this system will subsequently develop into a specialty that links parties or agencies with the authority to handle cases of sexual crime by prioritizing convenience and victim accessibility, so that the mechanism can provide justice by limiting meetings with law enforcement officials so that it can be more effective, and avoid all forms of violence back in the system. (Ardianoor, 2020)

In fact, the TPKS Law's implementation will run into some extremely complex issues when it comes to enforcing criminal law. If it turns out that the factors causing sexual crimes are outside the purview of the criminal justice system, then criminal law is essentially a sub-system of all aspects of social control that cannot be complexly resolved crime problems that lead to on socio-psychological, socio-political, and so forth. This limitation of criminal law is a means of policy itself. Criminal law then emphasizes only that crimes will be treated symptomatically and not causally in its application. Criminal penalties also place more emphasis on the *ultimum remedium* principle, which is interpreted as a paradox that has an adverse effect on the offender.

It will be carried out integrally by tending to use non-penal means, namely looking at the initial factors that cause these problems in order to prevent them as early as possible, in order to overcome the limitations of criminal law that reflect its characteristics. The use of non-penal measures that result in forms of prevention will serve as a way to deal with the facilitation of crime brought on by particular factors. (Nurisman, 2022)

It is a challenge for the government to be able to harmonize the substance of law with the development of the existing legal culture; instead, the government should have taken an informal approach to society. Later, this form of prevention will be focused on the development of social, economic, and various public policies that support optimizing the implementation of the TPKS Law, especially regarding changes in legal culture. The rights of children who have been sexually abused will be upheld, including the right to community protection in addition to legal protection in the criminal justice system. (Wafiuddin, 2022)

V. CONCLUSIONS

The TPKS Law's ratification will undoubtedly have a positive effect on society, especially for young people who have been sexually assaulted and will now be protected by the law, giving them more courage to speak up and report these crimes to service organizations and law enforcement. This type of bravery is simply a manifestation of already-implemented legal and policy changes, which show that our infrastructure is getting better at protecting children who are victims as well as basic human rights. Not to be overlooked is the fact that all the elements of this law will give victims and their families a sense of security as victims or witnesses of sexual crimes. One of the factors that increases the courage and capability of the community to report cases of sexual violence they experience is the availability of legal systems, policies, and services that are safe, comfortable, and have a victim's perspective and human rights.

The TPKS Law was created with the goal of enhancing the current criminal justice system's tools for carrying out law enforcement against the widespread TPKS. Of course, if we look at it closely, it will cover every aspect of dealing with criminal acts of sexual violence, from attempts to stop them to handling victims' recovery efforts. This is a good law enforcement reform that also helps the community gain a comprehensive understanding of the TPKS and, at last, mobilizes action for prevention and special protection for children. It is hoped that as the younger generation in the future, the quality of children will be guaranteed.

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Evaluating the Perennial Flooding on the White Volta River and the Bagre Dam Spillage on Agricultural Activities in the Sudan Savanna in the Upper East Region, Ghana



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ABSTRACT: Ensuring food security and the reduction of poverty has become a major challenge for sub-Saharan African countries especially among subsistent farmers. Subsistent households depend on the yield obtained from the farm for their survival and economic development. However, the nature and impact of the floods have increased in frequency and intensity especially in recent years which have affected food production. It is against this background that this study was undertaken to evaluate the perennial flooding the White Volta River and the Bagre Dam spillage on agricultural activities in the Sudan Savanna in the Upper East Region of Ghana. The mixed method design was employed for the study which obtained information on both qualitative and quantitative data about the issue under investigation. A total of 200 subsistent farmers households were randomly sampled for the data collections. The primary data was collected using questionnaires, interviews, focus group discussions, field observation and photography. The secondary data was obtained from NADMO and MOFA directorates on the destruction of farms and crops yields respectively.

The findings show that the study areas experience floods every year. The floods usually occur around August and September when rainfall is in torrential coupled with the spillage of the Bagre dam. The flooding has resulted in the declined in food production among subsistent farmers. As a result of this, households in Galaka, Salipiga, Yarigu, Binduri and Sapkare were food insecure. This situation (food insecurity) has led to households engaging in others activities in ensuring food security. The study recommend that there should be close engagement between authorities in Ghana and that of Burkina Faso so that the latter country can provide exact time for the spillage of the dam. Information on the dam spillage beforehand will help farmers in the affected communities to adequately prepare, including early harvesting to reduce the amount of farm produce lost to floods.

KEYWORDS: Flooding Bagre dam torrential subsistent farming food security

INTRODUCTION

Sustaining food security at the global and household levels has been identified as a major challenge for many nations more especially developing countries. The Food and Agriculture Organization (2012) estimated that between the periods of 2010-2012, about 870 million people were identified to be undernourished. The figure represented 12.5% of the total global population. Majority of these people (852 million) were found to be in developing countries. In sub-Saharan Africa, the issue of food insecurity and malnourishment have increased since 1992 and it is estimated that by the year 2030, the region will be a home to about 30 percent malnourished people (FAO, 2010).

In Ghana, the reduction of poverty and the achievement of sustainable food security are major challenges facing the country (Devereux & Maxwell 2001; Challinor et al. 2007). The country has in past years experienced intermittent food insecurity. For instance, in 1981, Ghana was among twenty four countries in sub-Saharan African that were facing critical food security as a result of drought and flood and were in dying need of food aid (McCarthy 1986). According to Quaye (2008) households could not access food in adequate quantities which were sufficiently and safe for a healthy life.

Although the country has witnessed a drastic decreased in food insecurity, hunger and starvation continues to persist more especially in the northern part of the country due to unstable crops production, low income and poor yields as a result of annual floods (FAO 2010). Recent studies in the region have revealed changes in temperatures are expected to increase by the year 2030

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(McSweeney et al. 2010; Van de Giesen 2010; CDKN 2014). This will lead to increase in annual floods which poses a potential threat to food security in the area (Laube et al. 2012).

Almost, all agricultural activities in this part of the country are rainfed (Tuor, 2017). With the rise in temperatures and its related weather extremes such as the occurrence of floods, the influence of this on crops production and yields are projected to be severely affected. The consequences of this on household food security is expected to be under threat since about 55 percent of the population directly depend on agriculture for their source of livelihoods and contributes about 39 percent to the Gross Domestic Product (GDP) (Ghana Statistical Service 2012; MOFA 2015).

Food production in this area is projected to depend more on climate than it was 200 years ago (FAO, 2017). This increased in climate variability will expose farmers to the risk of frequent flooding and this will lead to crops failures (Andreini *et al.* 2000; Laube, Leemhuis & Amisigo 2008). Thus, the possible effects of floods on crops production need to be given more attention since this phenomenon can jeopardize the food security in the area (FAO 2008).

The Bawku West and Binduri Districts are located in the Sudan Savannah Ecological zone. Their locations make them prone to multiple hazards (Yiran & Stringer, 2016) of which flood is a major issue. The main causes of the flooding is torrential rainfall leading to the White Volta overflowing its banks and also the spillage of excess water on the Bagre reservoir upstream of the river (Forkuo, 2011) which normally coincides with the period of heavy rains. Flood occurrence and destructions has become an annual event in the district responsible for on farm and post-harvest damage threatening food security in the area. For instance, within five-year period (2007 – 2012), the district was struck by four major and several minor flood events (Musah et al., 2013) with farm lands destroyed and tender crops submerged in water. The Ministry of Food and Agriculture (MOFA) assessment of the 2007 flood in the district revealed that about 30,500 hectares of farm lands were destroyed, leading to an estimated yield loss of about 144,000 metric tonnes of food crops (Musah et al, 2013). This resulted in acute food shortage in the affected communities making them vulnerable to food insecurity (Frederick, et al. 2010).

It has been established that present and successive governments have been assisting affected households with relief items and shelter (Sidibe, Williams & Kolavalli, 2016) but this usually take the form of blankets, buckets, mattresses which have no correlation with their food security. In instances where food items are provided, it cannot make up for what is already lost to the flood (Braun, 2008; UN; 2011). According to Schraven (2010) the food items provided are not adequate to sustain the affected families thus, endangering the food security in the area.

Despite the high impact of flooding on the food security in the area, several studies in the zone (Blench, 2007; Frederick et al., 2010; Musah et al, 2013; Sebastian, 2014; Sidibe et al, 2016) have been interested in investigating the impact of the flood on the environment, ecosystem and livelihood changes of the people. These research tend to neglect the issue of food security which is essentially the backbone of every household survival and the achievement of Sustainable Development Goal 2 of ending hunger. Research which tends to include food security are skewed to drought studies on food security. More studies need to be conducted to ascertain how torrential rainfall couple with the annual Bagre dam spillage resulting in flooding is affecting food security in the area. Also, there is the need to understand the coping strategies of the households toward ensuring food security as about 70% of the population source of livelihood depends on the produce from the farm (Debile et al., 2016). This study fills the knowledge gap by investigating the impact of the flood on food security in the Bawku West District in the hope of realizing the United Nation SDGs goal 1 and 2 of reducing poverty and ending hunger by the year 2030.

METHODOLOGY

Research design

The study adopted the mixed method approach since it has been widely used in recent time was adopted for the study (Tashakkori & Teddlie, 2010). Although the mixed method has its own differences in epistemological background, the approach is scientific and good for its applicability in different spheres of human livelihoods like food security (Bryman, 2001). For instance, the mixed method approach was used by Acquah to analyze the 2015, June 3rd Twin-Disaster in Accra, Ghana in which he said using the mixed method approach in a single study provides an in-depth information in order to arrive at a reliable and a valid conclusion (Acquah, 2017). The quantitative approach which uses research instruments like the survey was applied in collecting data about the levels of households' food security and their adaptive strategies applied during period of food insecurity. On the other hand, the qualitative approach which uses research instruments such as interview and focus group discussion were applied in collecting data concerning the causes, period and duration of the flood. Also, the farming practices adapted by farmers to ensure food security and their level of sustainability were equally explored.

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Sampling

The non-probability sampling (purposive sampling) technique was employed to select the communities which engage in farming activities along the White Volta basin. They were purposively sampled because of their high level of susceptibility to the annual floods and the level of damage usually caused by the flood to their farm lands and animals. Table 1 shows the communities selected for the study in the two district.

Table 1. Communities selected for the study in the two district

S/N	District	Community	Sample size
1	Bawku West District	Salipiga	41
		Yarigu	38
		Galaka	39
2	Binduri District	Binduri	45
		Sakpari	37

Source: Field work (2019)

A total of 200 households were selected for the study using simple random sampling as shown in Table 1 above. Armah et al (2010) have revealed that for effective research to be conducted in the social science field, the sample size should be representative enough to ensure effective interaction and also easy handling of the data. The simple random sampling was use because it eliminates biases and brings about generalization.

An in-depth interview was conducted as part of the data collection with District NADMO coordinators in both districts on how the flood is affecting food security, and effectiveness of the assistance from NADMO in ensuring food safety. Also, MOFA directors in the districts were equally interviewed to ascertain how the flood is affecting farming activities in the districts and the effectiveness of the relief items provided by NADMO.

Five focus group discussion were organized in the study communities with each focus group comprises of 6 to 8 participants for effective discussion on issues of flooding and food insecurity. This number is recommended by Bryman (2004) for effective discussion. The purpose of the Focus Group Discussion was to interact with the participants and obtained information that were not made available in the survey.

Data analysis

The data was analyzed qualitatively and quantitatively and integrated to suit the purpose of the study. In analyzing qualitative data, Bond (2006) provides a three-way stages which is; data description, classification and connection and this was followed in analyzing the data obtained using the qualitative research instruments.

The in-depth interviews and focus groups discussions were transcribed into English. Also, observation notes were recorded in the form of a research diary. The data was then sift and sorted into meaningful classification as revealed by Bond (2006). A coding system was developed for the data. After the coding was done, the data was put into themes in relation to the issue under investigation. Observational notes were also coded and put into themes.

The data obtained from the questionnaires administered to the household respondents about the impact of the flood on food security was cleaned to correct the few mistakes which were discovered when the questionnaire were being filled. After the cleansing of the data, it was coded and put into Statistical Package for Service Solution (SPSS) version 21. It was then analysis to create a percentage of the responses and produced a descriptive image about the data acquired on the themes. The information was then presented in frequency tables, graphs etc.

RESULTS AND DISCUSSIONS

This section presents results and discussions of the study. The first part of the section presents trend on flooding including the spatial coverage and temporal dynamics of the floods situation. The subsequent section presents information on the impact of flooding on food production and the coping mechanisms of household in dealing with floods.

Rainfall patterns and its linkage with floods in the study communities

Flooding is largely caused by hydrological factors, albeit exacerbated by human induced factors. In ascertaining the trends in flooding in the study communities, information was obtained from NADMO office about the flooding situation in the area. Also, rainfall data over the period of 2007 to 2018 was obtain to corroborate the information provided by NADMO. The rainfall data as

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shown in Table 1 indicate that the lowest average rainfall is reported in October, with the average of this month over the twelve year period being 51mm. The months that reported the highest rainfall were July and August with the average for these two months for the twelve year period being 205mm and 255mm respectively.

Table 1. Rainfall data from 2007 to 2018

YR	MAY	JUN	JUL	AGU	SEPT	OCT	Average
2018	117.1	94.2	284.5	305.6	117.5	55.8	162.45
2017	179.1	177.8	260.6	259	81.2	32.8	165.0833
2016	97.1	112.2	354.9	148.9	153.2	10	146.05
2015	61.3	95	102.6	283.7	239.8	49.7	138.6833
2014	50.7	71.6	112.2	69.1	193.5	23.2	86.71667
2013	130.2	38.7	133.4	268.3	82	98.6	125.2
2012	154.4	79.3	241.9	128.8	235.1	47.7	147.8667
2011	194.4	147.8	120.4	414.1	142.3	13.9	172.15
2010	154.1	145.2	157	305.5	170.3	133.6	177.6167
2009	70.7	176.7	124.4	234	177.2	72.6	142.6
2008	31.9	120.8	288.1	248.2	169.6	64.2	153.8
2007	92	138.5	284.7	406.4	113.5	13.7	174.8
AVE	111.0833	116.4833	205.3917	255.9667	156.2667	51.31667	149.4181

Source: Meteorological Service Department (Manga, 2019)

On an annual basis, the records shows that 2010, 2007 and 2017 were years within the twelve months (2007-2018) that experienced the highest rainfall. The lowest rainfall average for a wet season was 2014. More important to these figures is how these rainfall averages translate to flooding, given that rainfall pattern is the major factor known to cause floods. During the interviews with farmers, it was revealed that floods did occur from the beginning of the wet season to the end of the wet season. It was revealed that the floods were more pronounced in places found to be closer to the White Volta.

Further, farmers and key informants interviewed indicated that there were variations in terms of the intensity of the floods for the various months in the wet set season. They mentioned that floods were pronounced from July to October. The floods experienced during July and August is not surprising given that it is the period when rains are heavy as shown in table 1. The floods experienced during October is of great interest here, especially when it is a period when rainfall is less (see Table 1). Explanation for this according to informants was that sometimes, the Bagre dam is spilled during this period and thus accounted for the floods during this period. Further evidence and explanation is provided in the subsequent sections of this chapter.

Flood occurrence

Discussions with officials from NADMO departments in the two districts indicated that the occurrence of the flood were` an annual phenomena and there was no year without its occurrence. What was however different between now and that of the time before the construction of the Bagre dam is the frequency of its occurrence. Results in figure 1 indicates, a significant number of the respondents were of the opinion that in the past (i.e. before the construction of the dam), even though the floods did occur, it was not as frequent as it is now. Further, in-depth interviews with farmers indicate that flooding has been a challenge that the communities have had to battle with over the years with the intensity varying in accordance with the rainfall within the period, a point which is in synch with a study by Yiran et al. (2016). More important to this point was the worsening of the situation due to the spillage of the Bagre dam which has made the floods a more regular and destructive event.

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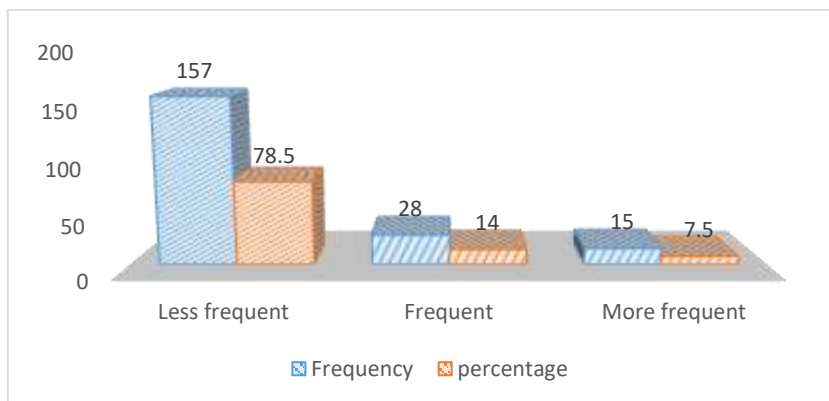


Figure 1: Frequency of floods before the construction of the dam

Source: Field work (2019)

In addition to the above, it was noted that the annual occurrence of floods had traditional significance as it signified a period that farmers could harvest their crops. This point is noted in one of the responses given by an informant at Sakpari who has lived almost all his life in the community noted that *“the flood used to come towards the end of the season to symbolize that the farming period has come to an end and we will say that the water is looking for its eggs”*. (73 years old man at Sakpari)

A key issue that this quote raises and which further buttresses the point about the impact of the Bagre dam is the point that, flooding was a predictable phenomenon, especially when the communities have lived through this problem and were aware of not just the time but the potency of the flood problem. The additional problem brought by the Bagre dam and its spillage is that it has increased the volume of the floods, and has also made it more regular. This confirm Musah et al (2013) assertion that floods in the northern part of Ghana has increase in magnitude and frequency.

Spatial coverage and duration of the flooding

From the five communities visited, it was indicated that, the extent of the flooding and its duration has increase as compared to the past years. According to the participants, this is making farming unattractive and life unbearable for them. It was stated that before the construction of the Bagre dam, the floods used to occur within the banks of the river and its valleys which lasted for not more than 24 hours. Participants interviewed explained that, those who used to have their crop destroyed were people who farm in the waterway as well as those who planted late. In recent years, things have change with the construction of the Bagre dam couple with other factors like inappropriate farming practices.

Table 2, shows that most of respondents opined that flood waters have gone beyond the banks of the river stretching more than 1km away. The result thus give credence to the fact that overflow of river bank undoubtedly is a major cause of floods with the spatial coverage increasing with time. The above findings is further corroborated by the qualitative fieldwork were informants shared their perspective on the increasing areal coverage of the floods. An informant during the FGD discussion at Salipiga opine that:-

“This time round, we cannot tell where the water will get to. Whether you are farming on a hill or a valley, when the Bagre dam is spilled, no one is safe. Sometimes, we don’t even think about the crop again but our own lives. We sleep in turns so that, we can keep watch because we do not know when the water will get to our houses”

This findings is in synch with the Derbile et al (2016) report which stated that, the erratic rainfall in the Northern Ghana in recent years coupled with the spillage of the Bagre dam has increase the floods situations which is affecting agricultural activities in the area.

Table 4.3 Extent of the coverage of the flood in recent years

Distance of flood from the river	Frequency	Percentage
500m from the river	10	5%
800m from the river	1	0.5%
1k from the river	86	43%
Above 1km from the river	103	51.5%

Source: (Field survey, 2019)

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Due to the extent of the coverage of the flood, the end result is usually the increase in the number of days taken by the flood to recede as shown in table 2. The increase in the number of days of the flood consequently leads to the destruction of farm lands which have the potential to cause food insecurity. During such period, farmlands which are submerged in water are either washed away or rotten. This phenomenon according to the respondents is alien to past year's record of floods history in the communities, and it is as a result of the Bagre dam spillage and indiscriminate human activities along the banks of the river.

Table 2. Showing duration of the flood

Period of flood	Frequency	Percentage
10 days	13	6.5%
15 days	139	69.5%
More than 15 days	48	24%

Source: Field survey (2019)

Factors that trigger flooding in the study communities

Floods are very common in the rainy season as the factors that usually trigger its occurrence are prevalent during such period (Wurtermberger et al, 2011). The factors that causes flooding varies from one place to another. In the Northern part of Ghana, heavy rainfall coupled with the spillage of the Bagre dam have been identified as the main causes of flooding in the area (see Forkuo, 2011). Analyses of the data on this phenomenon was done based on respondents' perception about the factors that causes floods among these communities along the White Volta River. From the findings of the study, the causes of floods in the communities were grouped into two base on the perception of the respondents. These were identified as natural causes and human induced causes.

Anthropogenic factors

Human factors were cited as another causes of flooding in the area especially in recent years. From the findings, the respondents were of the view that, the construction of the Bagre dam and its subsequent annual spillage is the reason for the increase in the intensity of the floods. As shown in table 3, most of the respondents in the communities visited opine that, since the annual spillage of the Bagre began, there is no year that the floods would not occur in greater magnitude and intensity. They bemoaned that, since the Bagre dam spillage started, they have never had any meaningful harvest that would sustain them for a year especially during years when rainfall is in torrential. Their views were corroborated by newspapers title such as '*Bagre dam spillage: Lives under threat in the North*' (Graphic online, September, 09, 2018), and '*Another Bagre dam spillage: Villagers flee, farms flattened*' (Ghanaian Times, September, 04, 2018).

Table 3. Multiples response on factors that trigger flooding the study communities

Factors that trigger floods	Frequency	Percentage
Increase in heavy rainfall	7	3.5
Increase in the spillage of the Bagre dam	180	90
Increase in human activities in the river bank	13	6.5

Source: Field survey (2019)

In focus group discussion in Binduri, the assemblyman explained that, the worst spillage of the dam and its consequent destruction of their farmlands were recorded in the year 2007, 2009, 2014 and 2015 flood. The participants indicated that, the 2007 flood disaster was so severe that, communities which were affected accused the government by then (His Excellency John Agyekum Kuffour administration) of taking bribe and allowing Burkina Faso government to destroy their foodstuffs by spilling the dam. This issue was also raised by Amuquandoh (2016) in his findings on the effect of the annual Bagre dam spillage on Ghana-Burkina Faso relationship. This research could not interrogate further to ascertain how the continuous spillage could possibly affect the peace and security between the two countries due to limited time. This, therefore, calls for research in that regards.

As indicated in table 3, human activities within the catchment area of the river was identified as one of the causes of flooding in the area in recent years. This act has contributed to the occurrence of the flood. During an in-depth interview with 78 years old man, he bemoaned the growing rate of indiscriminate farming and clearing of the vegetation on the banks of the river which were not the practice in past year (see Fig 2). During the field visit and observations, farmland were seen situated very close to the

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banks of the river (see Fig 2.). In almost all the communities visited, the vegetation on the banks of the river which serve as flood protections were indiscriminately destroyed. A respondent explained that, in the past, the banks of the river were covered with trees and creeping plants which made it difficult to identify that there is a river flowing unless you get. He stressed forcefully in a quote that *“in the past, there were certain places in the river side that we don’t farm because such areas were considered the dwelling places of the river gods. However, all these places have been cleared with the assumption that those places are fertile and promotes good yield”*

The buffer zone which serves as a limit with regards to human activities in the catchment area of the river was ignored (see Fig 2.). In an interview with the NADMO Coordinators in both districts, they indicated that, a buffer of 1000m around the river has been designated which forbid any form of farming activities within this zone. However, this was ignored as farmlands were seen in the buffer zone. Because of these inappropriate farming activities both in the dry and rainy season, it has resulted in massive erosion on the banks of the river leading to siltation of the river. This has made the river shallow thereby reducing the volume of water that it can contain. This confirm the issues raised by Agyemang (2013) and Osei (2013) in the conceptual framework on how these indiscriminate environmental practices can contribute to flooding along river channels.



Fig 2. Nature of human activities on the river

Source: Field work (2019)

Sources of food for individual households in the study communities

Food production is one of the important component in assessing food availability for individual households (WHO, 2010). According to the UN (2014), developing countries depend primarily on small scale farming as their main source of food supply. This was the case among all the communities visited. The respondents were of the view that, subsistent farming is their main source of livelihood activity.

As shown in table 4, almost all the respondents indicated that, they obtained their food from the farm. They explained that, this was their main source of food supply. During the FGD, a respondent espoused that his household members in recent years have to resort to purchasing food from market in order to survive.

Table 4. Source of food supply for household

Source of food supply	Frequency	Percentage
From the farm	180	90.0%
Purchase from the market	15	7.5%
Food aid from government	5	2.5%

Source: Field survey (2019)

Those who access food from the market (see table 4) complained that whenever they experienced flood, they are not always able to purchase food from the market because of higher prices and limited resources to purchase the food stuff. This is consistent with Boussard et al. (2006) which states that, individuals are food insecure when they lack the resources to access food from the market. This revelation is also supported by Kuwornu et al’s (2011) assertion that, households’ inability to purchase food is likely to lead them into poverty. From the findings of the study, it can be stated that, the survival of the people in these communities

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depend on the produce obtained from the farms with little or ability to purchase food from the market. This mean that, the annual destruction of the farmlands by the flood has the potential to affect food security in the area.

Levels of destructions of the flood on farmlands

The levels of destruction caused by the flood was examine to ascertain the gravity of the issue under investigation. Respondents were unanimous in terms of the increasing destruction of farmlands by flood waters, and expressed worries that it had consequential impact on food supply for their families. Documents from the NADMO offices in both districts provided additional information to support the claims made by the respondents with regards to destruction of farmlands. The information as provided by NADMO provides details information with regard to the number of acres/hectares of farm land destroyed by the flood.

As indicated from fig 3, it was observed that among all the years reported incidence of flood impact on agricultural activities. However, the destructive year was 2007. Indeed the 2007 flood incidence was so serious that the government declared a state of emergency and had to quickly call for food support from international organizations and NGOs (see Amuquandoh, 2016; Atubiga and Donkor, 2022). Because of the severity of the impact, the year was memorable in the minds of the people as many respondents were found mentioning it during the survey and the FGD. The trend on the destructions of floods indicate that the numbers of farmlands destroyed by the floods over the years has reduced after 2007 with trends remaining the same until 2015 when the number of lands destroyed began to increase again.

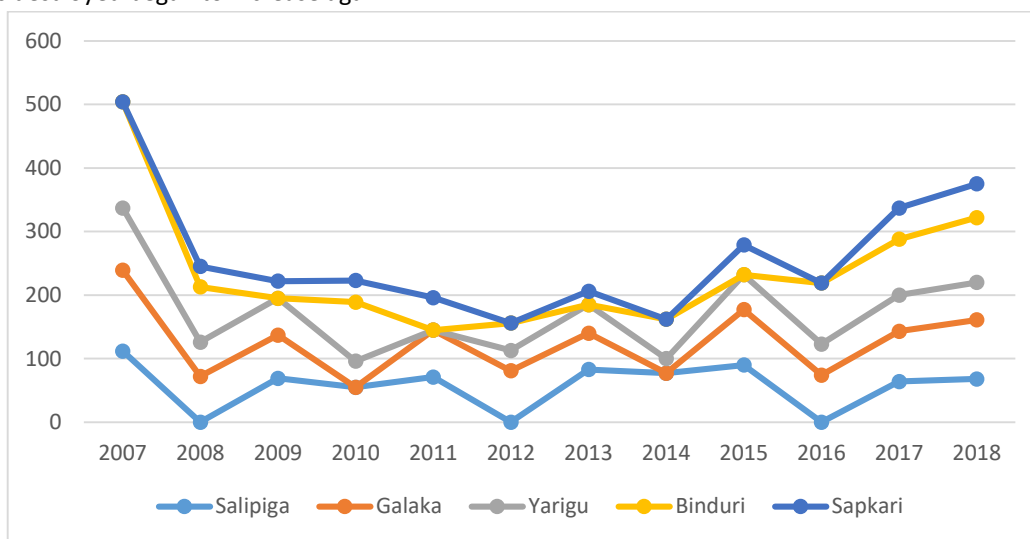


Fig 3. Years of flood occurrence and number of acres destroyed

Source: NADMO Office (2019)

Discussions with participants during the focus discussions indicate that the mode of destruction of the farmlands by the floods come in different forms. Firstly, during the occurrence of the floods, some crop are always completely submerged in the water. When this happen, the plants would not be able to survive especially when it takes a long time before the water recede (see Fig 4). This confirms Musah et al (2013) assertion that major floods usually result in the washing away of crop or submergence of farmlands.

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Fig 4.(a) Farmland before the flood (b) Farmland during flood
Source: Fieldwork (2019)

The second mode of destruction takes the form of complete washing away of the crop. According to the informants, this happens when the crop are still young or ready for harvesting (see Fig 5). In most of the communities visited especially in Yarigu, farmers after harvesting the early maize in the months of July and August would clear the land again and plant crop such as soya beans, beans, groundnuts and tobacco. When the floods occur, these crop are washed away because, at that time, they will either still be in the germination stage or have not developed enough roots to withstand the flood waters. This explanation resonates with WaterAid (2007) and Frederick et al (2010) findings on how farm lands are usually washed away during floods event in the Northern part of the country. In an interview with a farmer who only farm around the river with no other farmlands elsewhere to support his family members laments that: *“when I plant the early maize and harvest them, I sell some and use that money to clear the land to plant beans, groundnuts and soya beans. My households will depend on the maize until these crops are ready in December and we sell them to buy additional maize to supplement us until the next rainy season. But when these crops are destroyed, my households usually suffer food shortage”*



Fig 5. Farmland washed away by flood
Source: Field work (2019)

The third mode of destructions by the flood as identified by informants involve causing the food crop to rot. From all the communities visited, the respondents explained that, when matured crops are submerged in the flood water for some number of

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days, they will get rotten (see Fig 6). This information was complimented by the regular visit to the affected farms. It was observed that, the flood normally come at a time when most of the cereal crop are ready for harvesting. When they are submerged for the duration of the flood period, they normally get rotten (see Fig 6). It was noted from an informant that after the flood, such food stuff cannot be used for anything apart from feeding animals and fowls. Again, this assertion is in consonant with Frederick et al (2010) findings on the amount of food items loss every year to flood.



Fig 6. Rotten crop after flood

Source: Fieldwork (2019)

Food production and flooding

From the findings, it was observed that various types of crop were lost every year due to flood. Majority of the respondents were of the view that, since the construction of the Bagre dam, the quantity of foodstuffs that they used to obtain from their farms have decrease drastically. It was indicated that the number of bags an acre of land could produce cannot be said of the same in recent years. A discussant in one of the focus discussion bemoaned the increasing rate of loss of production which is affecting his ability to take care of his household members. This confirms Akudugu et al (2011) view that, the northern part of the country particularly the upper east region has over the years' lost significant amount of food stuff to flood.

The Ministry of Food and Agriculture Director at the Bawku West during an interview indicated that, despite the interventions made by governments in the agricultural sector in the area, food production is still a problem due to the decline in crop yields resulting from decrease in soil fertility and the annual floods. He indicated that, in 2018 alone, the floods destroyed a total of 796 hectares of farmlands of various food crops in the Bawku West District while the Binduri District recorded 923 hectares. With the decline in soil fertility result continuous tilling of the land both in the dry season and rainy season was identified as the main cause. The issue of decline in soil fertility was also raised by AGRA (2013) and Yiran and Stringer (2016) reports on the reduction in crop production in these areas due to insufficient soil fertility as a result of continuous farming.

Households coping strategies

Coping strategies are usually adopted by households during emergencies to lessen the negative effect of a bad or catastrophic events like food insecurity on their lives (Rose, 2008). These strategies might vary among individual households, and also communities based on cultural and societal values. Nonetheless, the overriding aim of every coping strategy is to reduce the impact of a negative event on individual families and communities. Various coping strategies were adopted by the households in the study communities to respond food insecurity challenges in the area.

From the communities visited, majority of the respondents were of the view that, they are not always able to consume all the produce obtained from the farms during flood free years. This is due to the bumper harvest that they usually get. Many of the respondents indicated that the remaining food stuff are sold in the market to purchase animals (see table 5). These animals are sold in time of need to purchase food. Others stated that the rest are stored for the next season in case there is a decline in production due to the flood. The challenge they face with regard to the storage according to them is pest and insects which usually destroy the foodstuff.

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Table 5. Various response on the method of consuming the remain food stuff

Mode of consumptions	Frequency	Percentage
Sell them	111	55.5%
Borrow them to friends	43	21.5%
Store them for next season	46	23.0%

Source: Field survey (2019)

Alternative source of livelihoods and its sustainability

The issue of alternative source of livelihoods and sustainability was necessary due to the gravity of the destruction of farmlands by the flood as was observed during the analysis process and field observation. During the analysis, many households were found to engage in some agricultural activities in one way or the other that would ensure food security.

Dry season farming was identified as an alternative activity in which the respondents engaged in to survive during the lean season. In all the communities visited, the informants indicated that, they engage in dry season farming to feed their households since their crop are usually destroyed by the floods in the rainy season. Different types of crop were cultivated such as onions, groundnuts, garden eggs, green pepper, and cabbage. These crop are sold and the proceeds are used to purchase food. This activity also has its own challenges as the respondents complained that they do not have enough resources to engage in large scale farming. A 57 year old man a focus discussion in Galaka lamented that:-*"we do not have money to buy water pumping machines to irrigate the crop in the dry season. This has made it difficult for us to engage in large scale farming.* Also, some women were also into other livelihood activities to support the household heads to feed the family. Some of the include pito brewing, rice processing and dawadawa making. They noted that the profit made are used to purchase food to feed their family members. The pito brewers complained that, with the emergence of the floods and the decline in the cultivation of guinea corn and sorghum, their businesses are at the verge of collapsing since they do not have resources to travel to Burkina Faso to buy guinea corn for the preparation of the pito. The same thing was said by those who engaged in rice processing.

The issue of obtaining assistance from government and other agencies during the flood event was also explored. As shown in table 6, majority of the respondents stated that, sometimes, the items that are given to them are woefully inadequate as compare to what is loss to the flood. A respondent retorted that, the items usually given to them have no correlation with their food items loss to the flood. He asked the rhetorical question "how can I survive with blankets, plastic buckets, and mattresses when I have lost all crop? From the discussion, it was noted that, in most cases the items are given to the ruling government faithful to the detriment of the majority of the people who have had their farmlands destroyed. Few of the respondents however, mentioned that the items given by the government are adequate as compare to what they have loss to the flood.

Table 6. Multiples response on aid from NADMO in the study communities.

Assessment of NADMO support	Frequency	Percentage
Adequate	2	1.0%
More than adequate	8	4.0%
Inadequate	79	39.5%
Woefully inadequate	109	54.5%

Source: Field survey (2019)

CONCLUSION AND RECOMMENDATIONS

The study contributes to the body of knowledge by evaluating the perennial flooding on the White Volta River and the Bagre dam spillage on agricultural activities in the Sudan Savannah in the UER, Ghana. The findings showed that flood was and has not been something new in the communities. However, what seems to be the problem is the extensiveness of the floods, the spatial coverage and the debilitating impact on food supply. The study revealed that the annual spillage of the Bagre dam coupled with torrential rainfall was the main factor influencing the annual occurrence of the floods in the communities. As a result several farmlands and animals have been destroyed by the floods with the most destructive recorded in 2007. In terms of coping strategies, a range of coping strategies are employed by households and include selling animals, reducing food taken and engaged in minimal works. Based on the finding, the following recommendations were made:

- The study calls for government support for NADMO as an institution in charge of public sensitization against disaster events and also relief distribution. This will help minimize the impact of the flood on the farmers.

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- The study recommend that there is the need for intensive measures to be taken such as technical, economic and institutional strategies to mitigate the impact of the flood on food production.
- Again, it is recommended that there should be close engagement between authorities in Ghana and that of Burkina Faso so that the latter country can provide exact time for the spillage of the dam. Information on the dam spillage beforehand will help farmers in the affected communities to adequately prepare, including early harvesting to reduce the amount of farm produce lost to floods.

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AUTHOR'S CONTRIBUTIONS

All the authors contributed to carry out the study.

ETHICS

The study maintained high level of integrity, transparency, and confidentiality and there is no conflict of interest to be declared.

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Profile of Anthropometric and Physical Ability Differences Between Men's and Women's Volleyball Players 11-16 Years



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ABSTRACT: The purpose of this study was to form a profile of men's volleyball players which includes anthropometric characteristics, and Physical Fitness. This research method is descriptive quantitative. The subjects of this study we tested one hundred and twenty-seven men's volleyball players, who are members of the volleyball team as far as UNY, Indonesia. Men's volleyball athletes (11 to 16 years old) undergo body composition evaluation, flexibility test, vertical jump height test, speed test, arm power test, agility test, and endurance test. Average result of height 163.8 ± 11.8 cm, weight 55.6 ± 14.3 kg, sitting height 83.9 ± 6.4 cm, arm span 167.5 ± 13.5 cm, flexibility 35.5 ± 6.2 cm, limb power 51.1 ± 11.2 cm, speed 6.6 ± 0.8 sec, agility 20.9 ± 1.95 sec, arm power 6.2 ± 1.6 m, endurance 30.7 ± 6.4 . The conclusion of the study may represent a step in shaping the profile of a 11-16 year old men's volleyball player in terms of anthropometric characteristics, body composition and physical performance parameters. Anthropometric measurements and biomotor test results of volleyball athletes aged 11-16 years are very important because they provide data that can be used in the selection of players for sports, Scientists, and coaches.

Keywords: Volleyball, Anthropometric, Physical Ability

I. INTRODUCTION

Volleyball is a team sport that requires stamina, coordination, strength, mobility, and flexibility (Charlton et al., 2017). Volleyball players are required to perform high physical and technical activities as well as motor jumping movements (blocking and spiking), explosive movements, sprints, and high-intensity movements that occur repeatedly during the game (Barajas-Pineda et al., 2021; Milić et al., 2017; Mtsweni et al., 2017). Players who have a composition of physical conditions including power, speed, coordination, and endurance can improve competing techniques such as spikes and serves because they are strong predictors in the results of volleyball matches (Challoumas & Artemiou, 2018; Hnatchuk et al., 2018). In volleyball today, the use of jumps and speed is an important aspect due to the greater demands on physical strength and 80% points of the speed of technical movement of attack and block, the goal is to maximize the chances of victory in the match such as quickly setting the position and maximizing the techniques used when attacking or defending (Alminni et al., 2019).

In decades many special training methods were developed for the improvement of effective techniques. (Krakan et al., 2020) With the combined training method of sprints and springboards found significant results on jump performance. During the training period will effectively increase muscle activity and increase muscle ratio, this effect is not only significant on jumps, but on the coordination of athletes due to stimulation of the muscles of the lower limbs (Alp & Mansuroglu, 2021). While Endurance is the determinant of an athlete's performance because of the repetitive activity and pressure that occurs (Bridel & Denison, 2016). Vo2Max volleyball athletes are trained based on typical endurance according to the game (spiking, jumping, power hit, blocking setting), so that aerobic capacity can be optimal (Lleshi, 2021). Elements of biomotor complexity and variety of physical training are required in volleyball, according to the characteristics of the game running at a fast tempo.

To deal with the high demands of the game, the players must be well prepared, not only technically and tactically but also physically. Why is the need for physical exercise so important? because a good physique helps athletes to achieve top-level performance, because the physical, technical, moral and intellectual athletes are inseparable from the participation of physical exercise (Sabillah et al., 2022; Singh & Kachhawa, 2020). Moreover (Sabillah et al., 2022) In achievement sports, the physical condition of athletes greatly affects the performance, function and organization of the body. The performance of volleyball players can be influenced by several factors, such as anthropometric characteristics, physical fitness, reaction time and muscle strength for both male and female players (Malikov et al., 2020). To improve on these factors, coaches need information

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regarding the physical and functional abilities of athletes to set appropriate training goals. It is designed to bring players closer to the existing international standards for the game of professional volleyball. The anthropometric characteristics of athletes become one of the important factors that affect the level of performance (Toselli & Campa, 2018).

In the game of volleyball, anthropometric characteristics and technical ability determine 83% of the player's jumping range, and physical capacity determines 17%, the anthropometric characteristics of the player are an important aspect of peak performance due to the obstacles that players must overcome: a net of 2.43 m for men and 2.24 m for women, this means that there is a difference between the male and female sexes in particular (Masanovic, 2018). Dominant anthropometric characteristics are genetically determined compared to the progress of the training period (Albaladejo-Saura et al., 2022). The need for knowledge of anthropometric distinctions between gender and age is interesting to know more deeply. To determine the stage of early development to the elite level of the athlete, it is necessary to have an awareness of growth, maturation, as an act of training (DiCesare et al., 2019; Malisoux et al., 2013). In other studies it was said, anthropometric and physical data as determinants of the role of athletes to be starters vs non-starters or selection and qualification (Milić et al., 2017).

Interest in the anthropometric characteristics, body composition, and somatotypes of various competitive sports has increased over the past few decades. Many literature reviews conclude that anthropometry correlates with the skill abilities and performance of volleyball players. Collection of anthropometric data of athletes (body mass, standing, and sitting height) is important throughout the specialization period to improve data accuracy and development of performance potential (Moeskops et al., 2022). It has been well explained that there are certain physical characteristics in many sports, such as anthropometric profiles, that indicate whether players would be suitable to compete at the highest level in a particular sport. 1–8 Quantification of the morphological characteristics of elite athletes can be a key point in linking body structure to sports performance. This is justified by the clear distinction that distinguishes the male and female phenotypes in strength, acceleration and speed due to the greater muscle mass of men (Toselli & Campa, 2018), height, etc. However, There is currently little data on the physical characteristics as well as anthropometry of young people 11–16.

Anthropometric measurements include height, weight, fat percentage, thickness measurements and various indices, e.g. body mass index (BMI), brachial and crural indices, and others (Lloyd & Oliver, 2019). In volleyball, there have been many studies that address this issue (Mala et al., 2015) Especially female athletes of volleyball, while scientific data on male players is still scant. In female athletes, the acceleration of puberty is 10 years of age and adult height is reached 14-15 years. As the findings in the study conducted by (Tsoukos et al., 2019) height, range height, jump height and vertical achievement there are differences between selected junior women's volleyball athletes and non-qualified for the national team there are significant differences with high predictive accuracy (78,1%). Meanwhile, for men's volleyball anthropometry is more specific to a standing height that is more than lean muscle mass, a low sitting height, longer hands, thinner hips and ankles, thicker shins (Lan et al., 2017).

Therefore that anthropometry and proper body composition are essential to the successful performance of volleyball. Why this research is important, based on the research conducted, and the importance of anthropometric and physical fitness measurement tests, it was found that in Yogyakarta there have been no anthropometric and physical fitness measurement tests carried out. Yogyakarta is characterized by a lack of strong scientific research. The level of anthropometry and basic physical freshness of men's volleyball athletes aged 11-16 years in Yogyakarta is still unknown. If there is no more research related to anthropometric tests and physical fitness of athletes, there is no hope of achieving high achievements. This research will help researchers to find out the current status of men's volleyball athletes aged 11-16 years in Yogyakarta. The results of this study will help physical education, and the coach coach to find out the advantages and disadvantages of his athletes.

The player's participation in the change of spikes and blocks in relation to the role of the player, since the player has different actions and responsibilities with respect to his position (Table 1). For example, middle blockers are the players who execute the most blocks, so, in theory, they must have sufficient anthropometric and/or physical characteristics to fulfill this role. On the other hand, setters and liberos don't need to be tall or strong (Charlton et al., 2017), But they need more experience to read the game correctly and for decision-making and more agility.

Vertical jump (VJ) performance is an essential element for successful volleyball practice. The objectives of this study were (a) to explore the anthropometry and performance of the overall physical condition of volleyball players of both sexes, (b) to explore differences in anthropometry and biomotor performance between sex and age group, and (c) to evaluate sex. We assessed the VJ capacity on 253 volleyball players (113 boys and 140 girls).

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II. MATERIAL AND METHODS

This research method is descriptive quantitative. We tested one hundred and twenty-seven men's volleyball players, and one hundred and one women's volleyball players who were members of the Selabora UNY volleyball team. The athletes (11 to 16 years old), the players have at least participated for two years of training experience and participated at least twice in the national or regional level volleyball Championships. The inclusion criteria considered, for young volleyball players, are two years of training experience and an average of 4 months of training sessions; While the exclusion criterion is that there is no history of injury in the past year (i.e. muscles, tendons, bones). The players undergo anthropometric evaluation and physical fitness measurements. Data collection, players are advised to use sportswear or volleyball clothing (volleyball shoes and game clothes). All measurements and tests of volleyball players belonging to the experimental group were carried out in Yogyakarta (Indonesia).

1.Data Retrieval Technique Procedures

The sequence of data retrieval procedures is: Anthropometric evaluation, flexibility test, limb power test, speed test, coordination test, agility test, power test, and endurance test. The four player anthropometric variables measured include height, weight, sitting height, and arm span. Height and Weight: Height and height sitting measurements with a centimeter score, weight measurements are carried out with digital scales with a sensitivity level of 0.01 kg (Casadei & Kiel, 2019).

Seven variables of the player's physical ability are carried out using the following measuring instruments: Sit and reach tests are used for the assessment of flexibility, especially lower back and hamstring muscle flexibility (De Nardi et al., 2015). Vertical jump test to measure limb power, 40m running test to measure speed, tennis ball throw test to measure coordination (Yu & Smith, 2017), The T-test measures the player's speed ability to run forward and backward and accurately change direction laterally. Four cones were set in the starting position, after 10 yards (9.14 m) of distance and after 5 yards (4.57 m) to the right and left, each forming a 90° angle, a basketball throw test to measure arm power, and a multistage test to measure endurance.

2.Data Analysis Techniques

Data analysis in this study using the SPSS 25.0 program, Anthropometric data is presented as minimum, maximum, average, and standard deviation values are calculated for all variables. Shapiro Wilks and Kolmogorov-Smirnov were used to assess the normality of the data. No violation of the normality distribution ($p > 0.05$) was found. After that test the differences in anthropometry and physical abilities of men's and women's volleyball players using an independent t-test.

III. RESULTS AND DISCUSSION

Result

Anthropometric characteristics and physical abilities of men's and women's volleyball players are presented in Table1. Statistically significant differences were found between SP and NSP male players in stature ($p = .042$), arm span ($p = .031$), ball speed ($p = .001$), standing long jump ($p = .016$), 30- m sprint ($p = .034$) and in VO₂max estimates($p = .018$), and between SP and NSP female players in ball speed ($p = .009$) and standing long jump ($p = .045$) (Table2). No significant differences were found in weight, armspan/height ratio, hand length and span, and flexibility of sitting and reaching. Considering the different playing positions, significant differences were found between SP and NSP men's backs in height ($p = .008$), hand spread ($p = .042$), arm span ($p = .019$) and ball speed ($p = .005$). For the female sample on the other hand in stature ($p = .041$) and arm span ($p = .046$) (Table 3). For the wings, significant differences were found in ball speed ($p = .007$), 30 m sprint ($p = .039$) and VO₂max estimates($p = .002$) between SP and NSP male players and in VO₂maks($p = .019$) estimates between SP and NSP female players (Table4). For pivots, significant differences are found only in spherical velocity ($p = .001$) between SP and NSP females (Table 5). Finally, no significant differences were found statistically between SP and NSP male and female goalkeepers (Table6).

Table 1. Anthropometric results of U11-16 men's and women's volleyball athletes

Variable	MEN (n=127)			WOMEN (n=101)			p
	Min	Max	Mean & S.D	Min	Max	Mean & S.D	
Height (cm)	129.7	192.5	163.8 ± 11.8	123	170.8	152.13±9.1	0.000
Body Mass (kg)	25.2	103.5	55.6 ± 14.3	21.2	82	46.6±12.01	0.000
Sitting Height	67.5	99	83.9 ± 6.4	67	87.5	78.6±4.8	0.000
Arm Span (cm)	126	189	167.5 ± 13.5	124	177	156.66±10.7	0.000
Flexibility	13	47.5	35.5 ± 6.2	21.5	45	33.8±4.8	0.28

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Leg Power	22	71	51.1 ± 11.2	22	54	36.5±6.2	0.000
Speed (sec)	9.8	5.2	6.6 ± 0.8	5.91	10.77	7.5±0.7	0.000
Coordination	0	20	9.6 ± 4.7	0	14	4.72±3.71	0.000
Agility (sec)	30.9	17.04	20.9 ± 1.95	19.72	30.32	22.8±1.8	0.000
Arm Power (m)	2.2	9.6	6.2 ± 1.6	1.3	6.4	4.27±0.9	0.000
Vo2max	12.2	47.1	30.7 ± 6.4	19.1	35.1	26.01±3.43	0.000

Table 2. Results of the analysis of anthropometric differences and physical abilities of U11-13 and U14-16 men's and women's volleyball players

Independent Samples Test										
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Height (cm)	Equal variances assumed	4.384	.037	8.160	226	.000	11.63169	1.42549	8.82275	14.44063
	Equal variances not assumed			8.397	225.851	.000	11.63169	1.38515	8.90222	14.36117
Body Mass (kg)	Equal variances assumed	1.633	.203	4.878	226	.000	8.68817	1.78095	5.17879	12.19756
	Equal variances not assumed			4.977	225.354	.000	8.68817	1.74567	5.24824	12.12811
Sitting Height	Equal variances assumed	6.796	.010	6.878	226	.000	5.30686	.77155	3.78650	6.82722
	Equal variances not assumed			7.094	225.533	.000	5.30686	.74811	3.83268	6.78104
Arm Span (cm)	Equal variances assumed	5.206	.023	6.550	226	.000	10.75863	1.64256	7.52194	13.99533
	Equal variances not assumed			6.723	226.000	.000	10.75863	1.60032	7.60518	13.91209
Flexibility	Equal variances assumed	8.151	.005	2.210	226	.028	1.65156	.74744	.17872	3.12441
	Equal variances not assumed			2.276	225.764	.024	1.65156	.72577	.22142	3.08170
Leg Power	Equal variances assumed	9.100	.003	7.827	226	.000	16.31777	2.08491	12.20941	20.42612

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	Equal variances not assumed			8.608	.000	154.700	16.31777	1.89562	12.57313	20.06240
Speed (sec)	Equal variances assumed	1.749	.187	-8.938	.000	226	-.89463	.10009	-1.09186	-.69740
	Equal variances not assumed			-9.046	.000	222.520	-.89463	.09889	-1.08952	-.69974
Coordination	Equal variances assumed	4.213	.041	8.591	.000	226	4.90715	.57117	3.78166	6.03264
	Equal variances not assumed			8.818	.000	226.000	4.90715	.55649	3.81057	6.00373
Agility (sec)	Equal variances assumed	.044	.834	-7.486	.000	226	-1.89945	.25373	-2.39943	-1.39947
	Equal variances not assumed			-7.541	.000	219.853	-1.89945	.25190	-2.39589	-1.40301
Arm Power (m)	Equal variances assumed	31.730	.000	0.614	.000	226	1.90122	.17913	1.54824	2.25420
	Equal variances not assumed			11.229	.000	208.764	1.90122	.16931	1.56745	2.23499
Vo2max	Equal variances assumed	32.535	.000	6.685	.000	226	4.72924	.70740	3.33530	6.12318
	Equal variances not assumed			7.124	.000	200.497	4.72924	.66388	3.42016	6.03833

DISCUSSION

This study was conducted to determine the anthropometric and fitness profile of male volleyball players 11-16 years old. The initial value data obtained in the study is included in the literature, this aims to serve as a reference for coaches for sports guidelines and scientists to be the reference for subsequent research. In the context of previous studies, no research has been found regarding the anthropometric and biomotor determination of male volleyball players 11-16 years old. Therefore, the findings of this study will be useful and can be assessed for volleyball and other sports. In the context of research, some anthropometric tests and measurements are determined by height, weight, sitting height, and upper body length. While physical fitness is determined by the ability to test flexibility, limb power, speed, coordination, agility, power, and endurance.

In a study conducted to determine the anthropometric profile of men's volleyball players, the average height of junior Serbian volleyball players was 194.28 (Masanovic et al., 2019), In our study the average height of athletes was 163.8 ± 11.8 . Body mass research already done for Australian junior volleyball athletes is 71.1 (Gabbett & Georgieff, 2007) . In this study, the body mass of athletes averaged 55.6 ± 14.3 . Arm Span that has been done averages 187.99 (Manjunantha & Longitude, 2016). In this study, the average arm span was 167.5 ± 13.5 and the average Sitting Height was 83.9 ± 6.4 . It can be observed that the height and arm span values have lower differences in values in this study. In research (Manjunatha & Bujurke, 2020) states that arm span has little effect on playing performance. (Pocsek et al., 2021) states that players who have a lower height can compensate for their shortcomings with the ability to jump above average for a particular targeted position. Generally speaking,

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talented and non-talented junior volleyball players are based on the assessment of skill aspects, tactical understanding of the game (Belem et al., 2014), game intelligence (Smilius et al., 2017), Perception-cognitive skills (Alves et al., 2013) motor abilities, and anthropometric and physical characteristics (Marcelino et al., 2014). Nonetheless, height is considered the main criterion in the process of assessing young players (Carvalho et al., 2020). Upper extremities and height are very important, especially in attacking and blocking positions, and it is an important criterion in the selection of the players (Mahmutović et al., 2015; Marszalek et al., 2015).

The success of the performance of volleyball athletes in performing movements depends on anthropometric aspects as well as the supporting physical aspects, the hallmarks of the game of volleyball that combines sprints, jumps, and high intensity are in dire need of a good physical aspect. In this study, the average flexibility value result was 35.5 ± 6.2 , the average leg power result using the vertical jump test got a result of 51.1 ± 11.2 , the speed result got an average value of 6.6 ± 0.8 , the agility result got an average value of 20.9 ± 1.95 , the arm power result got an average value of 6.2 ± 1.6 , endurance results got an average value of 30.7 ± 6.4 .

Flexibility is needed by football players because in doing spikes and service movements performed by the joints of the body including the shoulders, elbows, wrists, hips, knees, ankles, and a number of large muscles (Manshoury et al., 2014). Research (Manshoury et al., 2014) states that specially designed Pilates training consisting of three training sessions per week plus one general weekly session of volleyball practice can increase flexibility. The sit-and-reach test is used by (Greco et al., 2019) which suggests that flexibility is enhanced after 5 weeks of pilates exercises.

In this case, the vertical jump ability is very important in volleyball regardless of the player's position, while the vertical jump value can distinguish the player not only in terms of the player's position and the level of playing performance ability (Pocek et al., 2021). In particular, volleyball performance has been shown to be associated with high jumps (Skazalski et al., 2018). Research results (Kozina et al., 2018) Men's volleyball players have an average vertical jump of 68 cm, this proves the vertical jump results of 11-16 year old volleyball players in this study are lower. The results of the study (gulati 2021) average vertical jump is 50.94, this result proves that the research conducted has a higher value. In connection with that, improving vertical jump capability in bolavoli can be trained with a plyometric exercise program (Silva et al., 2019). In addition, eight-week plyometric interventions in male and female volleyball players showed an increase in vertical jump (6%) after training (Behrens et al., 2014).

Agility and speed are important aspects of almost every defensive and offensive maneuver performed by a volleyball player (Silva et al., 2019), agility and speed training can improve their defensive and off-season abilities and performance in volleyball games (Wang et al., 2020). Research results (Chuang et al., 2022) states a 6-week shuttle run exercise with a distance of 2m is the most effective exercise to improve agility. Some studies have shown that exercise agility and speed can provide performance gains for athletes in a sprint performance of 10 m, 20 m (Padrón-Cabo et al., 2020).

Arm power is an important aspect of volleyball because doing spikes or smashes, blocks, and serves requires a large muscle explosive power (Gulati et al., 2021). Research (Arte et al., 2019) states that a combined plyometric and throwing ball for eight weeks can significantly increase arm power. As reported (Mannan et al., 2015) The plyometric exercise program, which has been modified specifically for volleyball for 12 weeks with a frequency of three times a week, can increase arm power by 13.51%.

In addition, the endurance component is important in the game of volleyball because elite volleyball athletes experience significant physical and psychological demands during the competition season. Athletes participate in workouts and matches with a duration of 90+ minutes, and often use explosive movements (Mendes et al., 2018). Research (Aschendorf et al., 2019) stated 5 weeks of HIIT training with a duration of 2 hours, session A high-intensity intervals of 4×4 minutes with 3 minutes of recovery, performed seven times during the intervention period. Session B consists of two sets of 15×30 -second high-intensity intervals with 15-second recovery between repetitions and 3-minute recovery between sets (Buchheit & Laursen, 2013), can increase aerobic endurance capacity.

Anthropometry and exercise performance in certain physiological tests, such as jumping ability, running speed, agility, upper body muscle strength, flexibility, and torso strength can contribute to the selection of talented athletes and the long-term program of athletes in achieving optimal results (Papadopoulou et al., 2019; Tsoukos et al., 2019). This information is important for coaches to design training programs for young footballers taking into account the individual needs of each player and a long-term training system that matches the appropriate training adaptation and individual abilities of the athlete's biological status

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IV. CONCLUSION

The conclusions of this study may represent a step in shaping the profile of 11-16 year old men's volleyball players in terms of anthropometric characteristics, body composition and physical performance parameters. Furthermore, researchers hope these data will contribute to the professional selection of men's volleyball. Anthropometric measurements and biomotor test results of 11-16 year old volleyball athletes are very important because they provide data that can be used in the selection of players for sports, Scientists, and coaches.

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Agricultural Economic Activities in the Mekong Delta in the First Half of the 19th Century



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ABSTRACT: Agricultural economics is a matter of special significance for Vietnam because it is not only the main economic activity of the country but also the key of Vietnamese politics over the history. So, an overview of agricultural economic activities in Vietnam in general and in the Mekong River Delta in particular in the first half of the 19th century through the methods of exploitation and verification is required from the sources of ancient documents and records of the Nguyen Dynasty have scientific significance and profound practical value. The research results will contribute to the re-enactment of the agricultural economic picture of the Mekong Delta with specific features and at the same time contribute to clarifying the socio-economic situation of this land in the historical process nation. On that basis, the research content also summarizes practical lessons is to serve the research and solve the problem of agricultural economic management in accordance with the regional socio-economic development orientation current plain.

KEYWORDS: agricultural economy, Mekong Delta, agriculture, Nguyen Dynasty, the first half of the 19th century.

1. INTRODUCTION

Vietnam is inherently an agricultural country, so the issue of land, agriculture and rural areas has always been particularly important for economic development and social stability over each period of the nation's history. The existence of each state in the nation's history is always associated with the settlement of land problems, agricultural development and rural life construction as modernized by society itself. Therefore, historical research in general and the study of agricultural, rural and farmer issues in history always brings many valuable lessons useful for today's socio-economic development. Besides, the Mekong Delta not only has distinct characteristics of land ownership, but also contains many useful values in terms of farming, production and agricultural economic activities formed in history. Because this is the last land to be reclaimed during the reclamation process in the South, it is entitled to special policies of the contemporary state and this is the basis for planning land management policies agriculture and rural areas for the next development stage. In particular, in the first half of the nineteenth century, production and agricultural economic development in the region were strongly influenced by the management policy of the Nguyen Dynasty. So, the study of agricultural production and economic activities in the Mekong Delta in the first half of the 19th century will contribute to a clear picture of the agricultural production of the southern part of Vietnam in the history of the past, while at the same time clarifying the situation of agricultural economic development along with the impact on the society of this land in the process of national history. On the basis of historical research, practical historical lessons will be drawn to serve the research and solve the problem of agricultural production management and strategies to promote agricultural economic development in accordance with the current socio-economic development orientation for the Mekong Delta region.

2. LITERATURE REVIEW

The agricultural economy of the Mekong Delta has been approached by many Vietnamese and international researchers. In-depth research works with high scientific value, referring to many aspects not only in agricultural economic activities but also around related issues such as land ownership, government policies, etc.

A study related to land issues, agricultural policy under the Nguyen dynasty is Understanding Vietnam's land regime in the first half of the 19th century by Vu Huy Phuc (1979). This study reflects the nature of land policy, agricultural policy of the Nguyen Dynasty, the impact and consequences of land policy on historical development requirements as well as on material life and meaning the class struggle of the Vietnamese peasantry.

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In the study of land in the South, Nguyen Dinh Dau's studies include: Public fieldwork in Cochinchina (1992), Research on geographical records of Nguyen dynasties - Ha Tien province (Kien Giang, Minh Hai) (1994), Summary of research on the Southern province of Nam Ky (1994)... which was compiled very elaborately and relatively completely on the land ownership situation of the South in 1836. Land ownership, each owner's name, from commune to village, from district to district, from district to province and from district to province have reflected a wide range of documents new research directions on issues: the process of reclaiming land and setting up hamlets and land use, farming methods and agricultural production in the ancient South; agricultural economic history; ownership and ownership regime land in the South... With a new approach and interpretation, the results of these studies have pointed out many contents that belong to or are directly related to the agricultural economic situation in the South in the first half of the 19th century.

Huynh Lua et al., published *History of the South of Vietnam Land Exploration* (1987), which systematically outlined the process of reclaiming Southern land from the second half of the 17th century to 1945. The authors presented it carefully the policies to promote reclamation work in the South in general and in the border areas in particular of the Nguyen Dynasty in the first half of the 19th century. The research work has contributed to providing useful information for the research content of the topic from an in-depth perspective.

Bui Thi Tan (2013), with her research on the Nguyen Dynasty and the reclamation and establishment of hamlets in the South, pointed out the efforts of the Nguyen Dynasty in implementing the policy of reclaiming and establishing villages in the South by various measures contribute to the process of expanding the territory, establishing villages, creating strong changes to farming, production and agricultural economic exchange in the South.

Tran Duc Cuong (2014) with his study on the history of formation and development of the Southern region (from AD to 1945) presented about the process of exploring, establishing sovereignty, building and developing the Southern land region through historical periods. It deals with agro-economic issues related to this land, which are important bases to help research on land issues in the Mekong Delta become more authentic, thereby contributing to asserting sovereignty of the Nguyen Dynasty for this land.

In addition, a number of articles published in specialized journals by Bui Hoang Tan (2015) with the topic of research on Long Ho Dinh and the role of economic connection in the Mekong Delta under the Nguyen Lords were published by Science Journal of Can Tho University, No. 41; Bui Hoang Tan (2017) in a study on the situation of ownership of public land in Ha Chau district, Ha Tien province through the study of geographical records in the 17th Minh Mang Dynasty (1836) were published by Journal of Science and Technology - Thai Nguyen University, 15 (175); Bui Hoang Tan (2017) with his research on Land Ownership in Ha Chau district, Ha Tien province through the 17th Minh Mang Dynasty (1836) were published by Historical Research Journal, 11 (499); Bui Hoang Tan (2017) with a study on the situation of land use in Ha Chau district, Ha Tien province through the 17th Minh Mang Dynasty (1836) were published by the Journal of Science and Technology - Danang University, 08 (117) has contributed to reflect many different aspects of the agricultural economic situation and land ownership of localities in the Mekong Delta.

According to research by Nguyen Phuc Nghiep (2011), Canals and canals in Tien Giang in the 17th - 18th centuries and in the first half of the 19th century, the Nguyen Dynasty had dredged a number of canals and canals in Tien Giang. Accordingly, the canal system in Tien Giang is gradually completed and expanded, which is extremely important not only for the socio-economic development of Tien Giang in particular but also has far-reaching impacts to the agriculture of the Mekong Delta in general.

Vu Van Quan (1998), with the topic On the causes of the outbreak of the Vietnamese peasant movement in the first half of the 19th century, this is a work that delves into the causes of the rise of Vietnamese peasants to revolt. Tax were the main cause of peasant uprisings in the first half of the 19th century.

According to research by Nguyen The Anh (1971), Vietnam's economy - society under the Nguyen Dynasty. The author has summarized the changes of economic and social life through the Nguyen dynasties. From there, readers will have a more objective view of the merits of the Nguyen Dynasty.

According to the research of Truong Huu Quynh et al., in the work The situation of land and peasant life under the Nguyen Dynasty (1997) presented the situation of Vietnamese land in the first half of the nineteenth century. It also mentions the situation of agriculture and peasant life under the Nguyen Dynasty.

According to research by Van Tao et al., (1997) on Rural Vietnam in the history has recreated a large, multi-dimensional picture of Vietnamese countryside from economic to political, from material to cultural... The advantages and limitations of the Vietnamese countryside, rural areas and agriculture as well as related issues affecting this process of rural mobilization and development, thereby contributing to supplementing awareness and experience in rural construction and management in Vietnam.

Foreign studies: The issue of agricultural production and economy in Vietnam from 1802 to 1945, although it has been studied by foreign scholars for a long time from different angles, the in-depth research on the activities agricultural production

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and economy in the Mekong Delta is still quite limited. Typically, before 1945, there were French scholars such as Yves Henry with the work *Économie agricole de l'Indochine* (1932), the author based on the results of actual investigations from 1928 to 1930 as a basis for presenting systematically in the agricultural economy activities between regions in Vietnam in 1930. Pierre Gourou's *Les Paysans du Delta Tonkinois: étude de géographie humaine* (1936) is the first research work on agronomy, household farming and systems agricultural system, analyzing the land and people of the North such as topography, delta climate, migration history and migration population, agriculture, industry, villages... but only to a certain extent.

3. RESEARCH METHODS

This study approaches in the direction of theoretical and practical research - solutions with the following main research methods: The historical method is the typical research method of the subject of historical research. The historical method is applied to faithfully reproduce the progress of things and phenomena in the correct time and space order as what happened in the past, specifically within the scope of the topic, the activities agricultural production and economy in the Mekong Delta in the first half of the 19th century. Through authentic historical sources, the research team applied historical methods to reconstruct the research contents on production activities and agricultural economic situation in the Mekong Delta in the first half of the 19th century truthfully and asymptotically with the objectivity of history.

Logical methods are applied in systematizing historical events, forming comments, making scientific evaluations about the researched problem in order to find out the nature, movement and development laws of the problem. study. In this paper, the logical method is applied throughout the entire content of agricultural economic activities in the Mekong Delta in order to systematize and connect the relevant research problem chains. On that basis, the study shapes scientific comments and assessments on specific characteristics of agricultural economic development activities in the Mekong Delta in the first half of the 19th century.

4. RESEARCH CONTENT

The change of administrative boundaries in the Mekong Delta in the first half of the 19th century

In 1802, Nguyen Anh ascended the throne, took the reign of Gia Long, founded the Nguyen Dynasty and built a unified country management institution in Vietnam. Accordingly, the administrative boundaries of the Mekong Delta had a certain change, from 1808 to 1832, Gia Dinh town was changed to Gia Dinh city, managing 5 towns in the south namely Phien An, Bien Hoa, Dinh Tuong, Vinh Thanh and Ha Tien. In which, the entire town of Dinh Tuong, Vinh Thanh, Ha Tien and a part of Phien An town belong to the present day Mekong Delta region. The territory of the towns of Dinh Tuong, Vinh Thanh, Ha Tien and a part of Phien An town in Gia Dinh became in 1808 as follows: Phien An changed to a town in the 7th Gia Long year (1808), including 1 palace, Tan Binh and Tan Binh. 4 districts are: Binh Duong, Tan Long, Phuoc Loc and Thuan An. The boundaries of the town include *"Bien Hoa town to the north", "Dinh Tuong township to the south", "to the east to the sea, the west to Cambodia"* [5, p.86]. Dinh Tuong town consists of 1 palace, Kien An and 3 districts: Kien Dang, Kien Hung, Kien Hoa *"Mau Thin year, Gia Long King in the 7th year (1808), in January, changed to Dinh Tuong town. , the land is wide and fertile, the water is adjacent to each other, the east is bordered by the sea; In the west, bordering with Cambodia, starting from Vam Dua, Rach Co, going to Bat Chien, Tuyen Uy, turning around snag to the north, crossing Hung Hoa river (known as Vung Cu river in the first two districts of Kien Hung and Kien Hoa) down the Tra Giang River, following the east to the Soi Rap estuary, a long river strip, the southern bank of which is the territory of Dinh Tuong town; south from Hong Ngu fort, Tan Chau, follow Tien Giang river to the north, circle to the east through Ham Luong river, straight to Ba Lai estuary; The northern bank of that river is the territory of the town."* [5, p. 104]. Ha Tien was once the land of Mang Kham, in 1708, Mac Cuu submitted to Lord Nguyen. Since then, the land ruled by Mac Cuu belongs to Vietnamese territory and is called Ha Tien. At the beginning of the dynasty, Gia Long King basically assigned this land to the Mac family to rule. Ha Tien consists of 2 districts: Long Xuyen and Kien Giang with the border *"to the south by Vinh Thanh town, to the west by Siam, to the east by Gia Dinh citadel, to the north by Cambodia."* [5, p.137].

After Gia Long King died in 1820, Minh Mang King ascended the throne to inherit the country's rule. In the 13th year of Minh Mang (1832), the town was changed to a province. The whole country has 30 provinces and 1 government of Thua Thien, of which Cochinchina is divided into 6 provinces, so it is called Nam Ky Luc Tinh. In order to strictly manage the territory, in 1836, Minh Mang King set up a land register in the whole Nam Ky provinces in order to establish and complete the social management apparatus from the smallest administrative unit in the village (commune) to the general, district, province. The six provinces include: Phien An (changed to Gia Dinh in 1836), Bien Hoa, Dinh Tuong, Vinh Long, An Giang and Ha Tien. Among the six provinces of Cochinchina at that time, there were four provinces in the Mekong Delta region including provinces: Dinh Tuong, Vinh Long, An Giang and Ha Tien. Ha Tien province includes An Bien and 3 districts of Ha Chau, Kien Giang and Long Xuyen. The boundaries of the province include: *"the southeast borders An Giang province, the southwest borders the sea, the north borders Cambodia"* [10. p.10]. In the 13th year of Minh Mang King, the town was changed to Dinh Tuong province with *"four sides are plains, rivers and*

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rivers converge, the left side connects with Gia Dinh province, the right side continues with two provinces of Vinh Long and An Giang, outside borders with the country of Cao Men, the right side borders on the country of Cambodia, the right side borders on the country of Cambodia, the right side borders on the country of Cambodia, the right side borders with the country of Cambodia, the right side with the provinces of Vinh Long and An Giang. southeast to the sea" [10, p.105]. Dinh Tuong province has 2 wards, Kien An and Kien Tuong, with 4 districts: Kien Hung, Kien Hoa, Kien Phong and Kien Dang. In 1832, Minh Mang King changed the name of Vinh Thanh town to Vinh Long and then changed the town to Vinh Long province with the distance "to the southwest bordering An Giang to be the mouth and teeth, to the northeast close to Dinh Tuong to be the county administrator" [10, p.148]. Vinh Long province has 3 districts: Dinh Vien, Hoang Tri and Lac Hoa with 8 districts including: Vinh Binh, Vinh Tri, Bao Huu, Bao An, Tan Minh, Duy Minh, Tuan Nghia and Tra Vinh. An Giang province has 3 districts: Tuy Bien, Tan Thanh and Ba Xuyen with 10 districts including: Tay Xuyen, Phong Phu, Ha Duong, Ha Am, Tan Thanh, Vinh An, An Xuyen, Dong Xuyen, Phong Nhieu and Vinh Dinh and Dien are "bordered to the east by Vinh Long and Dinh Tuong provinces, to the west by Ha Tien province, to the north by Cao Men" [10, p.191]. In addition, part of the land of Gia Dinh province at that time was also located in the Mekong Delta area, equivalent to a part of Long An and Tien Giang (land of Go Cong) today. Upstream and downstream of Vam Co Tay River (until the confluence of Bao Dinh River), together with Bao Dinh River is the boundary between Gia Dinh and Dinh Tuong provinces.

Agricultural production in the Mekong Delta in the first half of the 19th century

❖ Rice cultivation

Under the Nguyen Dynasty, policies on reclamation as well as irrigation work were always concerned and paid attention by the court, so the problem of agricultural cultivation, especially in the Mekong Delta, had positive change and achieve some remarkable results, thing. Experiencing the process of researching and surveying the topography, especially for the area of Ha Tien province, the highlight in this period was the cultivation of fields and the gardens, typically in Ha Chau district, in Ha Tien province.

For arable land, so mainly rice cultivation. As for the garden, this is cultivated land for gardens, so it mainly grows different types of agricultural products and fruit trees, otherwise it depends on the soil in each area. From there, it can be seen that most of the rice fields here are high mound fields because the terrain is mainly hilly and newly reclaimed. After cultivation, rice varieties gradually become diverse such as: Sticky rice, plain rice.... Or for Vinh Long province, the situation of rice is also extremely diverse such as "there is winter rice, bird's claw rice, Huong gourd sticky rice, wax sticky rice, charcoal sticky rice" [10, p.175].

In An Giang, which is one of the provinces in the Mekong Delta region, so at the beginning of the 19th century, along with the expansion of the reclaimed area, agricultural production was promoted. In which, rice is the main crop in the agricultural production process in An Giang. According to the 1836 documents, the whole old An Giang province "had 35,489 hectares of rice cultivation. That area is divided into two types of fields: wet fields, low fields called Thao Dien and mountain fields, mound fields or high fields called Son Dien. Thao Dien has 1,273 hectares, accounting for 3.6% of the province's rice fields; and Son Dien is 34,193 ha, accounting for 93.3%" [3, p. 167]. Thus, the high mound field accounted for the vast majority of rice growing area in ancient An Giang. About rice varieties in An Giang are as diverse as other provinces, as according to Gia Dinh Thanh Thong Chi mentioned this issue: "In the first half of the 19th century, rice had many things, troughly two types: Nep rice and Te rice. Nep rice, these two types differ in whether they are flexible or not. Te rice is a non-sticky rice, the grain is small, the substance is soft and fragrant, and the grain has a beard. Nep rice is a kind of rice with sticky resin, round seeds but big" [6, p. 153].

In the early stages of farming, farmers often use very rudimentary tools, mostly self-tipping, weeding, mulching, and reaping. Only one crop can be produced each year in the rainy season such as "Wet rice cultivation in Ha Chau depends on natural factors, rainwater is the main source of water for rice cultivation, so the rice planting season depends on the terrain and weather. The time to sow seed in June, transplant rice in July, August and harvest around December and January next year" [14, p. 25 – 32]. In An Giang, "The planting season at that time was to wait for the rainy season to fall before sowing, so sowing in June, transplanting in August and harvesting in December and January" [7, p. 58]. Therefore, the crops of the year are all based on climate, weather or hydrology. In many places, production is carried out according to shifting cultivation, every "three or five years they change to another place" [6, p.155]. Thus, the farmer left the old field to find another place to reclaim and start over. Rice cultivation techniques are still based on the application of traditional wet rice cultivation techniques from previous centuries.

In the first half of the 19th century, almost rice farmers did not use chemical fertilizers to fertilize their rice like today, because most of the fields here have just been reclaimed, so they still retain natural fertility soil, grass and straw... this is considered a natural and essential source of fertilizer to supplement nutrients for rice fields. With techniques such as deep plowing and thorough harrowing, farmers always pay attention because this is an important step to prepare the field. For animals such as buffaloes and cows, they often take advantage of pulling power to plow and harrow to serve as a means to increase the fertility of the land, contributing to the lushness of rice and the absorption of nutrients from the soil. In some places where the population

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is still small and the settlements are scattered, in the condition that human resources are not much and capital is lacking, farmers will carry out irrigation work on a small and medium-sized scale, as if they were able to dig a small amount of water. Small canals carry water into the fields, for the purpose of washing alum and improving the soil. The above activities are initially effective, turning some dry or flooded lands into lush green fields.

Later, many problems in agriculture were also gradually overcome, which is reflected in the popular folk with the saying *"One water, second part, three needs, four varieties"* this has become the theory for the agricultural production, especially in the field of rice cultivation and this is considered the experience that farmers have long accumulated in the cultivation process. The production process is carried out according to the sequence from sowing, plowing, transplanting rice, weeding, dropping manure, watering ... gradually the problem of propagation is also promoted and that is shown as follows *"farmers have obtained 65 varieties of plain rice and 27 varieties of glutinous rice: among these, there are varieties of rice that are short 3-4 months (from transplanting to reaping) or less, only 40 days (loose)"*. [9, p. 449].

Although there are improvements, in general, agricultural farming techniques are still traditional and simple. Cultivation techniques and plant care also depend heavily on natural factors such as soil, weather, rivers, etc. Therefore, cultivation has many new features in plant varieties and increased productivity. compared with the previous century, but basically, farming techniques are still backward and have not brought many new breakthroughs in agricultural production. But at present, the Mekong Delta is known as an extremely important rice-exporting area, not only meeting the domestic demand but also the world. However, in the process of developing rice farming system, it is always affected by factors from nature and society. Therefore, when understanding those influencing factors, farmers are always creative and proactive in catching the development trend of the new production system to be able to propose plans as well as measures effectively to organize production effectively and sustainably.

❖ Planting other crops

From taking advantage of the ability of soil and weather, farmers have planted many other food crops such as potatoes, corn, beans... First comes corn, which is considered the second strongest food crop after rice for some provinces in the Mekong Delta. From the 18th to the 19th century, maize was mainly grown on the fields of the Tien and Tien rivers. Almost in An Giang, *"planted mainly three types: yellow corn, white corn, and yellow corn. white"* [6, p. 154]. *"The type of white corn has long and large fruits, thick seeds; It has a pleasant aroma when eaten. Corn is planted in April and harvested in July"* [6, p. 157]. In Ha Tien, maize is usually planted in March and harvested in July of the same year. Basically, in addition to growing rice, maize is also commonly grown in localities.

Potatoes are also quite popular crops. For some provinces in the Mekong Delta, typically in Ha Tien, potato planting time falls in March and harvest time in July. As for An Giang, in addition to the rice cultivation area, *"the province has 11,774 hectares planted with other crops, of which 3,073 hectares are planted with potatoes and beans, accounting for 26.10 percent"* [3, p. 136]. In which, *"two districts of Dong Xuyen and Tay Xuyen have 2,321 hectares of land for growing potatoes (Dong Xuyen 2,579,2 ha, Tay Xuyen 741.8 ha"* [3, pp.136, pp.221-242]. In the village, *"potatoes are grown a lot in the hamlets of Binh Thanh Dong, My Hoi Dong (An Luong Canton), Long Son, Phu Lam, Tan An (An Thanh Canton), Kien Long, My Chanh, Toan Duc, Toan Duc Dong (Duc Dong Canton) of Dong Xuyen district"* [7, p. 69]. There are many types of potato plants such as sweet potatoes, waxy or pink potatoes, sweet potatoes and sweet potatoes. Potato planting time is mainly from April to October, but some varieties are planted from April to July and have been harvested. For Vinh Long province, the types of potatoes are diverse and typical such as *"sweet potatoes, waxy potatoes, red potatoes, white potatoes, water potatoes, lobsters, tubers, ground tubers, cassava roots"* [6, p. 175].

Besides, beans are also one of the crops that are very familiar to farmers. From the 18th - 19th centuries, during this period, beans were grown very popularly, typically in some places such as An Giang, the cultivation of a variety of beans such as *"green beans, soybeans, black beans, white beans, cowpeas, machete beans, pork soybeans, longan peanuts, longan beans, peanuts"* [7, p. 70]. Beans are grown mainly in high mounds along the Tien or Hau rivers, the production season is from April to July. Beans are grown a lot in the districts of Dong Xuyen, Phu Lam, Tan An, Kien Long, My Chanh... In Vinh Long, there are quite a few types of beans such as *"yellow beans, black beans, white beans, green beans, white beans, cowpeas, long beans, pig teeth beans, Huong Dai beans"* [6, p. 175].

Sugarcane is also widely grown in the Mekong Delta. For Ha Tien, in some districts of Long Xuyen, two cantons of Long Thuy and Quang Xuyen, there are 4 types of sugarcane including: pink, white, blue, white roses are intercropped with *"shoulder sugarcane, 6, 7 inches wide. The thing that can press honey, only white sugarcane species with chalk skin can do it"* [6, p. 159]. These types of sugarcane can be processed into various types of sugar *"cane sugar is only produced in Phuc Chinh district, Bien Hoa town, in addition, it is boiled to make alum sugar, lung sugar is not included, only the amount of granulated sugar sold to boats is counted. wholesalers, each year can sell up to 50,000 kilograms"* [6, p. 159]. Sugarcane planting time is usually from March to July. According to the documents, *"there is 19.1 ha of sugarcane growing area, accounting for 0.16% of the province's cultivated*

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land; most grown in Dinh Khanh total, Vinh Dinh district" accounting for 3.6% of the province's rice fields; and Son Dien is 34,193 ha, accounting for 93.3%" [3, p. 136]. Only one place in Phu Lam village of An Thanh canton, Dong Xuyen district, can grow 0.97 ha.

In the 18th - 19th centuries, mulberry trees were planted for the purpose of developing mulberry cultivation for silkworm rearing as in An Giang province, "the area for mulberry cultivation is 380 ha, accounting for 3.32% of the province's cultivated land area" [3, p. 136], concentrated mainly in two districts of Dong Xuyen and Tay Xuyen "Dong Xuyen district planted about 207 hectares in the villages of Tan Hung (total An Luong), Tan An, Vinh Lac (total An Thanh), accounting for 54.3% strawberry area of the province. Tay Xuyen district planted about 100 hectares, accounting for 26.3%, planted in the villages of Vinh Nguon, Vinh Thanh (total of Chau Phu), Thoai Son, Vinh Phu (total of Dinh Phuoc), Binh Lam and Binh My (total of Dinh Thanh of Dinh Thanh district)" [7, p. 73]. This is a district with fertile soil that has created favorable conditions for the development of silk industry. Besides, strawberry farming in Ha Chau district is also focused. Usually, mulberry trees are planted at the beginning of the rainy season and after two months the first crop can be harvested. After a year of harvesting, the mulberry tree will be cut across the base to grow new branches and continue to pick leaves.

Besides, fruit trees are also extremely rich and diverse in types such as: bananas, oranges, mangoes, longan, star fruit, plums, pomegranates, betel nut... persimmons, fragrant old bananas, seed bananas and honey bananas. In particular, bananas and orange bananas are more fragrant and delicious. There are varieties of mangoes such as Thanh Ca mango, rice mango, Tuong mango, sticky mango... In addition, the soil here is also suitable for growing other fruit trees. According Truong Quoc Dung, "Son Tra is also a type of mango, the branches and leaves are small, the fruit is smaller than that of the mango, in Ha Tien it is very sweet but fragrant, in Quang Binh back to the north it is fragrant but very sour" [2, p. 162].

In addition, in Ha Chau province, pepper is also grown, so it has created a typical product of Ha Chau because the pepper here has an aromatic and spicy taste that is both strong and full of flavor. In the first half of the 19th century, areca is also an important agricultural product, with an area of more than 35 acres, only after pepper. These have become specific to Ha Chau district, Ha Tien province. In addition to cultivation, during this period, residents of the Mekong Delta also raised large livestock such as buffaloes and cows to serve as traction in the agricultural field, especially rice cultivation.

In general, agricultural farming techniques are mainly in the traditional way, so the techniques of growing and caring for crops are still highly dependent on natural factors such as soil, weather, rivers, etc. Therefore, it can be seen that although there are many new features in the agricultural field, in terms of plant varieties and productivity compared to the previous century, there are no breakthroughs.

❖ Salt field

This salt field is a low and flat piece of land, the core purpose of this field is to use salt from salt water or from sea water. Particularly for salt farming techniques, it depends on places where the climate is usually warm and dry. In which, 3 main factors are considered to affect the process of harvesting salt fields: high temperature, strong wind and low humidity.

Under the Nguyen Dynasty, the South had an area of over 70 acres of salt fields, also known as salt fields, concentrated mainly on the two coasts of Bien Hoa and Ha Tien. In which, Ha Tien is known as one of the provinces with the largest salt field in the Mekong Delta. For Ha Tien province, Ha Thanh is "the only total in the district with an area of 1.5 acres of salt fields" [14, p. 27]. Due to the advantage of the coastline, the majority of residents in Ha Chau still exploit salt fields, although the area of salt fields is small, salt in that period was considered as one of the main sources of salt. Great benefit here. Regarding taxes, every year "Each acre of salt field must pay a tax of 7 square salts" [1, p. 150] or in a number of works mentioning this issue as follows: "Salt fields are privately owned and taxed at the rate of 7 salt per acre, equivalent to 245.7 kg of salt" [14, p. 27]. The salt field is divided into many pieces, in fact, many households have only a few meters of salt field, but not even 1 sao of salt field. That's when briefly generalizing about the general situation of salt fields in this period.

Some comments on agricultural economic activities in the Mekong Delta in the first half of the 19th century

In the first half of the 19th century, the Mekong Delta's economy underwent some important changes. Ownership in land is divided into state ownership and private ownership. As for privately owned land, it is the majority, but it is fragmented and not highly concentrated. Therefore, it has not met the needs of economic development in agriculture. As for the land owned by the state, it has not been thoroughly and formed on a large scale. The influence in land ownership has partly affected activities in agricultural production. Mainly small-scale agricultural production activities, mainly by households. This is also the cause of food shortages when there is social change. Such fragmented and decentralized production has resulted in a shortage of agricultural output to supply the agricultural market. In fact, the change in land ownership in the Mekong Delta in the first half of the nineteenth century could not facilitate the development of the agricultural economy.

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Under the rule of "agriculture as the economic foundation" of the Nguyen Dynasty, agriculture was brought to the forefront. The Nguyen Dynasty tried and introduced many policies to develop agriculture such as unifying the unit of land area, re-measure the field, set up a book to fill in according to clear regulations set forth, etc. There are also measures to support and supply the people when there are famines, crop failures, natural disasters, etc. These have extremely positive impacts on the agricultural economy, contributing to stabilizing the life. people's life. However, it is necessary to recognize the science and reality of the policies of the Nguyen Dynasty when applied to each locality. Each locality has advantages to develop and shortcomings to overcome, each locality is different.

The Mekong Delta in the first half of the 19th century was an agricultural area with an important strategic position for the Nguyen Dynasty. Therefore, the Nguyen Dynasty used many other solutions to implement agricultural policies for this delta such as encouraging reclamation, investing in irrigation, etc. These policies on the one hand represent the role and responsibility of the Nguyen Dynasty in ensuring the conditions to promote the development of agricultural production. On the other hand, through these policies to strengthen the power of the state and the position of the Nguyen Dynasty. From the research results, the agricultural economic activities of the Mekong Delta have reflected the management policy of the Nguyen dynasty towards the agricultural economy with many different directions. In the field management policy, it has brought a lot of positive factors in agricultural cultivation, creating a lot of human resources for the locality, contributing to stabilizing people's lives and socio-economic development. However, these policies are not really scientific and feasible when applied to each locality, even becoming a barrier in agricultural economic development. The barrier here is the development and integration of trade with the outside when the Nguyen Dynasty enforced the policy of "no trade with foreign countries", "respect agriculture, limit commercial development"... The historical lessons drawn for this reality need to create all conditions for the country's economy to develop in the context of integration. The Government needs to determine the key position of the key economic sector of each region and each locality so that it can be scientifically and feasible for economic development. Accurate identification of key economic sectors in each locality and region will be the decisive key in comprehensive socio-economic development.

CONCLUSIONS

Based on reliable scientific historical sources, the research team has determined the boundary of the Mekong Delta in the first half of the 19th century, this land belongs to 3 provinces: Vinh Long, An Giang, Ha Tien and Tan An of Gia Dinh province. After many times of changing the names and administrative boundaries of the provinces, it is still basically compatible with the land of 13 provinces and cities today: Long An, Tien Giang, Ben Tre, Vinh Long, Tra Vinh , Hau Giang, Soc Trang, Dong Thap, An Giang, Kien Giang, Bac Lieu and Ca Mau and Can Tho city. This delta region has an important strategic role in economic development and national security and defense in the South of Vietnam under the Nguyen Dynasty. The Mekong Delta of Vietnam in the first half of the 19th century was an agricultural region of great importance strategic position for the Nguyen Dynasty. So, the Nguyen dynasty used many other solutions to implement agricultural policies for this delta, such as encouraging reclamation, investing in irrigation, etc. The Nguyen Dynasty created favorable conditions to promote promoting the development of agricultural production with the diversity and abundance of plant varieties, in which rice still dominates and is the main product of the agricultural economy in this delta. The study of the agricultural economic situation in the Mekong Delta in the second half of the 19th century through ancient bibliographic sources not only contributes to a re-drawing of the picture of the agricultural economic situation along with other important points. its characteristics but also suggest more related issues about agricultural economy and rural life of the delta that need to be discussed in the current context of development and integration.

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The Effect of Internal Imagery Training on Increasing the Accuracy of Free Kicks for Young Indonesian Football Athletes Aged 13 Years



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ABSTRACT: This study aims to determine the effect of internal imagery training on increasing the accuracy of free kicks of young Indonesian football athletes aged 13 years. This type of research is an experiment with the design of one group pre-test and post-test. The population in this study was 24 young Indonesian football athletes aged 13 years. The sample in this study was 10 people taken using purposive sampling techniques. The instrument used is to measure the accuracy of the free kick using a test of shooting the ball at the target. The data analysis technique used is the paired sample t-test. The results showed that there was a significant influence of internal imagery exercises on increasing the accuracy of free kicks from the initial test and the final test increased by a difference of 4.7, namely from an average score of 9.7 in the pre-test to 14.4 in the post-test, and strengthened by the results of the t-test using a paired sample t-test with a t value of -7,870 and a p significance value of $0.000 < 0.05$. This study concludes that there is a significant influence of internal imagery training on increasing the accuracy of free kicks of young Indonesian football athletes aged 13 years.

KEYWORDS: Internal Imagery, Accuracy free kick, Football.

I. INTRODUCTION

Psychology is an important aspect of supporting athlete success (Stambulova et al., 2021). Mental training is one of the psychological strengthenings used to increase self-confidence in athletes because of the good appearance of athletes by being able to speak and think positively about themselves when the athlete will choose the art of management at the games (Indraharsani & Budisetyani, 2017; Kim & Cruz, 2021). This is a crucial factor in achieving psychological success. Imagery means the actual form of simulation. Imagery is derived from experiences gained from the way of seeing, feeling, and listening, but holistically those experiences occur in the brain (Kraeutner et al., 2018). This agrees with (Sitaram et al., 2017) who state that mental imagery is something that occurs in the brain. In doing imagery training, players must be able to concentrate so that the training achieves what will happen well.

Concentration is focusing on an exclusive and undisturbed thing the internal as well as the irrelevant external stimulus, as stated (Fatahilah & Firlando, 2020) Internal stimulus is a sensory disorder or mind similar to feelings of fatigue, anxiety, and so on. External stimulus is a disturbance from outside the self such as the cheers of the audience, the ridicule of the audience, the referee's decision errors, and others. In global sports, concentration means the ability of athletes to focus on the game for better achievements.

In the world of sports concentration is the ability of athletes to focus on the game for better achievements. Previous research has stated that concentration is needed to achieve optimal achievement, not only in shooting, archery, golf, tennis, and swimming but in almost all sports, including team sports. (Issurin, 2016; Moran, 2016). The origin of the statement above can be interpreted that every sport requires good concentration, making sports skills.

Imagery training is a form of exercise that can enhance the player's technique. Mental imagery exercise means a technique that is often used by instructors and experts in sports psychology to help improve the performance of athletes (Bedir & Erhan, 2021; Slimani et al., 2016). The imagery perspective is used based on the player being able to imagine himself and others when performing a technique. In other terms, mental imagery exercises that are used according to the ability of a person player present a shadow of a free kick technique on the mind. Visualization means that one of the most powerful mental training management arts for athlete performance (Bali, 2015; Dohme et al., 2019).

Imagery mental training in football can be done by the player by presenting a shadow of himself performing a movement technique on his brain, for example in doing the free-kick technique in football the player can imagine himself doing a

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free-kick movement using the good and valid result of which the ball enters the goal net past the goalkeeper. A free kick kicker is required to have good basic football techniques, especially in terms of kicking or shooting the ball at the target because it will determine whether or not the free kick is successful (Eager et al., 2022; Schaper et al., 2020). According to the coverage in the field, as is the case in young Indonesian football athletes, many athletes have different kicking techniques, especially in the use of their feet and the level of concentration before kicking. Therefore, to raise the good effect of kicking free kick technique in football requires perfect training for the athlete.

Based on observations in January 2023 and information submitted by the FC U-13 youth football athlete coach that the accuracy level of the athlete's free kick is still low as evidenced by the instrument of the accuracy of shooting the ball at the target with the results of 24 athletes 10 of which the level of free kick accuracy is still low. In addition, researchers have not seen any imagery training in training programs in young Indonesian football schools even though the need for mental abilities or often considered mental skills plays a crucial role in the process of achieving achievements in team sports similar to football.

From the conflict above, using internal imagery exercises can solve the problem of free kicks found in football schools. This can be proven to come from the imagery exercise itself because in doing a free kick with imagery a player must imagine himself (visualization) in his mind when doing a free kick from that a football player who is doing a free kick can use to see the post, the goal net, the position of the goalkeeper, and the fortress of people built versus then hear and feel as a result the ball enters the opponent's goal. This is in line with research that confirms a simulation that occurs in the brain that can strengthen or describe the free-kick movement (Predoiu et al., 2020; Renshaw et al., 2019). Based on the conflict above, the purpose of this study is to determine the effect of internal imagery training on increasing the accuracy of free kicks of young Indonesian football athletes. This form of mental imagery training is used to improve the quality of a technique, especially free kicks in football.

II. MATERIAL AND METHODS

This study used an experimental research model with a group pre-test-post-test design. This method is validation, which is to test the influence of one variable on another. This experimental study used one group that received the same treatment, namely the provision of internal imagery exercises. The population in this study was 24 people, and the sample in this study was 10 people. Sampling technique using a purposive sampling technique. This study has received approval from all samples that have filled out a statement of ability to become a research sample and have met the requirements of the research code of ethics.

Data collection techniques in this study are tests and measurements. An instrument for measuring the accuracy of free kicks using a test of shooting the ball at the target. After that, treatment or exercise is given as much as 6 meetings with a frequency of 3x a week. And ended with taking the final test or post-test to measure the accuracy of free kicks using to know the difference in the accuracy score of free kick football athletes after treatment. The data analysis technique used in this study using SPSS 22 was to use a paired sample t-test. at the significance level $\alpha = 0.05$. Before arriving at the use of paired sample t-test, it is necessary to carry out prerequisite tests, which include: (1) a normality test and (2) a hypothesis test with paired sample t-test.

III. RESULTS AND DISCUSSION

The research results and discussion section will be presented sequentially, including data on the results of the research pre-test and post-test, prerequisite test, and hypothesis test. The hypothesis test in this study will be presented by the formulation of the problem, namely: (a) The Effect of Internal Imagery Training on Increasing the Accuracy of Free Kicks for Young Indonesian Football Athletes. In full it will be presented as follows.

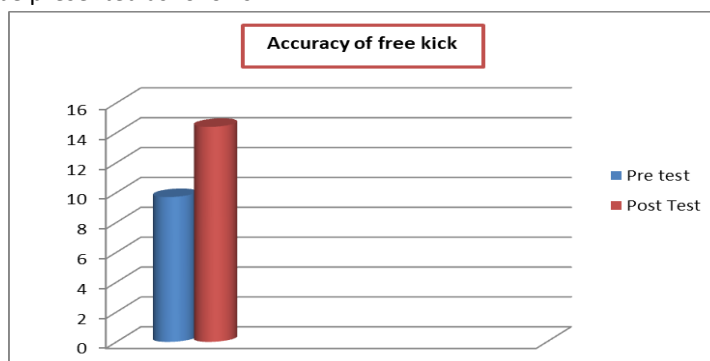


Figure 1. Bar chart pre-test and post-test Accuracy Free Kick Football Athletes

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Based on Figure 1 above, shows that the accuracy of the free kick of young Indonesian football athletes averaged 9.7 pretests and increased at the time of posttest worth 14.4.

1. Prerequisite Test Results

a. Normality Test

The data normality test in this study used the Shapiro-Wilk method. The results of the data normality test conducted in each analysis group were carried out with the SPSS version 22.0 for windows software program with a significance level of 5% or 0.05. The summary is presented in Table 1 as follows.

Table 1. Summary of Normality Test Results

Group	P	Significance	Information
Pre-test Accuracy Free Kick	0,643	0,05	Usual
Post-Test Accuracy Free Kick	0,376	0,05	Usual

Based on the statistical analysis of normality tests that have been carried out using the Shapiro-Wilk test, all fine motor pretest and posttest data were obtained from the normality test results of the data significance value $p > 0.05$, which means that the data are normally distributed.

Hypothesis Test Results

Research hypothesis testing is carried out based on the results of data analysis and interpretation of paired sample t-test analysis. The results of hypothesis testing are adjusted to the hypothesis formulated earlier, as follows: "The hypothesis is that there is an influence of internal imagery training on increasing the accuracy of free kicks of young Indonesian football athletes" Based on the results of the analysis obtained data in Table 3 as follows:

Table 2. Paired sample t-test results in internal imagery exercises on improving the accuracy of free kicks.

Paired Samples Test

		Paired Differences			
		95% Confidence Interval of the Difference	t	df	Sig. (2-tailed)
		Upper			
Pair 1	Pre-test Accuracy Free Kick - Post-test Accuracy Free Kick	-3.34900	-7.870	9	.000

From the results of the paired sample t-test test Table 2 above, it can be seen that the significance value of p is 0.000 and the value of t is -7.870 . Since the significance value of p is $0.000 < 0.05$, it means that H_0 is rejected. Thus there is a significant influence of internal imagery training on the increase in free kicks of young Indonesian football athletes. This means that the research hypothesis that states that "There is a significant influence of internal exercise imagery on the increase in a free kick of young Indonesian football athletes", has been proven.

DISCUSSION

The discussion of the results of this study provides a further interpretation of the results of the data analysis that has been put forward. Based on hypothesis testing produces an analysis, namely: (1) there is a meaningful influence of the main factors of the study. The discussion of the results of the analysis can be explained further as follows.

"There is an influence of internal imagery training on improving the accuracy of free kicks of young Indonesian football athletes"

Based on the results of the analysis carried out, it was found that the accuracy of free kick athletes of young Indonesian football has improved well by being given training using an internal imagery training model. These results are by previous research which states that internal imagery mental exercises are more useful than external imagery mental exercises if used as an exercise model to develop movement techniques and develop strategies (Mujika et al., 2018; Tangkudung, 2022). Internal mental exercise imagery is also higher in generating psychological responses (Hardy et al., 2018; He et al., 2018). This psychological response can

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produce more endorphin hormones so that it has a calmer and more comfortable effect on athletes or players in carrying out their duties.

Based on some of the theories above, it is known that internal imagery mental exercises have many advantages over external imagery exercises. In the internal imagery method exercise, there are advantages, namely more in improving the player's psychological response, besides that the internal imagery mental exercise is simpler and maximizes the player's movement experience. With several advantages, it can be concluded that internal imagery mental training is more influential in improving player performance.

IV. CONCLUSION

Based on the results of the research and the results of the data analysis that has been carried out, the following conclusion was obtained: There is a significant influence of internal imagery training on improving the accuracy of free kicks of young Indonesian football athletes. The results showed that the internal imagery training method is an effective method used for young Indonesian football athletes. The research results imply that improving the accuracy of free kicks, it can be done by pursuing the application of an internal imagery model. This means that athletes are given a training model that is by their characteristics so that in the training process athletes feel happy and motivated to follow the training so that training goals will be achieved. Then another implication is to encourage coaches to apply a suitable mental training model that can increase the accuracy of free kicks when participating in training.

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Marketing Strategy Analysis of the Faculty of Sports Science Swimming Pool, Yogyakarta State University



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ABSTRACT: The swimming pool owned by the FIK UNY (*Fakultas Ilmu Keolahragaan Universitas Negeri Yogyakarta/ Faculty of Sports Science Yogyakarta State University*) has sufficient facilities. However, the number of visitors could have been more optimal. This study aimed to determine the marketing strategy utilized by the swimming pool management. Marketing strategy is a helpful tool to achieve company goals with the help of the marketing mix. This study was qualitative descriptive research with data collection using observation, interviews, and documentation. The samples were selected using *purposive sampling*, gaining forty-five people, consisting of one manager, fourteen employees, and thirty visitors. The data validity was carried out through perseverance and data triangulation through the source of methods and theories. The technical data analysis is done by reducing and presenting the data and drawing conclusions. The study results stated that the FIK UNY Swimming Pool product had met the needs of visitors, the ticket price was worth the facilities provided, and the location was quite strategic because it is in the middle of the city. Despite these, the promotion was appalling because it has not been vigorous. Furthermore, the results also showed that the human resources of the FIK UNY Swimming Pool were well-recruited and educated, the process implemented has been good, and the customer service for the visitors has also been good. So, it can be concluded that after the marketing strategy analysis was carried out, it was found that the particular promotional factors for the advertising were not carried out vigorously, so the number of visitors to the FIK UNY Swimming Pool was not optimal.

KEYWORDS: Marketing Strategy, Swimming Pool, FIK UNY

INTRODUCTION

The *physical* and the *spiritual* are two kinds of human needs. Human beings have many requirements that must be fulfilled for themselves or their families, especially in globalization. According to Fatkhullah (2022: 860), high awareness of health, adequate nutrition, and the community's physical and spiritual health can improve productivity and work quality. Sports, clothing, and food are examples of the physical fulfilment required by human beings to distribute their physical needs. Kusuma & Setyawati (2016: 68) said that humans perform weekend recreational sports activities that have a relationship with physical or body sports and make them meet physical needs to add freshness and be able to carry out a healthy lifestyle using free time. Human life will be disrupted if this need is not completed as this is an essential fulfilment. *Sport* is one of the physical needs of human beings. Sports are physical activities that can impact the body (Pane, 2015: 1). To keep the body in shape, every human being takes care of it by exercising, a basic need that must be fulfilled. According to Khairuddin (2017: 5), exercise is part of the basic needs in human life every day because it can provide the fitness to carry out their activities.

Technology, science, and human needs for health are getting higher and higher with the times. The demand to provide the best solution is addressed toward several experts in economics, sports, and other fields because it affects the development of the industry in the world of sports. The interesting concept of increasing physical activity is the answer to the problem of the human health needs of experts in the field of sports.

Swimming is a sport that attracts many enthusiasts in all groups of Indonesian society. Berli & Asmoro (2015: 89) said that swimming is one of all sports categories that have many enthusiasts and practitioners because, in addition to being an achievement sport, swimming can also be a recreational sport. Entrepreneurs in Indonesia created the swimming pool business to attract customers who like the sport of swimming. The swimming pool is one of the efforts for the general public that facilitates its place for swimming, sports, recreation, and other services using clean water that has been processed (Made, 2019: 11). To

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satisfy its customers, the owner or company designs the swimming pool creatively and modernly with various models, such as a round-shaped swimming pool with modifications adapted to the surrounding natural conditions.

The development of swimming pools nowadays brings happiness to society when doing swimming sports without feeling tired or getting bored. Unique designs of rides for recreation and exercise are currently widely available in the swimming pool. In accordance with its natural potential, certain swimming pools can be found with attractive conditions and facilities.

The strategic and attractive condition of the area in the countryside is one of the places where the swimming pool business is penetrated. Even every star-rated hotel in the urban area already has a swimming pool in it, making the swimming pool business can grow rapidly. Especially on Java Island, swimming pools can almost be found in every city. With the swimming pool, the community is very supportive and responds positively.

A swimming pool needs to improve its facilities operation. Therefore, a great job on this matter plays a vital role in the duties of a manager. Everything related to the pool business, such as workers and employees, must be organized first when planning the implementation of the marketing strategy plan. A marketing strategy is a set of goals, objectives, policies, and rules that give direction to marketing efforts over time at each level and location. According to Marbun (2021: 100-101), the implementation of marketing strategies has a significant impact on supporting the increase in competition and company profits by using the 4P marketing mix strategy, namely *price*, *product*, *promotion*, and *place*. To attract consumers, strategic action in a marketing strategy needs to be carried out, such as promotion. Consumers who have never swum and who come to swim should be given information about the presence of advertisements in that place.

The FIK UNY Swimming Pool required a marketing strategy managed by the pool manager. This swimming pool is located at Jalan Kuningan Number 1, Karang Malang, Caturtunggal Village, Depok District, Sleman Regency, Yogyakarta Special Region Province. Specifically, the place is on the north side of the Integrated Sports Laboratory Building at the Faculty of Sports Science, Yogyakarta State University. The swimming pool was built in 1993 as a sports laboratory, especially swimming sports, and was first operationalized in 1995. Since then, the FIK UNY Swimming Pool has continued to operate and become one of the *outdoor* swimming pools in the Special Region of Yogyakarta. The FIK UNY Swimming Pool has three swimming pools; a children's pool with a depth of about 1-1.5 meters and a long pool for children and adults respectively.

The FIK UNY Swimming Pool is located in the UNY campus area and bordered by the UGM campus area. Besides the residents around the swimming pool, the pool visitors are students from both campuses. Consumer comfort and water clarity were the attractions of the FIK UNY Swimming Pool. Having a large motorbike and car parking lot was also one of the advantages of the FIK UNY Swimming Pool. The FIK UNY Swimming Pool was managed by Dr Hedi Ardiyanto Hermawan, S.Pd., M.Or., a lecturer at the Faculty of Sports Science from Yogyakarta State University.

From the statement above, the researchers wanted to know the extent of the marketing strategy of the FIK UNY Swimming Pool. Therefore, the researchers were interested in conducting research entitled "Analysis of Swimming Pool Marketing Strategies, Faculty of Sports Science, Yogyakarta State University."

METHOD

This research method is the overall activity or method carried out by researchers when conducting research, starting from problem formulation to drawing conclusions. This research is qualitative descriptive research using a survey method.

The research method used in this study is descriptive qualitative. According to Sugiyono, quoted by Mustafa (2020: 12), in a qualitative descriptive research method, researchers become instruments for collecting data and processing it using: (1) data reduction, (2) data display, and (3) verification. Descriptive research is research directed at describing artificial phenomena or natural phenomena. Zellatifanny & Mudjiyanto (2018: 84) said that descriptive research is a research method that aims to present subjects or objects studied objectively and is used to display facts with characteristics and systematic objects at the frequency studied appropriately. Phenomena can be activities, characteristics, changes, relationships, similarities, forms, and differences in every phenomenon. The data in this study were collected through interviews, documentation, and observation. The instruments in this study consisted of observation guides, documentation, and interview guides.

Researchers observed every activity carried out by individuals in the UNY FIK swimming pool. The data were obtained by looking at the actual situation in the conditions of each activity and through interviews with the subject.

The research informants were asked to provide information about the conditions and situation of the research background. The selection of informants for this study used a purposive sampling technique. Purposive sampling is a technique for determining the sample using specific considerations. According to Kuncoro, quoted by Pangandaheng (2015: 52), the purposive sampling model is carried out deliberately in accordance with the required sample requirements. Furthermore, the selection of a group of subjects in purposive sampling was based on the criteria that were seen to have a close relationship with the previously known population criteria. Informants used by the author in this study include.

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1. The Swimming Pool Manager, Faculty of Sports Science, Yogyakarta State University.
2. The Swimming Pool Employees, Faculty of Sports Science, Yogyakarta State University.
3. The visitors of the Swimming Pool.

Variable operationalization is needed for each research concept so that the research can be examined empirically. This can be done by changing the variable to have a value variation. In terms of operational variables, the definition of each variable to be examined, along with the required measurement dimensions, is explained. Marketing strategy tools consist of a marketing mix, which includes price, place, promotion, employees, stages in the process, services, and products provided to visitors. Sabri & Ali (2021: 13) say that a 7P marketing mix is a tool used to control marketing tactically based on price, product, promotion, place, people, physical evidence, and process, which are elements that are combined to provide action to get targets in the market.

1. Price

Price is the amount of money a customer has to pay to obtain the desired goods, products, or services. According to Kotler and Armstrong, cited by Venessa & Arifin (2015: 46), price is the amount of most of the values that consumers pay and then get the use of owning or using goods and services.

2. Place

Place is to manage or choose the trade routes used to distribute services or products and to help the target market. It also expands the business distribution and delivery system of physical products. Khotimah & Jalari (2021: 82) said that a place is an area used to distribute products to consumers.

3. Promotion

Promotion is all movements carried out by a company to highlight and communicate and promote all the privileges of its products and offer target consumers to buy them. Farida (2016: 34) states that promotion is the most crucial tool for advertising various products.

4. Human Resources

Human resources are every actor who presents services to influence buyers. According to Pujanira (2017: 24), human resources are skills found in every employee who has a relationship with abilities, attitudes, and knowledge when doing their work in order to achieve the desired goals.

5. Process

Processes are all mechanisms, activity flow, and actual procedures used to distribute services. According to Farida et al. (2016: 34), the process is one of the 9 *core elements* of marketing. However, after being monitored from the correlation that needs to be needed, the element is pushed in to be used as one of the components in the *marketing mix*.

6. Service

Service is all movements intended to satisfy consumers by using services that can meet the needs and desires of consumers. According to Hasia (2019: 138), quality of service is a benchmark of work ethic that is very easy to see with the eye.

7. Product

Product is an offer in the form of a company to consumers or target markets, including design, shape, brand, product packaging and quality. According to Wisudawati & Rizalmi (2020: 27), the marketing mix concept is devoted to business promotion problems, such as how to promote products and what media is used.

A research instrument is any tool used when measuring; in this case, a research instrument is a helpful tool for obtaining data for the research. According to Yusup (2018: 18), a research instrument is a tool used to collect data and measure objects derived from a research variable. The instrument in this study included the researchers using interview guidelines, observation guides, and documentation.

In order to obtain data that can be scientifically accounted for, the data must first be processed with data validity-checking techniques. According to Mutiani et al. (2020: 114), a researcher has the role of a *human instrument* to carry out interview guidelines, collection, analysis, and validity of the data tests that are carried out independently and not using representatives. In qualitative research, the data validity test includes *transferability*, *dependability*, *confirmability* and *credibility*.

The research instrument in this study was the researchers. As stated, the research tool or instrument in qualitative research is the researchers themselves.

Standard features of a human as an instrument include:

- a. Human, as an instrument, is responsive to the environment and to every person who creates the environment,
- b. Human, as an instrument, has almost no limit on adjusting to the situation and the data collection circumstances,
- c. Human, as an instrument, maximizes their creativity and imagination and observes this world as a whole,
- d. Underlying oneself on the expansion of knowledge,
- e. Processing data to the maximum,

- f. Using the opportunity to endeavor and clarify,
- g. Using the opportunity to look for idiosyncratic and unorthodox responses.

In this study, the researchers played the role of implementers, data collectors, analysts, data interpreters, planners and reporters of their research results. As a tool to support the researchers in collecting data, they used interview guidelines and field notebooks.

As for the preparation before going to the field, the researchers carried out 'Validation' as the instrument. This validation included validation of the qualitative research method understanding and the use of insights into the object under study, namely marketing strategies in the FIK UNY swimming pool.

The type of interview was a unified interview where the researchers created an outline or framework of interview guidelines. The observation carried out by the researchers was an observation that did not participate. The researchers only carried out one function, namely, making observations. The observation was carried out openly, namely, the observer was known to the subject. Observations of this study were complemented by documentation. The documentation involved photos and field notes.

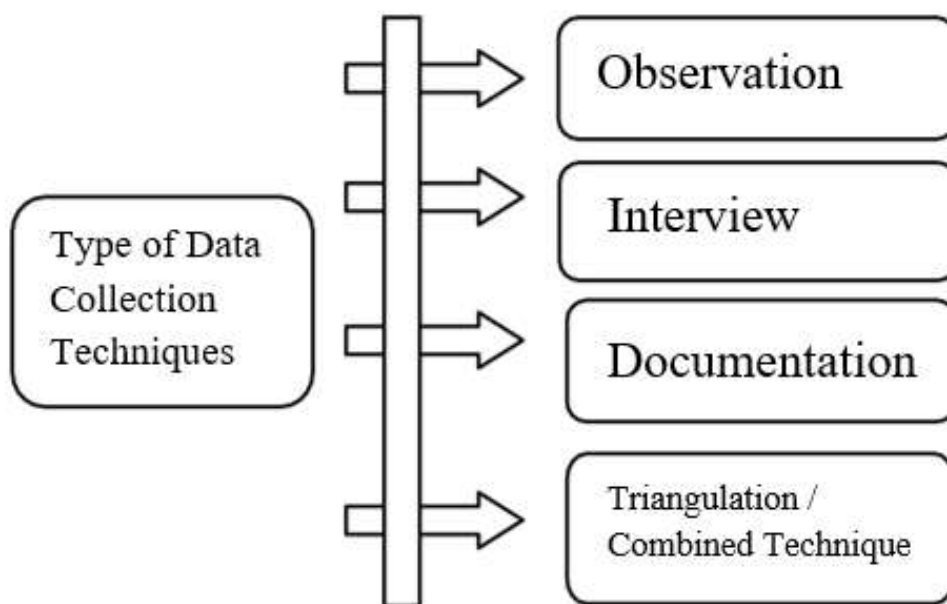


Figure 1. Types of data collection techniques

a. Observation

The object of observation in qualitative research includes three components; actors, activities, and places. According to Johnson and Christensen, cited by Gumilang (2016: 154), qualitative observation is carried out by researchers in a scientific setting that aims to explore and find meaning. The observation carried out by the researcher is a frank observation which means that a researcher, when carrying out data collection, tells frankly about the source of the data that the researcher is carrying out the research.

b. Interview

The interview method is a question-and-answer process in research conducted orally between two or more people face to face listening directly to each other's information. According to Arthur & Villado, quoted by Ubaedillah et al. (2020: 47), interviews are concepts that can be formed to assess all predicate values. An interview is a conversation with a specific purpose that is carried out by two parties, namely the object of the interview and the interviewer. An interview is a meeting of two people to exchange ideas and information using question-and-answer media to obtain meaning on a particular topic.

c. Documentation

A document is a record of an event that has passed. According to Gottschalk, cited by Nilamsari (2014: 178), documentation on explanations in a broader sense is all processes that are proven based on any source, whether oral, drawing, written or archaeological. Documents can be drawings, writings, and monumental works of a person. Document studies are complementary to interview and observation methods in qualitative research.

1. Data Reduction

Data reduction is focusing, simplifying, abstracting data, and selecting from a *fieldnote*. According to Rijali (2018: 83), data reduction is an effort to infer data and then sort data with specific units of concept, themes and categories. The data reduction

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process is carried out continuously during this research activity. It was even carried out at the beginning of the process before the data collection activity. As data collection progressed, data reduction was carried out by creating coding, centering themes, setting every boundary of the problem, and writing memos and abbreviations. This reduction process continues until the report is completed.

2. Data Feed

Data presentation is an assembly of information organizations that can make research conclusions. Akhmad (2015: 49) said that the presentation of data is a description of specific circumstances to answer and describe all problems in the study. The data feed was optimized with images or schemas, tables, and matrices to make it clear when delivered. All these kinds of things were made to correct information in an orderly manner so that it can be understood and easily observed in a unified form.

3. Conclusion Drawing and Verification

Starting from the beginning of data collection, researchers must try to understand the meaning of all the events that they went through. This was started by recording patterns, statements, possible configurations, causal directions, and regulations, and all these events must be appropriately observed, but still with a sceptical and open attitude. According to Yuliani (2018: 88), conclusions must be strengthened by valid and consistent evidence so that when researchers return to the field to collect data, the conclusions expressed are credible. Verification can be done in more detail or by discussing with friends to broaden consensus between subjects. In addition, verification can be done on a broader business by implementing replicas into other data units. The researchers used data analysis that utilized an interactive model, namely the three main components, one with the other, are interrelated and gradually implemented from the beginning to the end of the study.

ANALYSIS AND DISCUSSION

1. Product

The results of interviews with managers, employees, and visitors showed that the FIK UNY Swimming Pool was good in terms of the quality of the facilities and the water cleanliness. The comforts and safety of the facilities and infrastructure were evident and maintained, though the cleanliness of the rinse room and toilet was not maximized during this pandemic. The FIK UNY swimming pool has potential products; the water quality was already in accordance with *Permenkes* standards. In addition, the environment was also clean, safe, and comfortable.

2. Price (Price)

The entrance ticket price for the FIK UNY Swimming Pool for Monday to Saturday is IDR 10,000.00. Meanwhile, for Sundays and national holidays was IDR 15,000.00. The number of ticket prices set was also worth the facilities, even though sometimes the price is still less compared to the facilities provided. The FIK UNY swimming pool also provides discounted ticket prices for students to IDR 5,000.00 and club members to IDR 7,000.00. The pricing of FIK UNY swimming pool tickets is based on the UNY rector's decree. Some employees argue that the entrance ticket price is too low considering that other swimming pools cost more than Rp. 10,000.00.

3. Place

FIK UNY Swimming Pool is in a strategic location because it is close to the village complex and easily accessible. All types of vehicles and even large buses can enter the location of the FIK UNY swimming pool. The parking lot is large enough to accommodate the crowds of visitors, but if there is a big event, visitors must borrow a parking space at the faculty. The swimming pool also posted directions to the FIK UNY swimming pool.

4. Promotion

According to the interview results, the FIK UNY swimming pool publication has been done through *YouTube* and in the form of videos. Two parties are responsible for promoting the FIK UNY swimming pool; the university public relations department and the faculty using profile videos. Meanwhile, from the swimming pool itself, the promotion is relatively inexpensive. Swimming pool promotional media used social networking media in the form of videos.

5. Employees (People)

The FIK UNY Swimming Pool has 14 employees whose quality of employees is diverse. Some are very good, good and moderate, but all have strong responsibilities and commitments. The appearance of the employees is neat and clean and friendly to every visitor who comes.

6. Process

The FIK UNY Swimming Pool employees can complete their respective tasks quickly and responsively. All employees also always prioritize the satisfaction of visitors. The purpose of building a swimming pool FIK UNY is to provide services for swimming sports

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education for students, swimming learning places for schools in DIY, swimming learning for swimming clubs, and sports rides for the general public. For information mechanisms and complaints related to the pool, visitors can ask one of the employees on duty.

7. Customer service

The FIK UNY Swimming Pool employees are always ready to be on standby to maintain the safety of every visitor. The 3S reference (*senyum, sapa, salam*/smile, salute, greeting) has been applied to all employees but still depends on their personalities. Even so, everything is polite when they serve visitors. For the complaints about the pool, employees can answer them. As for the policy, it can be asked toward the manager.

The *strengths, weaknesses, opportunities* and *threats*, commonly called a SWOT analysis, involve setting the goals of a project or business venture, identifying good external and internal factors, and providing benefits to achieve that goal.

The FIK UNY Swimming Pool has numerous advantages in its marketing strategy. First, it includes having good product quality and meeting the needs of visitors to make visitors feel satisfied. Second, the entrance ticket prices for the FIK UNY Swimming Pool are affordable and worth the facilities provided. This factor can increase the number of visitors who come to the FIK UNY Swimming Pool. Next, the FIK UNY Swimming Pool is in a strategic location that can be accessed by all vehicles and visitors. Furthermore, the human resources of the FIK UNY swimming pool are good and have strong responsibilities and commitments. Last, the information mechanisms and complaints process are good, and the service has been fast and responsive so that visitors feel safe in the FIK UNY Swimming Pool.

Despite those, the FIK UNY Swimming Pool has weaknesses in marketing strategies. To begin with, the FIK UNY Swimming Pool still lacks directions to the swimming pool, so visitors are pretty troubled about getting to the location of the swimming pool. Furthermore, the swimming pool could be more assertive in advertising/promotion, which can increase the number of visitors. Lastly, the a lack number of employees / human resources, so the cleanliness of the swimming pool is sometimes not optimal, and some visitors still violate the regulations in the FIK UNY Swimming Pool.

The FIK UNY Swimming Pool has an opportunity in marketing strategy. The FIK UNY Swimming Pool's advantages include a strategic location in the middle of the city and adjacent to the campus area, hotels and boarding houses to make the swimming pool easily accessible to all visitors, children and youth visitors who are always there every week. Because the FIK UNY Swimming Pool is one of the places for private swimming lessons and swimming club training, it is still rare for other swimming pools to have a waterfall, such as the FIK UNY Swimming Pool, which can be a force attraction for visitors. The swimming pool can also be a place for major events or events such as swimming championships between associations throughout Indonesia. Many visitors take pictures and make videos at the FIK UNY Swimming Pool and then upload it on social media. This can be a free promotion for the swimming pool and increase awareness of learning swimming sports for beginners who want to become police officers and soldiers.

The FIK UNY Swimming Pool also has several threats to its marketing strategy. The first threat was the quality of other good swimming pools' ceramics without any slight breaking and will not hurt visitors' feet when swimming. The next was the existence of luggage storage in other swimming pools that can ensure the safety of visitors' belongings. Moreover, other swimming pool competitors have playgrounds in children's pools. Cloudy and rainy weather can affect the color of the water in the swimming pool. The competitors who continually promote the swimming pool every day through social media and if the rainy season has arrived can reduce the number of visitors who come to the FIK UNY swimming pool.

CONCLUSION

The conclusion from the analysis of the results and discussion stated that the marketing mix consisting of prices, human resources, services, products, locations, promotions and processes had been professionally implemented by employees and managers of the FIK UNY Swimming Pool. Although the promotions carried out by employees and managers of the FIK UNY Swimming Pool had been relatively inexpensive. From the conclusions and results of the study through observation, interviews and documentation, the researchers compiled the following suggestions:

1. Promotion to be further improved and intensified so that the general public knows more and is interested in swimming in the FIK UNY Swimming Pool.
2. Managers should always motivate employees to be able to work professionally.

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Dataism: The rise of a data-driven world? A Guide for Data-Oriented Policy and Management



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ABSTRACT: This study examines the growing impact of data in contemporary society and the consequences for management and policy. It looks at the emergence of the dataism paradigm, which prioritizes data-based decision-making, and evaluates how it has affected different sectors and industries. The manuscript offers a thorough road map for managers and policymakers to comprehend and successfully navigate the data-driven environment. It clarifies the advantages and drawbacks of dataism and presents methods for utilizing data to promote growth, boost effectiveness, and assure ethical use. This manual is a crucial tool for anyone trying to comprehend how dataism affects management and policy.

KEYWORDS: Dataism, society, ethics, privacy, artificial intelligence, big data, data activism

1. INTRODUCTION

The twenty-first century marks the beginning of a new era in human history. The data-driven information technology revolution aspires to empower the human community to make decisions that will contribute to its prosperity.

Besides, data are everywhere, and it is expanding at an unprecedented rate. In 2011, the world generated 1.8 zettabytes of data. It is expected to reach 175 zettabytes by 2025 [1]. They pervade our lives, shape how we interact with the digital world, and are the lifeblood of today's technology-driven economy. Particularly in the area of Big Data, where organizations can leverage massive amounts of data to gain insights into stakeholder trends and behavior.

Algorithms power everything from online search and social media to weather forecasting and self-driving cars are powered by data [2]. They can originate in a variety of places, including our bodies, social media, and the Internet of Things. Many researchers regard data as the new oil, currency, and gold. They can transform economies and societies while also creating social and economic value.

As a consequence, the next decade will be even more valuable than the current one. The reason is straightforward: the world is becoming increasingly digital, and data is the foundation of the digital world. Initially, data were primarily used for research and development, however, it is now being used to develop new products and services as well as improve existing ones [3]. As it has become more prevalent and important, it has also become more complex and difficult to manage [4].

2. BACKGROUND & PREREQUISITES

Dataism is a relatively new belief system, and there is no universal agreement on how the term should be interpreted. In his book "Homo Deus: A Brief History of Humankind," historian and philosopher Yuval Noah Harari attempted a detailed analysis of the term dataism. He claims that the rise of dataism is the result of the convergence of two scientific disciplines, biology, and computer science, and that it is one of the most significant developments in human history. According to one of the fundamental theories of dataism, the universe is made up of data streams, and the value of each phenomenon and entity is determined by their contribution to processing them [5].

Dataists believe that data are the most important thing in the world because powerful computer systems processing them can lead to better decisions due to the human brain's inability to process large amounts of data [6]. This idea is based on the fact that data analysis can assist in identifying patterns and trends that would otherwise go unnoticed. Dataists also contend that data should be used to make all decisions, regardless of their nature. This could range from what products to buy and sell to what policies to put in place.

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Many researchers, however, are skeptical of these theses, believing that data should be used to supplement human decision-making rather than being the sole factor in decision-making. They claim that data is not always accurate and can be used to back up false claims. Data, they argue, can also be used to justify discrimination and oppression. As a result, one of the emerging challenges is determining whether we, as a society, should rely solely on data results or entirely on their interpretation. The former could result in decisions that are not in the best interests of people, whereas the latter could result in data misinterpretation issues. Furthermore, many decisions must be made based on factors other than data, such as ethics and personal preferences.

Several studies approach the concept of dataism from various angles. Brooks has interpreted the concept as an emerging philosophy since the beginning of the last decade and predicts that the ability to collect data will help humanity do remarkable things like predict the future [7].

In his book "Dataism: The Revolution Transforming Decision Making, Consumer Behavior, and Almost Everything Else," Lohr describes how dataism is revolutionizing various sectors of society, from how we make decisions to how we interact with one another [8].

Others approach the concept from a theological and metaphysical standpoint [9] or a socio-political standpoint, referring to the sharing and analysis of biomedical data. They observe that while the integration of unprecedentedly rich data has a significant impact on basic research and patient healthcare, it also poses significant challenges for analysis practices, data sharing, and results evaluation [10].

Barabasi indicates that data imprints the universe in our collective consciousness. In this era of collective migration into digital and virtual realms, data has become our new reality in a very tangible sense [11].

Furthermore, some scholars focus on the ethical issue of using data for citizen surveillance and the security issues that arise from their use, emphasizing that the issue here is not only an embrace of dataism as a technique of knowing social action - human behavior being measured, analyzed, and predicted based on large sets of metadata - but also faith in high-tech companies and government agencies intended to protect user data from exploitation [12].

Extending on the preceding thought, Harari believes that Big Data algorithms will soon know people better than they know themselves [13]. As a result, perceptions of the data issue encompass the entirety of people's social, economic, and political lives.

Furthermore, while data is critical to the success of the technological world, it is also a source of great pressure and stress. For example, the digital world has recently faced data privacy crises with the Cambridge Analytica and Equifax breaches [14]. These incidents have exposed the dark side of data collection and use, demonstrating that it may not be as safe as we believe, as it can be used to manipulate and control people. In other words, they have the potential to invade our privacy and limit our freedoms. As a result, we must exercise extreme caution and refrain from allowing it to be used to monitor our daily lives.

Finally, various works in the humanities and social sciences have pointed out that internet companies' and platforms' monopolistic political positions have negative and unintended consequences for workers, consumers, and citizens [15].

2.1 Technology industry

The rise in data breaches and cyber-attacks has made security a top priority for both individuals and businesses [16]. Faced with these challenges, the technology industry has reached a tipping point, and it is time to reconsider its relationship with data.

After all, it is self-evident that the technology industry relies on data to achieve innovation and the development of new technologies to ensure society's future well-being and economic growth [17]. However, the technology industry should recognize that data is a valuable asset that aids in the development of new technologies, but with the primary goal of protecting individuals from misuse or theft. The General Data Protection Regulation is an important step in this direction, as it is necessary not only to strengthen individuals' fundamental rights in the digital age but also to facilitate business activity by clarifying the rules for businesses and public bodies in the single digital market.

Just as the industry has regulated itself in areas such as spam and malware [18], it must now do so in areas such as privacy and data security. This will necessitate companies being more transparent about how they collect and use data, as well as giving users more control over it.

2.2 Society

Unlike the technology industry, which appears to have an inextricably linked relationship with data, society appears to have an ambiguous relationship with it. On the one hand, relies on data for a variety of purposes, ranging from navigation and weather forecasting to scientific research. However, there is growing concern about data privacy and how companies and governments collect and use it. There is also debate about who should control them and how the procedures should be regulated.

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To address these issues, society must become more aware of and educated about how data is used. It must be ensured that it is used for good rather than evil. To accomplish this, stakeholders should collaborate to build infrastructure and institutions that can control the stages of collection and effectively use them.

It is our responsibility to humanity to establish a new global digital culture founded on the principles of transparency, trust, accountability, and security. A world in which data is used to empower rather than control people. We must all work together to provide them with a safe and secure environment. We must respect each other's data and keep it safe from unauthorized use. Finally, we should also be transparent about our data practices, ensuring that they are used responsibly and accessible to those seeking to benefit people, communities, and society [19].

3. GUIDING PRINCIPLES

3.1 Data as a tool

Data are an effective tool, but we must use them responsibly. They must be used to create a better world for everyone, not just a select few. They should be put to use to build a society that is more just, egalitarian, affluent, and secure.

As was previously indicated, digital technologies are being employed to monitor and address problems in agriculture, health, and the environment as well as to carry out routine chores like navigating traffic or paying bills. Additionally, it was underlined that although they may be utilized to protect and exercise human rights, they can also be violated since governments and corporations have more access to technologies for data mining and exploitation for financial and other goals [20]. Hence:

- Data should be utilized to answer problems, not to generate them.
- Data must be accessible to everyone so that we may make educated decisions about our surroundings. We can assist raise public understanding of issues affecting the public by making knowledge more accessible.
- Data should be utilized to improve the quality of life for all people, not to distort it.
- Data should be safeguarded so that it can be used for the good of mankind.
- Data should be open and available to everybody so that we may all benefit from its potential.
- Data should be utilized to assist people and society make better decisions.

3.2 Data ethics

It is easy to see from the above that the new way of thinking about the digital world should highlight the importance of data in all aspects of human existence. However, it must be assured that they are utilized properly, that they are factual and fair, and that they are not exploited to benefit or harm specific groups of individuals.

Furthermore, when gathering and exploiting data, several ethical difficulties arise. The fundamental ethical problem is the risk of invading individuals' privacy and this can happen if data is acquired without guaranteeing that individuals can stay anonymous. Also, privacy concerns emerge when data is gathered covertly, such as through surveillance, or when it is collected from public sources without the persons' consent.

Another ethical problem is the possibility of skewed data. This occurs whenever data is collected and evaluated and can be caused by a variety of reasons, including the selection of data sources, the methods used to collect and analyze data, and the personal biases of people participating in the collection and analysis process.

Other ethical problems include who will have access to the data, who will be able to see it, and if they will be able to use it. Also, whether or if the data will be used to make judgments regarding people's prosperity, and whether or not those decisions will be fair.

Investment in data ethical research and development is regarded as critical for addressing the aforementioned concerns. Data ethics is a young discipline, but it is already yielding ground-breaking research on themes like algorithmic bias [21] and the influence of data-driven decision-making. Supporting such principles and activities can assist to guarantee that data is utilized in fair, and responsible ways. Summarizing the preceding thoughts, below are four essential concepts that should serve as the foundation for further discussion:

First, data should be acquired and used in a way that protects individuals' privacy and autonomy. This implies that data should not be gathered without the agreement of those concerned, and it should only be used for the reason for which it was obtained.

Second, data must be correct and comprehensive. This implies that they should not be faked on purpose and that every effort should be taken to ensure that they are as thorough and accurate as possible.

Third, data should be handled with caution. This implies that they should not be used to discriminate against people or to favor some people over others.

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The fourth concern is security. Data collected must be securely secured to avoid unwanted access. This is necessary to preserve the privacy of the persons concerned and to avoid data exploitation.

These are the fundamental ethical standards that should govern data gathering and usage. More explicit and nuanced concepts will emerge as the topic of data ethics develops.

3.3 Data Education

To properly educate society on these principles, concerted work is required so that the global digital community knows the necessity of data protection. Collaborations with data-focused groups or enterprises can assist raise awareness of dataism and its possible consequences. As a result, all persons and organizations must:

- Promote the importance of data protection.
- Work together to keep data safe.
- Establish a community of trust and cooperation.
- Respect the rights of individuals and organizations regarding data protection.
- Support and adopt measures to ensure the security of data.
- Encourage organizations to make sure that the information that they are collecting is secure.
- Making data ethics a required part of the curriculum in schools.
- Encourage public discussion and debate about data.
- Create awareness campaigns to educate people about data.
- Provide resources and support for people who want to learn more about data.

A data-educated society is one in which individuals can access, comprehend, and apply data to make sound decisions. This sort of civilization is distinguished by a high degree of data literacy, which enables individuals to successfully use data in their daily lives. People in a data-educated society may utilize data to enhance their personal lives, jobs, and communities.

4. SOCIAL PHENOMENA

4.1 Data activism

It is obvious that this is the first time in human history that so much personal and private data has been made available to individuals we do not know. The action of utilizing data to effect social change is known as data activism. Data activists utilize technology to gather and share information [22], hold organizations and people responsible for their activities, advocate for social and political change, and empower communities to take ownership of their data [23]. They are also worried about how governments, businesses, and other groups retain and use information. They aim to increase openness and accountability in data collecting, storage, and usage, as well as to preserve individuals' privacy and security.

Data activism includes mapping police violence, tracking the spread of disease [24], exposing environmental contamination, and holding businesses responsible for their environmental effect. They frequently collaborate with attorneys, journalists, researchers, and engineers to discover innovative methods to use data to effect change. Some examples of their actions include:

- Campaigning for firms to be more open about how they gather and utilize data.
- Working to guarantee that people have the right to know what data is being collected about them and to decide how that data is used.
- Advocating for stricter rules and regulations to safeguard people's privacy and security.
- Creating and deploying technologies to collect and disseminate information on data practices.
- Investigating and exposing data misuse by governments, businesses, and other entities.

4.2 Data elitism

Aside from data activism, there is also the phenomenon of data elitism. There is little question that this is a significant problem for both the technology business and society [25]. This type of elitism emerges because only a tiny percentage of the population is capable of mining and evaluating massive amounts of data. Furthermore, dataism frequently leads to the creation of new technology and procedures that only a tiny percentage of the population understands and employs. This results in a situation in which a small number of people have enormous influence and control throughout data-driven civilizations.

Data elitism may be prevented by democratizing data, which assures that information is available to everyone, independent of technological expertise [26]. To accommodate varied learning backgrounds, simple, easy-to-understand data visualizations and clear and short explanations of datasets and conclusions can be used. To avoid data elitism, the following broad concepts may be useful:

- Inform yourself and others about the significance of data literacy and digital inclusion.

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- Work to improve everyone's access to data and data-related resources.
- Advocating for data inclusion and equitable policies and practices.
- Putting preconceptions and prejudices about who can and should utilize data to the test.

5. CONCLUSION

In conclusion, the term "dataism" is becoming increasingly prevalent within the corporate, political, and academic spheres. The concept refers to a range of methodologies for data-driven decision-making, including Big Data analytics, which is driving the growth of the Internet of Things and the data-driven economy.

We need to be cautious about how information is used and shared as our reliance on data increases. This is especially crucial given the contradictory effects that data has on society—benefits like better productivity and efficiency, but also drawbacks like privacy invasion and heightened surveillance.

Furthermore, depending on the goal for which the data is gathered, different ethical considerations apply. For instance, some people worry about sensitive personal information being gathered without their knowledge or consent. Given these problems, it is crucial to be open and honest about the purposes behind data collecting and to make sure that everyone involved is aware of them. This will make it easier to clarify how the data should be used as it's critical to make sure that information is acquired fairly, and objectively by the people involved. Verifying the data's accuracy is also essential, as is preventing unauthorized access.

Finally, dataism is affecting our perception of our identities and relationships. As more information about our personal lives is collected, we increasingly view ourselves as data points that can be analyzed and understood. While this may offer some advantages in terms of self-awareness and understanding of our surroundings, it also raises fundamental questions about privacy and control. Future research should be directed toward these questions to clarify them and provide solutions that promote transparency and openness in society.

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Information System Management and Zimbabwe Manufacturing Firms Performance. A Structural Equation Modeling Analysis



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ABSTRACT: There has been extensive research on how information communication technology (ICTM) management competencies might increase operational effectiveness. This study examined the impact of management ICT on the internal operations of a business, blending resource-based view (RBV) and dynamic capabilities theory (DCT) perspectives. The analyses in the study cover ICT support for management decision-making abilities on Harare's manufacturing operational firms' performance (OPF). Sustainable competitive advantage (SCA) is a mediator in the research model to enhance the firm's performance—data from 201 managers employed by the manufacturing firm informed the findings. The research hypotheses were tested using structural equation modelling (SEM) that was analysed using SPSS version 24 and AMOS version 21. The results reveal that investment in ICT should be linked to firms' core competencies to maximise firms' value. The results also indicate that effective management of ICT significantly impacts business performance by helping firms achieve sustainable competitive advantage. The study contributes to the literature by combining the RBV and DCT perspectives to explore the impact of ICT competencies on manufacturing firms' performance. The paper recommends that manufacturing firms in Zimbabwe invest more in information communication technology to compete effectively in global markets.

KEYWORDS: Competitive advantage, dynamic capability theory, information communication technology, ICT-enabled management competencies, manufacturing firms, operating performance, resource-based view, Zimbabwe

I. INTRODUCTION

Zimbabwe's National Development Strategy I (NDS-1) of 2019 aims to establish a digital economy by 2030. Economic digitalisation brings global innovation, competition, and growth across national institutions. As a result, Zimbabwe is experiencing an increase in digital business platforms that information communication technologies (ICT) enabled decision-making competencies could leverage to improve business organisations' competitiveness. Management knowledge that fosters positive managerial attitudes and acquiring relevant skills is essential for ICT adoption. Global clients' social and commercial habits are facing transformation, pioneering a digital enterprise orientation [1;2] (Gupta et al., 2020; Dlodlo & Mafini, 2014;). Macro and micro-enterprises in North America, Europe and Asia have merged their company strategies with various digital business platforms [3;4] (OECD, 2019; Keller & Heiko, 2014). Zimbabwean businesses must employ digital transformation technologies; however, adopting ICT must accompany appropriate management learning, innovation and talent acquisition. Therefore, continuously learning, refreshing and upgrading ICT skills should significantly enhance the firm's operating performance and competitive edge [5; 6;7] (Ford, 2020; Bhuyan & Padhy, 2014; Tippins & Sohi, 2003).

Notwithstanding the country's economic crisis, Zimbabwe's ICT penetration exceeds the Sub-Saharan African average [8] (Dzindikwa & Kabanda, 2022). Most private business, public and development sectors use information management technologies [9] (Kabanda, 2014). Zimbabwean companies may use ICT to enhance production since they support the issues related to improving business performance. The World Bank's business sectors report asserts that Zimbabwe has more than 95% informal employment in micro-enterprises that are not in categories of either small to medium enterprises (SMEs) [10] (Ilieva et al., 2022). However, informal sector employment increases productivity by 5%, as claimed by [10] Ilieva et al. (2022), despite accounting for most employees. This disparity may be explained by assessing ICT capital investment in comparable groups to understand the specific challenges and craft appropriate improvement interventions. Zimbabwean mainstream economic sector

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enterprises are likely smaller than SMEs in advanced technology nations. Hence the context from which actual knowledge applies might not be adequate to understand and have equal benefits when digitalisation transformation lags. ICT may help mainstream traditional enterprises cross the digital gap and increase efficiency by aligning the knowledge of ICT utilisation to the relevant contextual issues.

In Zimbabwe's previous Zim Asset 2013-2018 strategy for long-term socioeconomic development, small to medium enterprises (SMEs) were a key engine for projected target growth'. SMEs are laggards in adopting ICT systems as per the NDS-1 policy. In the Zim-Asset policy and NDS-I papers, ICTs have great potential to fuel economic growth and national policy initiatives. [8] Dzindikwa and Kabanda (2022) affirm that. SMEs' ICT capital investment benefits emerging economies like Zimbabwe. Apart from their importance in Zimbabwe, little is known about businesses' rate to use ICTs for productivity purposes in an integrative embedded manner other than for regulatory compliance. Companies, like banks, use e-banking and mobile banking in diverse ways. Zimbabwe has exploited ICT digital assets for transaction and compliance purposes rather than strategic resource utilisation. Business entities adopt these digital transformation applications in the informal and formal economic sectors and use contemporary ICT technology. Still, the ICT adoption extent is unknown or challenging in support of management competencies.

The general acknowledgement is that ICT positively impacts business competitiveness and the operating performance of firms (OPF) because, among other things, ICT affects how products and services are; discovered, designed, developed, distributed, and renewed for contextual fit. [4] Keller and Heiko (2014) argued that ICT influences the quality and quantity of goods and services produced, thus, directly contributing to organisational performance. Advances in digital technologies are occurring at a dizzying pace, requiring manufacturing firms to monitor and manage resources to keep up-to-date continually. Therefore, businesses must develop appropriate competitive strategies to thrive in fierce competition and shifting market conditions. Strategy evaluation is required to determine whether the process's satisfactory implementation has achieved the desired level of competitive advantage [11] (Collins, 2021). A competitive advantage allows for identifying an organisation's weaknesses and strengths, demonstrating the company's stability in capitalising on rivals' shortcomings. Manufacturing companies, like all other businesses, require a sustainable competitive advantage. To develop the capacity to obtain these advantages, a company or business organisation must analyse its resources and capabilities to determine its weaknesses and strengths [12] (Gerhart & Feng, 2021).

There has to date not been much research on information systems (IS) that distinguishes between the two mechanisms of ICT-enabled management (ICTM) competencies in developing countries' business organisations. First, ICT helps businesses to gain a competitive edge and improve operating performance by combining resources and capabilities incrementally and repeatedly. Second, extant literature does not thoroughly examine these characteristics' impact on a company's competitive edge, distinguishing this element from other aspects of a company's performance in developing countries such as Zimbabwe. Third, more studies are needed to understand the influence of information communication technology management (ICTM) resources and capacities. Thus, this paper analyses the direct effect of business organisations' ICT-enabled management competency on operating performance and the indirect relations among ICT-enabled management competency, competitive advantage and performance outcomes. The Zimbabwe manufacturing ICT management competencies case helps answer the three questions.

RQ1: Do ICT-enabled management (ICTM) competencies directly impact operating firm performance in Zimbabwe's manufacturing firms?

RQ2: Do the ICT-enabled management (ICTM) competencies directly affect the firm's competitive advantage?

RQ3: Do the competitive advantage effects on a firm's operating performance result from more interaction effects with ICT-enabled management (ICTM) competencies?

The following sections discuss the study hypotheses developed by reviewing the extant literature.

II. LITERATURE REVIEW

Many organisations operate in a competitive, complicated, unstable, dynamic business environment. As a result, several organisations began attempting to identify the source of competitive advantage that the Resource Based View (RBV) theory could explain. Thus, RBV describes sustaining a competitive advantage. [13] Barney (1991) asserts that organisations strengthen their competitive edge over time by strategically investing in human resources. RBV contends that an organisation's resources ultimately determine its viability, including its capacity for growth and competition. RBV argues that businesses could perform better with valuable resources and capabilities [14;13;15] (Wernerfelt, 1984; Barney, 1991; Peteraf, 1993). According to [16] Chatzoglou et al. (2018), RBV analyses and defines a company's competitive advantages based on its assets, knowledge, skills,

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and intangible assets. The theory emphasises a company's use of internal resources to show that businesses have unique resources and capabilities that have value [17] (Alexy et al., 2018). Therefore, companies must devise plans to maximise their inner resources to gain a competitive advantage. [1] Gupta et al. (2020) concur that a company uses RBV to compete in an uncertain business environment by basing strategic decisions and options on internal resources and internal capabilities. Additionally, RBV traits are necessary for businesses to recognise their inner resources and skill sets as a source of long-term competitive advantage.

Organisations can gain a competitive advantage by transforming resources as sustainable [13] (Barney, 1991) or through a generic strategy [18] (Porter, 2007). RBV classifies a business's resources as organisational capabilities, intangible, and tangible resources [14] (Wernerfelt, 1984). Physical and easily identifiable natural resources include equipment, raw materials, cash on hand, and company locations [19;1] (Asri, 2021; Gupta et al., 2020). Although invisible, intangible resources, such as innovation, reputation, and human resources, are ingrained in the company's distinctive routines and practices [20] (Teece, 2014). Organisational capabilities pertain to a company's capacity to integrate tangible and intangible resources and transform inputs into outputs [21] (Barney & Hesterly, 2018). Two examples of organisational capabilities are superior product quality and sound financial management. [13] Barney (1991) states that internal resources that are valuable, rare, imperfectly imitable, and irreplaceable can provide a company with a sustainable competitive advantage.

In addition, the RBV lens is essential for comprehending the management competencies necessary to integrate ICT resources and capabilities into the business organisation. Scholars of strategic management, such as [22] Chandler (1969), define strategy as identifying a company's fundamental long-term goals and adopting the courses of action and resource allocation necessary to achieve these goals. This strategy lens emphasises utilising a company's resources and capabilities to achieve an unmatched set of core competencies. Thus, according to the RBV school, increasing a company's internal competence or capacity to have an adequate internal mechanism to offer products and services to key stakeholders will give it a significant competitive advantage [19;1,14] (Asri, 2021; Gupta et al., 2020; Wernerfelt, 1984). [21] (Barney & Hesterly, 2018) argue that RBV focuses on a company's resources and capabilities, such as ICT, to offer superiority over its rivals by creating a flexible competitive advantage to ensure sustainability. RBV contends that having the necessary resources gives a company a competitive edge and improves performance [13] (Barney, 1991).

The importance of RBV has been widely discussed and acknowledged in business literature [14;13;15] (e.g., Wernerfelt, 1984; Barney, 1991; Peteraf, 1993). However, the critique for RBV presumes resource-related features "existence" while failing to address their generation, integration, distribution, renewal and reconfiguring cycle. Thus, RBV is claimed to be a static perspective that could be limiting businesses in creating dynamic capabilities and practical strategies to achieve their strategic goals and gain a sustainable competitive advantage [23;24;25] (Chen et al., 2021; Elkins et al., 2004; Kamukama et al., 2011). As such, dynamic capabilities theory (DCT) complements RBV's static environment viewpoint by adding a process systems approach. By assisting management in extending, altering, and reconfiguring current operational capabilities into new ones that better suit the environment, DCT deals with tumultuous environments. Scholars believe that dynamic capabilities include the procedures that give organisations the ability to maintain superior performance over time. Research into dynamic capabilities aims to clarify the sources of competitive advantage over time [26;27] (Teece 2007; Teece et al. 1997). Thus, the DCT's primary goal is firm performance. Ordinary capabilities or the firm's more extensive resource base may change as a result of dynamic capabilities, and this change may eventually result in a change in performance. Therefore, dynamic capabilities cannot explain performance; performance changes are the ones considered.

Dynamic processes fill these RBV knowledge gaps that fuel the quest for creating sustainable competitive advantage and improved performance. [20] Teece (2014) define a company's capacity to integrate, extend, and reorganise internal and external framework talents to meet rapidly changing situations. Dynamic resources enable a company to adjust its resource mix while maintaining its competitive edge by shielding it from changes in the business environment. Hence the need to sense and seize market possibilities, neutralise market threats, and reconfigure its strategies to create cost-effective strategies. RBV picks resources and capabilities, whereas DCT develops and renews them. From the DCT perspective, abilities, absorptive capacity, environmental turbulence, and adaptability determine a persistent competitive advantage.

Further, existing research demonstrates a link between ICT advancements and enhanced organisational performance. [28] Ravichandran and Lertwongsatien (2005) propose that the cumulative contribution of ICT support to core competencies may determine OPF. [29] Chege et al. (2020) argue that knowledge and alignment of ICT and business model are advantageous for Kenyan businesses. [30] Mndzebele (2018) confirms that the factors affecting the adoption of ICT by SMEs in Eswatini have risen to the top of the management agenda. [31] Ferreira et al. (2020) stated that fostering alignment between business and ICT goals could increase profitability and provide businesses with a sustainable competitive advantage. Further, according to [32]

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Budiarto et al. (2017), the expanding digital economy necessitates that every organisation utilises efficient ICT resources and capabilities to generate value from ICT support for the firm's core competencies. This study argues that ICT alignment on business activities using the combined theoretical framework of DCT and RBV lens could sustain the competitive advantage by aligning information technology and business strategy to support vital organisational processes and operational objectives. Thus, DCT thinking extends the static perspective of the resource-based view (RBV) theory by ensuring that management actions adhere to a process that ensures sensing, seizing, and continuous transformative renewal that promotes internal and external environmental fit [27]. (Teece et al., 1997).

Further, DCT confirms that identifying opportunities through sensing mechanisms allows technological possibilities and technology development alignment. Seizing market possibilities could ensure the structural design and refining of the business model and appropriate committing resources. Such a strategic view helps management to anticipate competitor reactions and define intellectual property priorities. Thus, the ultimate dynamic attribute of transformation helps align structure and organisation culture through the investment decisions beneficial for additional capabilities. The confirmation of the value of ICT-enabled decision-making by several studies in different contexts places the need to investigate the role of management in the search for more knowledge on the link between ICT-enabled managerial decision-making and business performance operations within the turbulent Zimbabwean context. Thus, the integrative RBV-DCT methodology is used in this study to evaluate each company's competitive strategy. Manufacturing businesses must implement internal strategies that use company assets to provide a competitive advantage [23] (Chen et al., 2021).

III. THEORETICAL SUPPORT FOR THE HYPOTHESES AND RESEARCH MODEL

In the resource-based view (RBV), organisations have resources that provide a competitive advantage and superior long-term performance. RBV studies support the idea of management-enabled competencies as a process that goes via competitive advantage in developing resources and nurturing capabilities. For the RBV, a company's competitive advantage stems from its unique combination of scarce, valuable, and imitable resources [33;1] (Wernerfelt, 1995; Gupta et al., 2020). [34] Penrose (1959), the theory of the firm's basis is in the resource use that impacts organisational performance. [35] Barney (2001) contends that corporate resources include assets, capacities, procedures, traits, experience, and competition-related knowledge. Central to these resources are the intangible assets embedded in an organisation's human resources for its unique capabilities.

Scholars distinguish between ordinary and dynamic abilities. Dynamic capabilities are a company's continual integration, reconfiguration, renewal, and rebuilding of its resources and capabilities, and, most crucially, updating and reconstructing its core capabilities to retain a competitive edge [16] (Teece et al., 1997). [36] Barney et al. (2011) and [20] Teece (2014) suggest that market agility can be a competitive advantage for creating high-quality ICT applications fast and affordably. This critical managerial talent will decide the process and methods of technology implementation through emphasise directed to planning, design, delivery, project management, and standards and controls planning are all examples of ICT resources and capabilities [19;1;28] (Asri, 2021; Gupta et al., 2020; Ravichandran & Lertwongsatien, 2005). Thus, the administration of ICT resources and capabilities supports the redundancy reduction and improving consistency of organisational systems by aligning operations to the business model, strategy and value propositions. [1] Gupta et al. (2020) contend that ICT managers' business understanding and line managers' ICT abilities demonstrate their capability in adaptive decision-making processes that focus on value creation and delivery systems.

Decision-making in managing ICT resources and capabilities ought to be on knowledge-based skills, hence the import of human cognitive capacities as a focal management competencies lens. Competencies are firm-specific assets, knowledge, and skills, whereas abilities are critical to the business's structure, technology, processes, and relationships [21] (Barney & Hesterly, 2018). Competencies go beyond capacity. They enhance the development of competencies and capabilities in various alignments and integration of the firm's structure and intellectual and social domains [19] (Asri, 2021). Structural or functional competencies frequently develop managerial abilities using physical, human, and technological resources, directly and indirectly, to enhance intellectual and social capital [28;37] (Ravichandran & Lertwongsatien, 2005; Grant, 1996). [38] Makadok (2005) argues that capacity is a non-transferable organisational resource that boosts output; as such, it offers a holistic, dynamic interactive process for sustaining competitiveness. Further, management ICT competencies can create a flexible and intelligent ICT infrastructure that could influence operational performance in the firm. Building such infrastructure by matching technology to an organisation's goals and leading to ICT-based business advantage necessitates management ICT expertise.

Management ICT competencies stress cognitive abilities that influence decision-making. They are trickled down on worker productivity and output by continuously growing the firm's intellectual capital pool of economically viable human

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potential. Talented employees provide value to the organisation and provide low-cost empowerment that helps employees and the community. Thus, corporate knowledge investment generates intellectual capital. Training and development are analogous to physical capital in that well-trained employees boost production. Therefore, investing in human skills produces a qualitative and quantitative workforce to enable the firm to remain competitive and emphasise procedures, systems, and, most crucially, people acquisition and retention [39] (Al Ali et al., 2017). ICT may broaden senior managers' strategic management perspectives in finance, marketing, manufacturing, production, organisational growth, and new product innovation are balanced [40] (Kaplan & Norton, 1992). Management ICT skills involve knowing how computers, networks, programs, and people interact to achieve goals while noting that computers are engineering tools that enable firms to penetrate new markets by improving operational and dynamic capabilities. Non-productive ICT usage in businesses could be due to a weak relationship between ICT expenditures and financial performance [41;42] (Liang et al., 2010; Pavlou et al., 2005).

Therefore, for a firm to succeed, various human resources must develop ICTM skills to boost resource complementarities and integrate firm-specific competencies. These qualities improve customer relationship management systems, financial systems, human resource development, and organisational performance. Management should prioritise upgrading ICT infrastructure and information management skills, which are critical to boosting company performance. Hence this study following [28] Ravichandran and Lertwongsatien (2005) also suggest a three-pronged ICTM competencies construct of structural or functionality-related (FUN), intellectual or integrity-related (INT), and social connection skills as the market-access-related (ACC). Thus, dimensions for management ICT support for a firm's core competencies are FUN, INT, and ACC. The study focuses on the operational performance of the firm (OPF) for the dependent variable, Zimbabwean firm performance.

Therefore, as the first hypothesis (H₁), this study states that;

H₁: ICT-enabled management (ICTM) competencies are positively and significantly related to operating performance in Zimbabwean firms.

The first hypothesis (H₁) sub-hypotheses state that;

H_{1.1}: The relationship between ICTM functionality (FUN) competencies is positively and significantly related to operating performance in Zimbabwean firms.

H_{1.2}: The relationship between ICTM integrity (INT) competencies is positively and significantly related to operating performance in Zimbabwean firms.

H_{1.3}: The relationship between ICTM market-access (ACC) competencies is positively and significantly related to operating performance in Zimbabwean firms.

Today's market dynamics and complexity require current management ICT competencies and dynamic managerial capabilities for competitive advantage for operational company performance. [43] Wade and Hulland (2004) argue that information systems resources can approximate dynamic capabilities (DCT), which is advantageous for businesses that change quickly due to environmental uncertainties. Consequently, for the firm to have a long-term competitive advantage, its information systems (IS) resources must be aligned with the business model and ensure a dynamic fit between its internal and external environments. In turbulent times, developing, expanding, integrating, and releasing additional crucial resources may improve the company's long-term competitiveness. ICT could enable the firm to capture these changes and respond faster continually. Whereas [44] Ray et al. (2005) assert that failure to invest in ICT capabilities and resources locally or globally may hinder a company's ability to provide excellent customer service. Investments in ICT could help neutralise competition, seize market opportunities quicker, and enhance business processes and innovations as the firm benefits from internal and external learning to flourish in volatile markets [19;1] (Asri, 2021; Gupta et al., 2020). [45] Dehning and Stratopoulos (2003) contend that firms with strong management ICT abilities can preserve a competitive advantage and gain superior performance. Increased ICT management focus, business alignment, and ICT investments for company operations result from ICT resources and capabilities. [44] Ray et al. (2005) argue that management benefits from generic technology advancements by enhancing ICT organisational expertise. Therefore, to distinguish the organisation, [19] Asri (2021) advise stepping up value-adding operations, strengthening relationships with customers and suppliers to make it more difficult for them to leave, and establishing new businesses centred around services or products.

Three viewpoints are to assess the possibilities of ICT-enabled competencies directed to competitive advantages: (a) an organisation looking to improve efficiency and effectiveness aim at the reduction of costs (ROC); (b) an insider in the industry trying to outmanoeuvre rivals in a competitive conflict requires a firm to exploit market opportunities (EMO) to be competitive, and (iii) an outsider considering entering the market ensures that the neutralisation of competitive threats (NCT) is in check.

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Thus, this study defines competitive advantage (CADV) as three-pronged to cover ROC, EMO, and NCT attributes. Based on the literature, management ICT (ICTM) enabled competencies could increase Zimbabwe's competitiveness.

Based on the preceding discussions, the following primary and secondary hypotheses can be derived: Thus, the second primary hypothesis is;

H₂: ICT-enabled management (ICTM) competencies positively and significantly influence Zimbabwean firms' competitive advantage.

The following sub-hypotheses relate to the above main premises;

H_{2.1}: ICT-enabled management (ICTM) competencies positively and significantly influence Zimbabwean firms' competitive advantage dimension of exploiting market opportunities (EMO).

H_{2.2}: ICT-enabled management (ICTM) competencies positively and significantly influence Zimbabwean firms' competitive advantage dimension of neutralising competitive threats (NCT).

H_{2.3}: ICT-enabled management (ICTM) competencies positively and significantly influence Zimbabwean firms' competitive advantage dimension of reducing costs (ROC).

Thus, management information research has developed dramatically during the last decade to generally accept the value of ICT for supporting performance and innovation. Though certain studies have shown a direct link between ICT and business performance, others have not. The extensive causal chain connecting ICT to corporate success and most studies ignoring critical intermediary organisational aspects that influence this relationship may explain conflicting results [19;1;25;28] (Asri, 2021; Gupta et al., 2020; Kamukama et al., 2011; Ravichandran & Lertwongsatien, 2005). As a result, the final inquiry possibilities are two-pronged. First, the direct relationship between competitive advantage (CADV) and operating performance of the firm (OPF); second, the indirect mediating effect of CADV between ICTM and OPF follows.

Thus, the study's third direct hypothesis is that

H₃: Hypothesis 3 H₃: Competitive advantage positively and significantly influences Zimbabwean firms' operational performance.

H_{3.1}: Competitive advantage Exploiting market opportunities positively and significantly influences Zimbabwean firms' operational performance.

H_{3.2}: Competitive advantage neutralisation of competitive threats positively and significantly influences Zimbabwean firms' operational performance.

H_{3.3}: Competitive advantage of reducing costs positively and significantly influences Zimbabwe's firms' operational performance.

Several studies have also demonstrated the mediating role of competitive advantage as an influence between IS and firm performance [19;1;25;28] (Asri, 2021; Gupta et al., 2020; Kamukama et al., 2011; Ravichandran & Lertwongsatien, 2005). As a result, the study argues that competitive advantage (CADV) mediates ICTM and OPF to then hypothesis 4 states that:

H₄: Competitive advantage positively and significantly mediates ICT-enabled management (ICTM) competencies on Zimbabwe's firms' operational performance.

The impact of competitive advantages on firm performance is positive.

H_{4.1}: Competitive advantage positively and significantly mediates ICT-enabled management (ICTM) functionality competencies on Zimbabwe's firms' operational performance.

H_{4.2}: Competitive advantage positively and significantly mediates ICT-enabled management (ICTM) integrity competencies on Zimbabwe's firms' operational performance.

H_{4.2}: Competitive advantage positively and significantly mediates ICT-enabled management (ICTM) market-access competencies on Zimbabwe's firms' operational performance.

Thus, utilising a blended framework of resource-oriented theories, this study focuses on Zimbabwean manufacturing operational performance. The firm's operating performance (OPF), competitive advantages (CADV), and ICT-assisted management competencies comprise the conceptual underpinning for this study. This study's integrated conceptual framework addresses its principal research purpose from a resource-sponsored blended theoretical basis. The primary research examines how management ICT assistance for essential skills affects company performance. It also claims that embracing management ICT core competencies fosters integrity, capacities, creativity, innovation, and corporate performance. Thus, this study uses the OPF-ICTM conceptual framework to examine these links and organisational performance. The study's central hypothesis is that company performance depends on the match between its intangible resource portfolio, market entrance strategy, partner

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connections, and organisational structure. The firm's managerial ICT competencies underpin all these characteristics. Figure 1 depicts these hypothetical research model linkages. Note that MICT in Figure 1 is similar to ICTM

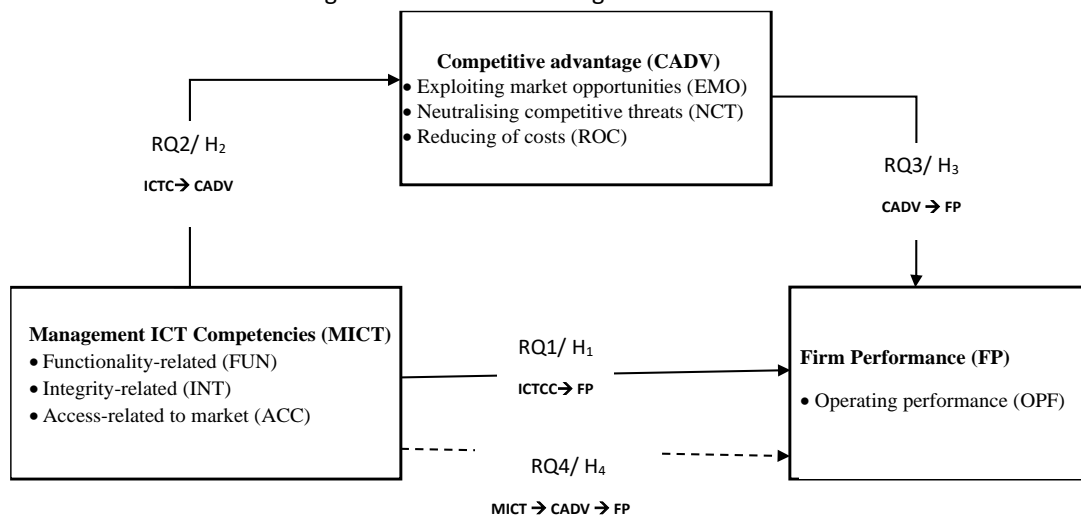


Figure 1: Conceptual research framework

IV. MATERIALS AND METHODS

A. SAMPLE

The sample size was determined using a confidence level of 95% and a margin of error of 5% [48] (Creswell & Creswell, 2017). Online surveys and probability-based stratified sampling helped determine the sample from an unknown population size of Harare manufacturing sector managers. This study surveyed 220 manufacturing managerial employees by distributing electronic questionnaires. 201 of 220 quantitative survey instruments were useful in examining how ICT management's critical abilities affect business performance. Harare-based manufacturing serves vital Zimbabwean sub-sectors, a good proxy for the general appreciation of ICT management competencies on firm operational performance. [48] Creswell and Creswell (2017) assert that questionnaires could cost-effectively capture meaningful data from scattered populations.

B. MEASURES

ICT-enabled management competencies (ICTM), competitive advantages (CADV) and operational performance (OPF) are primarily critical, independent variables. The ICTM consist of three factors comprising fifty-eight (58) items; market-access (9 items), integrity/intellectual (24 items) and functionality/ structural (25 items), adapted mainly from [44] Ray et al. (2005) and [28] Ravichandran and Lertwongsatien (2005). Several other scholars use similar measures [19;1] (Asri, 2021; Gupta et al., 2020). Three elements comprise CADV with thirty-seven (37) items, these being Utilisation/ exploitation of market opportunities (EMO) (13 items), neutralisation of competitors (NCT) (16 items), and reduction of costs (ROC) (8 items). CADV measurement items were sourced mainly from [46] Jeffers (2003), [44] Ray et al. (2005), [28] Ravichandran and Lertwongsatien (2005) and [49] Vargas et al. (2018). Some scholars also adapt similar elements for competitive advantage [19;1] (Asri, 2021; Gupta et al., 2020). The eighteen (18) components of operational performance (OPF), the dependent variable, are from several studies [19;1;50] (Asri, 2021; Gupta et al., 2020; Westerlund, 2020). These measures were initially for the technology adoption and marketing business with the implementation of the same in several organisational contexts [1;44;28] (Gupta et al., 2020; Ray et al., 2005; Ravichandran & Lertwongsatien, 2005).

C. RELIABILITY AND VALIDITY OF DIAGNOSTIC TESTS

The statistical analysis used IBM SPSS v24 AMOS v21 and SEM to diagnose the study model and determine the dataset's structure. Since regression cannot detect measurement problems and can inflate results [51] (Raykov & Traynor, 2016), SEM is appropriate because it can estimate correlations between variables. Using covariance matrices, SEM compares hypotheses to data. SEM includes model specification, identification, estimation, model fit evaluation, model modification, and results reporting [52;53;54;55] (Elrehail, 2018; Hair et al., 2017; Mataruka, 2022; Muzurura & Mutambara, 2022). Before evaluating hypotheses, researchers used confirmatory factor analysis (CFA). CFA determined the measuring variables' structure, properties, convergent, discriminant, and construct validity. This AMOS data analysis took fifteen (15) iterations to achieve model minimisation. In this cross-sectional study that includes mediation, SEM helped to uncover meaningful correlations [52;53]

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(Elrehail, 2018; Hair et al., 2017). SEM facilitates the evaluation of intricate models, especially those that include mediators or moderators. Similar studies used this strategy [52;53;54; 55] (Elrehail, 2018; Mataruka, 2022; Muzurura & Mutambara, 2022).

To ensure the construct validity of the study instrument, we made substantial modifications to successful surveys that had previously examined similar components. Following the [56] Cooper and Schindler (2001) technique, ten senior-level manufacturing sector practitioners and marketing, management, and statistics professors reviewed the questionnaire to ensure its content validity. These experts provided the trustworthiness of research instruments. The respondents answered the questions using a five-point Likert scale (1=strongly disagree to agree 5=strongly).

[53] Hair et al. (2017) accept consistency ratings with a Cronbach's alpha (CA) of 0.7 or higher. CA values above 0.70 indicate that the data collection instrument in select Harare manufacturing employees is reliable.

V. RESULTS AND FINDINGS

More than 37.3% (75) of the participants were ICT professionals, 42.3% (85) of senior managers, and 20.4% (41) of executive ICT non-experts were adequate for the respondents' profiles. The results show that the study focused more on top management in the manufacturing sector. The working experience distribution of respondents is a good blend for less than 1 to-5 years is 44.77 per cent, category 5-10 years is 27.36 per cent, and 27.86 per cent, for ten years plus. Whereas 149 were male respondents (74.1%) and 52 were female respondents (25.9%). Male respondents dominated the manufacturing sector sample, according to the research findings.

A. Measurement Model and Tests of Hypotheses

After determining dependability, a measurement mode's fit to discover the potential factors to provide the desired SEM goodness-of-fit preceded the testing of the hypotheses. The model-appropriate indices showed excellent model-fitting index statistics. The Chi-Square Goodness-of-Fit and Degree of Freedom (CMIN/DF) values of 1.646 and the p-value of 0.057 fulfil the threshold values of less than three and more considerable than 0.05, respectively, demonstrating that the fitted model is acceptable. All other goodness-of-fit indices—Goodness-of-fit (GFI) ($0.947 \geq 0.90$), Tucker Lewis Index (TLI) ($0.981 \geq 0.90$), comparative fit index (CFI) ($0.980 \geq 0.90$), Normed Fit Index (NFI) ($0.944 \geq 0.90$), Standardised Root Mean Residual SRMR ($0.048 < 0.05$), and Roots Mean Square Error of Approximation (RMSEA) ($0.057 \leq 0.08$)—meet the minimum values, indicating that the model is well-fitted [53] (Hair et al., 2017). The CFI and TLI were both more than 0.9. However, the SRMR and RMSEA were far below the recommended cutoff values of 0.08 and 0.06. Absolute fit measures include the RMSR, the SRMR, and the RMSEA. Lower "badness-of-fit indices" signify a better fit. Good correlation coefficients are between 0.05 and 0.08 and are less than 0.05. [53] (Hair et al., 2017). The criteria demonstrate the fitted model's validity and foretell the results use [57;58] (Khalid & Hunjra, 2015; Gaskin & Lim, 2016). Thus, the model fit indices are good and meet all the required threshold values. The research test model-appropriate indices for the measurement items and the structural equation statistics are in Table 1 below.

Table 1: Measurement model's goodness of fit indices

Model Fitness Test	Index	Recommended Threshold	Actual Fitted Model	
			Measurement items	SEM Model
Significance test	P-value	>0.05	0.057	0.276
Parsimonious test	PCMIN/DF	≤ 3	1.646	1.028
Incremental test	GFI	$\geq .90$	0.947	0.976
	TLI	$\geq .90$	0.981	0.999
	CFI	$\geq .90$	0.980	0.999
	NFI	$\geq .90$	0.944	0.975
Absolute test	RMR	< .05	0.048	0.014
	RMSEA	$\leq .08$	0.057	0.004

The factor loading for reliability and validity after fifteen (15) iterations yielded forty-three (43 out of 113) items for the model testing. The ICTM acceptable measures consist of three factors comprising eighteen (18 out of 58) items; market-access (4 out of 9 items), integrity/intellectual (5 out of 24 items) and functionality/ structural (9 out of 25 items). Three elements comprise CADV with twenty-one (21 out of 37) elements, these being utilisation/ exploitation of market opportunities (EMO) (7 out of 13 items), neutralisation of competitors (NCT) (8 out of 16 items), and reduction of costs (ROC) (6 out of 8 items). The four (4 out of 18) components of operational performance (OPF) are the dependent variable.

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Average variant extract (AVE) values surpass 0.5, while Cronbach's Alpha (CA) values surpass 0.7. [53] Hair et al. (2017) reveal that these results imply that measuring item reliability is possible. The results of inter-construct correlations and the square root of AVEs are in Table 2.

Table 2: Constructs reliability, validity, and multicollinearity tests

Construct items	Cronbach's Alpha	Construct reliability	AVE ¹	ACC	EMO	FUN	INT	NCT	OPF	ROC
ACC	0.927	0.946	0.664	0.815						
EMO	0.714	0.822	0.537	0.004	0.733					
FUN	0.911	0.941	0.619	0.702	0.038	0.787				
INT	0.855	0.847	0.540	0.717	0.043	0.761	0.764			
NCT	0.875	0.894	0.587	-0.056	-0.024	0.033	-0.065	0.766		
OPF	0.780	0.850	0.533	0.101	0.611	0.099	0.164	-0.108	0.730	
ROC	0.787	0.831	0.509	-0.071	-0.172	-0.07	-0.096	0.033	-0.202	0.713

Key: ¹AVE is an abbreviation for average variance extract. AVE in bold and italics above the diagonal and squared correlations below the diagonal. The number in bold is the square root of AVE.

Table 2 findings suggest the existence of discriminant validity because the square root of the AVE values for all the variables are above the corresponding correlation coefficient values of other variables. All the inter-correlations are below 0.8, suggesting the absence of multicollinearity.

The various hypotheses tests used SEM to see if they were true. [59] Tabachnick and Fidell (2013) consider the normality assumption of multivariate statistics to be the most fundamental. Our test results demonstrate that all the research variables are typically distributed, per the distribution criterion, if their skewness value is less than three. The study reported a kurtosis value is less than ten [57;58] (Khalid & Hunjra, 2015; Gaskin & Lim, 2016). Further, the result does not demonstrate multicollinearity among the variables. The data were subsequently statistically analysed using the SEM, which can accommodate latent variables because they are not immediately quantifiable and are not multicollinear. SEM is appropriate for mediation because utilising regression analysis is almost impossible because the conceptual framework gives a model with direct and indirect effects (mediating impact). SEM also enables fictitious testing of connections between theoretical structures and their empirical indications.

B. Sem Goodness of Fit Assessment

All SEM methods derive from the study model, which has constructed items based on practical measures. These include descriptive statistics, reliability tests, item measurement, and an SEM model evaluation. If the factor loading value of the SEM model is more than 0.6, the measurement item is valid. Management ICT competencies three variables functionality-related (FUN), intellectual-related (INT), and market-access-related (ACC), and competitive advantage's three variables exploiting of market possibilities (EMO), neutralising market threats (NCT), and cost-reducing measures (ROC), and firm operational performance (OPF), are measured. Cronbach's Alpha values from the model are shown in Table 2 above and are all above the threshold of 0.7. This study found composite reliability above 0.80. Thus, the results demonstrate the discriminant validity of the constructs tested using inter-construct correlations, latent variables, and the square root of average variance extracted values (AVE) for the aggregated data. Table 1 above provides the same threshold for the SEM goodness of fit indices.

The SEM good model, fit indices statistics, show that the fitted model is good because the CMIN/DF value of 1.028 and the p-value of 0.276 meet the threshold values. All other goodness of fit indices—GFI (0.976 ≥ 0.90), TLI (0.999 ≥ 0.90), CFI (0.999 ≥ 0.90), NFI (0.975 ≥ 0.90), RMR (0.014 < .05), and RMSEA (0.004 ≤ .08)—meet the minimum suggested values, indicating an excellent fitted model. The CFI and Tucker Lewis Index (TLI) were more significant than 0.9, and the SRMR and RMSEA were substantially below the recommended cutoff values of 0.08 and 0.06. The RMSR, SRMR, and RMSEOA are all absolute fit measurements (RMSEA). Low "badness-of-fit indices" indicate a better fit. Between 0.05 and 0.08 and less than 0.05 are good fits [53] (Hair et al., 2017). The criteria show the fitted model is sound and could anticipate the results' usefulness [57;58] (Khalid & Hunjra, 2015; Gaskin & Lim, 2016).

The data fitted well to the measurement items used in the study, as indicated by the SEM's goodness of fit indices. The SEM with its model parameters is in Figure 2 below.

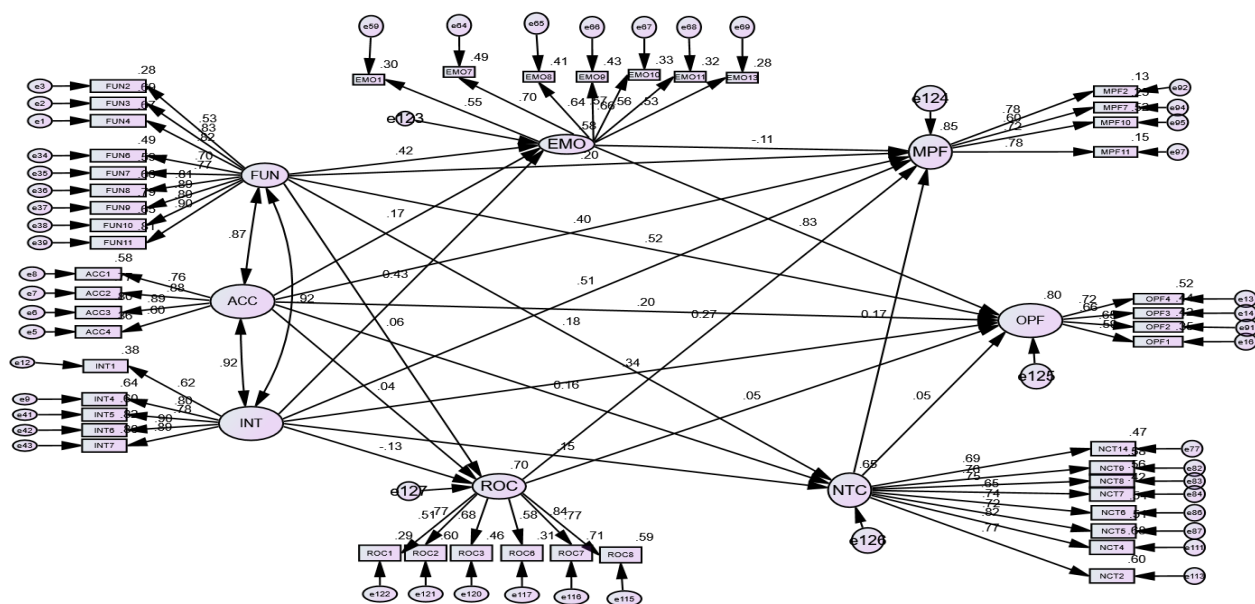


Figure 2: SEM with coefficients

C. Ict-Enabled Management Competencies and Operational Firm Performance

A positive and significant correlation exists between Management ICT competencies (ICTM= FUN, INT, ACC) and firm operational performance (OPF). Hypothesis statement (H_{1.0} that H_{1.1}, H_{1.2}, H_{1.3} represent) MIC's three variables' relationship with OPF. MITC for functionality-related core competencies (FUN) boosts both operational performances (OPF) by a co-efficient of 0.523 and a p-value of 0.011 (H_{1.1} path FUN → OPF). The results indicate a 52.3% change in OPF for each shift in FUN units. Again, OPF estimates 0.341 co-efficient and p-value of 0.00 path (H_{1.2} path INT → OPF) ICTM for integrity-related core competencies (INT) per unit change. OPF varies by 34.1% for each unit of INT. Each unit change toward OPF in MIC for market-access-related (ACC) has a coefficient of 0.204 and p-value of 0.00 path (H_{1.3} path ACC → OPF). A single ACC unit upgrade increases OPF by 20.4%. The three sub-hypotheses support the central research claim (H₁) concerning the ICTM sub-variables FUN, INT and ACC related to the CADV sub-variables EMO, ROC, and NCT. Table 3 shows the relationship between the SEM's management ICT competencies to operational performance parameters.

Table 3: SEM's Management ICT competencies relationship operational performance parameters

Number	Hypothesis	Relationship	Coefficient	T- Statistics	P-values	Decision
1	H _{1.1}	FUN → OPF	0.523	2.540	0.011	Supported
2	H _{1.2}	INT → OPF	0.341	3.434	0.000	Supported
3	H _{1.3}	ACC → OPF	0.204	10.552	0.000	Supported

Note that: *** p < 0.01, ** p < 0.05, * p < 0.1

All measures of ICTM (FUN, INT, ACC) acceptably with OPF, positive, and statistically significant at the 10% level. They were positively correlated, indicating that if one variable increases, so do the other. Consequently, these assumptions are all supported, meaning that MITC positively affects operational firm performance (OPF). Table 3 above outlines the business performance implications of the Management ICT competencies hypothesis. All sub-hypotheses support the central hypothesis (H₁) regarding the ICTM sub-variables FUN, INT, and ACC.

D. Ict-Enabled Management (ICTM) Competencies and Competitive Advantage

There was a link between Management ICT competencies (ICTM→FUN) and competitive advantage (CADV). Hypothesis statement (H₂ represented by H_{2.1}, H_{2.2}, H_{2.3}, H_{2.4}, H_{2.5}, H_{2.6}, H_{2.7}, H_{2.8} and H_{2.9}) regarding the relationship between ICTMs three variables and CADV's three factors. OPF.

i. Functionality competencies and Competitive advantage

ICTM's functionality-related (FUN) improves CADV for exploiting market opportunity (EMO) with a co-efficient of 0.422 and a p-value of 0.000 (H_{2.1} path FUN → EMO), indicating a 42.2% change in FUN for every unit change in EMO. Path (H_{2.2}: path FUN → ROC) has a coefficient of 0.061 and a p-value of 0.000; for each unit change toward reduction of cost (ROC), FUN changes by

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61%. Every upgrade to a FUN unit could boost ROC by 6.1%. Again, CADV's neutralisation competitive threats (NCT) estimates a route (H_{2.3}: path FUN → NCT) for every NCT per unit change with a coefficient of 0.180 and a p-value of 0.00. CADV's NCT fluctuates by 18.0% for every unit of MIC-FUN. The three sub-hypotheses support the central research claim (H₂) concerning the ICTM sub-variables FUN and the CADV sub-variables EMO, ROC, and NCT. Table 4 shows the SEM parameters discussed in this section.

Table 4: SEM's ICTM -functionality competencies relationship competitive advantage parameters.

Number	Hypothesis	Relationship	Coefficient	T- Statistics	P-values	Decision
4	H _{2.1}	FUN → EMO	0.422	14.150	0.000	Supported
5	H _{2.2}	FUN → ROC	0.061	7.925	0.000	Supported
6	H _{2.3}	FUN → NCT	0.180	9.608	0.000	Supported
Note that: *** p < 0.01, ** p < 0.05, * p < 0.1						

ii. Integrity-related competencies and Competitive advantage

ICTM's integrity-related (INT) improves CADV for exploiting market opportunity (EMO) with a co-efficient of 0.433 and a p-value of 0.000 (H_{2.4} path INT → EMO). A 43.3% change in EMO for every unit change in FUN. For path H_{2.5}: INT → ROC, has a coefficient of -0.134 and a p-value of 0.421 for each unit change toward reduction of cost (ROC). Every upgrade to an INT unit could boost ROC by negative 1.34 %, though statistically insignificant and unsupported. Again, CADV's neutralisation competitive threats (NCT) estimates a route (H₆: INT → NCT) for every INT per unit change with a coefficient of 0.152 at a p-value of 0.00. Thus, the result is positive and significant. CADV's NCT fluctuates by 15.2% for every unit of ICTM's INT. The three sub-hypotheses support the central research claim (H₂) concerning the ICTM sub-variables INT in relationship to the CADV sub-variables EMO, ROC, and NCT. Below, Table 5 shows the SEM parameters discussed in this section.

Table 5: SEM's ICTM -Integrity competencies relationship competitive advantage parameters.

Number	Hypothesis	Relationship	Coefficient	T- Statistics	P-values	Decision
7	H _{2.4}	INT → EMO	0.433	9.298	0.000	Supported
8	H _{2.5}	INT → ROC	-0.134	-0.805	0.421	Not Supported
9	H _{2.6}	INT → NCT	0.152	8.677	0.000	Supported
Note that: *** p < 0.01, ** p < 0.05, * p < 0.1						

iii. Market-access-related competencies and Competitive advantage

ICTM s market-access-related (ACC) improves CADV for exploiting market opportunity (EMO) with a co-efficient of 0.172 and a p-value of 0.000 (H_{2.7} path ACC → EMO)—a 17.2% change in ACC for every unit change in EMO results. Path (H_{2.8} path ACC → ROC) has a coefficient of .44 and a p-value of 0.000 for each unit change in ACC toward reduction of cost (ROC). Every upgrade to an ACC unit could boost ROC by 4.4 %. Again, CADV's neutralisation competitive threats (NCT) estimates a route (H_{2.9} path ACC → NCT) for every NCT per unit change with a coefficient of 0.162 and a p-value of 0.0468, though statistically insignificant. CADV's NCT fluctuates by 15.2% for every unit of ICTM-ACC. The three sub-hypotheses support the central research claim (H₂) concerning the ICTM sub-variables ACC in relationship to the CADV sub-variables EMO, ROC, and NCT. Below, Table 6 shows the SEM parameters discussed in this section.

Table 6 SEM's ICTM -market-access competencies relationship competitive advantage parameters.

Number	Hypothesis	Relationship	Coefficient	T- Statistics	P-value	Decision
10	H _{2.7}	ACC → EMO	0.172	8.266	0.000	Supported
11	H _{2.8}	ACC → ROC	0.044	11.169	0.000	Supported
12	H _{2.9}	ACC → NCT	0.162	0.726	0.468	Not Supported
Note that: *** p < 0.01, ** p < 0.05, * p < 0.1						

E. Competitive Advantage and Operational Firm Performance

There was a link between competitive advantage (CADV) and operational company performance (OPF). H_{3.1}, H_{3.2}, and H_{3.3} represent the hypothesis statement (H₃) regarding the relationship between CADV's three variables and the dependent OPF variable. OPF estimates a route (H_{3.1} path EMO → OPF) for every exploitation of market opportunity (EMO) per unit change with a coefficient of 0.114 and a p-value of 0.00. OPF fluctuates by 11.4% for every unit of EMO. Path (H_{3.2} path ROC → OPF) has a

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coefficient of 0.253 and p-value of 0.442 for each unit change toward OPF in reduction of cost (ROC). Every upgrade to a ROC unit could boost OPF by 20.4%. Regrettably, this research claim is statistically insignificant and is not supported. Again, CADV for neutralisation of competitive threats (NCT) improves operational performance (OPF) with a co-efficient of 0.351 and a p-value of 0.000 (H_{3.3} path NCT → OPF). Thus, a 35.1% change in OPF for every unit change in NCT will result.

Two measures of CADV metrics (EMO, NCT) correlated positively with OPF and were statistically significant at the 1% level. The result shows a positive correlation, which indicates that when one variable increases, so do the other. Therefore, two sub-hypotheses (H_{3.1}; H_{3.3}) are supported, demonstrating that CADV positively impacts operational business performance (OPF). The three sub-hypotheses support the central research claim (H₃) concerning the CADV sub-variables EMO, ROC, and NCT in relationship to OPF. The model parameters for the tested hypothesis are in Table 7.

Table 7: SEM Competitive advantage and operational firm performance parameters

Number	Hypothesis	Relationship	Coefficient	T- Statistics	P-value	Decision
13	H _{3.1}	EMO → OPF	0.114	15.295	0.000	Supported
14	H _{3.2}	ROC → OPF	0.253	0.769	0.442	Not Supported
15	H _{3.3}	NCT → OPF	0.351	15.870	0.000	Supported

Note that: *** p < 0.01, ** p < 0.05, * p < 0.1

F. Ictm and operating performance (opf) mediated by cadv factors.

ICT-enabled management competencies (ICTM = FUN, INT ACC) moderate the relationship between the operational performance of the firm (OPF) and competitive advantage (CADV=EMO, ROC, NCT).

i. CADV's EMO factor mediates ICTM and the firm's operating performance (OPF).

The results show that the median effect of EMO among all factors of ICTM (FUN, INT, ACC) are positive and statistical significance at a 5% confidence level with values at (H_{4.1} path FUN → EMO → OPF) 94.7%. The coefficients for EMO-mediating ICTM's functionality-related core competencies (FUN) are a coefficient of 0.947 at p = 0.000 for operational performance (OPF). The coefficient for EMO-mediated ICTM help for integrity-related core competencies (INT) at (H_{4.2} path INT → EMO → OPF) is 0.262 and at a p-value of 0.001. A confidence level of 1% positively and significantly supports the relationship. The coefficients for EMO-mediated ICTM help for market-access-related core competencies (ACC) are 0.035 at a p-value of 0.00 (OPF). Thus, at (H_{4.3} path ACC → EMO → OPF) respectively positively and significantly supported at 5%. An estimated 3.5% change in ACC's relationship to OPF is due to EMO mediation. Table 8 below shows the coefficient and p-value for the related paths.

Table 8: Indirect hypotheses results in the mediating effect of EMO between ICTM and OPF

Number	Hypothesis	Relationship	Coefficient	T-Statistics	p-Values	Decision
16	H _{4.1}	FUN → EMO → OPF	0.947	8.597	0.000	Supported
17	H _{4.2}	INT → EMO → OPF	0.262	3.094	0.001	Supported
18	H _{4.3}	ACC → EMO → OPF	0.035	8.690	0.000	Supported

Note that: *** p < 0.01, ** p < 0.05, * p < 0.1

ii. ICTM and operating performance of the firm (OPF) mediated by CADV's ROC factor.

The result in Table 9 below indicates that ROC mediates the relationship of ACC between OPF is positive and statistically significant confidence level at 1%. ACC's associated mediation indirect paths are (H_{4.6} path ACC → ROC → OPF) at a co-efficient of 0.037 at a p-value of 0.000. Paths (H_{4.4} for INT → ROC → OPF) and (H_{4.5} for ACC → ROC → OPF) respectively not supported in this study.

Table 9: Indirect hypotheses results in the mediating effect of ROC between MITC and OPF

Number	Hypothesis	Relationship	Coefficient	T-Statistics	p-Values	Decision
19	H _{4.4}	FUN → ROC → OPF	0.013	1.019	0.308	Not Supported
20	H _{4.5}	INT → ROC → OPF	0.022	1.540	0.123	Not Supported
21	H _{4.6}	ACC → ROC → OPF	0.037	7.091	0.000	Supported

Note that: *** p < 0.01, ** p < 0.05, * p < 0.1

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iii. CADV's NCT factor mediates ICTM and operating performance (OPF)

Table 10 shows that NCT mediates the relationship between FUN and INT between OPF with a positive and statistically significant confidence level of 5%. Thus, EMO's mediation effect has a greater extent than NCT and ROC in that respective order. This result indicates that EMO mediates (H_{4.1} path FUN → EMO → OPF) by a more significant percentage at 94.7% than (H_{4.7} path FUN → NCT → OPF) at a less percentage of 10.4% and (H_{4.4} path FUN → ROC → OPF) at even a less rate of 1.3%. Note that the mediation effect of all three variants of EMO, two variants of NCT and one variant of ROC is positive and statistically significant at a confidence level of 5%.

Table 10: Indirect hypotheses results in the mediating effect of NCT between ICTC and OPF

Number	Hypothesis	Relationship	Coefficient	T-Statistics	p-Values	Decision
17	H _{4.7}	FUN → NCT → OPF	0.104	4.507	0.000	Supported
20	H _{4.8}	INT → NCT → OPF	0.157	2.38	0.032	Supported
21	H _{4.9}	ACC → NCT → OPF	0.019	1.127	0.281	Not Supported

Note that: *** p < 0.01, ** p < 0.05, * p < 0.1

VI. DISCUSSIONS

Companies with poor performance may adopt resource-based strategies frequently and automatically. Thus, company decision-makers must align competitive advantage, exceptional performance, and competitive advantage sources are distinct ideas. Superior EMO, NCT, and ROC constitute a competitive advantage (CADV). Both MPF and OPF beat industry norms.

Numerous model measures connect ICTM to CADV and OPF. Our data supported disaggregated H₁ variants FUN→OPF (H_{1.1}), INT →OPF (H_{1.2}), and ACC→OPF (H_{1.3}). For H₂ variants for FUN→EMO (H_{2.1}), FUN→ ROC (H_{2.2}), and FUN→NCT (H_{2.3}). H₃ variants EMO→OPF (H_{3.1}) and NCT→OPF (H_{3.3}). H₄ forms were EMO mediating FUN→EMO→OPF (H_{4.1}), INT→EMO→OPF (H_{4.2}), and ACC→EMO→OPF (H_{4.3}). Again, H₄ forms were ROC mediating ACC→ROC→OPF (H_{4.6}), and NCT mediating FUN→NCT→OPF (H_{4.7}), INT→NCT→OPF (H_{4.8}). The ICTC→CADV→OPF route mediation study concurs with the findings by [54] Mataruka (2022), [60] Shafiee (2021); [39] Al Ali et al. (2017), and [28] Ravichandran and Lertwongsatien (2005). [54] Mataruka (2022) and [60] Shafiee (2021) asserted that competitive advantage arises in firms that deploy intangible assets in FUN, INT, and ACC competencies.

EMO techniques enhance organisational success and innovation. [61] Bozic and Dimovski (2019) reported the distinctive competitive advantage of market-access competencies and operating firm performance, mediated by the firm's agility to exploit market opportunities, is not supported. NCT and ROC mediate between ICTM and OPF in various and distinct ways. EMO, NCT, and ROC's use of ICT indicates how they contribute to enhancing enterprise capabilities. These ICT resources boost the organisation's assets' worth. Thus, EMO, NCT, and ROC acts directed by ICT enhance competitiveness ([61] Bozic and Dimovski (2019) and [62] Nwankpa & Roumani, 2016).

The analysis of primary data from 201 managers of manufacturing firms in Harare, Zimbabwe, shows that market-access-related capabilities (social capital) positively affect competitive advantage and that competent integrity-related ability (human capital) positively affects both competitive advantage and firm performance of Zimbabwe firms. Also, research shows that a reputation that focuses on functionality-related capabilities improves both competitive advantage and performance. Further, similar to [54] Mataruka (2022) and [61] Bozic and Dimovski (2019), the results show that a firm's performance during uncertainty is enhanced by having a dynamic competitive advantage attitudinal skill. These results give us essential information about RBV blended with DCT and human capital theories and back up the idea that human and social capital resources are critical to the success of Harare firms over long periods. This knowledge can be beneficial for strategic manufacturing business managers. This knowledge helps them strengthen their firms' positions in emerging markets when times are tough.

Better ICT support for core competencies raises switching costs and customer loyalty, which reduces marketing costs. Even if ICT assistance rises, prominent ICT companies may impose switching fees and place a premium on client loyalty over financial success. ICT support for crucial individuals can help companies acquire complete client knowledge and preferences while decreasing business search costs. This extensive expertise may allow a business to enter a new market at a reasonable economic value. These are just a few examples of how ICT assistance for core competencies can increase profits or reduce expenses in the Internet age.

Managers must identify, develop, protect, and use unique firm resources and capabilities, market positions, and mobility barriers to achieve competitive advantage (i.e., above-average market opportunities, neutralising competitive threats, and cost reduction) and superior performance (i.e., above-average financial and operational performance). [63] Mataruka et al.

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(2023), [60] Shafiee (2021); [39] Al Ali et al. (2017), [64] Kirrane et al. (2017) concur that core competency-aligned innovation is managerial support for organisational changes and employee motivation to generate new ideas. Management ICT support for corporate knowledge expansion is crucial for sustaining competitive advantages and achieving excellent business performance, as revealed in the results.

[35] Barney (2001) suggested that businesses with unique resources or abilities enjoy a sustained competitive advantage. Scholars believe that ICT proficiency enhances core skills and identifies extraordinary performance implying that core competencies are critical organisational capabilities. RBV asserts that a one-of-a-kind, non-replicable ICT capability can improve corporate performance. As such, managerial decision-making must focus on reconfiguring its strategies to remain above industry performance. However, there is evidence that how ICT competency employs other business resources and competencies might explain disparities in firm success, similar to the findings by [65;28] (Radhakrishnan et al., 2008; Ravichandran & Lertwongsatien, 2005). The study found that despite the benefit of ICT skills, they may indirectly diminish the value of other organisational assets or competencies if embedding ICT fails to align with ICT resources and capabilities to the business model strategic tenets.

This study also demonstrates that a company's competitive advantage subtly influences the effects of ICT applications on its fundamental capabilities and performance. Similarly, [61] Bozic and Dimovski (2019), [29] Chege et al. (2020) and [31] Ferreira et al. (2020) contend that businesses must comprehend competitive advantage and ICT capability in an intertwined manner. This research discovered that strategically implementing ICT to support fundamental competencies and organisational effectiveness is a strategic top managerial decision-making domain. Companies that invest in ICT resources and capabilities can better integrate digital consumer data with new procedures and investments to enhance the customer experience, competitive advantage, and long-term performance.

VII. CONCLUSION

Consequently, it is essential to determine if these results accurately reflect the development of Zimbabwean ICT organisation abilities. The maturity of ICT has reached a stage where ICT resources and experience may no longer enhance company performance in isolation of business models and strategies that align with ICT systems and infrastructural tools. The Internet, outsourcing, especially offshore outsourcing, enterprise resource planning (ERP) systems, and cheaper PCs have all made ICT more accessible and uniform. Therefore, the costs associated with maintaining and marketing a strong brand may have a detrimental effect on ROC in Zimbabwe relative to favouring EMO and NCT. Despite their importance in Zimbabwe, industrial businesses have recently embraced ICTs to increase localisation and global competitiveness.

In the NDS-1 agenda, management ICT competencies could increase productivity. The country's low worldwide innovation ranking and lack of economic growth since the turn of the Century are regrettable [10] (Ilieva et al., 2022). Despite their digital transformation objectives, manufacturing businesses lag behind other non-financial sector organisations in adopting and deploying ICT, notably e-business digital technology. There are several assumptive explanations for management ICT and market restrictions. Inability to get financial and human resources, apply appropriate and specific external technological capabilities, and recognise ICT benefits [8;54] (Dzindikwa & Kabanda, 2022; Mataruka, 2022). Flexible manufacturing, lean and agile logistical services, employment, new ideas, concepts, technological innovation, collaboration in a free market economy, and corporate development and success are all enabled by information management [9] (Kabanda, 2014). Due to their reliance on imported ICT capital and raw materials, most Zimbabwean businesses lack liquidity, foreign cash, trained labour, international knowledge transfer, government backing, and enabling laws [9; 54] (Kabanda, 2014; Mataruka, 2022). A lack of competitiveness, expertise, infrastructure, and resources may explain Zimbabwe's sluggish digital adoption. This macroeconomic issue gives foreign businesses competing in the same markets an edge [55] (Muzurura & Mutambara, 2022).

VIII. RECOMMENDATIONS

This study shows that ICT use in Zimbabwe has primarily benefited manufacturing companies' operations more than aligning with their holistic company's strategic goals. For ICT-enabled managerial competencies to significantly impact firm performance, firms need complementary strategic capabilities. However, the research is cross-sectional and manufacturing sector-specific, with limited comparative results in other essential sectors. Consequently, the inferred conclusive cause-and-effect linkages can be from the data. The data lack an understanding from a longitudinal process perspective, and further research is necessary.

MANAGERIAL IMPLICATIONS: The analysis of primary data from 201 managers of manufacturing firms in Harare, Zimbabwe, shows that market-access-related capabilities (social capital) positively affect competitive advantage and that competent integrity-related ability (human capital) positively affects both competitive advantage and firm performance of

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Zimbabwe firms. Also, research shows that a reputation that focuses on functionality-related capabilities improves both competitive advantage and performance. The results show that a firm's performance during uncertainty is enhanced by having a dynamic competitive advantage attitudinal skill that stretches beyond the theorised RBV notion. Moreover, this study contributes to the ICT literature by demonstrating that ICT-enabled management competencies complement the special ICT tools insufficient to establish and maintain a competitive advantage. For ICT-enabled managerial competencies to significantly impact firm performance, firms need complementary strategic capabilities.

THEORY IMPLICATIONS

These results provide essential information about RBV blended with DCT. Though further combinations with the knowledge-based view (KBV) and human capital theory (HCT) backed up the idea that human and social capital resources are critical to the success of Harare firms over long periods. This knowledge can be beneficial for strategic manufacturing business managers. This knowledge helps managers strengthen their firms' positions in emerging markets when times are tough. Moreover, this study contributes to the ICT literature by demonstrating that ICT-enabled management competencies complement the insufficiencies inherent within the ICT tools to establish and maintain a competitive advantage beyond intellectual managerial capital. Hence an opportunity for developing a more integrated theoretical basis that aligns with the gains of digital transformational strategies arises. A contextualised, resource scarcity-sensitive conceptual framework might be advantageous for the micro to small- to medium-sized businesses that dominate emerging nations like Zimbabwe.

The resource-based view (RBV) contends that having the necessary resources gives a company a competitive edge and improves performance [13] (Barney, 1991). The RBV perspective aids businesses in creating dynamic capabilities and practical strategies to achieve their strategic goals and gain a sustainable competitive advantage [23;24;25] (Chen et al., 2021; Elkins et al., 2004; Kamukama et al., 2011). The importance of RBV has been widely discussed and acknowledged in business literature [14;13;15] (e.g., Wernerfelt, 1984; Barney, 1991; Peteraf, 1993). RBV has been used in all business functional areas, including manufacturing and operations management, despite its initial recognition in strategic management. Therefore, the value could arise for a policy opportunity to create a digitally enabling infrastructural environment.

POLICY Due to ICTs' integration and market access capabilities, business digitisation and innovation may assist the informal sector in shifting resources to the more efficient formal industry and improve their productivity. Productivity drives economic growth and improves living standards [10] (Ilieva et al., 2022). The national economy's resource use is inadequate since the productivity of informal companies is just 5% [10] (Ilieva et al., 2022). This digital transformation national strategy in the NDS-1 policy could assist firms in using ICT to gain a long-term competitive edge and commercial success. Despite globalisation, ICT digital innovation is minimal in Zimbabwe's industrial enterprises due to a lack of ICT management coordination beyond compliance and active pursuits, which limits creativity and performance.

LIMITATIONS

The research has limitations. First, a concentration on manufacturing restricts its reach. While manufacturing is essential for most emerging nations, a future empirical studies agenda may concentrate on other industries, particularly those in less-formalised economic sectors. Second, the study used the RBV as a theoretical lens to understand numerous literary concepts. Even though some academic difficulties are emphasised, their impact on the fundamental RBV lens was modest to increase the generalizability of the results. A prospective study might explore the relationship between small-size multi-industrial-sector-based firms and ICT management orientation from a different theoretical perspective.

This study's disaggregated approach confirms previous research demonstrating a correlation between corporate performance and ICT capabilities, but it is too soon to proclaim the relationship a success. The study's findings differed from those of other studies for three reasons. (1) ICT's role and value have changed, making it a weaker predictor of business performance; (2) emphasising the importance of management knowledge and abilities in using ICT technologies in a single industry with heavy ICT usage is limiting; and (3) the cross-sectional design of the study coincided with Zimbabwe's first COVID-19 pandemic lockdown, which may have influenced respondents' perspectives.

Therefore, the digital business model may aid managers in understanding the issues that relate to embedding ICT strategies. With ICT capital, manufacturing businesses may use digital platforms to market, promote, produce, and exchange resources, information, expertise, and trust. As companies recover from the recent and ongoing economic shock aggravated by the COVID-19 pandemic, a digital enterprise may help them satisfy customer needs and build confidence. Zimbabwean firms may now directly access various worldwide markets thanks to the multi-currency economy and better national ICT infrastructure

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investment policies. Outside Zimbabwe, companies with the appropriate guidelines, strategies, abilities, and resources target these markets.

DECLARATION OF CONFLICTING INTERESTS

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The Role of Sport in Improving Physical Health and Fitness: A Literature Study



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ABSTRACT: The purpose of this study was to examine the role of sport in improving physical health and fitness by exercising. This research is a type of qualitative research and belongs to the category of literature study, in which the researcher uses literature, either in the form of books, notes, or research reports from previous researchers. Sports Health is a group of sciences that discusses all health problems related to sports. Physical fitness is the suitability of the physical condition for the tasks that must be carried out physically or physically based on the physical requirements that are anatomical, physiological, anatomical suitability and physiological suitability

KEYWORDS: Health, Physical Fitness

I. INTRODUCTION

The development of an increasingly advanced era certainly has an impact on one's life. However, in this sophisticated modern era, humans are increasingly reluctant to move their bodies. In carrying out daily activities humans as living beings need a fit body condition because if someone has a fit body a job will be obtained with maximum results (Heryanto & Sudijandoko, 2019). In everyday life, physical fitness will describe a person's life in a harmonious, vibrant and creative way. In other words, a fit person is a person who has a healthy, bright outlook on life both for now and for the future. Currently in Indonesia, people's interest in doing sports is increasing both in public places, on the roads and on sports fields. In addition, various recreational sports groups have sprung up such as cycling, climbing, trekking, fishing and physical fitness centers. On the other hand, the progress of science and technology makes it easy for people to carry out various daily activities so that people tend to be less mobile which can result in a level of physical fitness (Sudiana, 2014).

Regular exercise trains the body to better distribute blood to the muscles during exercise, thereby reducing the heart's workload. Exercise with certain movements that involve the muscles of the body will be able to maintain muscle strength, joint function, blood vessels remain elastic and remain open, thus facilitating blood flow to parts of the body, helping to train lung development, but what needs to be considered is to maintain healthy vessels constricted blood affects digestion and the work of other organs, while dilated vessels in working muscles allow blood to flow to where it is needed (Pribadi, 2015).

Exercising definitely requires energy in the implementation process, the endurance that a person has is very influential in the process of carrying out sports activities, and endurance is very dependent on oxygen, because the body that is used to move requires oxygen intake in the process of carrying out sports activities so that it does not experience fatigue, so Oxygen plays a very vital role, not only for breathing but also for supplying muscles while doing activities, but all of that can happen if we have good lung capacity (Syahda et al., 2016).

The spirit of exercise will also affect the level of physical fitness of the community. Physical fitness refers to the ability to carry out daily activities vigorously without feeling overly tired, as well still have enough energy to carry out activities (Tarmizi et al., 2020).

Physical fitness is closely associated with physical activity. Physical fitness at the age of children and adolescents is considered an important indicator of health-related and mental outcomes and is conceptualized as an integrated measure of cardiorespiratory fitness, flexibility, muscle fitness, and body composition (Lutfillah & Wibowo, 2021).

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Someone who has a good level of physical fitness will have a VO value²Max who is taller and can perform stronger physical activities than people who are not in good condition (Titania & Zulraflia, 2022). Physical fitness is the suitability of physical conditions for tasks that must be carried out physically or physically based on physical requirements that are anatomical, physiological, anatomical suitability and physiological suitability (Dewi et al., 2020). The level of one's physical fitness will have an impact on physical and mental readiness to be able to accept the workload (Santika, 2017). The physical fitness that humans need to carry out work activities for each individual is not the same, according to the motion and work performed (Khudeivi et al., 2023). Physical fitness gives a person the ability to do productive work every day without excessive fatigue and still have energy reserves to properly enjoy his leisure time or carry out sudden activities (Kasan et al., 2020).

Physical fitness is closely related to health in sports. Health is a condition where we are far away or free from disease. It is expensive when compared to other things (Anam, 2016). Health sports can be carried out in bulk, for example: fast walking or slow running (jogging), aerobics, breathing exercises and other similar mass sports (Saputra, 2020). Sports Health increases the degree of Healthy Dynamic (Healthy in motion), of course also Healthy Static (Healthy when still), but not necessarily the other way around, like to exercise: prevent disease, live a healthy and enjoyable life. Lazy to exercise: invite disease, not exercising: neglect (Lauh, 2014). The concept of Health Sports is intensive, stress-free, short (10-30 minutes non-stop), adequate, massive, easy, inexpensive, festive and physiological (useful and safe), mass: an event for friendship, an event for enlightening stress, an event for social communication (Puspitasari et al., 2018). So health sports make humans physically, spiritually and socially healthy, namely completely healthy according to the WHO Healthy concept which means enough, that is, enough in time (10-30 minutes without stopping) and sufficient in intensity (Saputra, 2020).). In the case of sports in the form of walking, then the intensity of walking should be like someone who is walk in a hurry, but of course according to the ability of each. Adequate health exercise intensity, namely if the exercise pulse reaches 65-80% DNM according to age (Maximum Pulse Rate according to age = 220- age in years).

The term Sports Health is used to translate the original term, namely Sports Medicine which means actually from Sports Medicine is Sports Medicine. However, if the term used is Sports Medicine, then that field seems to be a specialty for doctors. Even though it is quite widely known that the Health sector involves a wider scope of the Human Resources profession which includes for example Scholars/Experts/Sports Scientists, Physical and Sports Education Teachers, Sports Health Coaches and Achievement Sports Coaches, Massage Experts (Masseur), Ahli Gizi, Ahli Ilmu Faal, Ahli AnatomyAnthropometry, Ahli Kinesiology Biomechanics, Orthopedists, Medical Rehabilitation Specialists and Doctors in general.

Maintaining a healthy body by doing physical activity by exercising regularly in order to improve physical fitness, besides that by maintaining physical fitness, people must know what the benefits of body health are for the future, lots of simple sports to maintain body fitness such as gymnastics, jogging, cycling, swimming , roads and others (Majid, 2020). Sport and health cannot be separated, because they have a close and interrelated relationship (Alfirdaus & Susanto, 2021). If everyone is diligent in exercising then everyone can have a healthy body, because exercise is a means to improve health and well-being throughout life (Gayman et al., 2017).

Table 1. Clarification of Asia Pacific Body Mass Index Criteria

Clarification	Body Mass Index
<i>Underweight</i> (underweight)	<18,5
Normal	18,5 – 22,9
<i>Overweight</i> (overweight)	≥ 23
At risk	23 - 24,9
Obesity I	25 - 29,9
Obesity II	≥ 30

Nutritional status is an indicator of children's health. period five years (infancy) is an important period when children need sufficiency nutrition to support physical growth (Puspitasari et al., 2018). Nutritional status is an expression of a state of balance in the form of certain variables or variables It is said that nutritional status is an indicator of good and bad daily food provision. Good nutritional status is needed to maintain fitness and health levels, help the growth of children and support the

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development of sportsmen's achievements. Nutritional status is influenced by food consumption and physical activity of a person (Soraya et al., 2017).

Table II. BMI Indication (WHO)

Bmi	Weight Status
<i>Below 18.5</i>	<i>UnderWeightt</i>
18.5 – 24.9	Normal
25.0 – 29.9	<i>OverWeight</i>
<i>30.0 and Above</i>	<i>Obese</i>

II. RESEARCH METHODS

This research uses the method literature review. Literature review is a literature review that forms the basis for the reasons researchers decide to choose a particular theme or title that collects from several previous studies (Ridwan & Irawan, 2018). The data collection technique in this study uses web-based internet by focusing on articles that are relevant to this research. The data used is secondary data in the sense that researchers do not go directly to the field.

It should be noted that the procedure for searching articles that are relevant to this research uses a sinta database with the help of a machine Google Chrome and Google Scholar. The article search system uses keywords derived from the title of this research. There were 25 articles found during the article search process, but of the 25 articles found, only 5 articles were used as a reference for researchers to conduct a review. This is because 21 articles were not included in this study. The researcher also emphasized that all the data used for this research was sourced from database national or sinta with the provisions of the last 10 years so that its existence is still relevant today.

III. DISCUSSION

No	Name	Title	Objective
1	(Pane, 2015)	The Role Of Sport In Improving Health	Aims to educate knowledge about the role of sports
2	(Darmawan, 2017)	Efforts to Improve Students' Physical Fitness Through Physical Education	Aims for improvement in management physical education at school
3	(Dewi et al., 2020)	Motivation of Health and Recreation Physical Education Study Program Students to Maintain Physical Fitness During the Covid-19 Pandemic	Aim to analyze motivation of students of physical education study program, health and recreation faculties of sports and health to maintain physical fitness during the co-19 pandemic
4	(Daulay & Nasution, 2021)	Socialization of Activities on the Importance of Sports Health in Supporting Learning Process Activities in the Medan International Asy-Syafiya'iyah Middle School Environment 2021	Aim for 1) Cultivating sports for the community, 2) Socializing how and when to exercise is good, 3) Providing the benefits of sports to the community
5	(Prasetyo, 2013)	Public Awareness of Exercising for Health Improvement and National Development	Aim to do exercise to improve Immunity and Health Tuuh

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Sport plays a very important role in improving Health and Physical Fitness. Therefore, in particular Health Sports should be used as the main material in the implementation of quality development of human resources through an approach from the physical aspect. High creativity is needed to make various forms of movement activity, so that health sports are not boring, but the basic concept must still be Health Sports. The very positive psychological impact of implementing Health Sports in Schooling/Educational Institutions is a sense of equality and togetherness among fellow actors, because they all feel able and able to do Health Sports well together. Conversely, if branch sports are applied (eg table tennis, tennis, badminton, etc.) this can cause many students/people to feel marginalized from sports activities because they feel unable to participate, especially when it has to do with social aspects. Economical due to the high cost of facilities, infrastructure and implementation. A further impact of feeling marginalized is the emergence of hatred or indifference to sports. This condition is a psychological condition that is very unfavorable for the development and dissemination of sport in society. With good management, the atmosphere on the field when doing health sports will greatly increase the passion and zest for life of the perpetrators. Thus, the potential of Sport (Health) really needs to be understood by all interested parties in fostering and improving the degree of public health, which is a manifestation of improving the quality of human resources.

In carrying out daily activities, humans are usually hampered by the appearance of symptoms related to the condition of their bodies, while humans must maintain their lives with activities that can produce a source of life such as work, trade and so on (Darmawan, 2017). Physical fitness is one of the main assets that must be owned by humans, because by having a good level of physical fitness, humans will find it easier to carry out activities or work, conversely with a low level of physical fitness, humans will have difficulty in carrying out all daily activities because Physical fitness has a very important role in human life.

Physical fitness cannot be separated from nutritional factors (foodstuffs), because food is needed by the body for energy sources, building body cells, biocatalyst components, and metabolism. Food must be in accordance with what is needed by the body both quantitatively and qualitatively. Quantitative means that the comparison between carbohydrates, fats and proteins eaten must be in accordance with one's activities. In normal people carbohydrates are given 55-60%, fat is given 20-30% of total calories and protein is needed 1 gram/body weight, while athletes can be given 10-15% of total calories. Furthermore, qualitatively, it means the ingredients that are always present in food (carbohydrates, fats, proteins, vitamins, minerals, and water) and the amount can be given more if needed. The scope of physical fitness includes: Anatomical Fitness, Physiological Fitness, Physiological Fitness. A person who has Anatomical Fitness to do business or activity when it meets requirements for the completeness of the members needed to carry out an activity (having a good body shape). If someone is said to have Physiological Fitness is if he can do the job efficiently, without significant fatigue and can recover (recovery) quickly if fatigue arises from doing these activities. All activities require muscle activity, although not the same for various kinds of activities. In brief Physiological Fitness is the will of the body to be able to function optimally.

The way to improve one's health and physical fitness is through exercise. Exercise is a systematic sporting activity for a long time, progressively improved and individually aimed at achieving predetermined goals. Through practice one can achieve the desired goal. physical condition training (physical conditioning) is very important to maintain or improve the degree of health and physical fitness (physical fitness) (Darmawan, 2017)

To improve the quality of health through sports activities, do aerobic exercise such as brisk walking, jogging in place, aerobic exercise and so on in a measurable manner. In addition, to achieve better results, exercise for health must be in line with the exercise program. Physical fitness will be obtained by someone through the struggle not to hit stop and can not go through the shortcut. After we know the characteristics of good and low physical fitness, we can feel for ourselves how roughly the quality of physical fitness is. Next, what components of physical condition need to be improved so that physical health and fitness improve: 1). Cardiovascular Endurance, 2). Muscular endurance, 3). Muscle strength, 4). Flexibility, 5). Body composition, 6). Speed, 7). Agility, 8). Balance, 9). power, 10). Coordination. In the 10 components of physical condition, we can measure physical fitness with measuring instruments that have reliability and validity as follows.

1. Cardiovascular Endurance

Cardiovascular endurance, namely the pumping capacity of the heart and pulmonary respiration processes to distribute oxygen throughout the body. Instruments used in measuring cardiovascular endurance, namely Multistage Fitness Test with a validity value of 0.915 and a reliability value of 0.868

2. Muscle Endurance

Muscular endurance is the ability of a muscle or group of muscles to perform repeated contractions over a long period of time. The instrument used to measure muscle endurance viz Flexed-Arm Hang with a validity value of 0.932 and a reliability of 0.804

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3. Muscle Strength

Muscle strength is the ability to produce a number of forces quickly, usually an athlete and a non-athlete have different levels of muscle strength. An instrument used to measure muscle strength by using hand grip dynamometer test validity of 0.880 and test reliability of 0.938 and back and leg dynamometer test validity of 0.82 and test reliability of 0.93

4. Flexibility

Flexibility is the joint's ability to move with full ROM (Range Of Motion), easily, without obstacles, and pain. Instruments used in the measurement of Flexibility namely Sit And Reach with a validity value of 0.993, and a reliability value of 0.997.

5. Body Composition

Measurement of body composition is a measurement aimed at detecting the body's need for food intake and obtaining information relevant to efforts to prevent and treat disease. The instruments used in measuring body composition are tools Scan on land.

6. Speeds

Speed is the ability to perform successive movements of the same rank in a short time, or the ability to cover a distance in the shortest possible time. In the speed test and measurement using a 30 meter run test with a validity value of 0.98 and a reliability of 0.96.

7. Agility

Agility is the ability to change direction or body position quickly which is done together with other movements. The instrument used to measure agility is running back and forth or shuttle run with a distance of 20 meters which has a reliability value of 0.93 and a validity of 0.87.

8. Balance

Balance is the ability to maintain the attitude and position of the body quickly when standing (static balance) or when doing movement (dynamic balance). The instrument used in measuring balance by using strok stand which has a reliability value of 0.87 and a validity value of 0.93.

9. Power

Power is a very important biomotor component, because power will determine how hard a person hits, how hard a person kicks, how fast a person runs, and how far a person takes repulsion. In measuring power using the Vertical Friday instrument which has a validity value: 0.78 and a reliability value: 0.93.

10. Coordination

Coordination is a very complex biomotor ability. The instrument used in the Coordination measurement is the Ball Catching Test with a validity value of 0.92 and a reliability value of 0.83.

The components mentioned above are enhanced through sports activities both aerobic and anaerobic. The exercise must be given in such a way that all of these components experience an increase in quality so that the exercise is not only carried out only aerobic or only anaerobic exercise. Errors like this are often encountered in everyday life so that health and physical fitness do not increase significantly as expected. At a time when fitness is a goal in sports, it is important to design training strategies in a targeted and physically appropriate way. Exercise plays a major role in determining a person's health status, while not exercising can trigger risk factors for various diseases in the future. Perfect health is not only a state free from disease, but also a state of optimal health, that is, a state in which a person can carry out daily activities without undue fatigue and has reserve capacity for emergencies. Of course health sports can be done individually, but if done in groups it is more interesting, lively and inspiring. The atmosphere in sports (health) is significantly weakened. Rigidity is caused by differences in intelligence and socio-economic status of the actors, and the goal of the group is to improve social welfare, because everyone meets each other.

If sport develops and penetrates into society, then the next stage of sport will become a community need. People who understand sports do not need to be forced or ordered to do sports. But in reality the social situation in Indonesia has not yet reached that level (awareness and need for training). If people perceive sports as a necessity, then people will learn more about sports and how to do sports properly for health purposes, thereby improving their health (Prasetyo, 2013).

The ability to undergo physical activity that is heavier than usual can be known by describing a person's health status. This is also needed before carrying out a fitness test so that the respondent's health status can be controlled. To find out health status, namely a health check or medical check-up which includes: blood pressure and pulse checks, blood tests, urological examinations, hormone examinations, and bone density examinations.

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IV. CONCLUSIONS

Health and physical fitness are interrelated with each other so that in improving body health and physical fitness by exercising regularly and programmed so as to achieve the desired target. Physical or physical activity carried out in accordance with the principles of exercise, the correct dose of exercise, and the correct training method will produce good results. Physical activity prevents symptoms of atrophy because the body is not given activity. Atrophy is defined as loss or wasting of muscle shape due to loss of muscle fibers. Basically it can occur both physiologically and pathologically

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Educational Progress and Prospect Theory for Teaching Pedagogy



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ABSTRACT: The study aims to investigate the educational progress and prospect theory for teaching pedagogy on the aspect of expected learning outcome, instructional activity, and assessment in teaching and learning.

Descriptive quantitative research design is employed in the study because it quantifies and measures the theory being formulated on educational progress and prospects in teaching pedagogy principles. Likewise, convenience sampling is employed in gathering the sample size and population of the study. The study comprised eighty (80) respondents only.

Results show that teaching pedagogy principles prioritize effective teaching involvement, focusing on knowledge and skills to determine reason and accomplish an objective learning process, expected learning outcome is based on Specific, Measurable, Attainment, Realistic, and Time-bounded (SMART) which is needed in teaching pedagogy principles, instructional activity shows to help students focus and accomplish the task effectively based on set objective of the lesson, and assessment in teaching and learning shows to design and measure various assessment functions in learning elements as to concept, and level knowledge of students.

Findings show that there is a significant relationship on the contribution of educational progress and prospects theory for teaching pedagogy as observed among the respondents.

KEYWORDS: Educational progress and prospect, teaching pedagogy, teaching principles, expected learning outcome, instructional activity, and assessment in teaching and learning

INTRODUCTION

The educational progress and prospect in teaching pedagogy is necessary in the school system. It offers proper motivation, opportunity, and resources development. It is a program for an accessible and practical future for individual learners. It seeks acquisition inquiries and opportunities for college students (Mallillin, et al., 2020). It implements multiliteracy ideas for classroom teaching and learning. It offers prospective learning potential benefits for student growth and development. It emphasizes learning insight, cultural awareness, and critical thinking. It challenges rewarding experience and instruction for students, (Rahman, et al., 2022, pp. 34-52). On the other hand, educational progress means acquiring growth, skills, and knowledge such as emotional and social development. It commensurate students' level of knowledge, expectation, development, and potential student education. It is a powerful tool to utilize weapons in the world for an individual person to get a better job, and become a better citizen. It shows knowledge and importance of individual development, and hard work such as creating opportunity for employment, securing impressive income, development skills, problem solving, economy improvement, happy lifestyle and prosperity, offering something for the community, contributing for the improved society, creating equal opportunity, bridging the borders, and empowerment. It explores new learning assessment, and forms of teaching intended for teachers, students, instructional designers, trainers, education consultants, policy makers, and educational software developers in learning situations and teaching pedagogy innovation, (Kukulka-Hulme, et al., 2022).

Notably, the teaching pedagogy and principles provide new techniques and ideas for teachers to the fullest. It suggests reformation for new curriculum especially in the now normal, new techniques in teaching, learning outcome, instructional activity, and tool for assessment in the academic performance of students. It prepares and directs student learning performance and assessment. It requires a solid foundation of theory in teaching and learning pedagogy. It develops flexibility on conceptual knowledge and factual understanding for student development in learning. This is relevant to the structure in teaching pedagogy and principles in the

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academic performance of students in carrying psychomotor, affective, and cognitive domains of learning. It includes strategies and techniques for teaching at comprehension level and analysis for academic performance of the learners to include attitude of students and study habits. It constructs meaning in the domain of learning motivation and attention to learning, and willingness to participate in the lesson. It expresses preference, acceptance, belief, commitment and values through facial expression and creative movement in teaching and learning pedagogy progress and prospect. It analyses innovation, competency, and creativity to present the ability and concept of the lesson teaching strategy and approach. It focuses on the learning process and output of the lesson, (Mallillin, et al., 2021, p. 9). Hence, various domains of learning are aligned with teaching pedagogy and principles in the academic output and performance of students which are designed for different activities in teaching and learning process. It explores in-depth learning and knowledge activity participation of the learners. It helps to provide teaching and learning manner which is based on the needs of students as centers of learning as to affective, cognitive, and psychomotor skills of learning and academic performance of students. It executes and implements to carry motivation of learning process and worth belief commitment in teaching pedagogy. It designates learning for students' practice and experiences. It explores knowledge receptive and development strategy in teaching. It indicates the various domains of learning as part of teaching pedagogy principles, (Mallillin, 2020, pp. 1-11).

Educational progress and prospect theory for teaching pedagogy principles cycle, illustration, and explanation:

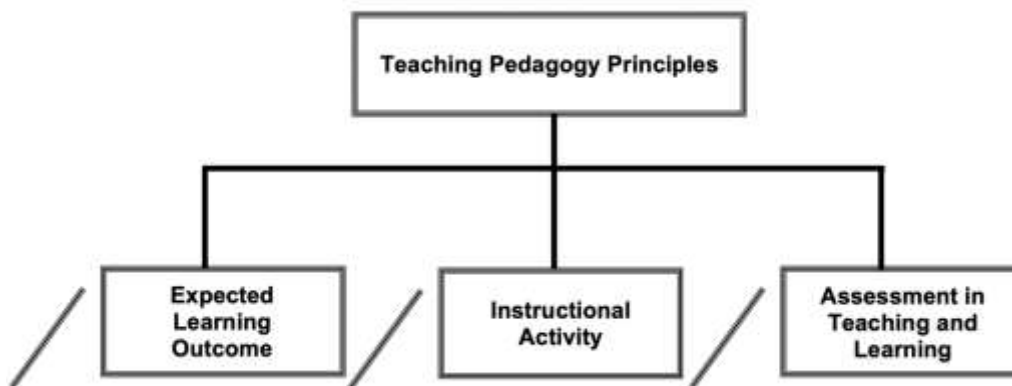


Figure 1: Educational Progress and Prospect Theory in Teaching Pedagogy

A. Teaching pedagogy principles.

It refers to the multifaceted complex of teaching and activity that requires goals and tasks in a simultaneous flexibility process. It is an effective tool and powerful principles in effective and efficient teaching pedagogy. Details of the theory are discussed below:

1. It involves effective teaching and acquired knowledge for students as the centers of learning utilization to course design, information, and classroom teaching.
2. It involves aligning components of teaching instruction to provide skills and opportunities for further learning guidance among students.
3. It explicit effective teaching and expectation involvement in learning policies, learning objectives, and classroom discipline.
4. It prioritizes effective teaching involvement, focusing on knowledge and skills to determine reason and accomplish an objective learning process.
5. It recognizes and involves effective teaching to draw relevant knowledge necessary for appropriate technique and pedagogy of learning.
6. It adopts necessary pedagogy appropriate for effective teaching process, support roles, and learning goals.
7. It refines progress for effective teaching pedagogy on feedback and reflection to change and appropriate issues in the learning process.
8. It examines knowledge and information for effective teaching pedagogy in class participation and group dynamics.
9. It modifies content, learning objectives, and structure of teaching principles and pedagogy based on the needs of the learners.
10. It shapes and measures effective teaching pedagogy and characteristics on planning instructional materials for guided learning.

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B. Expected learning outcome.

It refers to description and measurable skills, values, and knowledge for students to complete a lesson and demonstrates the result of learning. It is both teacher-centered and student-centered process expected learning outcome set in the course module. Details of the theory are discussed below:

1. Learning outcomes must emphasize the decision of what to teach in the course and what to teach based on learning parameters.
2. It requires various approaches to teaching techniques and strategies for better output and performance of the learners.
3. It helps students to connect and creates a teaching learning process for mastery of the lesson.
4. Learning outcomes must be based on Specific, Measurable, Attainment, Realistic, and Time-bounded (SMART) which is needed in teaching pedagogy principles.
5. It develops, implements, and disseminates effective learning outcomes for teaching pedagogy improvement.
6. Expected learning outcome defines total knowledge, information, competency, skills, values, understanding, and attitude for teaching and learning.
7. It improves the intended expected learning outcome to quality education effort for teaching and learning attainment.
8. It improves extensive resources in teaching and learning pedagogy process and relevant educational progress and prospects.
9. It provides specific skills and knowledge for student activity inside the classroom such as small or group discussion, and pair activity expected learning outcome.
10. It creates and develops teaching and learning programs for instruction management in the module course path in actionable learning outcome.

C. Instructional Activity.

It engages on instructional design and approach in teaching and learning cycle and segment for better academic achievement and performance of students as the centers of learning. It specifies instructional materials and content for teaching and learning. It provides lecturers the novice of the real setting of teaching practices. Details of the theory are discussed below:

1. Instructional activity provides techniques and strategies to assist students become independent learners.
2. It helps students to focus and accomplish the task effectively based on the set objective of the lesson.
3. It is a strategic tool for learning success in various instructional learning approaches and guided learning.
4. It supports independent learning practice, ideas, and transfer of skills opportunity in teaching situations.
5. It encourages tools for assessing, and reflecting learning connections and self-monitoring as students centers of learning.
6. Instructional activity provides effective learning techniques and learning strategies for student knowledge and skills toward academic performance.
7. It explores proper learning such as base-inquiry learning, cooperative learning, cognitive learning, role playing, group discussion, and independent learning.
8. It involves students to create task and assignment completion activity learning.
9. Success of learning is based on instructional activity and performance of student output.
10. Instructional activity is based on brainstorming knowledge and generation of concepts in teaching to organize ideas for learning.

D. Assessment in teaching and learning.

it refers to the tools and methods of various evaluation in learning acquisition, progress, academic readiness, and educational learning needs of students. It develops assessment tools and a diverse array to measure comprehensive level and performance of students. Details of the theory are discussed below:

1. It designs to measure various assessment functions in learning elements as to concept, and level knowledge of students.
2. It comprehends to analyze the ability to teach assessment and utilization of individual progress of students.
3. It supports academic programs for educational assessment in wide varied utilization of teaching and learning.
4. It provides interim assessment as to formative or summative evaluation in academic program and instructional teaching approach to learning.
5. It determines readiness of students in teaching and learning placement assessment in academic programs appropriate for learning needs and distinct experiences.
6. Assessment provides specialized assistance for student learning as to academic, cognitive, physical, and developmental process and potential.

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7. It provides proficiency based learning design for specific skills and knowledge development detail of students' academic performance.
8. It encourages assessment and consistency for responsible content of teaching performance in the classroom learning experiences.
9. It assesses student performance, task activity provided and collaborative learning and expectation.
10. It provides authentic and accurate meaningful assessment in learning process and acquisition experiences.

STATEMENT OF THE PROBLEM

1. What is the contribution of educational progress and prospect theory for teaching pedagogy among the respondents?
2. Is there a significant relationship on the contribution of educational progress and prospect theory for teaching pedagogy as observed among the respondents?

HYPOTHESIS

There is a significant relationship on the contribution of educational progress and prospects theory for teaching pedagogy as observed among the respondents.

RESEARCH DESIGN

Descriptive quantitative research design is employed in the study. It describes in detail the contribution of educational progress and prospect theory for teaching pedagogy among the respondents in terms of teaching pedagogy and principles, expected learning outcome, instructional activity, and assessment in teaching and learning. It evolves structure in teaching pedagogy. It reveals development trends in the descriptive quantitative research design process. It identifies intervention in educational progress and prospect theory in teaching pedagogy principles. It interprets descriptive quantitative research design for teaching and learning process. It initiates educational progress and prospects for the teacher development system, (Chen, & Cheng, 2022, pp. 417-438).

SAMPLING TECHNIQUES

Convenience sampling technique is utilized in the study because it is a method of non-probability sampling in the selection process of the sample size of the study. It is easy and accessible for the researcher to implement based on the criteria and selection of the respondents. It is available in a given time, proximity, and willing to participate in the research process. It explains standard available formulas in gathering the sample size and sample technique, (HR, & Aithal, 2022, pp. 288-306).

PARTICIPANTS OF THE STUDY

The subjects of the study are experts in quantitative research and criticism in the theory process of the educational system. They are Doctors of Philosophy and Doctors of Education degree holders. They are working in both public and private Higher Education Institutions (HEIs). The study comprised eighty (80) respondents only.

INSTRUMENTS USED

1. Contribution of educational progress and prospect theory for teaching pedagogy in terms of teaching pedagogy principles

Scale	Descriptive Level	Descriptive Interpretation
4.20-5.00	Strongly Agree	Teaching pedagogy principles is highly observed
3.40-4.19	Agree	Teaching pedagogy principles is observed
2.60-3.39	Moderately Agree	Teaching pedagogy principles is limited
1.80-2.59	Disagree	Teaching pedagogy principles is not observed
1.00-1.79	Strongly Disagree	Teaching pedagogy principles is not observed at all

2. Contribution of educational progress and prospect theory for teaching pedagogy in terms of expected learning outcome

Scale	Descriptive Level	Descriptive Interpretation
4.20-5.00	Strongly Agree	Expected learning outcome is highly observed
3.40-4.19	Agree	Expected learning outcome is observed
2.60-3.39	Moderately Agree	Expected learning outcome is limited

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1.80-2.59	Disagree	Expected learning outcome is not observed
1.00-1.79	Strongly Disagree	Expected learning outcome is not observed at all

3. Contribution of educational progress and prospect theory for teaching pedagogy in terms of instructional activity

Scale	Descriptive Level	Descriptive Interpretation
4.20-5.00	Strongly Agree	Instructional activity is highly observed
3.40-4.19	Agree	Instructional activity is observed
2.60-3.39	Moderately Agree	Instructional activity is limited
1.80-2.59	Disagree	Instructional activity is not observed
1.00-1.79	Strongly Disagree	Instructional activity is not observed at all

4. Contribution of educational progress and prospect theory for teaching pedagogy in terms of assessment in teaching and learning

Scale	Descriptive Level	Descriptive Interpretation
4.20-5.00	Strongly Agree	Assessment in teaching and learning is highly observed
3.40-4.19	Agree	Assessment in teaching and learning is observed
2.60-3.39	Moderately Agree	Assessment in teaching and learning is limited
1.80-2.59	Disagree	Assessment in teaching and learning is not observed
1.00-1.79	Strongly Disagree	Assessment in teaching and learning is not observed at all

RESULTS

Table 1: Contribution of Educational Progress and Prospect Theory for Teaching Pedagogy in Terms of Teaching Pedagogy Principles Among the Respondents

Indicators	WM	I	R
1. It involves effective teaching and acquires knowledge for students as the centers of learning utilization to course design, information, and classroom teaching.	3.39	N	9.5
2. It involves aligning components of teaching instruction to provide skills and opportunities for further learning guidance among students.	3.81	A	6
3. It explicit effective teaching and expectation involvement in learning policies, learning objectives, and classroom discipline.	4.00	A	4.5
4. It prioritizes effective teaching involvement, focusing on knowledge and skills to determine reason and accomplish an objective learning process.	4.21	SA	1.5
5. It recognizes and involves effective teaching to draw relevant knowledge necessary for appropriate technique and pedagogy of learning.	3.45	A	8
6. It adopts necessary pedagogy appropriate for effective teaching process, support roles, and learning goals.	4.00	A	4.5
7. It refines progress for effective teaching pedagogy on feedback and reflection to change and appropriate issues in the learning process.	3.77	A	7
8. It examines knowledge and information for effective teaching pedagogy in class participation and group dynamics.	4.21	SA	1.5
9. It modifies content, learning objectives, and structure of teaching principles and pedagogy based on the needs of the learners.	3.39	N	9.5
10. It shapes and measures effective teaching pedagogy and characteristics on planning instructional material for guided learning.	4.09	A	3
Average Weighted Mean	3.83	A	
Standard Deviation	0.324		

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Table 1 presents the weighted mean and the corresponding interpretation on the contribution of educational progress and prospect theory for teaching pedagogy in terms of teaching pedagogy principles among the respondents.

It shows that rank 1 is shared by the two indicators which are “It prioritizes effective teaching involvement, focusing on knowledge and skills to determine reason and accomplish an objective learning process”, and “It examines knowledge and information for effective teaching pedagogy in class participation and group dynamics”, with a weighted mean of 4.21 or Strongly Agree which means teaching pedagogy principles is highly observed. Rank 2 is “It shapes and measures effective teaching pedagogy and characteristics on planning instructional material for guided learning”, with a weighted mean of 4.09 or Agree which means teaching pedagogy principles is observed. Rank 3 is shared by the two indicators which are “It explicit effective teaching and expectation involvement in learning policies, learning objectives, and classroom discipline”, and “It adopts necessary pedagogy appropriate for effective teaching process, support, roles, and learning goals”, with a weighted mean of 4.00 or Agree which means teaching pedagogy principles is observed. The least in rank is also shared by the two indicators which are “It involves effective teaching and acquires knowledge for students as the centers of learning utilization to course design, information, and classroom teaching”, and “It modifies content, learning objectives, and structure of teaching principles and pedagogy based on the needs of the learners”, with a weighted mean of 3.39 or Neutral which means teaching pedagogy principles is limited. The overall average weighted mean is 3.38 (SD=0.324) or Agree which means contribution of educational progress and prospect theory for teaching pedagogy in terms of teaching pedagogy principles is observed among the respondents.

Table 2: Contribution of Educational Progress and Prospect Theory for Teaching Pedagogy in Terms of Expected Learning Outcome Among the Respondents

Indicators	WM	I	R
1. Learning outcomes must emphasize the decision of what to teach in the course and what to teach based on learning parameters.	4.01	A	5
2. It requires various approaches to teaching techniques and strategies for better output and performance of the learners.	3.66	A	7
3. It helps students to connect and create teaching and learning process for mastery of the lesson.	4.15	A	3.5
4. Learning outcomes must be based on Specific, Measurable, Attainment, Realistic, and Time-bounded (SMART) which is needed in teaching pedagogy principles.	4.23	SA	1.5
5. It develops, implements, and disseminates effective learning outcomes for teaching pedagogy improvement.	3.92	A	6
6. Expected learning outcome defines total knowledge, information, competency, skills, values, understanding, and attitude for teaching and learning.	4.15	A	3.5
7. It improves the intended expected learning outcome to quality education effort for teaching and learning attainment.	3.37	N	9.5
8. It improves extensive resources in teaching and learning pedagogy process and relevant educational progress and prospects.	3.49	A	8
9. It provides specific skills and knowledge for student activity inside the classroom such as small or group discussion, pair activity expected learning outcome.	3.37	N	9.5
10. It creates and develops teaching and learning programs for instruction management in the module course path in actionable learning outcome.	4.23	SA	1.5
Average Weighted Mean	3.85	A	
Standard Deviation	0.353		

Table 2 presents the weighted mean and the corresponding interpretation on the contribution of educational progress and prospect theory for teaching pedagogy in terms of expected learning outcome among the respondents.

It shows that rank 1 is shared by the two indicators which are “Learning outcomes must be based on Specific, Measurable, Attainment, Realistic, and Time-bounded (SMART) which is needed in teaching pedagogy principles”, and “It creates and develops teaching and learning program instruction management module course path in actionable learning outcome”, with a weighted mean

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of 4.23 or Strongly Agree which means expected learning outcome is highly observed. Rank 2 is also shared by the two indicators which are “It helps students to connect and create teaching and learning process for mastery of the lesson”, and “Expected learning outcome defines total knowledge, information, competency, skills, values, understanding, and attitude for teaching and learning”, with a weighted mean of 4.15 or Agree which means expected learning outcome is observed. Rank 3 is “Learning outcomes must emphasize decision of what to teach in the course and what to teach based on learning parameters”, with a weighted mean of 4.01 or Agree which means expected learning outcome is observed. The least in rank is also shared by the two indicators which are “It improves the intended expected learning outcome to quality education effort for teaching and learning attainment”, and “It provides specific skills and knowledge for student activity inside the classroom such as small or group discussion, pair activity expected learning outcome”, with a weighted mean of 3.37 or Neutral which means expected learning outcome is limited. The overall average weighted mean is 3.83 (SD=0.353) or Agree which means contribution of educational progress and prospect theory for teaching pedagogy in terms of expected learning outcome is observed among the respondents.

Table 3: Contribution of Educational Progress and Prospect Theory for Teaching Pedagogy in Terms of Instructional Activity Among the Respondents

Indicators	WM	I	R
1. Instructional activity provides techniques and strategies to assist students become independent learners.	4.02	A	4.5
2. It helps students to focus and accomplish the task effectively based on the set objective of the lesson.	4.20	SA	1.5
3. It is a strategic tool for learning success in various instructional learning approaches and guided learning.	3.35	N	9.5
4. It supports independent learning practice, ideas, and transfer of skills opportunity in teaching situations.	3.66	A	7
5. It encourages tools for assessing, and reflecting learning connections and self-monitoring as students centers of learning.	3.35	N	9.5
6. Instructional activity provides effective learning techniques and learning strategies for student knowledge and skills toward academic performance.	4.20	SA	1.5
7. It explores proper learning such as base-inquiry learning, cooperative learning, cognitive learning, role playing, group discussion, and independent learning.	4.11	A	3
8. It involves students to create task and assignment completion task and activity learning.	3.87	A	6
9. Success of learning is based on instructional activity and performance of student output.	3.55	A	8
10. Instructional activity is based on brainstorming knowledge and generation of concepts in teaching to organize idea for learning.	4.02	A	4.5
Average Weighted Mean	3.83	A	
Standard Deviation	0.332		

Table 3 presents the weighted mean and the corresponding interpretation on the contribution of educational progress and prospect theory for teaching pedagogy in terms of instructional activity among the respondents.

It shows that rank 1 is shared by the two indicators which are “It helps student to focus and accomplish the task effectively based on the set objective of the lesson”, and “Instructional activity provides effective learning techniques and learning strategies for student knowledge and skills toward academic performance”, with a weighted mean of 4.20 or Strongly Agree which means instructional activity is highly observed. Rank 2 is “It explores proper learning such as base-inquiry learning, cooperative learning, cognitive learning, role playing, group discussion, and independent learning”, with a weighted mean of 4.11 or Agree which means instructional activity is observed. Rank 3 is shared by the two indicators which are “Instructional activity provides techniques and strategies to assist student become independent learners”, and “Instructional activity is based on brainstorming knowledge and generation of concept in teaching to organize idea for learning”, with a weighted mean of 4.02 or Agree which means instructional

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activity is observed. The least in rank is also shared by the two indicators which are “It is a strategic tool for learning success in various instructional learning approaches and guided learning”, and “It encourages tool for assessing, and reflecting learning connection and self-monitoring as students centers of learning”, with a weighted mean of 3.35 or Neutral which means instructional activity is limited. The overall average weighted mean is 3.83 (SD=0.332) or Agree which means contribution of educational progress and prospect theory for teaching pedagogy in terms of instructional activity is observed among the respondents.

Table 4: Contribution of Educational Progress and Prospect Theory for teaching Pedagogy in Terms of Assessment in Teaching and Learning among the Respondents

Indicators	WM	I	R
1. It designs to measure various assessment functions in learning elements as to concept, and level knowledge of students.	4.21	SA	1.5
2. It comprehends to analyze the ability to teach assessment and utilization of individual progress of students.	3.93	A	5.5
3. It supports academic programs for educational assessment in wide varied utilization of teaching and learning.	3.51	A	8
4. It provides interim assessment as to formative or summative evaluation in academic program and instructional teaching approach to learning.	4.21	SA	1.5
5. It determines readiness of student teaching and learning placement assessment in academic programs appropriate for learning needs and distinct experiences.	4.12	A	3
6. Assessment provides specialized assistance for student learning as to academic, cognitive, physical, and developmental process and potential.	3.64	A	7
7. It provides proficiency based learning design for specific skills and knowledge development detail of students' academic performance.	4.00	A	4
8. It encourages assessment and consistency for responsible content of teaching performance in the classroom learning experiences.	3.34	N	9.5
9. It assesses student performance, task activity provided and collaborative learning and expectation.	3.34	N	9.5
10. It provides authentic and accurate meaningful assessment in learning process and acquisition experiences.	3.93	A	5.5
Average Weighted Mean	3.82	A	
Standard Deviation	0.339		

Table 4 presents the weighted mean and the corresponding interpretation on the contribution of educational progress and prospect theory for teaching pedagogy in terms of assessment in teaching and learning among the respondents.

It shows that rank 1 is shared by the two indicators which are “It designs to measure various assessment functions in learning elements as to concept, and level knowledge of students”, and “It provides interim assessment as to formative or summative evaluation in academic program and instructional teaching approach to learning”, with a weighted mean of 4.21 or Strongly Agree which means assessment in teaching and learning is highly observed. Rank 2 is “It determines readiness of students in teaching and learning placement assessment in academic programs appropriate for learning needs and distinct experiences”, with a weighted mean of 4.12 or Agree which means assessment in teaching and learning is observed. Rank 3 is “It provides proficiency based learning design for specific skills and knowledge development detail of students' academic performance”, with a weighted mean of 4.00 or Agree which means assessment in teaching and learning is observed. The least in rank is shared by the two indicators which are “It encourages assessment and consistency for responsible content of teaching performance in the classroom learning experiences”, and “It assesses student performance, task activity provided and collaborative learning and expectation”, with a weighted mean of 3.34 or Neutral which means assessment in teaching and learning is limited. The overall average weighted mean is 3.82 (SD=0.339) or Agree which means contribution of educational progress and prospect theory for teaching pedagogy in terms of assessment in teaching and learning is observed among the respondents.

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Table 5: Test of Significant Relationship on the Contribution of Educational Progress and Prospect Theory for Teaching Pedagogy Among the Respondents

Test of Variables on Educational Progress and Prospect Theory	z computed value	comparison	z critical value	Decision
● Teaching Pedagogy Principles	60.3397	>	±1.96	Rejected
● Expected Learning Outcome	57.9586	>	±1.96	Rejected
● Instructional Activity	59.4531	>	±1.96	Rejected
● Assessment in Teaching and Learning	58.6824	>	±1.96	Rejected
Two-tailed test at 0.05 level of significance				

Table 5 presents the test of significant relationship on the contribution of educational progress and prospect theory for teaching pedagogy as observed among the respondents.

It shows that when the variables are tested using the z test, two tailed tests, at 0.05 level of significance. It reveals that the computed z value is higher than the z critical value of ±1.96 which resulted in significant rejection of the hypothesis. Therefore, it is safe to say that there is a significant relationship on the contribution of educational progress and prospect theory for teaching pedagogy as observed among the respondents.

DISCUSSION

The contribution of educational progress and prospect theory for teaching pedagogy in terms of teaching pedagogy principles shows to prioritize effective teaching involvement, focusing on knowledge and skills to determine reason and accomplish an objective learning process. It examines knowledge and information for effective teaching pedagogy in class participation and group dynamics, (Mallillin, 2022, pp. 99-121). Hence, it increases teachers competency, attention to quality teaching and interaction for student performance. It indicates teacher effectiveness in support of student development perspective, (Aldrup, et al., 2022, pp. 1-40). It also shows how to shape and measure effective teaching pedagogy and characteristics on planning instructional material for guided learning. It examines performance and implementation of teaching strategy based on the needs of students as centers of learning. It explores pedagogical knowledge and content as reflected in the module of the course as to teaching principle is concerned, (Reynolds, & Park, 2021, pp. 721-748). Notwithstanding, teaching pedagogy principles show explicit effective teaching and expectation involvement learning policies, learning objectives, and classroom discipline. It adopts necessary pedagogy appropriate for effective teaching process, support roles, and learning goals. It provides critical thinking for the learning process as part of teaching pedagogy and principle to foster better performance and output of students. It focuses on various domains of teaching and learning to enhance student development as to inquiry learning, setting problems, active learning, and teaching strategies, (Okolie, et al., 2022, pp. 1184-1198). Lastly, teaching pedagogy principles show to involve effective teaching and acquire knowledge for students as the centers of learning utilization to course design, information, and classroom teaching. It also shows how to modify content, learning objectives, and structure of teaching principle and pedagogy based on the needs of the learners. It enacts the practice of classroom theory in teaching and interaction as to spatial elements, physical and social perspective practice reference. It features teaching and learning implementation to understand the real essence of teaching pedagogy principle and intervention. It explores perspective teaching pedagogy principle approach of the lesson, function, content, and intervention design for learning outcome, (Morales-Belando, et al., 2022, pp. 670-681).

On the other hand, the contribution of educational progress and prospect theory for teaching pedagogy in terms of expected learning outcome is based on Specific, Measurable, Attainment, Realistic, and Time-bounded (SMART) which is needed in teaching pedagogy principle where it creates and develops teaching and learning program for instruction management module course path in actionable learning outcome, (Mallillin, & Mallillin, 2019). This can provide competency skills and performance of faculty in various educational institutions. It is a substantial productive teaching and learning in shaping critical leadership and support for high technical teachers in influencing outcome and performance of students. It contributes to high quality and characteristics of learning programs and experiences. It illustrates the proper principle of teaching pedagogy, (Darling-Hammond, et al., 2022). Besides, expected learning outcomes help students to connect and create teaching and learning process mastery of the lesson. It also defines total knowledge, information, competency, skills, values, understanding, and attitude for teaching and learning. It provides mastery and designs for learning outcomes based on the needs of the lesson and needs of students as the centers of learning. The learning outcome implies

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valid tool and criteria as to learning activities and learning objectives as to usability, appeal, accuracy, and clarity, (Soltura, 2022, pp. 1-18). Yet, the expected learning outcome emphasizes the decision of what to teach in the course and what to teach based on learning parameters. It provides policy making based on the module to establish and advocate the need for educational progress and prospects in teaching pedagogy. The learning outcome aligns to the various domains of learning. It builds bridges and nuances in the working boundary of the educational system progress and prospect for teaching pedagogy and principle (Mallillin, & Laurel, 2022). It demonstrates and analyzes knowledge in proper learning output needed for teaching and learning professional practices, (Risan, 2022). Lastly, it shows to improve the intended expected learning outcome to quality education effort for teaching and learning attainment where it provides specific skills and knowledge for student activity inside the classroom such as small or group discussion, and pair activity expected learning outcome. It explores academic self-concept, learning outcome, engagement, learning environment, and student learning satisfaction, (Guo, et al., 2022, pp. 809-828).

Furthermore, the contribution of educational progress and prospect theory for teaching pedagogy in terms of instructional activity among the respondents shows to help students to focus and accomplish the task effectively based on the set objective of the lesson. It also shows that instructional activity provides effective learning techniques and learning strategies for student knowledge and skills toward academic performance, (Mallillin, et al., 2020). It integrates practice and increases innovation delivery of the lesson based on the task given to students. It adopts the concept of teaching and understanding the learners' engagement and learning style to cope with the needs of students as the centers of learning. Instructional activity explores driven connection of student engagement learning style and academic performance. It is a kinetic style of instructional activity and learning process for effective pedagogical approach, (Almasri, 2022, pp. 1-21). Similarly, instructional activity explores proper learning such as base-inquiry learning, cooperative learning, cognitive learning, role playing, group discussion, and independent learning. It explores utilization design and impact of instructional activity in facilitating learning development of students. It is designed to motivate students to develop creative skills in teaching and learning. Instructional activity facilitates motivation, learning process and creative thinking. It analyses approach on instructional activity and practical innovation in teaching and learning, (Balakrishnan, 2022, pp. 1799-1812). In addition, it shows that instructional activity provides techniques and strategies to assist students become independent learners and is based on brainstorming knowledge and generation concepts in teaching to organize ideas for learning. It explains and analyzes achievement and meaningful strategies and techniques in teaching. It addresses the various approaches for instructional activity in teaching and learning development of students as the centers of learning. It focuses application of instructional activity method and strategy for teaching and learning, (Vargas-Hernández, & Vargas-González, 2022, pp. 47-64). Lastly, instructional activity shows strategic tools for learning success in various instructional learning approaches and guided learning. It also encourages tools for assessing, and reflecting learning connections and self-monitoring as students centers of learning. It describes an information training program for instructional activity development for teachers. It is the basis for teaching strategies success for instructional activity and characteristics, (Li, et al., 2022, pp. 1403-1412).

Lastly, the contribution of educational progress and prospect theory for teaching pedagogy in terms of assessment in teaching and learning among the respondents shows to design and measure various assessment functions in learning elements as to concept, and level knowledge of students. It also provides interim assessment as to formative or summative evaluation in academic program and instructional teaching approach to learning, (Mallillin, 2021). It explores implementation and development of assessment in measuring academic performance of students. It provides intervention for the improved development of learning. It analyzes school improvement plans based on the result of evaluation and assessment in teaching and learning. It focuses on structural features, core, and intervention assessment in teaching and learning as part of professional development which leads to skills of students and knowledge in teaching pedagogy and principles, (O'Brien, et al., 273-297). In contrast, assessment in teaching and learning determines readiness of students in academic programs appropriate for learning needs and distinct experiences. It provides opportunity based learning procedures for both teachers and students. It assesses the situation and performance of students as a challenge in educational progress and prospect of teaching pedagogy. It addresses the gaps and issues for student collaboration and tasks in teaching and learning, (Yan, et al., 2022). Nonetheless, assessment for teaching and learning provides proficiency based learning design for specific skills and knowledge development detail of student academic performance. Assessment in teaching and learning integrates innovation for improved performance of students as centers of learning. It provides engagement, learning skills, and student driven knowledge. It develops a modern approach to assessment in teaching and learning delivery, (James, et al., 2022, pp. 1-12). Hence, assessment in teaching and learning encourages consistency for responsible content of teaching performance in classroom learning experiences. It also assesses student performance, task activity provided and collaborative learning expectation. It examines utilization of various

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assessment tools in teaching and learning. It measures knowledge and comprehension level of student outcome. It conceptualizes impact perceived learning, academic performance, satisfaction, and outcome of the learners, (Sabah, 2022, pp. 1-23).

CONCLUSIONS

The contribution of educational progress and prospect theory for teaching pedagogy in terms of teaching pedagogy principles shows to prioritize effective teaching involvement, focusing on knowledge and skills to determine reason and accomplish objective learning process where it examines knowledge and information for effective teaching pedagogy in class participation and group dynamics. This includes to shape and to measure effective teaching pedagogy and characteristics on planning instructional material for guided learning among the respondents.

Indeed, the contribution of educational progress and prospect theory for teaching pedagogy in terms of expected learning outcome is based on Specific, Measurable, Attainment, Realistic, and Time-bounded (SMART) which is needed in teaching pedagogy principle where it creates and develops teaching and learning program for instruction management module course path in actionable learning outcome. This includes to help students to connect and create teaching and learning processes for mastery lessons, and defines total knowledge, information, competency, skills, values, understanding, and attitude for teaching and learning among the respondents.

Moreover, the contribution of educational progress and prospect theory for teaching pedagogy in terms of instructional activity shows to help students focus and accomplish tasks effectively based on set objectives of the lesson where instructional activity provides effective learning techniques and learning strategies for student knowledge and skills toward academic performance. This includes exploring proper learning such as base-inquiry learning, cooperative learning, cognitive learning, role playing, group discussion, and independent learning among the respondents.

Lastly, the contribution of educational progress and prospect theory for teaching pedagogy in terms of assessment in teaching and learning shows to design and measure various assessment functions in learning element as to concept, and level knowledge of student where it provides interim assessment as to formative or summative evaluation in academic program and instructional teaching approach to learning. This includes to determine readiness of students in teaching and learning placement assessment in academic programs appropriate for learning needs and distinct experiences.

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Overview of Empowerment in Healthy Living Behavior for the People of Yogyakarta



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ABSTRACT: The purpose of this study is to improve people's living standards to further increase their passion, besides that this activity also synergizes with government programs in preparing the Golden Generation 2045 must have several competencies including Having comprehensive intelligence, namely productive, innovative, peaceful in social interactions, and strong character, healthy, healthy in natural interactions, and superior civilized. Types of research with observational methods. The population in this study was the people of Yogyakarta. There are 2 methods taken, namely: (1) Evaluation during the activation process, and (2) post-evaluation of coaching activities. The test instrument with quizzes uses the case study method to convey material with an andrological approach. The results of this research are: a) It is necessary to hold monitoring and evaluation related to the implementation of research to the community clean lifestyle of the people of krepyak ix, seyegan, and sleman hamlets. b) It is necessary to hold guidance on an ongoing basis so that the success of the development program and the utilization of the natural potential of this hamlet can be maximized in its development. c) It is necessary to make some cooperation between hamlets (several community mobilization groups) and various work units outside the village / related agencies so that hamlets that were previously less potential can become pilot villages with serious guidance and assistance.

KEYWORDS: empowerment, community behavior, healthy living

I. INTRODUCTION

The Indonesian government runs a program to drive a healthy lifestyle in the community, called clean and healthy living behavior (PHBS) (Nasution, 2020). Clean and Healthy Living Behaviors are all health behaviors that are carried out on awareness so that family members or families can help themselves in the health sector and can play an active role in health activities and play an active role in health activities in the community. (Ayu et al., 2018; Diana et al., 2013; Nurhajati, 2015). Implementing healthy living behaviors is very easy and cheap, compared to having to spend money on treatment if you experience health problems. One of the health promotion missions is to empower individuals, families, and communities to live healthy lives through community empowerment programs (Patilaiya & Rahman, 2018; Tentama, 2017).

Healthy living is something that should be applied by everyone, considering that the benefits caused will be very many, ranging from work concentration, children's health and intelligence to family harmony. Healthy clean living behavior is an effort to transmit experiences about healthy lifestyles through individuals, groups, or the wider community with communication channels as a medium for sharing information (Isnainy et al., 2020; Natsir, 2019). Health development should be carried out by all components of the Indonesian nation to increase awareness, willingness, and ability to live a healthy life for everyone to realize the highest degree of public health. Public health can be achieved by changing behaviors from unhealthy to healthy behaviors and creating a healthy environment in the household (Idawati et al., 2020; Saputra et al., 2018).

Krapyak IX hamlet located in the Kalurahan Margoagung Seyegan Sleman area has a population of 797 people consisting of 402 men and 395 women, of which most of the education levels are high school and below, causing Krapyak hamlet to experience lagging development both in terms of Human Resources and Natural Resources. The low level of people who continue their education to higher education makes public awareness of the importance of the times and updates to outside information increasingly closed, this is coupled with the image of the hamlet as a center of the tofu industry and livestock for generations making the younger generation less sensitive to the environment. Unorganized tofu industry centers and livestock

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in the middle of the hamlet make environmental pollution due to the smell and a large amount of tofu waste and livestock manure and garbage, lifestyle habits like this are at risk for public health and the next generation, so with the holding of this PkM it is hoped that it can increase public awareness of the importance of a healthy lifestyle and a clean environment to support the Indonesia Emas 2045 Program. Healthy living is one of the important elements in efforts to improve Indonesia's Development Index which is determined by environmental conditions and community behavior (Rofiki & Famuji, 2020).

Most of the Kalurahan Margoagung area is an agricultural area, but there is also another potential that stands out, namely the tofu industry and bamboo handicrafts. The tofu industry is in Padukuhan Krapyak, Gondang, and Barepan, while bamboo handicrafts are in Gentan Hamlet. The tofu industry in Padukuhan Krapyak is a business that has been passed down from previous parents and is still engaged in as a family livelihood. The daily average tofu production is quite high, which can process 2.5 tons of soybeans into yellow tofu which is marketed to traditional markets. Today craftsmen know there are 75 craftsmen with a total workforce of about 150 people. This considerable amount of tofu industry certainly produces quite a lot of waste.

The process of making tofu that has been passed down for generations and carried out at home will certainly cause waste that pollutes the environment and has the potential to become a source of disease for the community if not managed properly, this problem has been looked at by the Sleman Health Office until this hamlet received assistance in making a Wastewater Treatment Plant (WWTP) referring to a set of structures, techniques, and equipment made to process and manage waste so that the waste can be disposed of in the environment without adverse impacts. These wastes generally come from domestic (household) waste, the rest of factory operations, industry, and even agriculture. Sources of pollution vary from small units of cigarettes and natural sources such as volcanic activity to large volumes of emissions from car motor engines and industrial activities (Ghorani-Azam et al., 2016; Hassaan & El Nemr, 2020; Kampa & Castanas, 2008).

The construction of WWTP in this hamlet is considered very useful, where tofu waste can be well organized, and correct, and can be processed into bio-gas that is used for the needs of the local community. However, the lack of maintenance makes the Tofu WWTP in Krapyak IX hamlet backfire on the surrounding community where the tofu waste reservoir is damaged and not repaired, and leaking waste reservoirs are not repaired, making the condition of the WWTP even more abandoned. The condition of the abandoned and unmanaged WWTP has occurred for many years without proper handling from the government and local communities, making the surrounding environment begin to be polluted with odorous waste and containing black liquid. This indirectly shows the low public awareness of the importance of healthy living behaviors by allowing Tofu waste to pollute the environment where they live. In addition to the tofu industry as one of the problems that pose health risks to the community of this hamlet, there is also one of the problems that have been faced for generations, namely community farms that are maintained in the hamlet as shown below:

The owner of an animal, or whoever wears it, is, as long as the animal is worn by it, to be liable for any harm incurred by the animal, whether the animal is under its supervision, or lost or detached from its supervision. Reads Article 1368 of the Civil Code ("KUHPer"). This is strengthened by the regulation of the distance between cages and settlements have been regulated in ministerial regulations, one of which is the Regulation of the Minister of Agriculture No. 40 / Permentan / OT.140 / 7/2011. The regulation on the distance between the cage and the settlement in the Regulation regulates the minimum limit for purebred chicken businesses. The distance between the cattle shed and the settlement is at least 200 meters and the ideal is 500 meters, but this can be seen again from the type of livestock business. While the distance between the cage and the residential house is at least 10 meters so that it is not polluted with odors and feces so as not to cause disease in the future, this is what the UNY PkM Team needs to make aware of the importance of healthy living behaviors in this hamlet so as not to cause problems in the future.

Community empowerment is a very important part and can even be said to be the spearhead for health promotion. Empowerment will be more successful if implemented through partnerships and using the right methods and techniques. One of the missions of health promotion is to empower individuals, families, and communities to live healthy lives. Therefore, the target of health promotion can be through individual empowerment, family empowerment, and group or community empowerment (Raksanagara, 2015; Suprpto & Arda, 2021; Wati & Ridlo, 2020).

A solution to Problems Education on the importance of healthy living behaviors for the people of Margoagung, Seyegan, and Sleman is carried out by holding counseling. Providing examples and methods in the implementation of healthy living behaviors for the people of Margoagung, Seyegan, and Sleman is carried out by holding counseling. Education on the importance of healthy living behavior for the people of Margoagung, Seyegan, and Sleman was carried out by holding counseling with interesting presentations and assisted by multimedia. Education invited 40 residents of Margoagung, Seyegan, and Sleman. Evaluation of educational activities on the importance of healthy living behaviors for the people of Margoagung, Seyegan, and Sleman to accommodate suggestions from participants for the improvement of similar activities in the future. The Achievement

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Indicator of attractive presentations is characterized by at least 80% of the targeted 40 participants or as many as 32 participants attending until the end of the activity. The results of the evaluation of activities by activity participants show a minimum of entering the good category or a score of 3 on a scale of 1 to 4.

II. METHOD

This type of research is descriptive qualitative with observational methods. The population in this study was the people of Yogyakarta. The test instrument with quizzes uses the case study method to convey material with an andrological approach. Review literature to compile concepts and materials for healthy living behaviors that are by the needs of the community in Krapyak IX Hamlet, Margoagung, Seyegan, Sleman. Observation of environmental conditions and community conditions of Krapyak IX Hamlet, Margoagung, Seyegan, Sleman. Conduct tests with quizzes using the case study method to present material with an andrological approach. Field assessment to determine changes in the behavior of the people of Krapyak IX Hamlet, Margoagung, Seyegan, Sleman. Data analysis using descriptive analysis techniques than concluding and compiling research results.

Anggito & Setiawan, (2018); Hasanah, (2017) Evaluation of activities is carried out during the process and the end of the activity, on the aspects of achieving the objectives of the activity and also the implementation of coaching. Evaluation of processes and results (achievement of training objectives) is carried out by question and answer, and observation. Meanwhile, the evaluation of aspects of organizing training is carried out by observing changes in people's lifestyles. Indicators of success in implementation there are 2 methods taken, namely: (1) Evaluation during the activation process, and (2) post-coaching activity evaluation.

III. RESULTS AND DISCUSSION

Results

This research activity was carried out in November-December 2022 in the Special Region of Yogyakarta. Implementation activities are carried out periodically starting from observing the situation, conditions, and potential that exists in the region to accelerating activities. Many people in Krapyak hamlet who work as farmers, ranchers, and artisans are educated related to healthy lifestyles and well assistance in one of the livestock groups where the livestock group does not yet have a source of clean water as one of the main needs in animal husbandry. The implementation of the mini-pk is divided into several stages of time and implementation by involving people who are experts in their fields so that the implementation of activities is right on target, effective, and efficient. The rundown of research implementation activities to the community below:

Table 2. Implementation of empowerment activities in the community

Time	Activities	Information	Jpl
9 November 2022	Creation of drilled wells	Experts in good makers/ residents	2
20 November 2022	Installation of Watertown installations and water installations	Building experts	2
4 December	Socialization of residents' clean lifestyle 1	Prof. Dr. Tomoliyus, ms Prof. Dr. Endang rini sukanti,	4
11 December 2022	Making toilets for residents around the goat group	Building experts	2
18 December 2022	Socialization of citizens' clean lifestyle 2	Dr. Abdul alim, m.or Dr. Ridho gata wijaya, m.or Dr. Nurhadi santoso, m.pd	4
Jumlah			14 JPL

Discussion

The process of conducting research on healthy living behavior communities in krapyak ix hamlet involves various levels of society who are currently members of several livestock groups and farmer groups (blessing farmer groups, blessing amino groups, and blessing goat groups) which are associations and community drivers in various activities in krapyak hamlet. Of these various groups that used to have a pattern of livestock activities and activities that were not regular and directed, it is hoped that after being held, PKM can better understand the importance of healthy living behaviors and the dangers of daily activities if

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they do not prioritize healthy lifestyle activities because they affect the development of the younger generation in the future. In addition, the community thinks that health maintenance insurance has not become an urgent need because in a healthy condition, the health maintenance guarantee has not been made for the community (ambarwati & prihastuti, 2019; susantiningasih et al., 2018; umaroh et al., 2016).

This research activity is one of UNY's efforts to support the golden generation of 2045 as predicted by the government so that all elements from government, academia, and society can collaborate and improve themselves so that their younger generation is ready for global competition. Some of the assistance in making wells and water installations is one of the tangible manifestations of the PKM team in supporting government programs by collaborating with villages that want and have the potential to advance in various fields, especially the development and habituation of clean lifestyles of local communities. (ihsani & santoso, 2020; novitasari, 2018; nurmahmudah et al., 2018).

This research activity also supports and is a real contribution of UNY in supporting the two main agendas of future human resources development in Indonesia, namely: (1) improving quality and competitive human resources, and (2) mental revolution and cultural development. This commitment is further strengthened by the establishment of a vision to become a world-class educational university that is superior, creative, innovative, and sustainable (hartaty & kurni menga, 2022; hestiyantari et al., 2020; nurfadillah, 2020).

Evaluation of activities

The results of the evaluation of activities include:

1). It is necessary to hold monitoring and evaluation related to the implementation of Research to the community clean lifestyle of the people of krepyak ix, seyegan, and sleman hamlets. 2) It is necessary to hold guidance on an ongoing basis so that the success of the development program and the utilization of the natural potential of this hamlet can be maximized in its development. 3) It is necessary to make some cooperation between hamlets (several community mobilization groups) and various work units outside the village / related agencies so that hamlets that were previously lacking in potential can become pilot villages with serious guidance and assistance.

Supporting Factors and Implementation Constraints

Supporting factors:

1) There was good coordination between the PkM Team from the campus and various levels of society in Krapyak IX hamlet. 2) Good local government support with the offer of cooperation in the development of the region with its tourism potential. 3) Research on the community activities is right on target with the background of the community who do not pay attention to environmental cleanliness both affecting health directly and potentially damaging the environment. 4) The enthusiasm of the residents is very large with the existence of this program which hopefully this program will not only be implemented this time but in the following year can be held related to other topics.

Implementation constraints:

1) The amount of enthusiasm of residents who want to be involved and the implementation time coincides with work time so that not all residents can participate in activities.

IV. CONCLUSION

The implementation of research to the community in the special region of Yogyakarta is an effective activity carried out by the academic community of UNY, especially in the field of sports science faculties related to assistance and guidance in educating the public in the health sector. This activity also aims to improve people's living standards to further increase their passion, besides that this activity also synergizes with government programs in preparing the golden generation of 2045 must have several competencies including: has comprehensive intelligence, namely productive, innovative, peaceful in social interactions, and has a strong, healthy, healthy character in natural interactions, and superior civility. Empowerment activities for the community in the implementation of a healthy lifestyle cannot be felt in the results but can be known by monitoring and evaluating gradually to find out. So to find out the results, regular monitoring and assistance from the UNY academic community are needed as one of the driving forces in the implementation of a healthy lifestyle.

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Brazzaville Residents and the Perception of the Corona Virus Pandemic: Between Faith in Politics and the Reality of the Disease



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ABSTRACT: This research has made it possible to take stock, as much as possible, of the receptivity of information relating to the perception of the corona virus pandemic by Brazzaville residents, after the announcement of the policies of the supposed violence of this pandemic. A study, as part of the master's degree in sport, at Marien Ngouabi University in Brazzaville, was conducted under our direction. Two hundred and fifty (250) men and three hundred and sixty (360) women were questioned on the approach to conceptualizing the real or supposed existence of this pandemic.

It emerges from the surveys, opinions divided between the real existence of the pandemic, the whims of politicians to distract populations weakened by unresolved daily concerns and the risk of contamination due to the lack of confidence of politicians, supposed to reassure on the measures to be taken to resist the pandemic.

It can be said that relationships of trust must be rebuilt between leaders and the governed to prevent populations from taking such risks in the face of life-threatening pandemics.

INTRODUCTION

The news of the existence of a pandemic with devastating effects fell like a chopper in the ears of almost everyone on the continent. Those of Brazzaville, capital of the Republic of Congo welcomed the news and resigned themselves to the measures to be taken to prevent and fight against its spread. Immediately after the announcement, politicians developed strategies and put in place mechanisms to combat the arrival and spread of this pandemic. These measures brought very little hope in view of the expectations of the authorities. Relations between politicians and the people on the one hand and, on the other hand, the rejection of belief in such a pandemic, however of real existence, linked to poverty can justify the poor management of information around the pandemic.

For almost three years now, the debate on the repercussions and the behavior to adopt in the face of the pandemic has been topical both in private conversations and in major international meetings where the related issues are treated with great interest, thus fueling the chronicles of various press organs of almost all the States. Due to its scale and the effects it has on health and the global economy, the pandemic has turned into a health crisis and is mobilizing as much energy around the world by crystallizing all scholarly intelligence on the strategies to be implemented for its eradication. Due to its collateral effects, this crisis has become a major social concern, the perception of which by certain populations, especially in disadvantaged countries, complicates its control with regard to the strong subjective considerations and poverty that inhabit them.

On December 31, 2019, the World Health Organization (WHO) was alerted by the appearance of several cases of pneumonia of unknown origin in the city of Wuhan (China). On January 7, 2020, Chinese authorities determined that these cases were caused by a new coronavirus, temporarily named "2019-nCoV". It was later and soon baptized "COVID 19 Virus"

As of April 1, 2020, the dangerous development of this pandemic has been reported, from which there are some obvious data presented summarily as follows: 82,631 confirmed infections were recorded in the 34 Chinese provincial administrative regions which caused 3,321 deaths. The latest epidemiological situation report from the World Health Organization (WHO) reports 8,708,008 infections and 461,715 deaths in more than 200 countries. The pandemic is a serious threat to global health. The basic reproduction number of SARS-CoV2 has been estimated between 2.24 and 3.58%. The first confirmed case of COVID-19 in Africa was reported in Egypt on February 14, 2020 and the second, later in Algeria on February 25, 2020. In March 2020, cases of COVID-19 were reported on the major part of the continent (Mambouana, 2022).

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This magnitude in the increase in cases of this pandemic has more than developed since then, making this pandemic a real public health problem. The Republic of Congo and almost all African countries have been alerted to the seriousness of this pandemic. Like all the other States, the appropriate measures have been considered, although with weak application and mixed effectiveness. Other subjective considerations linked, certainly, to beliefs of all kinds, including religious and traditional ones reinforced by the fragile social situation, weaken the effectiveness of the measures envisaged and the response. In the Republic of Congo, the first case of COVID-19 was reported on March 14, 2020. Since then, a worrying evolution of this pandemic has been observed, particularly in Brazzaville, where Talangai, Ouenzé and Djiri remain hotspots with 216, 176 respectively. , 117 and 102 confirmed cases. (Arkadit Jeandria Nkodia et al, 2020)

The alert, although maximum, and, accentuated on the ground by emergency measures and restrictions of fundamental freedoms, legally imposed by the authorities, is badly perceived by the populations who, for the most part, believe, less less, to the reality of this pandemic and the effects it can produce. Some, disillusioned by their social status, especially young people, waiting for a better life; the oldest, whose retirement pensions and social situation are deteriorating, consider these announcements as smokescreens allowing decision-makers to turn away from the essence of the fundamental concerns of the populations, The breakdown of the bonds of trust between the leaders and the populations means that the dialogue, although sincere and communicating on the true facts and on public health, is rejected, on principle, at the risk of compromising an entire destiny.

And yet, the magnitude of the pandemic on the ground is very real, the deaths caused by it just as real as experienced in families and known by both health services and populations. However, the Brazzavillois, for their majority, find other types of explanation for these deaths. These oscillate between facts of witchcraft, mystical practices of the authorities in place whose blood requirements are, according to these Brazzavillois, one of the foundations of the preservation or the conquest of political power. This approach to conceptualizing the disease between the rejection of politics and the policies it establishes for health security and the reality of the disease is very serious and only rarely allows its eradication.

The consequences of these biased and poorly maintained relationships between leaders and their people mean that the most reliable information of great importance for the health of the people is misinterpreted and managed by the people at the risk of their health and the great misfortune of the development of economies. The influence of politicians, especially those in charge of management, is thus weakened and, the relationship to politics, deteriorated by the loss of confidence due to governance strategies poorly appreciated by the populations with contamination effect on the depreciation of all forms of social relations. This relationship, distorted in power relations, encroaches on the capital of trust and sincerity between the rulers and the ruled. It thus jeopardizes the taking into account of information, however useful, for the life of populations to the point of jeopardizing, by this fact, their health. This is the strong image that the populations of Brazzaville send back to the announcement of the existence of the pandemic with the subsequent effects, the trivialization of the dangers relating thereto and that of the security measures to be taken to fight against its spread with for major risk: Death, for lack of effective treatment.

Issues and Hypotheses.

In the Congo, few studies have looked into the issues of perception of the corona virus pandemic by the populations. And yet, we believe, the foundations of the response should and must be built on the socio-educational aspects of this pandemic to better organize it. Raising awareness and mobilizing populations for their adherence to the awareness-raising approach should have the sociological and psychological field of investigation as a field of investigation. Sociologists and psychologists would be alongside doctors, the real actors in the management of this pandemic to reassure the attitudes to adopt to meet the practical requirements of eradicating the pandemic. Most of the work, in the management of this health crisis which is resurfacing with more risk today than in the past, has been considered more from the epidemiological and health angle than from the psychological and social ones.

The measures taken by the authorities, to meet the requirements linked to the management of this pandemic, beyond the positive effects observed, have developed remarkable behaviors which reveal the need to fully involve the doctor in other intelligences, with all their skills, to help better control certain slippages.

In early March 2020, the Congolese authorities took a series of measures to fight the pandemic, including: The development of a preparedness and response plan against Covid-19, including rapid interventions, epidemiological surveillance, diagnosis and awareness, the prohibition of events of national and international scope on the territory, the closure of educational establishments, the suspension of all religious events and ceremonies. This plan, for its effectiveness, was reinforced by the establishment of a national curfew from March 21, 2020 with the closure of borders (air, land and rail) and major markets. Restrictions on the attendance of public places such as markets, restaurants, drinking establishments, cinemas, games and shows are also adopted.

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These combined restrictions of fundamental freedoms to guarantee, at best, life and secure public health, have had repercussions on all areas of life and, impacted

whatever the form, on the minds of the Congolese and their methods of managing social relations. In France, the Court took stock of the areas with a high impact of effects due to the restrictions imposed against the pandemic. Volume 1 of its 2021 annual public report published in the Documentation française, 2021.-334p gives all the indications in this direction in a clear and expressive manner.

In Brazzaville, confinement for the populations with the restriction of mobility and other health restriction measures have had effects on the lifestyle of the populations. It has been observed, as in other places, according to certain related studies, the appearance of psychopathological disorders in populations, the most observable of which are: anxiety, boredom and sleep disorders (Wang et al, 2020). It is therefore useful to introduce sociological and psychological aspects underlying the adoption of certain behaviors into the strategy for managing measures to eradicate the pandemic.

The pandemic seems to reinforce the interest in behavioral approaches, because there is a need to solve concrete problems, where human behavior is central (e.g. how to encourage the population to wear a mask, to maintain social distances, etc.). Governments with units specializing in behavioral approaches have typically mobilized them for the pandemic, which enabled a rapid response, as the expertise and coordination mechanisms were already in place (OECD 2020).

Behavioral approaches have mostly been used to improve communication or technology (including tracing calls), while they could be used more widely (OECD 2020).

International organizations and in particular the World Health Organization have developed approaches and tools to change behavior in connection with Covid-19, for example on distancing, masks or vaccination (WHO 2021; WHO 2020).

In the Republic of Congo, an approach to sociological understanding of the perception of the corona virus pandemic was considered, as part of a Master's study in sport, Dorian Sandrez Mambouana, (2022). It was concerned, fundamentally, with the reading and attitude of the populations of Brazzaville to the announcement of restrictions on freedoms by the government for the purpose of combating the spread of the pandemic and the effects of these perceptions on the practice of physical activities and sports.

His approach seems to us limited although interesting. Limited, by the own limits that the author has set himself by devoting himself only to sport on the one hand and by the weakness of his population and his sample, on the other hand.

Interesting, insofar as it lays the groundwork, at the sociological level, which makes it possible to set the benchmarks, the approaches to be adopted to fight against large-scale crises on the one hand and, on the other hand, to trace, if necessary, outlines of a sociological approach to the management of political power in times of acute and persistent crisis.

Reframing in this way, our work is built around the following fundamental concerns:

Main question.

How were the people of Brazzaville informed of the existence of the Corona virus pandemic and, what may be the perception that they have of such a disease, despite official explanations, on this subject? , provided by the competent authorities?

Secondary questions.

Is the way and the approach likely to reassure on the reality and allow to build at the health and social level the collective and consensual measures of response to the pandemic?

What can be the consequences of such an approach to the perception of the pandemic by Brazzaville residents on the social, health and economic levels?

HYPOTHESES

This main question and the related secondary questions call for a main hypothesis and two secondary hypotheses that we have formulated as follows:

Main hypothesis.

The populations of Brazzaville were not prepared to receive such information in such a spontaneous and rapid manner, although in an official and reassuring manner by the competent authorities. They therefore have a negative and erroneous perception of the disease and its existence in their living environment.

Secondary assumptions.

The way and the approach used to inform and organize the response by the authorities are not likely to reassure about the reality of this pandemic, although real and in the environment. They cannot, therefore, make it possible to build, at the health and social level, collective and consensual measures to respond to the pandemic.

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The consequences, at the social, health and economic level, can only be disastrous with regard to the attitudes and behaviors that the actors present in the face of the reality of the disease and its relative evolution on the ground.

Main objective.

The general objective of this study is to try to understand the influence of a communicational approach, badly negotiated, of the corona virus pandemic, on the perception of it at the level of the collective imagination of the populations of Brazzaville.

Secondary objectives.

In addition to the general objective, this study has two secondary objectives:

Trying to understand the reasons for a poorly negotiated communication approach to the corona virus pandemic, on the effects of conceptualization at the level of mentalities of the existence or not of the pandemic, on the one hand, and, on the other hand, consequences on the perception of the disease and their effects on the health, social and economic plan of the populations.

Interests of the study

This study, in view of its importance, presents several interests, two of which, essentially, have caught our attention with regard to the related issues: This is the scientific and social dimension.

On a scientific level. This study makes it possible to fix minds on the outlines to be taken into account in the management of major crises other than armed ones, at the level of communication and related sciences including sociology and psychology in an attempt to orient the effects of crises and, avoid major disasters both during and after these crises.

At the social level. This makes it possible to build, through consensual and elaborate schemes and community dynamics, the monitoring methods that are built around communication strategies that alert and inform, reassuring, on all possible eventualities, in order to avoid interpretations erroneous with unfortunate consequences for society.

THEORETICAL APPROACH

The apparent novelty of the disease and its effectiveness in action meant that actions in the context of documentary research were not so lively from the start. A little later, the mobilization around its scope made it possible to orient research, beyond its origins and modes of reaction, on its various effects, both in terms of collective action and on perceptions with all their consequences. In Africa, especially, the various approaches to the perception of this pandemic have not made it possible to facilitate people's awareness of its existence. This approach could, if we are careful, make this area a real hotbed of resistance and proliferation of the disease. The endogenous factors linked to poverty and related beliefs have crystallized, in the consciousness collective of many, the fallacious and, moreover, non-compliant explanation, according to which, among other things, this pandemic would be non-existent, hence the resistance to vaccination. This is more or less justified by the relevance of the meaning of perception understood as a relationship between the subject and the object (Akoun and Ansart, 1999) which results in attributing to perceived objects meanings relating to action. Meanings are somehow manipulated, selected and, possibly, in the light of the situation in which the person sees himself engaged and according to the action planned or undertaken. (Bandura, 1986). The approaches to conceptualizing the pandemic clearly reflect, in the Republic of Congo, this ambivalent nature between the reality of the pandemic and the negative and nihilistic perceptions of everything that would come from the authorities. Each individual reacts to phenomena and gives them a meaning according to the particular perspective he has of them and which cannot be reduced to those of others (Mambouana, 2022).

There is therefore, in the collective conscience, a feeling of rejection of any information as true and of great importance for health, coming from the authorities with whom, the relations of confidence with the populations are broken for bad governance and hegemonic and dictatorial tendency in the management practices of human and natural resources. This process is not mechanical, it is built and maintained in relation to reality. Perceptions evolve with age and are constructed by adding new elements to old structures. All perception is a process of active construction. The foundation of perception rests on a certain assimilation of sensory data to a schema. For Piaget, in fact, it is the human person who, through his personality, manages, through a process, to structure the perceptual field even if it has a certain organization. (Piaget, 1984, 1965).

So, in its complexity, the perceptual mechanism owes its credibility not only to the taking of information but also to the cognitive process which, attributes a value to it, which predisposes to an attitude which could trigger the behavior. The relationship between the reality, the experience and the attitudes of the rulers in African countries have had a significant negative influence on the attitude of the populations, in the belief in the existence of the corona virus pandemic.

The daily difficulties of the populations reinforce their rejection of policies, of the information they convey, however true they may be and even on important subjects, and of the channels they use to control the execution of these measures. The reality of

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political power contributes to constructing patterns in the collective consciousness that allow individuals to construct other types of personality in relation to their existential reality according to available needs. The relationship to politics therefore creates the crystallization of new behaviors in reaction to social realities. Behavior is an act that a human being performs in order to adapt to a situation that influences him. It is determined by the interaction of factors such as personality, attitudes, the various perceptions of individuals as well as the situations in which they evolve.

An interesting study on the issue of perceptions of the first months of covid-19 was carried out by a group of researchers in six African countries: South Africa, Nigeria, Cote d'Ivoire, Senegal, Egypt and Morocco. This study revealed, to a large extent, the obvious weaknesses in the knowledge of the disease which cause the mechanisms linked to the response to be dangerously misinterpreted to allow the management of health security.

It is obvious that these approaches are developed by a poor quality of management of public relations both in terms of individual relationships and those between politicians and the governed. This presupposes that any information, even true, is withheld with tweezers, especially when it is relayed by politicians, who are nevertheless responsible for health and safety management.

REFERENCE THEORIES

This study, with an essentially sociological basis and strong psychological and, if necessary, political implications, calls on three reference theories, among many others. We insisted on basing our field analyses, for their scientific nature, on behaviorism (1); The comprehensive sociology of Max Weber (2), socioconstructivism (3) and the individualist approach of Raymond Boudon (4).

1. Behaviorism is a very useful theory in scientific psychology that takes into consideration only the relationships between stimuli and responses. (The little illustrated Larousse, 2011). Man in relation to his environment therefore collaborates in such a way as to influence each other in the attitudes to be taken and the possible reactions. Communicating about certain realities that impact his life allows him to react often, in what he believes to be right for his dignity and honor. In a universe where survival and first-hand existential needs are his daily concern, information that tends to complicate his situation further, when not delivered with tact and pedagogy, can irritate him. This is all the more serious, when even official, it comes from politicians for whom he considers to be responsible, rightly or wrongly, for his misfortune.

2. Max Weber's approach focuses on the subjective appreciation that social actors have of reality. It concerns the phenomena of beliefs, the meaning that social actors give to their lives. To explain the social is to account for the way in which men orient their actions. (Max Weber, 1992).

3. Socio-constructivism. This theory at the crossroads of sociology and constructivism makes it possible to read the influence of society in the construction of perceptions of the phenomena of life. Here, this theory allows us to understand the possible relationships between social constructions and the action of actors. The attitudes to adopt in the face of social phenomena are partly based on social constructs. The reaction of the populations in the face of the pandemic responds to the constructs that men have made, in this universe of advanced impoverishment, of the way in which they conceive their relationship to life, in relation to the management of power by those in power.

4. The methodological individualist approach of Raymond Boudon. It consists in understanding the basis of the actions, beliefs or individual attitudes responsible for the social phenomenon that one seeks to explain. (Boudon, Raymond, 1977) Methodology It fixes us on the type of study, the field of investigation, the survey period and the data collection tool.

III.1 Definition of the type of study, the field of investigation and the period of the survey

Our study is quantitative.

This character is due to the fact that it emphasizes numerical data that will be analyzed statistically (Lamoureux, 1995). The analysis of the report on the approach to the perception of the pandemic at Covid-19 among Brazzaville residents is part of this perspective. The study was carried out in Brazzaville, and concerned all the districts. It took place over two months from May 09 to July 09, 2022.

II.2 Study population and sample.

For this study, we worked with a population of 1167 people of both sexes, unevenly distributed, by district. This population is represented according to the table below.

Table I: Representation of the study population, by district

District(s)	Population
Makélékélé	153
Bacongo	125

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Poto-Poto	156
Moungali	215
Ouènze	132
Talangäi	100
Mfilou	156
Madibou	132
Djiri	154
Total	1167

Source: Authors' survey, Brazzaville, 2022

With regard to the sensitivity of the subject, we drew, according to the non-probabilistic method of reasoned choice, a sample of 610 people chosen according to the following criteria:

Inclusion criteria.

The following criteria enabled us to select certain Brazzaville residents for the purposes of this study:

Be at least 18 years old;

} Have an ease in communication in one of these three languages: French, Lingala, Kituba;

} Be residing in Brazzaville;

} Be able to pass an interview;

} Completed the questionnaire in its most basic aspects.

Exclusion criteria.

} Be under the age of 18;

} Not being able to communicate with ease in one of the three languages: French, Lingala and Kituba;

Not residing in Brazzaville; Not being able to pass an interview; Not having completed the questionnaire in its most fundamental aspects;

III.3 Data collection instrument

To validate the theoretical postulates established in our problem, the data of the study were collected from a questionnaire. This instrument is considered by Festinger et al. (1974) as the most appropriate and often the most fruitful for collecting the attitudes, opinions and perceptions of individuals. In addition, the questionnaire has the advantage of introducing into the study the fundamental quantitative aspects, and the operations of passing and counting of answers are simple, fast, and inexpensive.

However, it is important to remember that quantitative data collection instruments require special precautions in their construction to ensure their reliability, relevance and clarity. It is for this reason that Baillargeon et al. (1998, p. 32) consider that any questionnaire must first undergo the pre-test: On a small group before the actual survey. This step allows you to validate the level of understanding of the questions, to know how they are perceived and to identify those that are poorly accepted or disappointing. This pre-test also makes it possible to modify, if necessary, the choice of answers or the order of the questions.

To meet this requirement, our questionnaire was subjected to a pre-test with a small group of Brazzaville residents with the same characteristics as those in the study sample. This test group is made up of fifty (100) Brazzaville residents. These were chosen on the basis of voluntary participation. The pre-survey consisted of checking the level of understanding of the respondents. The different answers to the questions made it possible to identify superfluous questions, badly formulated and not consistent with the objectives, or the order of the questions. At the end of the pre-survey, we reframed some of our questions. Ultimately, our questionnaire is built around ten (10) (closed) questions.

III.4 Conduct of the investigation

The survey is, according to Tsala Tsala (1992, p. 11): "an investigation in the natural environment; in the field which aims to understand a phenomenon caused or not. Speaking of our investigation, it is useful to specify that it took place during the period from May 09 to June 09, 2022 in Brazzaville.

The questionnaire was distributed by a group of students, under our supervision and, this, within the framework of our work laboratory. Our students were instructed on the purpose of the study and the filling instructions to be explained to the subjects. They were instructed to reassure the participants of the anonymous nature of the answers to the questions. Some were keen to respond, upon receipt of the questionnaire, a few minutes later; others fixed our students in the most reassuring way possible at the places where the questionnaires were collected, after they had answered.

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III.5 Data analysis method

The data collected was processed, in stages, so that no major detail could compromise the scientific nature of the results of our work. The manual counting was the first consecrated step. It made it possible to classify the responses by center of interest in order to identify the main trends that are observed, according to the perception that Brazzaville residents have of the pandemic, in relation to their existential reality. The second and final step is data processing. It was done in Excel and using SPSS version 25.0 software.

Two types of analysis were carried out: a descriptive statistical analysis, which made it possible to have the numbers which were expressed as percentages; A differential statistical analysis which made it possible to verify the existence or not of a correlation between the variables of the study. To do this we used the Chi-square test and the frequency test. The results obtained were presented in tables, to facilitate their reading and the meaning of their analysis.

IV.I. Study results

Table No. I: Characteristics of the subjects surveyed

This table presents the results of participants by age group, by gender and expressed as a percentage.

Variables		Effectifs (n)	Pourcentage (%)
Old age group	18 to 26 years	85	13,94%
	27 to 38 years	175	28,69%
	39 and over	350	57,37%
Gender	Male	360	59,01%
	Féminine	250	40,99%

Source: Authors' survey, Brazzaville, 2022

This table provides an update on the difference in age groups, gender, and the number of subjects questioned expressed as a percentage. There is a fairly remarkable inequality between men, who number three hundred and sixty (360), or 59, and women, who number two hundred and fifty (250), or a percentage of 40.99.

This first table reflects a significant difference, in the issues related to the surveys, between people of different age groups and between gender. The less young, in this case, seem less interested and concerned, moreover, by the problem of the health crisis than the older ones. The percentages expressed and the number of participants in this study give a perfect illustration of this. The same is true of women who seem less concerned by issues related to current concerns.

Table No. II: Knowledge of the existence of the pandemic, Negative perceptions, as a decoy, according to gender

Variables		Male	Feminie	χ^2
Q1	Yes	150 (60%)	280 (77,78%)	8,318**
	No	100(40%)	80 (22,22%)	
Q2		125 (50%)	105 (29,16%)	6,953*
	No	100 (40%)	235 (65,27%)	
	Others	25 (10%)	20 (5,55%)	
Q3	Yes	100 (40%)	60 (16,67%)	5,479*
	No	150 (60%)	300 (83,33%)	
	Wizards	195 (78%)	310 (86,11%)	
Q4	Magicians	55 (22%)	50 (13,89%)	11,397*
	Others	126 (50,4%)	80 (22,22%)	
	No	124 (49,6%)	280 (77,78%)	
Q5	Yes	125 (50,0%)	310 (86,11%)	10,667**
	No	125 (50,0%)	50 (13,89%)	

Source: Authors' survey, Brazzaville, 2022

Legend: ns = indicates a non-significant difference $p > 0.05$; ***= indicates a highly significant difference $p < 0.001$; χ^2 = indicates the Chi-square test. This table shows that most of the subjects questioned about the reality of the Covid-19 pandemic had a strong knowledge about the Covid-19 pandemic in Brazzaville out of a workforce of two hundred and fifty boys, one hundred and fifty (150) boys recognized the reality of the pandemic, i.e. a percentage rate of 60%, on the other hand, one hundred-twenty-five (125) boys, i.e. a percentage of 40% of boys who did not believe in the existence or the reality of the Covid-19 pandemic. On the other

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hand, two hundred eighty (280) girls recognized the reality of the Covid-19 pandemic, i.e. a percentage of 77.78%, on the other hand eighty (80) girls who do not know the existence (reality) of the pandemic, i.e. a percentage rate of 22.22% with a significance of 8.318**.

The girls have a strong knowledge of the reality of Covid-19 in relation to percentages. With regard to question two (2) relating to the Covid-19 invention by the WHO, one hundred and twenty-five (125) boys answered yes, i.e. a percentage of 50%, as well as one hundred and five (105) girls who gave the same answer, however one hundred (100) boys answered no, i.e. a percentage of 40% and two hundred and thirty-five (235) girls answered the same thing, i.e. a percentage of 65.27% among girls and twenty-five (25) boys, i.e. a percentage of 10% who think that other factors are at the origin of Covid-19 against twenty (20) girls, i.e. a percentage of 5.55% who think the same with a significance of 6.953*, girls answered no much more than boys. With regard to question 3, namely: do you know in your environment or in your immediate environment someone who has suffered from the coronavirus? For this question one hundred (100) boys answered yes, i.e. a percentage rate of 40% in the case of girls, sixty gave the same answer, on the other hand, one hundred and fifty (150) boys, i.e. a percentage rate of 60%, did not not people who have suffered from Coronavirus in their immediate environment against three hundred (300) girls with a percentage rate of 83.33% with a significance of 5.479*.

Question number four appeals to other minds that could take advantage of the coronavirus situation to be able to do harm. They are: wizards; magicians; No; others. One hundred and ninety-five (195) boys, i.e. a percentage rate of 78%, think that wizards took advantage of doing harm during the period of the coronavirus pandemic against and three hundred and ten (310) girls think the the same with a percentage rate of 86.11%; with regard to magicians fifty-five boys (22%) only think that magicians have taken advantage of the situation and fifty girls with a percentage rate of 13.89% but also for against one hundred and twenty-six boys (50.4 %) and eighty girls think that other minds have taken advantage of the coronavirus to harm the population and one hundred and twenty-four (124) boys with a percentage rate of 40.6% against two hundred and four -twenty (280) girls with a percentage rate of 77.78% who think the same thing, that is to say no mind has taken advantage of the coronavirus with a significance of 11.397*.

When asked whether the measures taken by the authorities were effective in combating the Covid-19 pandemic, with regard to this question, more than one hundred and twenty-five (125) boys answered 'yes', i.e. a rate of percentage of 50.0%, still in the same direction, three hundred and ten (310) girls also answered yes, for a percentage rate of 86.11%. On the other hand, of those who answered negatively, we had one hundred and twenty-five (125) boys, i.e. 50.0%, and fifty (50) girls, i.e. a percentage rate of 13.89% with a significance of 10.667**.

Table No. III: Perception of respondents on the covid-19 pandemic according to gender

Variables		Male	Feminine	χ^2
Q6	A	200 (80%)	198 (55%)	13,482**
	B	50 (22,5%)	140 (38,88%)	
	C	0 (0,0%)	22 (6,11%)	
Q7	A	150 (60%)	300 (83,33%)	6,827*
	B	20 (8%)	10 (2,77%)	
	C	80 (32%)	50 (13,88%)	
Q8	Restrictive	150 (60%)	200 (55,55%)	6,960*
	Interesting	20 (8%)	70 (19,44%)	
	Others	80 (32%)	90 (25%)	
Q9	Yes	200 (80%)	180 (50%)	25,091***
	No	14 (20%)	90 (25%)	
	Others	0 (0,0%)	90 (25%)	
Q10	Yes	160 (64%)	160 (44,44%)	9,141**
	No	90 (36%)	200 (55,56%)	

Source : Enquête de terrain des auteurs, 2022

Legend: Q6: A: capacity building of medical personnel and construction of infrastructure.

B: Prior information on hygiene measures C: Others Q7: A: The increase in food prices in our markets. B: Scarcity of fuel. C: Others. This table highlights the perception of respondents on the Covid-19 pandemic according to gender, question number six (6) was to know the measures that could be taken in the future to protect themselves from such a pandemic. Two hundred boys (200) or 80% responded for the capacity building of medical personnel and the construction of infrastructure. Still in the same pace, one

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hundred – ninety-eight (198) girls gave the same opinion, i.e. 55%; those who are in favor of prior information on hygiene measures fifty (50) boys or 22.5% opted for prior information and one hundred and forty (140) girls or 38.88% as well as those who think that d Other arrangements can be made for boys: 0.0% and girls 22, ie a percentage rate of 6.11% with a significance of 13.482**.

Question seven (7) was about whether the arrival of the pandemic was the trigger for the increase in food prices in our markets; fuel scarcity. Regarding this question, we had one hundred and fifty (150) boys who chose the first point, that is to say that the pandemic is the pandemic is the trigger for prices in our markets, i.e. a percentage rate of 60% and three hundred (300) girls answered the same; with regard to option two twenty (20) boys opted for answer B, i.e. a rate of 8% and ten people among girls who think the opposite, i.e. a percentage of 2.77%.

On the other hand, some people think that the appearance of the pandemic is the trigger for other facts among boys, we have eighty respondents, a percentage rate of 32%, but this is not the case. among girls, there were fifty respondents, i.e. a percentage of 13.88% with a significance of 6.827*. Moving on to question eight (8), most of the respondents found that the changes in their lifestyle in relation to the Covid-19 pandemic were constraining in the boys we had one hundred and fifty (150) respondents, i.e. a percentage 60% and for girls two hundred (200) i.e. a percentage of 55.55%.

Despite this, twenty (20) boys or a percentage of 8% and among the girls one hundred and ten (70) or a percentage of 19.44% think that it was interesting during this period. But there are eighty (80) boys who think the opposite, i.e. a percentage of 32% and ninety girls, which makes perfect equality, i.e. a percentage of 25% on both sides with a significance of 6.960* .

Question 9 was whether the lack of management of Covid-19 patients has impacted their health lives? Two hundred (200) boys answered yes, i.e. a percentage of 80% and one hundred and eighty (180) girls always in the same direction, i.e. a percentage of 50%; on the other hand, one hundred and fifty (150) boys think negatively, i.e. a percentage of 20% and ninety (90) girls, i.e. 25% and none think anything else, i.e. zero for boys and ninety (90) girl i.e. 25% with a high significance of 25.091***.

Question 10 was whether wearing a mask could cause other illnesses. For this question one hundred and sixty (160) boys answered yes, i.e. a percentage of 64% and one hundred and sixty (160) girls, i.e. a percentage of 44.44% and ninety boys answered no, i.e. a percentage of 36, 5% and two hundred girls with a percentage of 55.56% with a significance of 9.141**.

Table No. IV: Knowledge of the covid-19 pandemic as a decoy according to age groups

Variable		[18-26]	[27-38]	[39 et plus [χ^2
Q1	Yes	60 (70%)	110 (62,86%)	200 (57,14%)	5,864*
	No	25 (30%)	65 (37,14%)	150 (42,86%)	
Q2	Yes	30 (35,29%)	50 (28,57%)	40 (11,42%)	14,334**
	No	45 (52,94%)	100 (57,14%)	310 (88,58%)	
	Others	10 (11,76%)	25 (14,28%)	0(0,0%)	
Q3	Yes	25 (30%)	60 (34,28%)	30 (8,57%)	4,851*
	No	60 (70%)	115 (65,72%)	320 (91,42%)	
	Wisards	35 (40,17%)	42 (24%)	250(71,42%)	
Q4	Magicians	10 (11,76%)	18 (10,28%)	45 (12,85%)	21,090**
	others	15 (17,64%)	40 (22,85%)	10 (2,85%)	
	No	25 (29,41%)	75 (42,85%)	45 (12,85%)	
Q5	Yes	55 (64,70%)	115 (65,72%)	50 (14,28%)	7,654*
	No	30 (35,30%)	60 (34,28%)	300 (83,53%)	

Source: Authors' survey, Brazzaville, 2022

The average age of the respondents was 27.03 ± 6.93 (18 – 47). This table shows that the age of the subjects varies between 18 and 47 years. In fact, the majority of boys were aged 27 and over, while the majority of girls were aged 24 to 26. This difference gives a non-significant result ($\chi^2 = 5,864^*$; $p > 0,05$).

Tableau : Perception des enquêtés sur la pandémie à covid-19 selon les tranches d'âge

Variable		[18-26]	[27-38]	[39 et plus [χ^2
Q6	A	50 (58,83%)	100 (57,1%)	300 (85,7%)	9,558*
	B	35 (41,17%)	65 (37,14%)	50 (14,29%)	
	C	0 (0,0%)	10 (5,71%)	0 (0,0%)	
Q7	A	50 (58,82%)	105 (60%)	300(85,71%)	5,658 ^{ns}
	B	10 (11,76%)	20 (11,42%)	0 (0,0%)	
	C	25 (29,41%)	50 (28,57%)	50 (14,29%)	

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Q8	Restrictive	45 (52,9%)	100 (57,1%)	350 (100%)	21,413^{***}
	Interesting	15 ((17,64%)	25 (14,28%)	0 (0,0%)	
	Others	25 (29,41%)	50 (28,57%)	0 (0,0%)	
Q9	Yes	60 (70,58%)	90 (51,42%)	250(71,42%)	24,196^{***}
	No	25 (29,41%)	35 (20%)	60 (17,14%)	
	Others	0 (0,0%)	50 (28,58%)	40 (11,42%)	
Q10	Yes	65 (76,47%)	88 (50,28%)	200 (57,1%)	1,408^{ns}
	No	20 (23,53%)	87 (49,71%)	150 (42,9%)	

Source: Authors' survey, Brazzaville, 2022

With: Q6: A: capacity building of medical personnel and construction of infrastructure B: Prior information on hygiene measures C: Others Q7: A: The increase in food prices in our markets B: Scarcity of fuel C: Others

This table shows the perception of respondents by age group in relation to the questions asked.

IV.II- Discussion

The general objective of this study is to try to understand the perception that the populations of Brazzaville have of Covid-19, within the framework of a socio-sanitary approach to pandemics.

Regarding knowledge of Covid-19, it should be noted that it has been noted that its evaluation as well as that of the behavior of the public in the face of such epidemics is essential, in particular because of the large number of misconceptions and false information that circulating on social media regarding disease transmission and methods of acquisition Khasawneh et al. [2020].

We observed that all Brazzaville's composed of 150 boys or 60% and 280 girls or 77.78% against 125 boys or 40% and 80 girls or 22.22% had a good level of knowledge about Covid-19 (table n ° 2). These results are in agreement with the study conducted in Italy by Gallès et al. [2020]. Indeed, these authors reported that students taking undergraduate courses in life sciences had a good level of knowledge about Covid-19. Similarly, another study conducted in China by Bao-Liang et al. [2020] showed that 82.4% of the population surveyed had a high level of knowledge about Covid-19.

It allowed us to highlight the cumulative reactions of the Congolese, in relation to their conception of diseases, on the attitudes they may have in the approaches to solving them. We used a qualitative method of our variables in the field from a questionnaire and the observation that we submitted for the approval of our subjects.

This type of study is topical and of high scientific and intellectual significance. It allowed us, basically, to scrutinize the various tendencies gathered, in the conception of pandemics, by the subjects questioned. The analysis of our questionnaires sent to our subjects shows the results, the possible comments of which are presented below our tables. They show, in essence, that almost all of the subjects interviewed have information, albeit sketchy, about the pandemic and the practical ways to combat its spread. Could the coronavirus be an invention of the WHO?

With regard to question two (2) relating to the Covid-19 invention by the WHO, one hundred and twenty-five (125) boys answered yes, i.e. a percentage of 50%, as well as one hundred and five (105) girls who gave the same answer, i.e. a percentage of 29.16%, on the other hand one hundred (100) boys answered no, i.e. a percentage of 40% and two hundred and thirty-five (235) girls answered the same thing, i.e. a percentage of 65.27% on the other hand 20 girls and 25 boys or a percentage of 15.55% who think that it is about other factors which are at the origin of Covid-19. Girls answered no more than boys. However, we did not find articles going in the same direction. We can then conclude that covid-19 is not the invention of the WHO.

Knowledge of a person suffering from covid-19 in the immediate environment.

Regarding this item, one hundred (100) boys answered yes, i.e., a percentage rate of 40% for girls, sixty (60) gave the same answer, a percentage rate of 16.67%, on the other hand, one hundred and fifty (150) boys, i.e. a percentage rate of 60% do not know, people who have suffered from Coronavirus in their immediate environment against three hundred (300) girls with a percentage rate of 83.33% with a significance of 5.479*. Few of the participants had in their immediate or social environment people suffering from covid-19.

Possible measures to be taken in the future to protect against such a pandemic.

Two hundred boys (200) or 80% responded for the capacity building of medical personnel and the construction of infrastructure and one hundred and ninety-eight (198) girls gave the same opinion or 55%; fifty (50) boys or 22.5% opted for prior information and preparation on the measures to be taken in terms of hygiene measures and one hundred and forty (140) girls or 38.88%. There are others with a low percentage who are thinking about taking charge of other provisions. On this subject, the boys did not comment and 22 girls expressed themselves on this subject, i.e. a percentage rate of 6.11% with a significance of 13.482**. It is important that the staff be trained and prepared for any eventuality, for the future, rather than being taken aback by the

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diseases whose information by the politicians is less and less reassuring in view of the biased relations with the people. Modern infrastructures should therefore be built and strengthen those that exist by improving the technical platform and the permanent capacity building of health workers. This is where politicians are expected to strengthen their link with the populations in responding to the essential concerns of their lives.

Changes in lifestyles in relation to the covid-19 pandemic.

The advent of the pandemic has imposed on populations other habits contrary to those they practiced before. These habits, although recommended by the Organization World Health Organization and, relayed by national policies to fight against the spread of the pandemic, were experienced by the populations as constraints difficult to accept. One hundred and fifty (150) boys made it known, i.e. a percentage of 60% and two hundred (200) girls, i.e. a percentage of 55.55%. Others, at a lower percentage, twenty (20) boys representing 8% and seventy (70) girls, representing a percentage of 19.44%, think that these measures were worthwhile during this period, although they have shaken up existing habits. However, eighty (80) boys, i.e. a percentage of 32%, and ninety (90) girls, i.e. a percentage of 25.8% with a significance of 6.960* advanced other types of explanations, including the most fundamental are explained by the lack of jobs and lack of confidence in the authorities, whose measures interest this category of people less and less.

The effects of wearing a mask in the eradication of the corona virus pandemic.

With regard to question 10, namely: Can wearing a mask cause other illnesses? For this question, one hundred and sixty (160) boys, i.e. a percentage of 64%, and one hundred and sixty (160) girls, i.e. a percentage of 44.44%, think that wearing a mask can cause other illnesses. On the other hand, ninety (90) boys or a percentage of 36% and two hundred (200) girls or a percentage of 55.56% think the opposite with a significance of 9.141**. This design ambivalence in the approach of the mask in health leaves something to be desired in terms of its effects. Some studies, in this regard, have confirmed that the mask produces effects on health: Surgical masks, filtering half masks: Physiological effects and their consequences A. Aublet-cuvelier, L. Claudon (2020).

Considering the results obtained as presented at the end of our work, a critical analysis is required. It allows us to try to scrutinize these approaches with others that translate into reality, in order to identify the true outlines that can help open up other possible avenues of research.

Three tracks allowed us to build our argument, to allow us to discuss these results: The real or supposed meaning of the perception that individuals have of this pandemic; protection measures by the mask and other sanitary modalities and, the projection on the attitudes to adopt with regard to pandemics.

Perception is a notion of psychological and sociological essence. It alludes to the image that we build of an object that we judge, sometimes in an exaggerated way compared to reality, or that which we want to give of it according to the personal reactions that we one would like to obtain from this object according to one's own interests. This approach developed by the great authors has allowed us to verify the reality of this corona virus pandemic, on the part of the Congolese, with regard to the image they send back of this pandemic.

The perception that individuals may have of their physical and mental health and their well-being depends on their personality, but also on their social, economic and security environment. However, the analysis of the results indicated that the majority of participants believe in the reality of the Covid-19 pandemic out of a workforce of six hundred and ten (610) participants four hundred and thirty (430) think that the pandemic exists either 150 participants among men and 200 among women see (Table N ° 2), In addition, two hundred and five do not have the same point of view concerning the reality of the pandemic.

This finding appears at first glance worrying, for such an approach, but it turns out that the measures recommended by the authorities indicate that they are well respected by the population of Brazzaville by those who have a non-rational perception of the disease than by others. The multivariate analysis, by age group or by gender, shows, on the other hand, that the level of education does not have enough effect on the perception of the origins of the disease. This, regardless of gender. Women have a significantly higher perception of threat and are more likely to engage in a wide range of preventive behaviors (Perrotta et al. 2020; Galasso et al. (2020). ; Belo et al. (2020). This explanation comes, mainly, from the fact that they have experienced difficult situations more frequently than men since the start of the epidemic (loss of employment, time spent caring for loved ones, increased mental workload, etc.).

If the various governments continue to take measures to fight against Covid-19, the populations, in their different strata, do not perceive their interest in the same way and do not always act, consequently, in the direction of the orientations and results desired by their authorities. Also, the perception of the disease could not be influenced by the socio-economic constraints that individuals face. For the concept of perception, we retain in this work the definition given by Slovic, namely, the perception of risk designates all the qualitative and quantitative judgments that individuals express when they are asked to evaluate a product or an activity. dangerous.

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The second is the interpretation that the subjects have of the mask. Beyond the real aspects related to the fact that it can have repercussions on the health of certain people suffering from serious illnesses such as asthma, the subjects, for the most part, reject wearing a mask, which they consider to be restrictive and cumbersome. . It seems that these are only interested in the mask without taking into account what it guarantees their health. These approaches are also explained by the lack of communication strategies put in place by the authorized structures to best explain the pandemic. There are also the considerations of religious faith which the followers of the new religiosity convey. All this helps to weaken the construction of a strong logic in the fight against the pandemic.

The third and final approach is the fragility of the economic and social model generated by the pandemic.

The pandemic, in various countries and particularly in the Republic of Congo, has shown how fragile the economic and social fabric is. The accompanying measures that should support the effectiveness of disease-related rigor have shown their limits. Field surveys have clearly demonstrated this since in the markets, contact obeyed less to prescribed standards than to the logic of coming into contact with food.

CONCLUSION

This research focused on a sociological approach to the perception of the Covid-19 pandemic among Brazzaville residents.

The objective set by this study is to read and try to understand the perception of the Covid-19 pandemic by Brazzaville residents. The data useful for understanding the object of study were collected by means of a questionnaire developed according to the needs of the research. The various data were subjected to a double statistical treatment, in particular descriptive statistics and differential statistics.

An exploratory survey on a sample of three hundred and sixty (360) Brazzaville residents was conducted on a random basis. It resulted in a summary analysis of government measures and cultural aspects, as well as that of the perception of the risk of Covid-19 by the respondents. The results obtained revealed a questionable perception, with a tinge of political rejection, of this pandemic by the people of Brazzaville. The mask, although recommended by health authorities, as a possible solution approach to the pandemic, is perceived as the cause of other diseases. However, it must be recognized that the results of this study remain quite limited if we take into account the size of the sample and the remarkable fragility of social conditions.

However, it can facilitate a deepening of the reflection of Congolese researchers on the various questions raised by the Covid-19 pandemic at the same time as it opens windows on the opportunities to develop multidisciplinary research programs following the socio-economic changes imposed. by the pandemic. Taking these considerations into account, the advisability of conducting a much larger study with a more representative sample should be considered in order to allow extrapolation to the entire population of Brazzaville. In addition, it also seems relevant to seek to understand, in the future, the perception of Covid-19 among the population of Brazzaville on the basis of a comparative approach involving several social strata.

It remains that this study is of great value to enable researchers and decision-makers to strengthen the dynamics of capacity building to claim to face future epidemics.

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The English Language Learning Process Task-Based Language at the Secondary Level



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The learning of a foreign language has become a fundamental requirement for global socioeconomic development. This represents one of the great challenges for teachers, taking into account the contents that must be faced to the qualities and attention of the students, so that they can go adapting to the strategies and methodologies that have been implemented, to facilitate the instruction of the language that you want to teach. In current times, it has become a complex process, since it involves the exchange that encourages the subjects.

For the learning of a second language, the aforementioned is fulfilled, because the refutation is the production of the disciple and the complement that is manifested in the form of praise or corrections through the interlocutor. Therefore, it not only contributes to the way you learn, but also to recognize the improvement of the students. Also of the methodology adopted by teachers to develop their teaching. The following elements are included: the context, communication activities, resources (texts, tasks), among others.

Learning is defined as the process of studying a language to use some linguistic features, used effectively in a short time; the acquisition responds to the intervention of the use of language communication obtained through practice and used correctly; the speaker must have fulfilled all the development of grammatical awareness and reflection implicitly. That is, the sender becomes aware of the processes in a certain period, also when he is aware of the linguistic norms in the long term.

There are certain differences between acquisition and learning, since the first is carried out by a series of communicative acts in an informal way. While the second is subject to revisions of the linguistic production and does not run in a natural medium of dialogue. Both terminology is differentiated by abiding by the researchers who support them.

Although teachers expose students to countless materials such as guides, recordings, readings, among others, it does not ensure the achievement of learning. This is due to the fact that only limited amounts of information are acquired from the assigned materials. It is worth mentioning that they must be properly proportioned to the concerns of the students, the level where they are studying, understandable, arouse curiosity, so that it is executable in obtaining knowledge of the foreign language.

GLOBAL METRICS ON LEARNING ENGLISH AS A FOREIGN LANGUAGE ACCORDING TO THE OCED

The most recent results from PISA 2018 show that speaking more than one language is positively related to intercultural understanding and to global and intercultural attitudes and predispositions. For example, students who indicated that they spoke two or more foreign languages showed greater respect for people from other cultures than those who indicated that they spoke only one language.

In this sense, **PISA** defines mastery of a foreign language as the ability to use the language to communicate effectively. That is to say: a combination of communicative linguistic skills and general skills are required that allow the foreign language student to carry out communicative language activities (comprehension, expression, interaction and mediation), which include one or more of the following skills: reading, listening, Speak and write.

It also requires the activation of appropriate linguistic strategies. There are determining factors for learning a foreign language that allow the development of effective skills capable of being used in real environments. Therefore, they allow us to face situations of daily life in an easy and meaningful way.

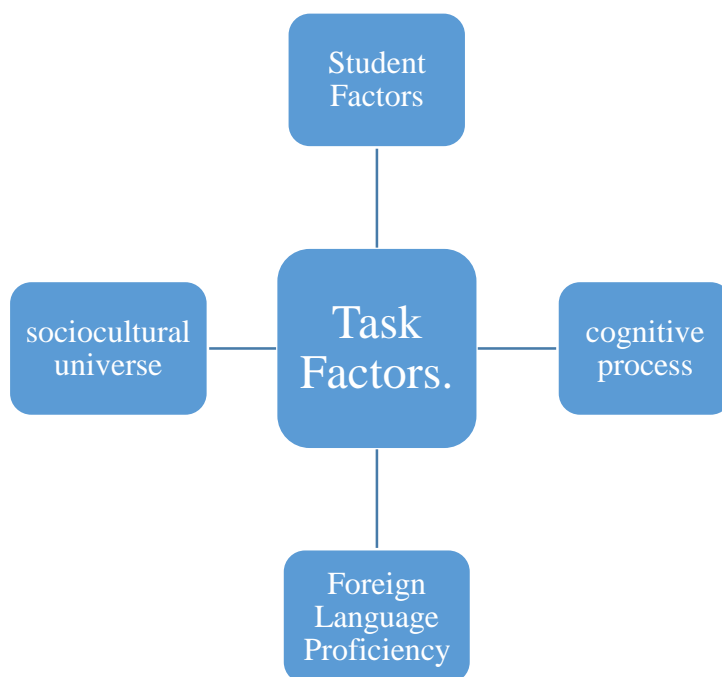


Figure 1. Adapted from the PISA Reference Framework, OECD, 2023.

The elements that oscillate in the approaches to define the production of language and feedback (Feedback) based on corrective feedback. This is considered one of the important components in teaching a foreign language. Its objective is to refer to the practice through which students adapt their speeches when providing place corrections by teachers.

This type of instrument collaborates in the instruction of a second language. That is, it is one of the processes in which students adjust their practices orally and positively recognize the progress made by students. The feedback varies according to the attention paid by the students and that they are responsible for their mistakes.

In order for this to be effective, it should not be in the interest of the teacher, but of his responsibilities as an educator applying and recognizing the importance of the observations and corrections of the teachers, allowing them to improve in the learning of the foreign language, which makes us reflect on the following question:

How will the factors of the student body be addressed? Students from more than 80 countries and economies participating in PISA agree to focus on 3 fundamental elements for the development of the task approach. The basis of the communicative approach and the task approach is that language is a communication vehicle and not a simple set of structures.

The objective of this approach is to train students for useful and authentic communication between speakers with the intention of awakening students' motivation. The teacher must create and encourage communication and interaction between students, who are the protagonists.

The tasks and activities are designed by the teacher, but in relation to their needs and interests. Grammar is acquired inductively and work with materials and real tasks, projects, cooperative work, role- plays , among others. The theoretical basis of the approach is solid.

First, Krashen (1981) The goal of this approach is to engage students in actual acts of communication in the classroom. Fluency is given more importance than grammatical correctness. Students acquire grammatical competence inductively and as a consequence of the communication process. Attention to diversity is another of the strengths of this approach.

The creation of a task is a creative and flexible process that can be adapted to the students according to their needs, covering all learning styles and educational levels. On the other hand, it is an activity that is carried out as a result of the changes and understanding of the language, with tasks to demonstrate the learning obtained by the students. For such purposes, it is about using and connecting them to the real language for a real goal and a suitable environment.

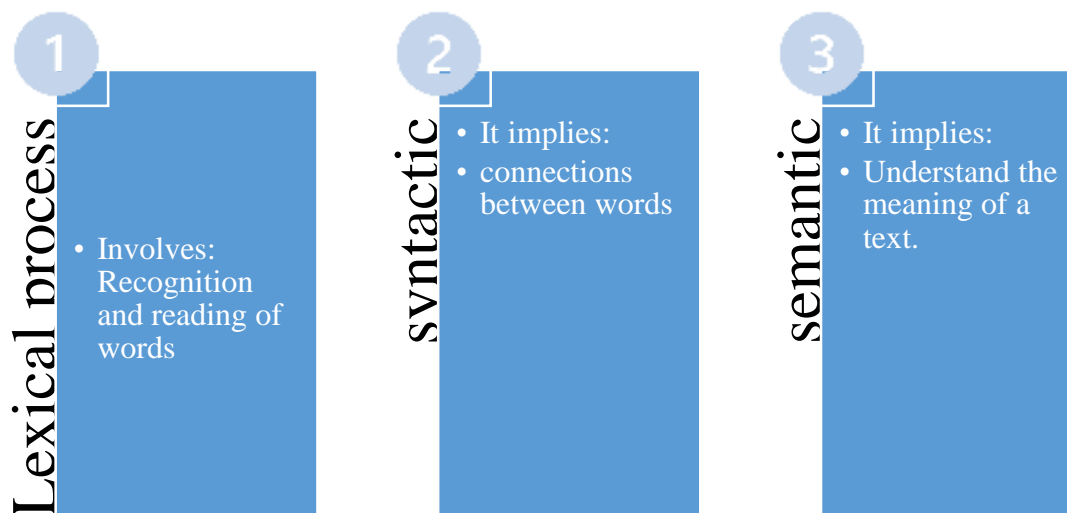


Figure 2. Own elaboration.

For the instruction of a foreign language there are various grammatical approaches, among which are: the traditional, structural and by tasks.

The traditional approach bases its methodology on a detailed analysis of grammar rules and their irregularities, so that the knowledge is applied in the translation of sentences and texts. That is, promote rote learning (by heart) with morphosyntactic rules using them in written texts, setting aside the oral one. On the other hand, they implemented lists of vocabularies and grammatical rules that were put into practice through translation in classical manuscripts, whose language was considered educated and formal.

The structural approach considers that languages are a system of structures that can be learned through behavior and repetition. In this, emphasis is placed on oral and focused on pronunciation. Among the detractors that are made to this methodology is the use only of the statements that were not related to the daily life of the speakers, presenting drawbacks for the instruction of the second language in an effective and independent way outside of controlled environments in the classroom.

Through this methodology, the structuralist approach emerged, which emphasized orality over writing, maintaining the role of the teacher as the main axis of teaching and learning, but with the passing of the implemented activities, the students acquired a more important role. active, having extensive participation in the dynamics of questions and answers with the other classmates.

On the other hand, it is focused on a communicative scenario in the use of the foreign language, having certain criticisms, since the student must deduce by himself the structures presented in the statements, which is considered to be above the skills of communication. the students.

The focus on tasks is described as methodologies based on the performance of assignments as the main unit of planning and instruction in the teaching process of a foreign language, promoting the strengthening of communication skills and abilities. It can be affirmed that it encourages the student population to progress little by little in their training through best practices in specific content, guidelines and goals.

The usual activities that are carried out in this type of approach are writing letters, postcards, dramatization of the conditions recreated in real life, dialogues, among others, as a result of the explanations received where the contents are supported in the lexicon. , sociocultural, functional and morphosyntactic context. On the other hand, they present certain characteristics based on works organized around a theme and not an established linguistic objective.

The advantage presented in the points of view of the tasks is the promotion of collaborative group work, strengthening interpersonal relationships, developing values such as personality, solidarity, among others.

The structure of the tasks must be of interest to the students, since the activities must encourage their learning in the foreign language, developing the lessons pleasantly, focusing on the meaning, recreating real situations in communication and those that are in accordance with the metacognitive processes that collaborate with communicative activities. For this, they have been taken into account for the planning of the didactic proposal in the formation of language as a second language, recreating authentic speeches.

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In other words, that only the exercises are not assimilated, but that they acquire the knowledge that is beneficial for communication.

The task approach demonstrates the following:

1. Reflective reading and oral presentation.
2. Recreate a round table where the topics discussed are related to current events.
3. Realization of concept maps.

This type of proposal contains level classifications, courses and audiences to which it is directed, the objectives, contents, development and practice of the four skills: listening, reading, speaking and writing in accordance with what was planned. (Gil Olivera, 2019)

APPROACH BY COMPETENCES

The Ministry of Education of the Dominican Republic reports that the competency-based approach refers to the competencies to function independently in different scenarios and conditions, mobilizing conceptualizations, procedures, attitudes, and values in an integrated manner. On the other hand, they do not refer to cognitive abilities or the efficiency with which they are executed. Also, its purpose is associated with the solution of problems in the environment that are required to integrate knowledge and overcome traditional instruction.

The development of competencies in teacher training processes, compromising the ability to organize teaching to manage progress, elaborate and monitor, allowing differentiation, motivating students to get involved in their peculiar processes, in teamwork, use new technologies, incorporating fathers, mothers, tutors and the community in school management.

With the proper use of the tools, the development of the competencies that have been established in the curriculum could be supported. It should be noted that it has been included, because the participants left the educational centers without proper preparation where it is necessary to have a profession. (Kings, 2018)

TEACHING AND LEARNING STRATEGIES

Those involved in the construction of their learning, knowledge and participation in educational processes are prepared by the competencies, where educators will have the responsibility of facilitating transformations in teaching and learning in a dynamic way with parents, tutors and the community. in which the instruction takes place. On the other hand, they are a series of planned activities, organized in an orderly manner to collaborate with the construction of understanding in the educational setting, building cognitive, socio-affective and physical development for interaction with society.

In order for the student to progress in the implementation of the competencies, they must face the various circumstances by applying the knowledge, skills, attitudes and values in the environments that are presented. Educators must fulfill important roles, since they are responsible for the planning and design that will allow carrying out the competitions, proposing the accompaniments and feedback throughout the training process.

The transformation in education favors meaningful, independent and collaborative learning throughout the course of their lives. Students must be motivated and actively participate, questioning, interacting, searching, posing and solving problems individually or as a team. The student sector manages various information and in positions of daily life. Therefore, teachers must collaborate so that they understand and use the strategies that they consider ideal to transform, build and rework the understanding so that they interpret what surrounds them.

MEDIA AND RESOURCES FOR LEARNING

The Ministry of Education of the Dominican Republic (MINERD) highlights the importance of the curricular foundation in the entire educational process where the roles assigned in the curricular processes are explained. The requirements that must be met by the resources that are acquired or produced to achieve significant formations are described.

At all levels of education, resources favor competition, the organization of knowledge, facilitate research processes, promoting self-learning, imagination and support dynamic and participatory education. Therefore, they must be adapted to the needs of the students, since these can be diverse because they start from the components of relating from birth, where their habits, practices diverge when they enter school and that is taken into account at the moment. to create teaching resources.

The competence approach presents certain advantages, for having practical characteristics that focus on know-how, referring to the knowledge that is known empirically, cognitively and psychomotorly to interact with the established resources and means, responding to the levels of imagination and creativity. . It is necessary to diversify the implemented media, combining them according to the content, uses and formats. Also, it is advisable to integrate printing, manipulable, natural and sociocultural environment, audiovisual, interactive inputs, among other technological equipment.

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THE EVALUATION OF LEARNING

Evaluations are continuous organized processes to collect important information with the objective that those involved in educational development recognize and appreciate the effectiveness of teaching and the quality of their training. In the comprehensive approach, external standardized tests are examined, in the classroom, in the educational system, to refine the instructions in the students. At the time of reorienting education, they must be established in the data provided for its appreciation. The competitions promote the teachings with the capacity of their competitiveness. It must be aligned and coherent with the learning expectations of students, the community and society in general.

Educational centers are a kind of laboratory where what is taught and learned has the function of being practiced in real life. The competencies have been constituted as a complicated set requiring complex evaluations. Evaluating the competences implies the use of instruments and means according to the competence that is intended to be evaluated and in a similar environment in tangible situations that will be experienced by the student.

Therefore, it is not only to evaluate the definitions and eventualities, but procedures, values and attitudes, counting on the abilities presented by the teachers in the use of the methods, techniques and tools to evaluate. Also, create and include innovative resources that are consistent with the competencies.

MAIN METHODS AND PROCEDURES IN THE ENGLISH CLASS

The foreign language subject currently prevails in the productive and participatory methodologies through which teaching strategies and the stimulus towards learning are developed. The programs are established in the communicative approach (EC) with the purpose of developing the communicative competences of the foreign language, including cognitive, linguistic, sociolinguistic, discursive, strategic and sociocultural competence.

Students learn another foreign language by communicating with others, since the activities that are implemented benefit communication in an original and significant way, fluency is considered important, language skills are incorporated into communication, learning a second language in the constructive and creative processes. It should be remembered that fluency and the actual use of the language are promoted.

The use of communicative approaches is grouped into the implications for the procedures used in teaching the foreign language:

1. pre-communicative tasks and their chores acquire fluency in the expressions of meanings and in which data transactions and the establishment of meanings are relevant.
2. Motivation– presentation-- controlled practice-- creative practice– evaluation—consolidation.
3. Verbalization – Automation – Autonomy.
4. Awareness (students discover what they can do) – Appropriation (students demonstrate progressive control of their abilities) – Autonomy (the ability that students achieve to self-regulate their practice as a consequence of the levels of appropriation reached).

When verifying the educational practices such as the methodological provisions of the programs, the results of the interviews with the classroom teachers, demonstrating that the sequence of instructions that are accepted in the teaching of a foreign language in the communicative approach is:

1. Initial communication exercises.
2. Display of resources.
3. semi-controlled skills .
4. Free procedures.
5. Communicative experiences.

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The Effect of Motor Ability on Physical Education Learning Achievement of Elementary School Students



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ABSTRACT: This study aims to determine the relationship between motor skills and the concentration of upper-class students in public elementary schools in Bantul, Yogyakarta. This type of research is quantitative with a correlational approach. The population in this study were high school students in public elementary schools in Bantul Yogyakarta, totaling 125 students. Motoric ability instruments use Barrow Motor Ability for Elementary Schools, which include: Shuttle-run test 4 x 10 meters, test to throw and catch a ball 1 meter from a wall, Stork Stand Positional Balance test, 30-meter sprint test, while physical education learning achievements use report value. The data analysis technique uses Pearson Correlation Product Moment analysis. The results showed a significant relationship between motor skills and the concentration of upper-class students in elementary schools. There was a relationship between motor skills and physical education learning achievements of students, with an r count of 0.395 and a coefficient of determination of 15.60%. The correlation coefficient is positive, meaning that if the motor skills get better, the physical education learning achievement will get better. For teachers and students, the results of this study can be a reference for improving motor skills because they affect Physical Education learning achievement. For other researchers, research can be carried out with other independent variables so that more variables that affect motor skills can be identified.

KEYWORDS: motor skills, learning achievement, physical education

INTRODUCTION

Education is the main source for developing the quality of human resources. With education, humans are increasingly aware of the importance of thinking processes to determine the quality of their future. Through education, a person can determine his future starting from school. Many also believe that education and knowledge are absolutely necessary to survive in the era of global competition that is happening in every nation. An inseparable part of education in schools is physical education (PE). Physical education allows the greatest interaction between students, such as sharing space and materials, competing in games and matches, and so on. Likewise, compared to other subjects, physical education provides a different context for the moral development of young people because it can develop values such as sportsmanship in young people. In addition, physical education provides students with many opportunities to experience ethical codes of behavior, group cohesion, respect for others, and many socially desirable behaviors.

Physical education is useful for students in providing opportunities to be involved in sports directly, thereby creating new experiences that are more useful for students. Physical Education aims to develop students' motivation in sports and physical activity in fulfilling their basic psychological needs. What's more, it can be beneficial for other education, including the development of social skills, self-confidence, and behavioral persistence (Chu & Zhang, 2018). Physical Education studies the skills of various sports branches, indirectly teaching the values of soft skills, such as sportsmanship, motivation, discipline, teamwork, emotional control, fighting spirit, communication skills, and others (Jung & Choi, 2016). Technical skills in sports alone are still lacking because these skills must also be combined with other people in team sports, which means that they must be carried out collectively or in teams.

The final result of a study is set forth in the form of learning achievement scores on a report card. Learning outcomes are something that has been achieved by students after attending lessons at school. The school expects that all students will get satisfactory learning outcomes after participating in learning. This is so that every student gets the same knowledge and experience in learning. Student learning outcomes are essentially changes in behavior. Behavior as a result of learning broadly includes the cognitive, affective, and psychomotor fields (Maâ, 2018).

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Physical Education, which is carried out for elementary school children, is one of the efforts to develop children through integrated stimulation so that they can develop optimally. Physical activity can be one of the supports that can be done daily for good health so that it can support the educational process, which will have a good impact on academic achievement. Learning achievement is one of the achievements to measure learning outcomes for each student. The term physical activity refers to the movement of limbs that causes energy expenditure which is very important for maintaining physical and mental health, as well as maintaining the quality of life in order to stay healthy and fit throughout the day. Motor development basically develops in line with the maturity of the child's nerves and muscles. Motor development is a process that goes hand in hand with increasing age gradually and continuously, in which individual movements increase from a simple, unorganized, and unskilled state to the mastery of complex and well-organized motor abilities.

Motor skills are very important to be taught to elementary school students. The characteristics of children who always move happily so that good motor skills are needed for children's development. Children's motor development is a process of maturity related to different aspects of form or function, including social-emotional changes (Cook et al., 2019); (Fathirezaie et al., 2021); (Brown et al., 2020). When children enter the school phase, children carry out activities at school with good performance if their physical foundation is strong. This can have a major impact on later academic achievement. Children with good motor skills will make children comfortable moving and more confident in carrying out activities in their development which can have an impact on achievement.

Gross motor movements are movements that are controlled by large muscle groups. These muscles are integral in producing various movements, such as walking, running, and jumping. Different levels of gross motor skills certainly play different roles for children in adjusting to their environment. The function of motor skills is often reflected in a child's ability to complete motor tasks (Newell, 2020). Gross motor quality can be seen from how far the child is able to perform the given motor task. The functions of gross motor skills are (a) self-help skills, (b) social assistance skills, (c) play skills, and (d) school skills (Djuanda & Adipura, 2020).

As stated (Weiss, 2020); (Akbar & Tohar, 2021) that motor movements are a strong basis and foundation in supporting learning activities, playing, and socialization, and also a form of building children's self-confidence. Motoric abilities are useful for children for children's cognitive development (Veldman et al., 2019); (Lee et al., 2020). Motoric ability is an important factor in the development of the individual as a whole from an early age to adulthood. These motor skills can be grouped according to the size of the muscles and related body parts, namely gross motor skills and fine motor skills.

Students with good motor skills certainly have good endurance, speed, balance, agility, and movement coordination. This will be very meaningful in following the learning process, learning evaluation process, and having a positive impact on the physical education learning outcomes obtained. Other studies that have been conducted by (Sutapa et al., 2020) show results that the motor development index in preschool children is still very low. This is shown in the combined index (MDI) of only 0.3872147. Judging from the magnitude of the index, when compared to the magnitude of the MDI index, which ranges from 0 to 1, motor development is still categorized as low.

METHOD

This type of research is correlational research. Correlational research is research conducted to determine whether there is a relationship between two or several variables. The population in the study were upper-class students aged 10-12 years in public elementary schools in Banul Regency, totaling 125 students. The instrument used to measure motor skills is Barrow Motor Ability for Elementary Schools which includes: a 4 x 10-meter Shuttle-run test, 1-meter ball catch throw test with a wall, a Stork Stand Positional Balance test, 30-meter sprint test. This test has a reliability of 0.93 and a validity of 0.87. Learning achievement is based on report cards. The data analysis technique is Correlation Product Moment. Previously, prerequisite tests for normality and linearity were carried out.

FINDING

The results of the descriptive analysis are intended to determine the motor skills and physical education learning achievements of upper class students in public elementary schools in Bantul, Yogyakarta. Complete results in Table 1.

Table 1. Descriptive Statistical Variables of Motoric Ability

Statistic	N	Mean ± SD
Motor ability (X)	125	300.00 ± 29.42
Physical education learning achievement (Y)	125	77.78 ± 3.94

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The data normality test in this study used the Kolmogorov-Smirnov method. The results of the data normality test performed in each analysis group were carried out with the SPSS version 20.0 for windows software program with a significance level of 5% or 0.05. The summary of the data is presented in Table 2.

Table 2. Normality Test Results

No	Variable	<i>p</i>	Sig	Description
1	Motor ability (X)	0.736	0.05	Normal
2	Physical education learning achievement (Y)	0.342	0.05	Normal

Based on the statistical analysis of the normality test that was carried out using the Kolmogorov-Smirnov test in Table 2, on the variables of motor skills and physical education learning achievements of students, the normality test results were obtained with a significance value of $p > 0.05$, which means that the data is normally distributed.

Testing the linearity of the relationship is carried out through the F test. The relationship between the independent variable (X) and the dependent variable (Y) is declared linear if the sig value > 0.05 . The results of the linearity test can be seen in Table 3 below:

Table 3. Linearity Test Results

Functional Relations	<i>p</i>	Sig.	Description
Motoric ability (X)* Physical education learning achievement (Y)	0.336	0.050	Linier

From Table 3 above, it can be seen that the significance value of $p > 0.05$. So, the relationship between motor ability variables and students' physical education learning achievement is stated to be linear.

The significance test of the correlation coefficient was carried out by consulting the r table. If the r count is consulted with the r table using an error level of 5%. If the significance value of $p < 0.05$, then the hypothesis is accepted, and if the significance value of $p > 0.05$, then the hypothesis is rejected. The results of hypothesis testing are presented as follows.

Table 4. Correlation Test Results

<i>Model Summary</i>				
Model	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>
1	0.395 ^a	0.156	0.152	4.70642
a. Predictors: (Constant). Motor ability (X1)				

Based on Table 4 above, the coefficient r count is 0.395, while the significance value is 0.000. The r-count value is 0.396 and the significance value is $0.000 < 0.05$, so it can be interpreted that there is a significant relationship between motor skills and physical education learning achievement for upper-class students in public elementary schools in Bantul, Yogyakarta. The correlation coefficient is positive, meaning that if the motor skills get better, the physical education learning achievement will also get better.

The coefficient of determination R Square or the contribution of motor skills to the physical education learning achievement of upper-class students in public elementary schools in Bantul Yogyakarta is 0.156 or 15.60%. This means that the motor ability variable affects the physical education learning achievement of upper-class students in public elementary schools in Bantul Yogyakarta Regency by 15.60%, while the rest is influenced by other factors by 84.40% outside of this study.

DISCUSSION

Based on the results of the study showed that there was a relationship between motor skills and physical education learning achievements of students, with a r_{count} of 0.395 and a coefficient of determination of 15.60%. The correlation coefficient is positive, meaning that if the motor skills get better, the physical education learning achievement will get better. The results of the research are supported by the research (Yuniko & Zalfendi, 2018), showing that there is a significant (significant) relationship between motor skills and physical education learning outcomes of Elementary School Students 194 Tebo Regency. Field (Noviardila, 2019) results show that the relationship between motor skills and physical education learning outcomes is significant, with a 5% confidence level. The better a person's motor skills, the better the physical education learning outcomes.

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Physical education is an educational process that utilizes physical activity to produce holistic changes in individual quality, both physically, mentally, and emotionally (Jariono et al., 2020). Physical education is a process of educating a person as an individual or a member of society, which is carried out consciously and systematically through various physical activities to obtain physical growth, physical health, physical fitness, abilities, and skills, intelligence, and the development of character and personality in the context of forming quality Indonesian individuals. Social and affective learning outcomes, when combined, help develop health as an important and recognized element of a comprehensive physical education program (Richards et al., 2019).

Physical education is an important subject because it helps develop students as individuals and social beings so that they grow and develop naturally. This is because the implementation prioritizes physical activity, especially sports and healthy living habits. With sports and health physical education, a person's potential will be able to develop (O'Donnell et al., 2020). Physical education emphasizes motor skills and physical activity as self-expression, with physical activity or movement activities so far for goals, decision-making, and so on, and can be modified in the learning (Knudson & Brusseau, 2021). Motor movement is a strong basis and foundation in supporting learning, playing, and socializing activities, and is also a form of building children's self-confidence (Akbar & Tohar, 2021). Motoric abilities are useful for children for children's cognitive development (Veldman et al., 2019).

Motor skills are the ability to carry out a series of physical movements in business and coordination so that automatic movements are realized. The motor skills in question are skills in performing physical movements that require coordination between muscles and nerves to produce automated movements (Randjelović et al., 2019); (Uysal & Düger, 2020). Motoric ability is the quality of the results of individual movements in carrying out movements, both movements that are not sports or movements in sports, or the maturity of the appearance of motor skills. The higher a person's motor skills, it is possible that the work power will be higher, and vice versa. Therefore, motor skills can be seen as a source of success in performing motor skills tasks (Matheis & Estabillo, 2018).

Motoric ability is to move various parts of the body at the behest of the brain and regulate body movements against various influences from outside and inside. Motor skills are very important to be mastered by someone because they can carry out daily activities. Without having gross motor skills, they will not be able to run, jump, push, throw, catch, or kick. This activity uses gross motor (large muscles) in a person's body. So when viewed from the notion of gross motor skills, gross motor skills greatly affect the learning outcomes of physical education. In learning physical education, many use large muscles such as running, catching, pushing, pulling, kicking, catching, and so on which are used in learning physical education at school.

Motoric ability is the process of a child learning to move the limbs skillfully. For this reason, children learn from the teacher about several movement patterns that they can do that can train dexterity, speed, strength, flexibility, and accuracy in hand-eye coordination. Developing motor skills is very necessary for children so that they can grow and develop optimally. Motoric ability is the terminology used in various skills that lead to mastery of basic movement skills of physical fitness activities (Basman, 2019).

Children who have good motor skills certainly have a basis for mastering specific motor skill tasks. All motor elements in every child can develop through sports activities and play activities that involve muscles. The more children experience motion, of course the more elements of motor skills are getting trained with the many motor experiences that are carried out. The course will increase their maturity in carrying out motor activities. In general, the purpose of motor learning is for children to have adequate movement skills while at the same time developing cognitive aspects, physical aspects, and affective/social aspects (Angelina & Musa, 2020).

Students who have good motor skills will be successful in achieving maximum performance, which means students can carry out sports activities well. Students will be able to study well and achieve good learning outcomes as well. Motoric ability is the quality of the results of individual movements in carrying out movements, the height of the movements that are not sports movements or movements in sports, or the maturity of the appearance of motor skills. The higher a person's motor skills, it is possible that his work power will be higher, and vice versa. Therefore the ability to move can be seen as a success in carrying out the task of moving skills.

The main function of motor skills is to develop the abilities and abilities of each individual, which are useful for enhancing work power. By having high motor skills, of course, individuals have a foundation for mastering specific motor skill tasks. By knowing the status of motor skills, it is hoped that students and teachers will provide the right activities for students so that students can develop their abilities or at least reduce their weaknesses. So the more often children experience movement activities, the elements of motor skills will also be trained and will add maturity in carrying out motor activities (Salman & Darsi, 2020).

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CONCLUSION

The conclusion of the study shows that there is a relationship between motor skills and physical education learning achievements of students, with an r_{count} of 0.395 and a coefficient of determination of 15.60%. The correlation coefficient is positive, meaning that if the motor skills get better, the physical education learning achievement will get better. For teachers and students, the results of this study can be a reference for improving motor skills because they affect physical education learning achievement.

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The Effect of Physical Fitness, Play Activities, Nutritional Status on Children's Motor Skills in Three Public Elementary Schools Pancung about South Coast District



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ABSTRACT: The problem of this research is the low motor skills of children in the Pancung Sol Pesisir Selatan sub-district. The low motor skills of children are influenced by several factors, such as physical fitness, play activities and nutritional status. This study aims to reveal direct and indirect effects, as well as the simultaneous influence between variables. This type of research is quantitative associative with a path analysis approach. The population in this study were all 3rd and 4th grade students at several elementary schools in Pancung, South Pesisir Selatan sub-district, totaling 60 people. Samples were taken using purposive sampling. Physical fitness instruments using TKJI, playing activities using a questionnaire, nutritional status using BMI and children's motor skills using the Scott motor ability test. Data were analyzed by path analysis through structural model testing at $\alpha = 0.05$. The results of hypothesis testing show: (1) there is a direct effect of physical fitness on motor skills ($\beta_1 = 0.334$ or 11.1%), (2) there is a direct effect of play activities on motor skills ($\beta_2 = 0.349$ or 12.1%), (3) there is a direct effect of nutritional status on motor skills ($\beta_3 = 0.440$ or 19.3%), (4) there is an indirect effect of physical fitness on motor skills through nutritional status ($\beta_{31} \cdot \beta_3 = 0.234$ total effect of 32.3%), (5) there is an indirect effect of play activity on motor skills through the nutritional status of students ($\beta_{32} \cdot \beta_3 = 0.272$ total effect of 38.6%), and (6) there is an effect of physical fitness, play activity and nutritional status together with the ability motor ($R^2 = 0.931$ or 93.1%).

KEYWORDS: Physical Fitness, Play Activity, Nutrition Status and Motor Ability

I. INTRODUCTION

Education is one of the most important factors in shaping the future of the nation. Therefore, education cannot be separated from human life. In the 1945 Constitution of the Republic of Indonesia (UUD RI 1945) it is also explained that everyone has the right to get an education, it is regulated in article 31 paragraphs 1-5 in the 1945 Constitution of the Republic of Indonesia In article 31 paragraphs 2 and 3 it is explained that for anyone citizen has the right to get an education, and the government is obliged to pay for it, it aims to achieve the nation's goal of educating the nation's life.

This education aims to improve the quality of human resources through improving the quality of education, it is sought to achieve the formation of an Indonesian human profile that is intellectually, mentally, physically and spiritually ready to face a future that increasingly requires science and technology. To achieve the national education goals, it must be supported by many factors including facilities and infrastructure in schools, play activities, nutritional intake and last but not least motor skills. (Darmawan 2017; Mahfud, Gumantan, and Nugroho 2020; Widodo 2018)

Physical education strives to achieve educational goals through jasmanni activities and healthy life development that has the aim of helping the growth and development of students. Physical education learning in schools is expected to be able to play a role in pursuing basic movement development learning for all children from early childhood to elementary school. (Panggraita, Tresnowati, and Putri 2020; Sobarna, Hambali, and Koswara 2020). Based on the quote above, it can be concluded that how important physical education, sports and health are to develop and improve various movement and sports skills, science, attitudes (social formation). Judging from the learning objectives of physical education, sports and health, it also increases the physical freshness of students fostering a healthy lifestyle. To improve the physical quality of elementary school-aged children, namely by having good physical fitness, and good motor mobility and balanced nutritional status, then accompanied by play activities that are often carried out by children that make children more active in moving, so that children have good physical

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fitness to carry out their daily lives. (Pusat Pengembangan Kualitas Jasmani 2002) explains that "Physical fitness as the ability of one's body to perform daily tasks or work without significant fatigue. Play activities are all spontaneous activities that are fun and have positive value for children, do not have extrinsic goals, but the motivation is intrinsic, involves the active participation of children either using tools or without tools, without thinking about the final result carried out without the coercion of others, and does not expect rewards or praise (Abduh, Humaedi, and Agusman 2020; Supriyadi 2018)

The nutritional status of the child in general can be reinterpreted from the physical state that the child has. Physical fitness will be more optimal if the child has a good nutritional status. Motoric ability is basically inseparable from performing motion activities, both are two things that are interrelated. The abundance of exercises or motion experiences will improve the student's motor skills. This means that the more students experience movement or physical activity, the more trained and capable the elements of their motor skills will be. Gross motor is a body movement that is influenced by the maturity of the child himself. Motor is everything that has to do with body movements. It is further explained that in motor development there are three elements that determine it, namely muscles, nerves, and brain. Children whose brains are impaired appear to be less skilled in their body movements.

Many factors have influenced the lack of basic mobility in the three State Elementary Schools of Pancung Soal District, South Coast District. This lack of basic level of motion ability may be due to students doing less movement, very less play time or because most of the time home from school is spent watching (TV). Furthermore, the implementation of poor learning, facilities and infrastructure that are not met with too many students also affect this condition. Another factor also comes from the creativity of teachers in using the learning approach that is used less in accordance with the existing situation (Pambudi, Winarno, and Dwiyoogo 2019; Zarya and Welis 2021). Ketiga faktor yang berkaitan dengan kemampuan gerak dasar sesuai dengan hasil studi terdahulu perlu mendapatkan perhatian, agar kemampuan gerak dasar meningkat dan berkembang dengan baik, kalau sudah memiliki tubuh yang sehat, tentu akan mudah dalam mengikuti berbagai aktivitas belajar, bermain dan sebaliknya (Abdullah 2015; Izzaty and dkk 2008; Oktaviani 2016).

However, based on the results of observations that the author made on children in three State Elementary Schools in Pancung Soal District, South Coast Regency, and also according to the health investigator there. Students are less enthusiastic in doing sports activities and often get sleepy during class time. Students in sports activities rarely do play activities that do a lot of movement, and face-to-face hours in physical learning are still lacking to improve basic motion skills. This is due to the fact that in school activities there are many activities carried out by students such as: studying, making tasks from the teacher, returning home from school already in the afternoon. Although there is free time, it is used for playing such as the internet or games. Then it was aggravated again by parents who too limited their children's space to play. So as a result, children will lose time playing with their friends, so children cannot use their time to do physical education activities, both at school and at home. Because movement and play activities at this age are very important and are needed by students for their developmental period (Jamaluddin 2016; Siska 2019; Suprpto et al. 2018).

So far, physical education activities in schools have not gone well. In this case, teachers feel it is necessary to develop learning through an approach that is appropriate to the student's situation, so that students will be able to improve basic movement skills, thinking abilities and skills in accordance with the goals that have been set nationally. Even though the government, teachers and parents expect the level of students' basic mobility ability to increase after the learning of health workers carried out in schools, but in fact, it is not in accordance with what is expected in the Law on the National Sports System. (Alzu'bi 2015; Mareta 2021; Shiver et al. 2020).

Banyak aktivitas yang dilakukan oleh siswa/siswi baik saat di sekolah maupun pada saat berada di luar sekolah, juga akan mempengaruhi perkembangan kemampuan motorik siswa. Jika siswa banyak melakukan aktivitas maka perkembangan gerak dasarnya lebih baik dan begitu sebaliknya. Aktivitas yang berbeda-beda tersebut, akan membawa dampak yang logis terhadap motorik kasar yang bersangkutan. Anak Sekolah Dasar yang memiliki kemampuan motorik kasar yang baik, pasti akan mudah dalam melakukan berbagai aktivitas termasuk aktivitas gerak. Dalam permasalahan ini peneliti meneliti siswa di Tiga Sekolah Dasar Negeri Kecamatan Pancung Soal Kabupaten Pesisir Selatan (Barra, Wilujeng, and Kuswanto 2019; Nuzzo 2020; Wiarto 2013).

According to the author's observations and experience in the field, there are several factors that are quite dominant in influencing motor abilities, including; Factors of nutritional status, play activities and social status can be seen from the laziness of children in carrying out movements due to weak body conditions that are possible due to lack of nutritional intake which causes a lack of energy in children, besides that many children also tend to be lazy to move which is possible because they are not used to doing play activities both at school and at home. (Prayitno 2014; Puger 2015; Suhendro 2012).

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Based on observations and interviews with teachers and students in three State Elementary Schools in Pancung Soal District, Pantai Selatan District, there are students who have limited gross motor development. The development is that it has not been able to jump, and the obstacles to the balance of the body. The motor development of children that the authors focused on in this study was gross motor locomotor jumping. Because the development of jumping is useful for students in carrying out daily activities that require the development of jumping. If the gross motor development of locomotor jumping is not possessed as early as possible, it can result in problems in the future development of locomotor (the development of individuals to move), problems in nonlocomotor motor development (development of individuals to move without changing places, for example stretching, twisting) and manipulative motor development (development of individuals engineering objects, for example dribbling) (Kobawon 2021; Okilanda et al. 2020; Subarjah 2016).

II. MATERIAL AND METHODS

The method used in this study is a quantitative method using the Path Analysis approach, which uses structural equations that look at the causality of the dimensions of the influences of physical fitness (X1), play activity (X2), nutritional status (X3) on children's gross motor abilities (Y). The implementation of this research was carried out at several SD N Pancung Soal South Coast Districts. The population is the overall object studied in this study is 60 students. The sample is part of the number of characteristics possessed by the population. The sample determination technique in this study uses a purposive sampling technique where the determination of the sample is based on certain considerations according to the objectives set by the researcher. The sample used in this study was 45 people who were male students in grades 3 and 4.

An instrument used to measure a student's physical fitness by looking at the results of the TKJI test with 5 test items in it (Komaini, Sepdanius, and Rifki 2019). Measuring play activity by spreading questionnaires that have been validated by experts previously in the sadur from the grid (Gusril 2004). Meanwhile, how to measure the nutritional status of students by looking at the BMI number (Par'i, Wiyono, and Harjatmo 2017). In this study the gross motor ability of children with guided on the Scott Motor Ability test (Gusril 2008). Data analysis includes: (1) data description, (2) analysis requirements test consisting of: normality test and linearity test, (3) path analysis which includes: model testing and hypothesis testing.

III. RESULTS AND DISCUSSION

Results

Based on the results of the research conducted, the results were found:

1. Total Summary of overall Direct and Indirect Influences

Koef Jalur	Direct Influence			Indirect Influence				Total Direct + Indirect Influence		
	Koef	(^2)	(%)	Intervening X ₃	Koef	(^2)	(%)	Total koef	(^2)	Total (%)
X _{1Y} (P _{y1})	0,334	0,111	11,1	X ₁ ke Y melalui X ₃	0,534	0,285	28,5	0,234	0,323	32,3
X _{2Y} (P _{y2})	0,349	0,121	12,1	X ₂ ke Y melalui X ₃	0,619	0,383	38,3	0,272	0,386	38,6
X _{3Y} (P _{y3})	0,440	0,193	19,3					0,440	0,193	19,3
Total Direct + Indirect Influence									0,903	90,3
Influence of Other Variables									0,096	9,63

Based on the table above, that the total total direct and indirect influence through the variable Intervening motor ability of students in three State Elementary Schools of Pancung Soal District, South Coast District is 90.3%, while the remaining 9.63% is another factor not explained in this study.

IV. DISCUSSION

Based on the results of the research conducted, there is a direct influence of physical fitness on the motor skills of students in three State Elementary Schools in Pancung Soal District, Pesisir Selatan Regency. The result of the path coefficient to obtain py1 = 0.334 and the value of Sig.= 0.019 < α = 0.05 or the value of counting = 4.547 > ttable = 1.684. The magnitude of the direct

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influence of physical fitness on the motor skills of students in the three State Elementary Schools of Pancung Soal District, South Coast District was 11.1%, while the rest was influenced by other factors not described in this study.

So it can be explained that physical fitness has a significant influence on a person's motor abilities. People who have good physical fitness tend to have better motor skills compared to people who do not have good physical fitness. This is because regular physical exercise can increase strength, flexibility, and endurance, all of which are important factors in improving motor skills. In addition, people who have good physical fitness also adjust more quickly to new physical activities and are less exposed to injuries. To maintain good physical fitness and improve motor skills, a person needs to engage in regular physical activity and maintain a healthy diet. If a person has certain health problems, it is best to seek advice from a doctor before engaging in intense physical exertion.

Based on the results of the research conducted, there is a direct influence of play activities on the motor skills of students in three State Elementary Schools in Pancung Soal District, Pesisir Selatan Regency. The result of the path coefficient to obtain $py_2 = 0.349$ and the value of $Sig. = 0.007 < \alpha = 0.05$ or the calculated value $= 1.815 > t_{table} = 1.684$. The magnitude of the direct influence of play activities on the motor skills of students in three State Elementary Schools in Pancung Soal District, South Coast District was 12.1%, while the rest was influenced by other factors that were not described in this study. Play activities are very important activities for children's growth and development and can have a significant influence on a person's motor abilities. Through play activities, children can develop their motor skills naturally and become more active. Fun play activities can help children learn to control their body movements, hone their coordination skills, and improve balance. In addition, play activities can also help increase strength, flexibility, and endurance, all of which are important factors in improving motor skills.

Based on the results of the research conducted, there is a direct influence of nutritional status on the motor abilities of students in three State Elementary Schools in Pancung Soal District, Pesisir Selatan Regency. The result of the path coefficient to obtain $py_3 = 0.440$ and the value of $Sig. = 0.000 < \alpha = 0.05$ or the calculated value $= 7.801 > t_{table} = 1.684$. The magnitude of the direct influence of nutritional status on the motor abilities of students in three State Elementary Schools in Pancung Soal District, South Coast District was 19.36%, while the rest was influenced by other factors not explained in this study. A person's nutritional status can have a significant influence on a person's motor abilities. People who have good nutritional status tend to have better motor skills compared to people who have poor nutritional status. This is because adequate and balanced nutrition can help increase strength, flexibility, and endurance, all of which are important factors in improving motor abilities. In addition, people who have a good nutritional status are also less affected by injuries when doing physical activity.

Based on the results of the analysis test, that the value of the indirect influence path coefficient given by the Intervening variable ($p_{31.py_3} = 0.234$). The total direct influence of physical fitness on motor ability and indirect influence given through the nutritional status of students in three State Elementary Schools of Pancung Soal District, South Coast District was 0.234 or 32.3%. Physical fitness has an indirect influence on motor abilities through nutritional status. People who have good physical fitness tend to have good nutritional status as well. This is because people who have good physical fitness tend to be more active and better able to manage their diet and nutritional intake. In addition, people who have good physical fitness also tend to be healthier and have a lower risk of developing diseases, all of which can help maintain a good nutritional status.

Based on the results of the analysis test, that the value of the indirect influence path coefficient given the Intervening variable ($p_{32.py_3} = 0.272$). The total direct influence of play activities on motor skills and indirect influences given through the nutritional status of students in three State Elementary Schools in Pancung Soal District, South Coast District was 0.272 or 28.6%. Play activities have an indirect influence on motor abilities through nutritional status. Children who play frequently tend to have good nutritional status because play activities can help increase children's energy needs and help manage the intake of nutrients needed by the body. In addition, play activities can also help increase muscle suppleness and reduce the risk of injury when doing physical activity.

Based on the results of the analysis of the effect of physical fitness, play activities and nutritional status simultaneously on the motor abilities of students in three State Elementary Schools in Pancung Soal District, South Coast Regency obtained 0.931. The results of this study showed that the magnitude of the influence of physical fitness, play activities and nutritional status simultaneously on the motor abilities of students in three State Elementary Schools in Pancung Soal District, South Coast Regency was 93.1%, while the rest were other factors that were not explained in this study.

Physical fitness, play activities, and nutritional status are all factors that have an influence on a person's motor abilities. Good physical fitness can help improve strength, flexibility, and endurance, all of which are important factors in improving motor skills. Fun play activities can help children learn to control their body movements, hone their coordination skills, and improve balance. Good nutritional status can help increase strength, flexibility, and endurance, as well as reduce the risk of injury when doing physical activity.

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V. CONCLUSION

The results of this study explained that the motor abilities of students in three State Elementary Schools in Pancung Soal District, Pesisir Selatan Regency, were influenced by these three factors or it could be interpreted that motor abilities can be maximized if they have variables of physical fitness, play activities and nutritional status.

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The Effect of Pare Ethanol Extract on Bax and Bcl-2 Protein Expressions (In vitro study on T47D Breast Cancer Cell Culture)



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ABSTRACT: Breast cancer is a genetic disease due to the accumulation of genetic abnormalities in tissues. There are cell proteins that can reduce the growth of cancer cells. Bax and Bcl-2 are proteins that accelerate the process of apoptosis of cancer cells and maintain the permeability of mitochondrial cell membranes and cytotoxic activation of caspase so as to prevent the spread and development of cancer cells. The purpose of this study was to determine the effect of pare ethanol extract on the expression of Bax and Bcl-2 in T47D cell cultures. This research uses experimental in vitro with the Post Test Only Control Group Design method. The subjects of this study were T47D cells divided into 4 treatments with three replications on the variables. The treatment consisted of negative control, positive control, pare ethanol extract 1/2 IC50 (134.7 g/mL), 1 IC50 (269.4 g/mL) and 2 IC50 (538.8 g/mL). On the 10th day, an examination of Bax and Bcl-2 expressions was carried out. The data were analyzed using the Anova One Way Test. One Way Anova test result showed the results of Bax protein expression and BCL-2 expression in all groups there was a significant difference ($p < 0.05$). The administration of pare ethanol extract at dose of 2 IC50, 1 IC50, and 1/2 IC50 showed a significantly affect to increase of Bax protein expression in T47D breast cancer cells.

KEYWORDS: Pare Ethanol Extract, Bax Expression, Bcl-2 Expression

I. INTRODUCTION

Cancer is caused by the presence of abnormal genes which are characterized by continuous proliferation signals.(1) Breast cancer is a genetic disease caused by the accumulation of genetic disorders in the tissue. In breast cancer patients, gene mutations are found.(2) There are cell proteins that can reduce the growth of cancer cells. BAX and BCL-2 are proteins that accelerate the apoptotic process of cancer cells and maintain the permeability of mitochondrial cell membranes and activate cytotoxic caspase so as to prevent the spread and development of cancer cells. (3) pare ethanol extract has cytotoxic and carcinogenic potential. The results of previous studies showed that 70% ethanol extract of pare (*Momordica charantia* L.) in HeLa cells obtained an IC50 value of 51.56 $\mu\text{g/ml}$ which could inhibit the growth of cancer cells.(4) Therefore it is necessary to study further the benefits of ethanol extract of pare in triggering expression of BAX and BCL-2 in an effort to inhibit growth and induce apoptosis of T47D breast cancer cells.

Based on the results of Riskesdas in 2018, the prevalence rate of cancer in Indonesia is 1.8% (per mile), or it is estimated that of Indonesia's population of 263,991,379 people, approximately 475,185 people suffer from cancer. According to World Health Organization (WHO) in 2018 breast cancer in women is the largest cancer in Indonesia. Cancer is difficult to cure in the world of medicine, pharmacists as well as medicine continue to seek and develop innovative drugs that can be used to treat cancer. The treatment of cancer in general is divided into two types, namely natural medicinal ingredients such as medicinal plants and synthetic drugs. (5) In 2020, there are 65,856 cases of breast cancer in Indonesia with 22,430 deaths from this cancer. This disease is also the second leading cause of death due to cancer in Indonesia in 2020 after lung cancer.(6)

Alternatives treatment of chemotherapy and synthetic drugs can be used with traditional medicines such as herbal plants. Many of these traditional medicines are taken from plant parts such as rhizomes, roots, stems, leaves, flowers, or the whole of a plant. The use of plants can be used as an alternative cure for a disease, especially cancer.(7) Plants used as medicine still require further research on their contents and clinical trials. Active compounds from herbal plants can be an alternative in cancer treatment, this herbal treatment has the advantage of not having side effects.(8)

Based on data on the incidence rate of breast cancer and the very high number of deaths from this cancer, many experts are conducting research and developing breast cancer treatment in order to obtain efficient, effective and affordable treatment

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results. Research in 2018 showed that pare has an anti-cancer substance called lecithin. This substance is able to fight cancer cells and has preventive properties for people who do not have cancer.(9) In addition, according to previous research, pare has potential activity against breast cancer cells MCF-7 and MDA-MB-231, colon cancer cells. HCT-116, pancreatic cancer, liver cancer, PC3 and LNCaP prostate cancer cells, and skin cancer.(4) Other researchers also stated that the compound 3β, 7β-dihydroxy-25-metoxicukurbita-5,23-din-19-al (DMC) isolated from pare has cytotoxic activity against MCF-7 cells and MDA-MB-231 cells with IC50 values of 14.3 and 17.6 μM respectively and can suppress MCF-7 cell proliferation by inducing apoptosis.(10) Based on the description above, it is necessary to conduct research on the effect of pare ethanol extract on BCL and BCL-2 expression in vitro in T47D breast cancer cell culture.

II. MATERIAL AND METHOD

The research method uses an in vitro experimental study with Post Test Only Control Group Design. This study used T47D cells as research subjects and divided into 4 groups: control group, P1 T47D treated with pare ethanol extract at a dose of ½ IC50, P2 T47D at a dose of 1 IC50, and P3 T47D at a dose of 2 IC50. Pare ethanol extract used in this study was extracted by maceration method using 90% alcohol for 72 hours.

RESULT

In this study, researchers found that pare ethanol extract was able to increase BAX protein expression and decrease BCL-2 expression in T47D breast cancer cells depending on the dose given (Table 1).

Table 1. Results of Average Analysis, Normality Test, Homogeneity Test on BCL-2 Expression and BAX Expression

Variable	Group				Sig.(p)
	KN N=6	P1 N=6	P2 N=6	P3 N=6	
SEE Express					
Mean	18.52	16.07	27.46	7.78	
Std. deviation	7.53	2.12	5.43	2.21	
<i>Shapiro Wilk</i>	0.580*	0.462*	0.100*	0.821*	
<i>Low Test</i>					0.102**
<i>One Way</i>					0.008**
<i>Annova</i>					*
BCL-2					
expression	15.11	16.93	20.93	5.97	
Mean	1.82	3.64	2.23	1.23	
Std. deviation					
<i>Shapiro Wilk</i>	0.497*	0.065*	0.460*	0.412*	
<i>Levene Test</i>					0.139**
<i>One Way</i>					0.000**
<i>Anova</i>					*
Information: *Normal p>0.05 **Homogeneous p>0.05 ***Significant p<0.05					

Effect of Pare Ethanol Extract on BAX Protein Expression

Based on the Table 2 and Figure 1, shows that the highest average BAX protein expression was in the negative control group (KN), followed by the second treatment group (P2), the third treatment group (P3) and the first treatment group (P1). The BAX expression data of the four groups were all normally distributed, as indicated by Shapiro Wilk's results with a value of p>0.05 and also having a homogeneous variant of the data as indicated by the results of the Levene's Test with a value of p=0.139 (p>0.05). The distribution and variance of the data on BAX expression levels were normal and homogeneous, so a parametric statistical analysis was carried out with the One Way Anova test yielding a value of p = 0.000 (p <0.05) so that there was a significant

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difference in the average BAX expression between the four groups. The significant results of the One Way Anova test were followed by a Post Hoc test to see which group had the most influence.

Table 2. Differences in BAX Protein Expression between the 2 groups using pos hoc test

Group	<i>p-Value</i>
KN vs P1	0.925
KN vs P2	0.193
KN vs P3	0.103
P1 vs P2	0.082
P1 vs P3	0.239
P2 vs P3	0.005*

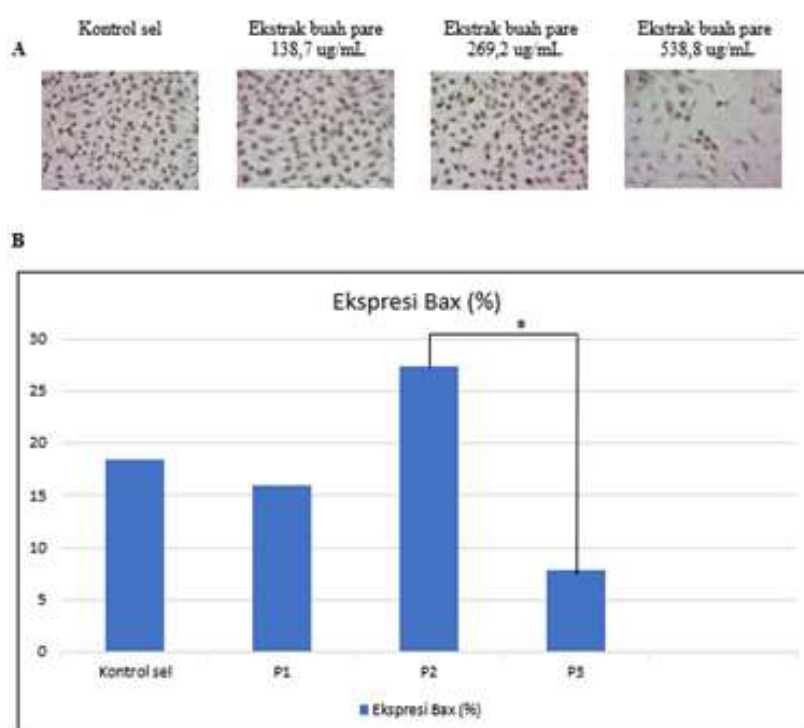


Figure 1. The effect of pare ethanol extract on the expression of protein caspase-9 in T47D cells for 24 hours of treatment. (A) Images of BAX expression observed using the ICC method, (B) Graph of the percentage of BAX expression after being treated with pare ethanol extract on T47D cells for 24 hours. Protein expression profiles are presented from the mean \pm standard error (SE) of 3 experiments.

Based on the Table 2 and Figure 1, it was found that there was a significant difference in the mean P2 and P3 (0.005), while there was no significant difference in control cells and P1 (0.925), there was also no significant difference in control cells and P2 (0.193). At P1 and P2, a value of 0.082 ($p < 0.05$) was obtained so that there was no significant difference between the two groups. Post Hoc test results on BAX protein expression data showed that pare ethanol extract increased the percentage of BAX protein expression in T47D breast cancer cells.

The Effect of Pare Ethanol Extract on BCL-2 Protein Expression

In this study, 3 doses were selected for the BCL-2 expression test according to IC results₅₀ namely $\frac{1}{2}$ IC₅₀, 1 IC₅₀, 2 IC₅₀. Based on the research results shown in table 1. The average BCL-2 expression in the P3 group was the lowest, followed by the average BCL-2 expression in the P1 group and then P2. All four groups' BCL-2 expression data were normally distributed, Shapiro Wilk test result obtained a value of $p > 0.05$ and also has a homogeneous data variant as indicated by the results of the Levene's Test with a value of $p = 0.139$ ($p > 0.05$). The distribution and variance of BCL-2 expression level data were normal and homogeneous, so a parametric statistical analysis was performed by One Way Anova test resulted in a value of $p = 0.000$ ($p < 0.05$) so that it was stated

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that there was a significant difference in the average BCL-2 expression between the four groups. One Way Anova test result showed a significant followed by post hoc test to see which groups have the most influence.

Table 3. Differences in BCL-2 Protein Expression between 2 groups using the Post Hoc test

Group	<i>p-Value</i>
KN vs P1	0.797
KN vs P2	0.071
KN vs P3	0.008*
P1 vs P2	0.253
P1 vs P3	0.002*
P2 vs P3	0.000*

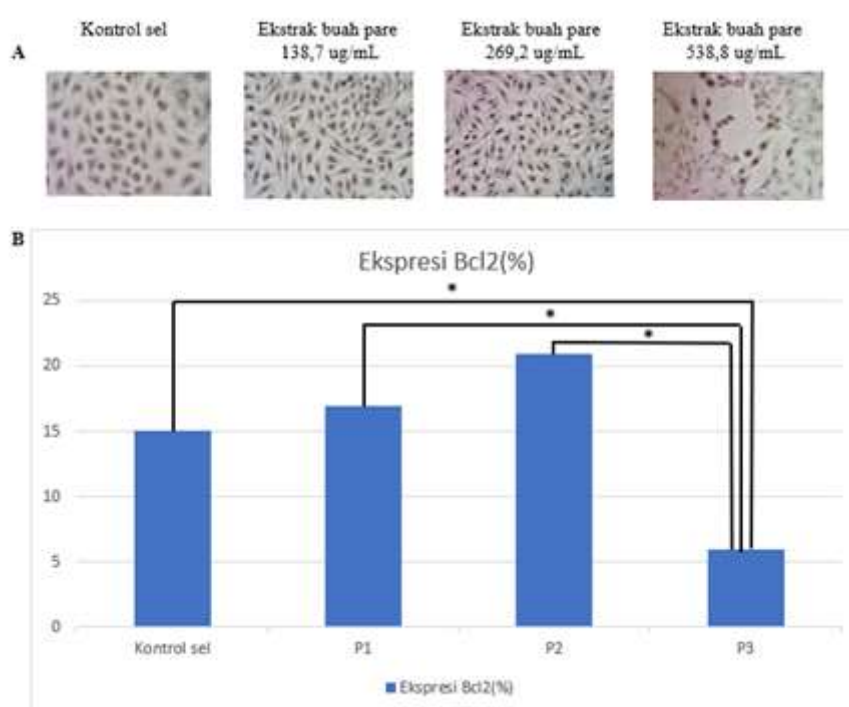


Figure 2. Effect of pare ethanol extract on BCL-2 protein expression in T47D cells for 24 hours of treatment. (A) BCL-2 expression observed using the ICC method, (B) Graph of the percentage of BCL-2 expression after being treated with pare ethanol extract on T47D cells for 24 hours. Protein expression profiles are presented from the mean \pm standard error (SE) of 3 experiments.

Based on the Table 3 and Figure 2, it was found that the average control cell and P3 (0.008) had a significant difference, P1 and P3 (0.002) also had a significant difference, P2 and P3 (0.000) had a significant difference. Post Hoc test results on BCL-2 protein expression data showed that administration of pare ethanol extract reduced the percentage of BCL-2 protein expression in T47D breast cancer cells.

III. DISCUSSION

Breast cancer cells are the most common cancer cell population in the world with a therapeutic resistance rate of up to 78%. Induction of apoptosis is a strategy to kill cancer cells, including breast cancer cells. (11) Recent research has revealed that T47D cancer cells have the ability to protect themselves from the apoptotic program by increasing the expression of anti-apoptotic proteins such as BCL-2, suppressing the expression of pro-apoptotic proteins such as BAX.

The concentration of each dose of pare ethanol extract used in this study was 7.8125; 15,625; 31,25; 62,5; 125; 250; 500; and 1000 ug/mL for 24 hours of therapy. The results showed that pare ethanol extract was cytotoxic (Figure 5.1). The cell growth pattern will decrease with increasing dose. Cytotoxic test results on T47D cells obtained IC values₅₀ of 269.4 ug/mL. This value will be used to study the effect of pare ethanol extract on BAX and BCL-2 protein expression at doses of 2 IC₅₀, 1 IC₅₀, and ½ IC₅₀. This cytotoxic result illustrates that pare ethanol extract has the property of reducing the growth of T47D cells. The mechanism of

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T47D cell growth inhibition can occur through the induction of apoptosis. Based on the results of the cytotoxic test, the ethanol extract of pare ethanol had a relatively high IC₅₀ value against T47D cells.

The potential of pare ethanol extract in stimulating cell apoptosis is probably due to the it flavonoids and momordin. Flavonoids can stimulate apoptosis through several mechanisms, including inhibition of DNA topoisomerase I/II activity, modulus signalling pathways, decreased BCL-2 and Bcl-XL gene expression, increased BAX and Bak gene expression and endonuclei activation. (11) BCL-2 protein is an antiapoptotic protein, while BAX protein is proapoptotic. These proteins play a role in the regulation of apoptosis by regulating Cyt c (cytochrome) release. Previous studies have suggested that BCL-2 expression prevents Cyt c release from mitochondria. BAX will induce the release of Cyt c. In the cytosol Cyt C will form a complex with Apaf-1 (Apoptotif Protease Activating Factor-1), ATP and Procaspase-9. This complex is called the apoptosome, which activates caspase-9. Caspase-9 activates caspase 6 and caspase-7 to execute apoptosis.(11)

The cytotoxic effect of pare is due to the content of secondary metabolites such as flavonoids, saponins, alkaloids, and tannins in pare which can inhibit cell proliferation. Previous research also reported that pare ethanol extract can inhibit cell growth through the mechanism of inducing apoptosis, cell cycle, and metastasis.(12) IC results₅₀ in this study tended to be weakly cytotoxic with IC values₅₀ > 100 ug/mL, this can be influenced by the content of active compounds in pare ethanol extract which are polar, making it difficult to penetrate the non-polar T47D cell membrane. This study showed that the expression of Bax in the P2 group experienced a significant increase compared to the control cell group. This shows that pare ethanol extract has an effect on the apoptotic process of T47D breast cancer cells through increasing the expression of BAX. This is presumably due to the influence of secondary metabolites of pare ethanol extract such as flavonoids which can play a role in the process of apoptosis through induction of Bax.

Based on the result, a pare ethanol extract result showed an increase in Bax expression but showed a decrease in BCL-2 expression. This indicated that each concentration showed a different response to BAX and BCL-2 expression because each concentration had a different response in apoptosis. However, compared between three concentrations at concentrations of 138.7 µg/ml and 538.8 µg/ml there was a decrease in BCL-2 expression and an increase in BAX when compared to other concentrations, this means that a smaller concentration can increase apoptosis.(13) This research is in line with Safitri *et al* (2020) showed that the expression of BCL-2 in cells without treatment was 13.024% of the visual field area, while the expression of BCL-2 with extracts and fractions with concentrations of 63.035 µg/mL and 43.498 µg/mL were 9.119% and 9.299% respectively. These results illustrate a decrease in BCL-2 expression after sample treatment.(2) Another studies also showed that the active substance in green apples can reduce BCL-2 expression. The release of cytochrome C by mitochondria is due to inhibition of BCL-2 expression which then induces the caspase pathway.(14)

This study shows that the mechanism of apoptosis from the pare ethanol extract is through the mitochondrial pathway by increasing the BAX/BCL-2 ratio. In this study, the percentage of BAX and BCL-2 after treatment with pare ethanol extract from BAX 95% became 80%, then BCL-2 95% became 70%. This percentage showed that it be able to disrupt the mitochondrial membrane potential resulting in the release of Cyt c into the cytosol. The affects in the expression of caspase-9, caspase-6 and caspase-7 still needs further research.

IV. CONCLUSION

The administration of pare ethanol extract at doses of 2 IC₅₀, 1 IC₅₀, and ½ IC₅₀ can increase the BAX protein expression and decreased the BCL-2 protein expression in T47D breast cancer cells.

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Financial Dimension: A Tool for Teachers Financial Literacy



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ABSTRACT: Teachers, as compared to the majority of the employed sectors in the country, are receiving salaries above the minimum wage set by law. This above the minimum salary, supposedly, places the average teacher above the poverty line as this is paramount to the demand of the job. But as can be observed around, many teachers experience financial struggles.

With an end-view of improving financial literacy, this study was conducted to determine the level of financial literacy of the faculty of Isabela State University City of Ilagan Campus. A survey questionnaire was used to obtain the data needed to answer the objectives of the study. The results indicate that majority of the respondents are not financially literate to make critical decisions on financial concerns. The female respondents are more involved in the identified financial products compared to the male respondents. Included in the study was the respondents' demographic profile as significant factor in their current financial literacy state. The results indicate that the demographic profile based on sex is not a significant factor that may spell a difference in the level of financial literacy among the respondents, while age, academic rank, and educational attainment are significant factors. The study also tested the relationship between the level of financial literacy of the respondents and their involvement on financial products. The data shows that there is a weak relationship between the two variables.

Based on the findings of this study, there is a need to increase the financial literacy level of the respondents. To increase the financial literacy level of the faculty, the Isabela State University may resolve to implement intervention approaches such as to: integrate financial literacy in the faculty development program of the Institution; conduct seminars and programs on financial literacy early on in the career of the faculty in order for them to fully maximize the benefits of being financially literate individuals; enhance the Finance Units of the Institution in the provision of assistance to faculty in their personal financial management; and institutionalize advocacy drive on the importance of financial literacy to the financial stability of the faculty.

KEYWORDS: financial literacy, financial products, personal financial management

INTRODUCTION

Money has always been regarded as an important component in every person's economic decision such as how much to save, spend and invest. Financial literacy is knowledge and understanding of financial concepts and risks. This may also improve the financial wellbeing of individuals and society that would spell active participation in the economic life. Mishandled financial resource could break its potential to increase its value and could result to financial problems. Sporakowski, as cited in Delafrooz and Pain

(2011), argued that financial problems cause stress and crisis that influences a person's daily life functions.

There are reasons to believe that Filipino teachers may not be financially literate or financially capable of achieving their financial goals. Increased applications of loans by teachers are reflections of poor financial management of some of its members. Based on the 2010 Annual Report of both the Government Service Insurance System and Social Security System, there is an increase in loan applications of its members. Members who mostly apply for loans, whether be for good investment or not, are teachers. An increase in revenue of these financial institution may very well speak of the increase in the number of borrowers, leaving a possibility that somewhere along this line, teachers are not practicing sound financial management. Similarly, a significant amount of withdrawals of capital contribution in the cooperative can be seen in both reports. Lastly, organizational misdemeanors are results of financial mismanagement and lack of appreciation for the value of money. Money as a basic requirement to pay services and goods, is an important factor in the teacher's daily life. The lack and inadequacy of it would have disturbing affect to his/her readiness as a teacher. Arising problem on financial matter would degrade someone's judgment and focus in life.

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Appreciating the value of hard-earned money would more likely lead to a better judgment prior to spending. The above-mentioned arguments supports the fact that teachers need to be financially literate. Likewise, there are also other reasons why a teacher has to be financially literate but basically it leads to a common understanding that a teacher that is financially secure is a teacher that can be relied on to do his/her duty effectively. It simply says that the financial wellbeing of a teacher affects his/her readiness to teach. However, besides all the negative inputs undermining the financial literacy and capability of the Filipino teachers, there is still reason to believe that teachers may be financially literate after all. They may have the understanding on the basic fundamentals of economics and their financial literacy skills maybe acquired through earlier studies and experiences prior to joining the academe. Nevertheless, the level of financial literacy of the respondents was determined in this study.

STATEMENT OF THE PROBLEM

The following research questions were posed for this study:

1. What is the level of personal financial literacy of the respondents using the following domains as measuring tools:
 - 1.1 General personal financial knowledge
 - 1.2 Savings and borrowing
 - 1.3 Insurance
 - 1.4 Investment
2. What is the financial behavior of the respondents on the different financial products?
3. Is there a significant difference in the personal financial literacy of the respondents based on the following demographic factors:
 - 3.1 sex
 - 3.2 age
 - 3.3 academic rank
 - 3.4 educational attainment
4. Is there a relationship between the financial literacy of the respondents and their financial behavior with the different financial products?

REVIEW OF RELATED LITERATURE

Financial literacy is a basic knowledge that people need in order to survive in a modern society. People should know and understand credit card and mortgage interest, insurance, and saving and investing for the future. Gaman and Forgue (2000) defines financial literacy as knowing the facts and vocabulary necessary to manage one's personal finances successfully. Having knowledge of personal financial management and the marketplace is indicative of a greater ability to manage the family's financial resources (Godwin, 1994). People are more likely to achieve their financial goals with appropriate knowledge. Lack of personal financial knowledge limits personal financial management and may cause financial problems, resulting in lower financial well-being. Financial literacy is characterized as individual's capacity to handle economic information and settle on educated decisions about financial planning, wealth collection, debt, and pensions (Lusardi and Mitchell 2014) Being financially literate is vital for people to settle to make wise decisions. Financial literacy gives the vital information, capacities and apparatus for people to settle on educated financial decisions with certainty, to oversee personal riches with proficiency and to increase financial skill to request better financial (Ali, 2013). Expanding financial literacy and capability advances better financial decision improving and along these lines empowering planning and administration of life occasions, for example, instruction, house purchase or retirement (Mahdzan and Tabiani, 2013)

Many researches have asserted the need for workplace financial education (Atchley, 1998; Berheim & Garret, 1996). Financial education is a process that involves the learning to manage financial resources and make financial decisions that affect financial well-being. Anderson (1982) suggested a process approach to personal finance education that involves people learning how to a) set goals, b) recognize their income base, c) adjust the plan, and f) assess their goals, values, and progress. Financial education can enhance financial literacy and reduce financial problems.

There has been lots of study made on financial literacy, most of which were done by Western nations such as the UK, US and Australia as early as 2003 have introduced financial literacy in their national strategy and policy and major learning activity of their educational system (FSA 2008). In the study of financial literacy there has been a variety of meaning to define the subject and likewise various measurements were also used to assess the level of financial literacy of a particular group in a specific society. Some of the term commonly used to denote financial literacy are all but the same as such terms, like financial knowledge, financial

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education, financial literacy are all but the same. De Bassa and Scheresberg (2013) clarified that the individuals who are less financially proficient are discovered to be less inclined to amass riches and more averse to take an interest in the stock market. Bruhn and Zia (2011). The level of knowledge in finance can be associated with many variables, for example, age, gender, level of education, sources of education on money matter, work environment among others.

Capuano and Ramsay (2011) enumerated a number of benefits associated with financial literacy to consumers (individuals), community and the broader economy. A financially educated consumer will be surer when settling on choices about finance. Financial proficiency can impact the sorts of items chosen, and the sorts of investment made. The quick moving nature of financial markets implies that people who comprehend product components and business environments are best situated to settle on an educated decision about their financial needs. This likewise prompts consumers and keeps them away from unnecessary costs. An enhanced comprehension of financial products and administrations grows more noteworthy financial trust in buyers, who select the most fitting products and arrange those products (Holzmann, 2010). Researchers are trying to link financial literacy and economic behavior. Lusardi and Mitchell (2003) suggest that those who are more educated are much more likely to answer the question correctly. They furthered showed that financial literacy is highly correlated with school exposure to economics. Those who studied economics in high school, college or at higher levels were much more likely to display higher levels of financial literacy later in life, Van, Lusardi, Alessie (2007).

Significance of the Study

This study is of great benefits to the faculty of Isabela State University City Ilagan Campus. Basically, this paper gives primary importance on the need for financial literacy education in the academe. It would further enhance the current financial literacy level of the faculty in order to promote proper personal financial behavior as a vital aspect of attaining financial goal and stability towards securing a better future. This study may help identify the weak points in the financial education of the faculty, thus provide information on how to improve their education on financial matters. This study likewise has a direct benefit to the organization in so far as minimizing organizational problems and misdemeanors somehow related to financial problems. On the more strategic view, the study may bring organizational change as far as improving the current perceptions of the respondents on their financial literacy, their financial behavior, and their financial capability, thus, equipping them with the knowledge in making sound financial decisions. The rippling effects could be financial selfreliance.

Scope and Delimitation

The study generally focuses on the financial literacy of the faculty of Isabela State University City of Ilagan Campus. It was based on the following thematic areas: general personal financial knowledge, savings and borrowings, insurance, and investment. It also aims to determine the factors that may have a significant effect to the current state and financial behavior of the faculty. The study was limited to selected personal demographic factors like sex, age, academic rank, and educational attainment. The study was conducted during the Second Semester of Academic Year 2019-2020.

METHODOLOGY

The study made use of descriptive quantitative research approaches. This was employed to establish how variables such as sex, age, academic rank, and educational attainment affect the respondents' financial knowledge and help them to make financial quantitative decisions. Saunders, et al. (2012), point out that descriptive method establishes the casual relationship between variables.

A survey questionnaire was used as an instrument in this study. It was based on the study made by the Philippines' prime mover for financial literacy, the Colayco Foundation for Education(CFE). Minor revisions were made on the actual questions to suit the requirement of the present study.

Part I consist of demographic questions needed to establish identity and characteristic of the respondent such as sex, age, civil status and educational attainment.

Part II is the financial literacy portion which has four (4) financial domains: general personal financial knowledge; savings and borrowing, insurance, and investment. Each domain has specific number of a closed ended type of question with five (5) multiple choice type of answer.

Part III of the survey questionnaire was on the financial involvement on the different financial products that were the subject of choice and it uses the Likert scale to signify the extent of the respondents' participation on the various financial products.

The respondents of this study were the faculty members of Isabela State University Ilagan Campus, City of Ilagan, Isabela. The respondents were source out from the three (3) colleges using total enumeration, the College of Engineering and Architecture, College of Education and College of Health and Sciences. Based on the actual survey returns, the authors were able to retrieved a total number of 85 which represents 81% of the total population of 104. The actual number of respondents is shown in Figure 1.

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Figure 1. Population of Respondents by College

College	Population	Sample
College of Engineering, Architecture and Technology	44	35
College of Education	43	38
College of Health and Sciences	18	12
Total	104	85

Results of the survey were computed and tabulated based on the requirement of the research questions. On research question number 1, the data was derived from twenty (20) questions of Part II of the survey questionnaire. In analyzing the data collected, raw score gathered from the survey was converted to percentages for better comparison. The mean was computed to help determine the level of literacy of the respondents. To interpret the mean percentage, a present criteria based on the study made by Chen & Volpe (1998) was used for as shown in Figure 2.

Figure 2. Financial Literacy Rating Scale

Mean Percentage	Level of Financial Literacy
Below 60%	Low
60-79%	Medium
80 % and above	High

The standard deviation was also computed to determine the average difference from the mean, it measures the variability of the scores. The higher the SD, the more dispersed the distribution of the scores of the respondents. Also skewness was also computed to determine the shape of the distribution. A positively skewed distribution indicates the population had a generally low scores, while a negatively skewed distribution indicates the population had a generally high scores. For research question number 2, a simple computation of mean was done to determine extent of involvement of respondents to financial product based on the verbal frequency scale used on the questionnaire. For question number 3, the data from the variable was subjected to Analysis of Variance (ANOVA) to compare the mean scores and in order to determine the differences in their financial literacy. The F value was computed to established extent of difference. The respondents were group according to sex, age, academic rank, and educational attainment. For the profile on sex, the t- test for two independent groups was employed to determine the differences between the identified items in the demographic profile in terms of mean scores. And for question number 4. Co-efficient of correlation was used to determine the relationship.

RESULT AND DISCUSSIONS

1. The Level of Personal Financial Literacy of the Respondents Using Four Selected Domains as Measuring Tools

1.1. General Personal Financial Knowledge

General personal financial knowledge is the foundation of financial literacy as it represents the very basic of financial knowledge, which would mean understanding the basic concept of economics, simple computation, time value, money computation, asset valuation and risk management. There are six (6) questions that was included in the survey questionnaire to measure the general personal financial knowledge level of the teacher. The table below shows the result of survey under this particular domain.

Table 1. Level of Personal Financial Literacy of the Respondents on General Personal Financial Knowledge

Domain	Mean Percentage	Standard Deviation	Skewness	Interpretation
General Personal Financial Knowledge	38.24	23.62	0.437	Low

The table above shows the results of the survey on general personal financial literacy domain. The data indicates that the mean is 38.24 percent, which implies that most of the given answers to the indicators that measures the level of literacy of the respondents on this domain did not coincide with the right answers. The standard deviation is 23.62, which means that the scores have little variability and relatively the same. Likewise, the skewness is 0.437, which indicates that most of the respondents belong to the low scoring group. The results corroborate with the findings of Lusardi (2008) that most people cannot perform simple economic calculations such as working on interest compounding and risk aversion, thus, are poor in basic financial concepts. Indeed, most people are not familiar with common concepts of economics. A strong foundation on financial literacy is important. The data is

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encouraging the idea that financial education may be integrated in the educational system in the early stage of training or learning. This may better equip the students in the real world when eventually they would be tested on matters that require optimum personal financial knowledge.

1.2. Savings and Borrowings

Under this domain, the respondents are tested on their basic understanding about the banking system; basic concept saving; and appreciation of right saving and borrowing. There were six (6) questions related to savings and borrowing that were included in the survey questionnaire. The table below shows the result of the survey under this particular domain.

Table 2. Level of Personal Financial Literacy of the Respondents on Savings and Borrowing

Domain	Mean Percentage	Standard Deviation	Skewness	Interpretation
Savings and Borrowing	32.70	19.63	.417	Low

The table above represented the average correct answers which is 32.70 percent. Likewise, the standard deviation is 19.63, which means the variability of the scores are close to the average score earned by all respondents. More over the result of the skewness indicates that majority of the respondents belongs to the low scoring group.

This result corroborates with the study of Chen and Volpe (1998), that people with less knowledge on financial literacy holds wrong opinion and answers on the savings survey test. The result of the saving and borrowing domain reflects the low personal financial literacy of the respondents on this area. This means that many are still having difficulty understanding the mechanics and policies of savings in the Philippine setting. Although, Bell et al (2009) suggest in their findings that financial literacy does not automatically improves the person's idea on savings, the test in the present study shows that 42 respondents have scores which suggest that they may not have the full grasped of what is proper saving and borrowing. This results can be also related to their low performance in the general personal financial knowledge domain.

1.3. Insurance

The insurance domain tested the respondent's basic understanding about insurance; the benefits; and policy governing the Philippine insurance system. The table below shows the result of survey under this particular domain.

Table 3. Level of Personal Financial Literacy of the Respondents on Insurance

Domain	Mean Percentage	Standard Deviation	Skewness	Interpretation
Insurance	23.46	22.05	.640	Low

The above table on insurance domain reflects the mean score of 23.26 percent which is just about 0.94 correct answers on the listed indicators related to insurance. This means that some of the respondents were not able to get any correct answer on the said domain at all. Under this domain, the standard deviation is 22.05, which means that there is an average of plus or minus 0.88 score based on the resulting mean. This data indicates that the variability of the scores are close to the average score earned by all respondents. More over the result of the skewness is 0.640, which means that most of the respondents have garnered a very low score on this test.

A reflection of a financially literate person according to Colayco (2008) is engaging into insurance. The results on this domain elaborates the premise that if a respondent is not knowledgeable in insurance, he or she may not be at all engaging in them, which is basically the point. The respondents may not be financially literate which gives the reason for a low result on their level of literacy on insurance domain.

1.4. Investment

Knowledge of investment is an important domain in financial literacy. It is more of the application of financial literacy. A person is said to be financially literate if he/she demonstrates a good appreciation on what is investment. Under this domain, the respondents are tested on their basic knowledge in various investment and investment procedures in the Philippines as well as the concept of investment. The table below shows the result of survey under this particular domain.

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Table 4. Level of Personal Financial Literacy of the Respondents on Investment

Domain	Mean Percentage	Standard Deviation	Skewness	Interpretation
Investment	13.23	15.52	.743	Low

A poor financial knowledge on saving would also end up having poor understanding about investment. The result just corroborates with the early findings that respondents with low financial knowledge may well be low on savings domain, thus, may be also low on the investment domain.

2. The Financial Behavior of the Respondents on the Different Financial Products

The second objective of the study was to measure the participation of the respondents in availing the different financial products existing in the Philippines today. There were eleven (11) financial product-indicators presented to the respondents and the results are shown on the table

Table 5. Financial Behavior of the Respondents on Different Financial Products

Involvements/Engagements on Financial Products	Mean	Interpretation
Savings	3.05	Often
Time Deposit	1.47	Never
Treasury Bills/ Bonds	1.28	Never
Mutual Funds	1.66	Never
Trust Fund	1.41	Never
Stock market	1.38	Never
Life Insurance	2.44	Seldom
Non-Life Insurance	2.01	Seldom
Loans	2.86	Often
Engage in Business	2.28	Seldom
Member of a Cooperative	2.92	Often

It can be gleaned from the table that the respondents were very much active on loans with a mean value of 3.21 and less active in engaging themselves into Stock Market and Treasury Bills/Corporate Papers with a mean value of 1.46 and 1.57 respectively. Likewise, the table shows minimum participation on Non Life Insurance, Business and Mutual Funds but fairly good or high involvement on Savings/Time Deposit and Cooperative Membership

The result further illustrates that the respondents mostly do not engage themselves on financial products after 5 out of 11 financial product-indicators have a low and very low involvement. Only 1 of the 4 most notable financial products have a very high involvement, which is loans.

Results corroborates with the study of Willis (2008) and Lusardi (2008), that a low financial literacy level can be linked to poor financial decision making. This could explain well why most of the respondents were low in participating in income generating financial products and would likely engage more on loans. The study implies that the respondents often engage themselves on financial products that are most likely familiar to them brought about by the proximity and availability of the said products, such as savings and loans. It can be said that the establishment of financial institution such as GSIS, cooperatives, banks, and other similar saving/lending entities heighten the involvements of government employees to these financial products. However, the study shows that savings, which got a lower values compared to loans, implies that some of the respondents may not actively participate in savings or they do not have the capacity to save at the moment. Loans got a very high mark, which implies that the respondents' involvement with loans can be caused by other factors not covered by this study. The high participation on loans is quite understandable, especially when there is limited financial capability of the respondents versus the need for money to spend. Active information drive on loans application and other loans promo may also contribute to the very high participation on loan application, which may or may not be termed as good loans. Membership to cooperative and life insurance are seen to be on high mark which imply that the existence of this financial products in the academe may have contributed to this rating, but again, they are not that too active to warrant a very high participation of the majority of the respondents. The weak participation of the respondents on stock market, treasury bills, business, and non-life insurance can be attributed to the lack of information on these

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financial products or basically the lack of interest on the part of the respondents to engage themselves on these products for various reason not covered by this study.

3. The Significant Difference in the Personal Financial Literacy of the Respondents Based on Demographic Factors.

3.1. Sex

Table 6. Test of Difference on the Level of Financial Literacy of the Respondents Based on Sex

Domain	Mean percentage of correct answers (Mean/question-items)		t value	Remarks
	Male	Female		
General personal financial knowledge	38% (2.25 / 6)	47% (2.81 / 6)	-2.057	Significant
Savings and barrowing	33% (1.95 / 6)	38% (2.27 / 6)	-1.320	Significant
Insurance	23% (0.92 / 4)	30% (1.19 / 4)	-1.528	Significant
Investments	13% (0.53 / 4)	12% (1.19 / 4)	0.556	Not Significant
Total personal financial literacy	28% (5.65 / 20)	34% (6.73 / 20)	-1.993	Significant

Note: Sum of scores were rounded to nearest whole number

In the above table, the t-test shows that the female-respondents have greater scores than male-respondents, except for the Investment domain where the females got 12 percent of the correct answer against the 13 percent of the males. Nevertheless, the total result shows that the females got 34 percent correct answers over the 28 percent average correct answers of the males. The table also shows that there is significant difference in the financial literacy between male and female faculty after having gained a high value of 47 percent on General Personal Financial

Knowledge domain. Data shows that female-respondents are lesser keen or lesser interested on investment matters. The advantage of the female respondents over the male-respondents in terms of financial literacy can be attributed on the frequent exposure of females in doing the marketing and financial transactions. The experience in financial transactions may have given female-respondents the financial literacy rating above the male respondents. The male-respondents whose finances are mostly being handled by their spouse tend to pay less particular interest in the daily expenses. Hence, the alternative hypothesis of this study that there is significant difference in the financial literacy of male and female respondents is confirmed.

3.2. Age

Table 7. Analysis of Variance on the Level of Financial Literacy of the Respondents Based on Age

Domain	Age Groups	Sum of Squares	df	Mean Square	F	Sig.	Remarks
General personal financial knowledge	Between (Combined) Groups	1.973	8	.247	1.045	.410	Not Significant
	Within Groups	17.931	76	.236	.659		
	Total	19.904	84				
Savings and borrowing	Between (Combined) Groups	2.285	8	.286		.726	Not Significant
	Within Groups	32.949	76	.434			
	Total	35.234	84				
Insurance	Between (Combined) Groups	1.432	8	.179	.270	.974	Not Significant
	Within Groups	50.345	76	.662			

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Investment	Total	51.776	84	.463	.642	.740	Not Significant
	Between (Combined) Groups	3.702	8				
	Within Groups	54.750	76				
	Total	58.451	84				

From the table above, the financial literacy of the respondents along the four domains do not significantly differ based on their age. Hence, there is no significant difference of personal financial literacy of the respondents based on the demographic factor age.

3.3. Academic Rank

Table 8. Analysis of Variance on the Level of Financial Literacy of the Respondents Based on Academic Rank.

Domain	Academic Rank Groups	Sum of Squares	df	Mean Square	F	Sig.	Remarks
General and financial knowledge (1-6)	Between (Combined) Groups	.382	4	.095	.391	.814	Not Significant
	Within Groups	19.522	80	.244			
	Total	19.904	84				
Savings and borrowing (7-12)	Between (Combined) Groups	.305	4	.076	.175	.951	Not Significant
	Within Groups	34.929	80	.437			
	Total	35.234	84				
Insurance (13-16)	Between (Combined) Groups	2.993	4	.748	1.227	.306	Not Significant
	Within Groups	48.783	80	.610			
	Total	51.776	84				
Investment (17-20)	Between (Combined) Groups	.194	4	.048	.066	.992	Not Significant
	Within Groups	58.258	80	.728			
	Total	58.451	84				

The survey questionnaires were given across the different academic ranks to determine the differences in the financial literacy based on the four domains that were used as measuring tools. Likewise, the One Way Analysis of Variance (ANOVA) was employed to compare differences in mean scores across ranks and the table shows that the significant value p is greater than 0.05, the level of financial literacy of the respondents does not significantly differ based on academic ranks.

3.4. Educational Attainment

Table 9. Analysis of Variance on the Level of Financial Literacy of the Respondents Based on Educational Attainment

Domain	Educational Attainment Groups	Sum of Squares	df	Mean Square	F	Sig.	Remarks
General personal financial knowledge (1-6)	Between (Combine Groups d)	.216	2	.108	.450	.639	Not Significant
	Within Groups	19.688	82	.240			

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	Within Groups						
	Total	19.904	84				
Savings and borrowing (7-12)	Between (Combine Groups d)	.131	2	.066	.153	.858	Not Significant
	Within Groups	35.103	82	.428			
	Total	35.234	84				
Insurance (13-16)	Between (Combine Groups d)	.350	2	.175	.279	.757	Not Significant
	Within Groups	51.426	82	.627			
	Total	51.776	84				
Investment (17-20)	Between (Combine Groups d)	.743	2	.372	.528	.592	Not Significant
	Within Groups	57.708	82	.704			
	Total	58.451	84				

From the ANOVA table above, the significant difference in the financial literacy of the respondents along the four domains do not significantly differ based on their educational attainment. Most of the financial domains has a significant value p higher than 0.05 and therefore, statistically, there is no significant difference in the financial literacy of the group. Hence, educational attainment is a variable that do not affect the personal financial literacy of the respondents on the four domains mentioned in the table.

4. Financial Literacy of the Respondents and Their Financial Behavior with the Different Financial Products

Table 10. Results of Correlation of Coefficient on the Level of Financial Literacy and Financial Product

Financial Products	General Financial Letiracy	Savings and Barrowing	Insurance	Investments	Total
Savings / Time Deposit	.074	-.014	.073	-.064	.044
Bonds and	No data				
Corporate Papers	-.117(*)	-.152(*)	-.147(*)	-.017	.181(**)
Mutual Funds Unit Investment	No data				
Trust Fund (UITF)	-.039	-.093	-.029	.030	-.063
Stock Market	-.001	-.097	-.073	.037	-.057
Life Insurance	.051	.094	-.002	-.071	.051
Non-Life Insurance	.056	.022	.071	-.049	.052
Loans	.020	.091	.031	-.057	.047
Engage in Business	-.003	-.091	-.055	-.003	-.060
Member of a Cooperative	.046	.050	.044	-.067	.046

* Correlation is significant at the 0.01 level (2-tailed). *

Correlation is significant at the 0.05 level (2-tailed).

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In general, the study implies that financial literacy has a weak correlation on the actual behavior of teachers on engaging in the different financial products. It can be seen that financial literacy does not have an effect as to how respondents chooses to engage themselves on the various financial products. There may be other factors that may tend to influence their decisions in availing or not availing other financial products (i.e. family situation and individual character), which does not point exactly to financial literacy. The results nullify the hypothesis made earlier that there is a relationship between the financial literacy and involvement into financial products. As many as the readings done on this study suggest the relationship between the two.

Findings on the correlation points to two different direction. First is that a financial literacy rating has the direction with that of some of the financial products, meaning if financial literacy goes up, the involvement also goes high. The second one is that the results is inverse, which supports some of the behavior of the teacher who have engaged themselves on other financial products despite the low financial literacy rating. For instance, teachers tend to involve themselves high on life insurance, savings/time deposit and cooperative membership. Explanation for such relationship lies probably on other factors not covered by these study such as individual character and family situation. The low financial literacy rating gained by the teachers also suggest that their participation with other financial products maybe limited only to the ones that they are familiar with or well informed, such as savings and loans being espouse by the GSIS and other same entities. Nevertheless, although the results of correlation points to two varying directions, neither of the two have strong relationship with the financial literacy of the respondents. The actions or decisions of the respondents to engage in some financial products were influenced by other factors.

CONCLUSION

The survey result has indeed shed information to answer the questions brought up for this study. It can be concluded that there is a need to enhance the financial literacy of the respondents on the four domains presented in the study to determine their level of financial literacy. The findings suggest that the respondents may not have the proper knowledge and education on financial literacy to make informed financial decisions to achieve financial stability.

Based on the findings, the female-respondents are more involved in the identified financial products compared to the male-respondents which indicate a small percentage of involvement. However, majority of the respondents are keen to borrow and spend money rather than engaging in revenue earning activities to improve their financial state. This could be due to several reasons such as: erroneous financial decisions on the part of the respondents; the limited information on other financial products; or the lack of opportunity for the respondents to be actively involve on these financial products, hence, there is a need to enhance the financial literacy awareness of the respondents to help them make thorough financial decisions.

Included in the study was the respondents' demographic profile as significant factor in their current financial literacy state. The results indicate that the demographic profile based on sex is not a significant factor that may spell a difference in the level of financial literacy among respondents, while age, academic rank, and educational attainment are significant factors.

The study also tested the relationship between the level of financial literacy of the respondents and their involvement on financial products. It could be concluded that other socio demographic factors may have significant effects on the financial behavior of the respondents. The data gathered shows a weak relationship between the current level of financial literacy of the respondents and their involvement with the various financial products. This conclusion suggest that financial literacy is not the major driving force for the respondents to engage themselves on certain financial products. This could be due to several factors which were not within the scope of the research study and may be a subject for further study in the future. The findings somehow does not confirm the hypothesis that there is a relationship between financial literacy and teacher involvement with financial products.

RECOMMENDATION

Based on the aforementioned conclusions, the following recommendations are suggested:

1. The Isabela State University may need to integrate financial literacy subjects as options in the selection of institutional subjects.
2. Enhance financial literacy through advocacy to increase the awareness of the teachers. In line with other advocacies being espouse by the administration, such as "no to corruption" and "ethical standard", there is also a need to promote and advocate financial literacy to the teachers and personnel as a way to improve financial well-being of the employees and eliminate some of the financial related organizational problems.
3. To develop the financial literacy skills of teachers and personnel of Isabela State University, there is a need to enhance the Finance Services Office of the institution to provide personal financial management assistance, financial advice and other forms of financial related services to respondents other than their usual task and mission. The office should serve as connections to other financial institution for easier access to financial products other than those being provided by the Isabela State University accredited savings and loans associations.

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4. Accredited financial institutions of the Isabela State University may engage and diversify more on other financial products to be able to provide other services to the respondents. Such as the function of other banks that provides other investment opportunities to its clients. Isabela State University accredited financial institution should be able entice the teachers to have better personal financial management and have wider selection of financial products.
5. Conduct a similar study that focuses on other factors not covered in this study such as personal behavior, family situation and attitude that may have a relationship on the financial behavior of the teachers and may affect their financial decision and financial behavior.

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Assessment of Social Adjustment Level Among Secondary School Students



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ABSTRACT: The purpose of the study was to investigate the social adjustment of secondary school students. The descriptive survey method was used in the study to obtain pertinent and precise information. Two hundred forty students studying in classes 9th and 10th of secondary schools were selected through stratified random sampling technique from Jalandhar and Kapurthala districts of Punjab State. The data was collected by applying R. C. Deva's Social Adjustment Inventory (1990). After the collection of the data, the percentage was applied. The findings revealed that the majority of the sample possessed Average/Moderate and Poor/Low levels of social adjustment.

KEYWORDS: Social Adjustment, Level of Social Adjustment, Secondary School Students.

INTRODUCTION

Education is an inclusive and intricate process that not only aims at changing the knowledge and talent of an individual but also intends to change attitudes, behavior, values, desires, and a lot of many other variables which are psychological and behavioral in nature. Further, while trying to bring about the required modifications in the above, education also aims at an integration of these to help a human being to develop as a whole.

Life presents a continuous chain of the struggle for existence and survival, the observation is very correct as we find it in our day-to-day life their uninterrupted struggle between the needs of the organisms since ancient times. In struggling to achieve something if one finds that results are not satisfactory, one either changes one's goal or the procedure. As per Darwin's theory of evolution, those organisms that learn to survive and multiplied, while others, who did not, died out. The organisms who managed to adjust themselves to the changed environment can live their life peacefully. Therefore, the adaption to our environment as per the requirements of the outside environment turns into the basic need for our continued existence. Those who can acclimatize and settle themselves according to the altering situations can live in prosperity.

Aggarwal (1964) examined the adaptation difficulties of middle school learners and identified that adaptation difficulties in domestic and communal fields as experienced by learners themselves reduce as they grow up in the case of emotional and fitness fields, it rises. In common, similarity in the kind of adaptation difficulties rises with time and it is identified as greatest in the emotional field and least in the school field.

Any period of change in society is likely to be accompanied by many potential difficulties. Adolescence is a period of stress and strain fraught with many problems. It is the period of changeover from youth to maturity that engages a large number of modifications in social behavior. In this period equilibrium of physical, mental, and social forces is lost and the result is that the individual has to make new adjustments with himself, with the family, and with society at large. The problems of adjustment for adolescents studying at the high school stage are with respect to the home, health, social, emotional, and school environment. However, whatever is needed is an understanding of their adjustment problems of them and then doing our best to help them with difficulties. To keep the pupils adjusting to the changing environment is one of the important aims of education.

Social adjustment is not a simple term like adaptation or accommodation. It is a condition or state of mind and behavior in which one feels that one's needs have been or will be gratified. In everyday life frequent use is made of the word adjustment. Some use it merely as an ability for adaption and some take it as happiness and freedom from personal problems. To others, it may mean unhappy conformity to group demands and actions. Besides the demands of one's basic needs, society also demands a particular mode of behavior from its members. When one thinks only of fulfilling one's needs by setting aside the standard, morals, and civilizing conduct of one's society, one is not going to be adjusted to one's environment. When adjustment does not only provide for one's personal needs but also for the requirements of society, this is called Social Adjustment.

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Social adjustment is related to personality factors including motivation values, goals, past experiences, conflicts, frustrations, ego status, coping patterns like compromise, withdrawal, and attack, defense mechanisms, and attitudes that are goal-directed or problemsolving or self-centered. It will be told to claim to say that the heart of adjustment problems is pricelessly found either in home condition health situation, social position, emotional setup, or occupational involvement. Adjustment means the adaption of the person to the social environment.

METHODS AND PROCEDURE

The major objective of the present study was to assess the level of social adjustment among secondary school students, so a descriptive survey method was used in the study. The sampling used in this study was selected on the basis of the stratified random sampling method. The present study was conducted on students studying in classes 9th and 10th of secondary schools situated in the Jalandhar and Kapurthala districts of Punjab state. For the present study, 240 subjects were selected. To achieve the objective of the study Social Adjustment Inventory (SAI) by R. C. Deva 1990 was applied. To find out the level of social adjustment percentage was applied.

RESULT AND DISCUSSION

After administering a social adjustment inventory to assess different levels of social adjustment among secondary school students, the numbers and percentage of secondary school students in different levels of social adjustment were calculated and results have been presented in the table below.

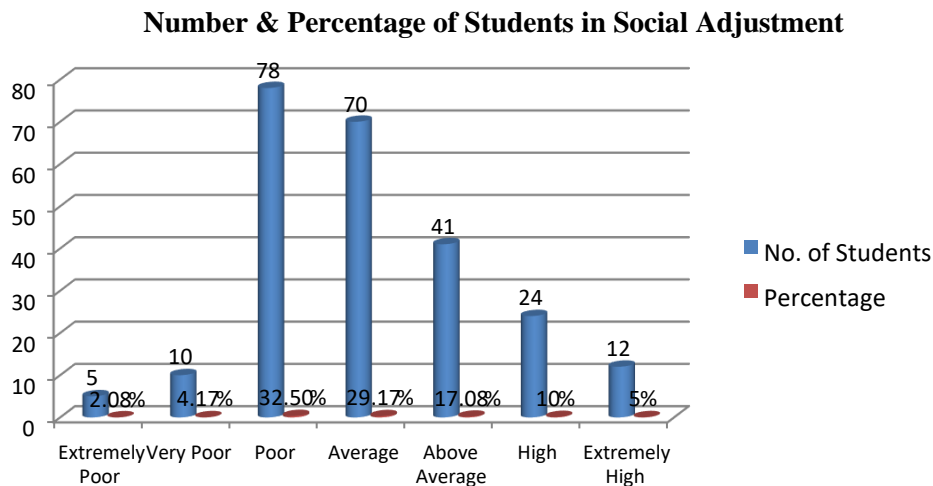
Table 1. Numbers and Percentage of secondary school students in different Levels of Social Adjustment

Sr. No.	Levels of Social Adjustment	Z –score Range	N	Percentage
1	Extremely Poor/Low	+2.01 and Range	5	2.083%
2	Very Poor/Low	+1.26 to +2.00	10	4.167%
3	Poor/Low	+0.51 to +1.25	78	32.5%
4	Average/Moderate	-0.50 to +0.50	70	29.167%
5	Above Average	-0.51 to -1.25	41	17.083%
6	High	-1.26 to -2.00	24	10%
7	Extremely High	-2.01 and below	12	5%
Total			240	100%

It has been observed from the above table that 5 secondary school students fall in the Extremely Poor/Low level which is 2.083% of the total sample, 10 secondary school students fall in the Very Poor/Low level which is 4.167% of the total sample, 78 secondary school students fall in Poor/Low level which is 32.5% of the total sample, 70 secondary school students fall in Average/Moderate level which is 29.167% of the total sample, 41 secondary school students fall in Above Average level which is 17.083% of the total sample, 24 secondary school students fall in High level which is 10% of the total sample and 12 secondary school students fall in Extremely High level which is 5% of the total sample. From the above table, it is evident that the majority of the sample falls between Average/Moderate and Poor/Low levels of social adjustment.

The numbers and percentage of secondary school students in different levels of social adjustment are also presented in figure 1.

Figure 1

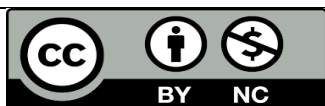


CONCLUSION

It has been concluded that 5 secondary school students possessed an Extremely Poor/Low level of social adjustment which is 2.083% of the total sample, 10 secondary school students possessed a Very Poor/Low level of social adjustment which is 4.167% of the total sample, 78 secondary school students possessed Poor/Low level of social adjustment which is 32.5% of the total sample, 70 secondary school students possessed Average/Moderate level of social adjustment which is 29.167% of the total sample, 41 secondary school students possessed Above Average level of social adjustment which is 17.083% of the total sample, 24 secondary school students possessed High level of social adjustment which is 10% of the total sample and 12 secondary school students possessed Extremely High level of social adjustment which is 5% of the total sample. It was also concluded that the majority of the sample possessed Average/Moderate and Poor/Low levels of social adjustment.

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Barriers Faced by Akha and Khmu Ethnic Minority Students in Rural Primary Schools in Lao PDR



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ABSTRACT: The main purpose of the study was to examine the major barriers faced by Akha and Khmu ethnic minority children in attending rural primary schools in Samphan District, Phongsaly Province, and Lao PDR.

The convergent parallel mixed method design was employed for an in-depth investigation. The primary data was collected by combining a questionnaire and a focus group interview with parents, teachers, education staff, and community leaders. Samples were selected through non-probability and purposive sampling techniques.

The present study found that family poverty, child labour, parental divorce, parental deaths, a lack of learning materials, the language of instruction, a water shortage, parental gender bias, and parental devaluation of education were identified as major barriers to Akha and Khmu ethnic minority children attending rural primary schools.

KEYWORDS: Primary School Access, Rural Schools, Ethnic Minority Student, Barrier, Rural Primary Schools

INTRODUCTION

Since education is a fundamental human right and the cornerstone of both fostering peace and advancing sustainable development, it is UNESCO's top priority. Education plays a key role in attaining all 17 of the Sustainable Development Goals (SDGs), and leaving no one behind is a key element of the global education agenda 2030 (UNESCO, 2019). The Universal Declaration of Human Rights, Article 26, explicitly states that everyone has the right to education. According to that declaration, education must be free, at least in the elementary and fundamental stages (United Nations, 1949). These are reflected and reaffirmed in the sustainable development goals (SDGs), particularly goal 4, which states that by 2030, both girls and boys will have had a free, equal, and high-quality primary and secondary education that produces useful and efficient learning results, eliminate gender gaps in education by 2030, and guarantee that all disadvantaged groups, including individuals with disabilities, indigenous peoples, and children in precarious situations, will have equitable access to all levels of education and vocational training (UNESCO, 2019).

Therefore, the Government of the Lao People's Democratic Republic (Lao PDR) has re-set education as the country's top priority in the 9th National Socio-economic Development Plan (Ministry of Planning and Investment, 2021). According to Article 6, "All Lao citizens have the right to education, regardless of their gender, sex, social economic status, education, beliefs, and ethnic origin" (Education Law, 2015). To re-affirm these goals, the government of Lao PDR has set out a considerable number of primary education provision strategies and frameworks to accelerate the development and achievements of goal 4 of the sustainable development goals, including the Education and Sports Sector Development Plan 2021–2025 (Ministry of Education & Sports, 2020), the Vision 2030 and Strategy 2025, and the Education Sector Development Plan (2016–2020) (Ministry of Education & Sports, 2015).

Consequently, Lao PDR has made substantial progress toward goal 4 of sustainable development. However, despite 99% of children attending school, which means nearly all children have access to primary education, completion rates are still below average, and grade 1 dropout and repeat rates are high, which contributes to the comparatively low cohort completion rates (Government of the Lao PDR, 2021). This evidence is further supported by a case study by UNESCO (2021), which reported that primary net enrolment was 98.8% for girls and 99.3% for boys in the academic year 2019–2019. However, the primary school-to-last-grade survival rate remained at 82.17 percent. Those who were from ethnic minorities were living in rural and remote areas, far behind the ethnic majority.

There are a wide range of arguments that tend to have an impact on school enrolment. Numerous studies have indicated that economic constraints have a positive correlation with school enrolment (Batool & Liu, 2021; Broberg, Wang,

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Östberg, Adolfsson, Nemes, Sparén, et al., 2018; Bhatti & Awan, 2019; Drajeaa & O'Sullivan, 2020). Several research studies, including Bhatti and Awan (2019), Oni (2018), Ali (2020), Nelson and Quito (2018), and Kitambazi and Lyamuya (2022), found that child labour was a major factor contributing to school non-attendance. In addition, there was a correlation between school attendance and family size. Shen, Blaabk, Jger, and Molitoris (2017, 2020), and Scholar (2020), who argued that children from large households were less likely to attend school. A number of studies by Gu, Hua, McKenzie, and Zheng (2022); Tighe, Lauren and Davis-Kean, Pamela (2021); Drajeaa and O'Sullivan (2020) found that children did not enrol in school because their parents undervalued the importance of education. However, a lack of drinking water was a major factor leading to school dropout and non-attendance (Staneva, Usmanb and Carmignania, 2021; Komarulzaman, De Jong and Smits, 2019; Choudhuri and Desai, 2021; UNESCO, 2021). In contrast, Trudell (2016); Bernhofer and Tonin (2022), and UNESCO (2016) found that the language of instruction was cited as a main barrier to schooling, particularly for those who are from ethnic minority groups. However, numerous researchers have made the distinct finding that children whose parents migrate are more likely to remain out of school (Wassink & Viera, 2021; Dunusinghe, 2021; Marchetta & Sim, 2021). Furthermore, research by Thurston and Salmon (2022); Kim and Jun (2022); and Asante (2022) established that due to rising costs of schooling, children did not enrol in school. The intent of this research was to investigate the main barriers faced by Akha and ethnic minority children in accessing rural primary schooling in Samphan District, Phongsaly Province.

MATERIAL AND METHODS

To investigate the major barriers that had an influence on educational access, a convergent-parallel mixed method design was adopted. Creswell (2012) defined the convergent parallel design as one in which researchers collect both quantitative and qualitative data concurrently during field research, combine the data, and use the findings for an in-depth understanding of a research problem. The research was conducted in six primary schools in rural areas of Samphan District, which is one of the most educationally disadvantaged areas in the Lao PDR and has been targeted by the Ministry of Education and Sports. The key participants included 112 parents, 114 students, 29 teachers, 6 community leaders, and 2 education staff. In the present study, two sampling techniques were deployed. The first approach was non-probability sampling. With this technique, researchers can select respondents who are already available, for whom participation is convenient, and who represent some of the features that the researchers are seeking to investigate. The second approach used in the study was purposive sampling, which was adopted to select the key informants. Yin (2011) explained that the primary "goal or purpose of selecting the particular study units is to have those that will yield the most relevant and sufficient data, given your topic of study" (p. 88). The data were collected through a questionnaire that consisted of dichotomous and multiple-choice questions categorized into 5 Likert scales such as (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, and (5) strongly agree. The questionnaire was checked and validated by experts in the field, and it was piloted before the primary data collection was conducted in the field. In addition, a focus group interview was also conducted with the primary respondents. The researchers contacted the District Education Bureau, school directors, and heads of villages through gatekeepers. Moreover, confidentiality was taken into consideration, and the consent form was signed by the concerned authorities participating in the study. In addition, instructions on the purpose of the research and explanations of responding to the questionnaire were made. After that, the questionnaire was distributed to the participants at each research site. A focus group interview was also conducted in the respective selected villages. The collected data was analyzed using the SPSS program, and the results were displayed as frequency distributions. In terms of qualitative data, enter the data into computer files, case by case: teacher interviews, student interviews, parent interviews, to prepare for transcription. Data were coded and collapsed into common themes based on a visual model of the coding process (Creswell, 2012) and the key-word-in-context (KWIC) technique (Ryan & Bernard, 2003).

RESULTS AND DISCUSSION

Table 4.1. Perceptions of primary school teachers in the sample about the barriers faced by minority students

Item	Statements	SD (%)	D (%)	A (%)	SA (%)
1	The school has an overall good environment for teaching and learning.	0	10.3	65.5	17.2
2	The poor condition of schools is a serious problem for teaching and learning.	6.9	65.5	13.8	13.8
3	Classrooms are very crowded, making it difficult to teach effectively.	3.4	51.7	24.1	17.2
4	The school lacks teaching and learning materials.	13.8	41.4	31.0	10.3
5	There are insufficient teachers at my school.	20.7	31.0	6.9	37.9

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6	Most minority students come from poor background households.	3.4	41.4	31.0	24.1
7	Most minority students failed to attend pre-school.	17.2	27.6	24.1	27.6
8	Early childhood education is very important for minority students to complete primary school.	17.2	10.3	31.0	34.5
9	Most minority students struggle with language problem	17.2	44.8	10.3	20.7
10	Minority students are more in need of economic assistance.	0	24.1	37.9	31.0
11	Minority students cannot perform well because of their level of innate ability.	10.3	51.7	24.1	6.9
12	I am paying more attention to majority pupils in my teaching	34.5	31.0	24.1	3.4
13	I am paying more attention to minority pupils in my teaching.	10.3	17.2	17.2	48.3
14	Minority students are more in need of Lao language ability	20.7	24.1	24.1	27.6
15	Minority students lack support from their parents	20.7	34.5	24.1	17.2
16	Minority students are more in need of their parents' encouragement	34.5	6.9	20.7	31.0
17	Minority students are not interested in learning	20.7	55.2	10.3	10.3
18	Lack of school meals make students hungry, which hampers especially minority students at school.	31.0	31.0	31.0	3.4
19	It is very far to go to school for minority students	24.1	37.9	6.9	24.1
20	Being over-aged prevents minority students from completing primary school	20.7	34.5	34.5	6.9
21	Household chores are a hard burden for minority students, preventing them from concentrating on learning at school.	6.9	17.2	48.3	20.7
22	Lack of learning materials [uniforms, pens, textbooks] also affects school attendance and learning achievements	6.9	10.3	58.6	17.2
23	Direct and indirect costs of schooling are obstacles, especially for minority students' continuing their schooling.	6.9	65.5	24.1	0

Notes. N= 29; SD=strongly disagree, D=disagree, A=agree, and SA=strongly agree; Not all rows add to 100% because of rounding.

Table 4.1 shows the teachers' perceptions concerning the barriers facing ethnic minority students in rural primary schools. From this table it can be seen that 75.8% of respondents agreed or strongly agreed that lack of school materials such as textbooks, school uniforms; pens, and pencils seemed to have an influential impact on ethnic minority students' school attendance (item 25), while 69.0% of respondents strongly agreed or agreed that household chores were a hard burden for minority children, disrupting them from concentrating on learning at school (item 24). Further, 68.9% of respondents strongly agreed or agreed that minority students were in need of economic assistance (item 10), and 55.1% strongly agreed or agreed that minority students came from poor households (item 6).

Table 4.2. Parents' perceptions of the barriers facing their children's attendance at school

Item	Statements	SD (%)	D (%)	A (%)	SA (%)
1	Education is fundamental for our children's future	0	0	45.5	54.5
2	I believe that education will bring more benefits to the household	5.4	17.9	48.2	28.6
3	I do not have high expectations for my children's schooling	13.4	39.3	32.1	15.2
4	I always encourage my children to enjoy their learning at school	2.7	26.8	45.5	25.0
5	I hope and expect my children to complete primary school	0	13.4	29.5	55.4
6	Financial constraints are a major challenge to sending my children to school	3.6	12.5	32.1	51.8
7	Economic pressures also block my children's educational achievement at	25.9	37.5	29.5	7.1

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	school				
8	Making a living and surviving is a real struggle for my family	7.1	3.6	33.9	55.4
9	Children are a substantial source of labor to help with family farming	7.1	21.4	32.1	39.3
10	Children are a substantial source of labor to help with household chores	2.7	4.5	47.3	45.5
11	Children should help with household domestic chores such as fetching water, collecting wood, cooking, and taking care of siblings	0.9	9.8	28.6	60.7
12	It is very far for my children to go to school	43.8	33.0	15.2	8.0
13	Sending my young children to a distant school is dangerous and a concern for us	41.1	34.8	17.9	6.3
14	Shortage of food is a serious problem for sending my children to school	17.9	30.4	27.7	24.1
15	Shortage of food deters my children's learning at school	25.9	45.5	23.2	4.5
16	My children are not interested in learning	37.5	42.0	8.9	8.9
17	My children like hunting rather than getting an education	34.8	60.7	3.6	0
18	My children prefer farming rather than going to school	33.0	54.5	10.7	0.9
19	The Lao language is a major barrier for my children going to school	0.9	1.8	49.1	48.2
20	I cannot help with my children's homework because I cannot read and write	0.9	18.8	32.1	48.2
21	It is too late for my children to complete primary school due to them being overage	47.3	47.3	3.6	0.9
22	I strongly believe that sending the boys to school is more important than sending girls	25.0	21.4	33.9	19.6
23	I support girls and boys going to school equally	6.3	17.9	31.3	44.6
24	According to tradition, girls should take responsibility for cooking, cleaning, and caring for siblings	5.4	19.6	23.2	49.1
25	It is not necessary for girls to go to school since they will get married and move to live in the husband's house when they become women	20.5	54.5	17.9	7.1
26	Grade repetition is making primary school completion problematic for my children	45.5	30.4	16.1	8.0

Note. N (Number of respondents) = 112. SD=strongly disagree, D=disagree, A=agree, SA= strongly agree. Not all rows add to 100% because of rounding.

Table 4.2 presents the percentage of parents' perceptions of the barriers impacting their children's attendance at school. As shown in the table, 60.7% of the parents strongly agreed that children must help with household chores, such as fetching water, collecting wood, and taking care of siblings, even if the children were enrolled in school (item 11). In addition, 55.4% of respondents strongly agreed that making a living and surviving was a real struggle and challenge for the household (item 8), and 51.8% of them strongly agreed that financial constraints were a principal barrier to sending children to school (item 6). Thus, family struggle and financial constraints seemed to influence ethnic children's attendance at school. Furthermore, 49.1% strongly agreed that culturally, girls must take care of household chores (item 24), while 48.2% strongly agreed that the Lao language was another problem for their children to learn at school (item 18), and 48.2% strongly agreed that they could not help their children with homework because they themselves could not read or write. Moreover, 45.5% of respondents strongly agreed that children were a substantial source of labor to help with household chores and family farming.

Table 4.3. Ethnic minority students' perceptions of barriers affecting their schooling

Item	Statements	SD (%)	D (%)	A (%)	SA (%)
1	Lack of money makes it difficult for me to go to school	10.5	4.4	30.7	54.4
2	My parents always support and encourage me to stay in school	6.1	12.3	48.2	33.3

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3	My parents do not fully support and encourage me to continue my studies	9.6	31.6	43.9	14.0
4	I am usually very interested in learning at school	1.8	7.9	59.6	30.7
5	Completing a primary education is not important for me	43.9	46.5	6.1	3.5
6	I prefer farming (slash-and-burn cultivation) rather than getting an education	59.6	37.7	1.8	0.9
7	I prefer hunting rather than going to school	62.3	34.2	3.5	0
8	During the harvest seasons, I have to drop school, and help parents collect the yields in the rice fields	11.4	10.5	26.3	51.8
9	Helping with household chores is a hard burden distracting me from concentrating on my learning	13.2	24.6	45.6	16.7
10	Taking care of my siblings disrupts my learning at school	33.3	45.6	14.0	7.0
11	Repeating a grade discourages me from concentrating on my learning in school	48.2	37.7	8.8	4.4
12	Hunger is a real hindrance to continue my schooling	28.1	36.0	24.6	10.5
13	My parents are unable to provide me lunch during the school days	36	53.5	8.8	0.9
14	Becoming an over-aged student in the classroom makes me feel ashamed at school	57.0	26.3	13.2	3.5
15	My current primary school is located very far from my village	43.9	50.9	1.8	3.5
16	It takes a long time to walk to school	49.1	46.5	3.5	0.9
17	Walking to a distant school makes going to school difficult	41.2	34.2	19.3	5.3
18	The Lao language makes it difficult to learn the subjects at school	7.9	5.3	36.0	50.9
19	It is hard to understand the teacher's explanation and teaching due to poor Lao language	5.3	7.9	64.9	21.1
20	The teacher's punishment makes me want to stop going to school	49.1	47.4	2.6	0.9
21	Teachers punish me because of failing the exams	45.6	47.4	6.1	0.9
22	Teachers punish by difficult things like going to the front and then lifting a stone or standing on one leg	48.2	43.9	7.9	0
23	My parents are more likely to encourage boys to go to school than girls because they expect the boys will bring more advantages to the family	6.1	13.2	30.7	50.0
24	According to tradition, girls should take care of house chores such as cooking, cleaning, and caring for siblings	0.9	3.5	25.4	69.3
25	According to tradition, boys should take care of collecting wild vegetables and hunting animals	13.2	14.9	41.2	30.7

Note. N (Number of respondents) = 114, SD=strongly disagree, D=disagree, A=agree, SA= strongly agree. Not all rows add to 100% because of rounding.

Table 4.3 shows the ethnic children's perceptions of the barriers they face in learning at school. Noticeably, from an ethnic and cultural perspective, household chores were seen as a major barrier to accessing education for minorities. As indicated in the table, 94.7% of respondents strongly agreed or agreed that traditionally, girls should take care of household chores such as cooking, cleaning, and caring for siblings (item 24). In addition, language was cited as a major obstacle for ethnic children to go to school, as 86.9% of them strongly agreed or agreed that the Lao language made it difficult to learn the subjects at school (item 18) and 86.0% strongly agreed or agreed that it was hard to understand the teacher's explanation and teaching due to the poor Lao language. Furthermore, 85.1% strongly agreed or agreed that lack of money made it difficult to attend school (item 1), with 78.1% of respondents agreeing or strongly agreeing that during the harvest seasons, they had to drop school to help their parents in the rice fields (item 8). An additional 80.7% of respondents strongly agreed or agreed that their parents tended to encourage boys to go to school more than girls, as they expected the boys would bring more advantages (item 23). Finally,

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71.9% strongly agreed or agreed that according to tradition, boys should take care of collecting wild vegetables and hunting animals (item 25), which could also be a barrier to their attending school.

The Ethnic Minority Children's Experiences

There were many barriers affecting ethnic minority access to primary education in the rural and remote areas of Samphan District. Access to school was impacted by family poverty; it was an obstacle that had an influential effect on minority students' continuation in primary school. The costs of schooling were a great challenge for minority students. The actual expense of school, such as the need to buy school uniforms, textbooks, pens, and pencils, was a difficult burden for students with poorer parents.

"Lack of money forced our parents to borrow money from our relatives or neighbors to pay for our school costs; so they collected forest products to sell and repay afterward." As a result, the cost of continuing our education became a serious issue for us" (Khmu students in fifth grade).

Lack of school materials was also a serious barrier that made minority students' learning difficult in rural schools. The majority of ethnic children lacked basic materials to support their learning in the classroom. For example, they came to school without textbooks and wore shabby clothes instead of school uniforms. More importantly, lack of textbooks was a major obstacle to ethnic children's learning beyond the classroom. They could not study at home or do homework after school due to the shortage of textbooks.

"Lack of textbooks is an obstacle that makes it difficult for us to learn, not only in school but also at home." Currently, we have nine subjects at the primary level, but only one textbook for each of those nine subjects. As a result, learning is extremely difficult and challenging for us" (Akha students in fifth grade).

The language of instruction was a great challenge for ethnic minority students' learning in rural primary schools; it created a major barrier, leading to misunderstanding the concepts of knowledge taught or explained by teachers in the classroom. In addition, language was a hurdle for ethnic minority students trying to make progress in rural primary education; their poor language proficiency made the ethnic students afraid to talk to teachers in the classroom due to the communication barrier. Additionally, the teachers themselves were struggling with talking to the ethnic minority students because some could not speak the ethnic dialects.

"The Lao language is demanding for us, not only in understanding the texts but also in communicating with teachers." Furthermore, the language is a real barrier to learning in primary school, which makes our learning difficult. "We rarely talk with teachers in the classroom due to our poor language skills" (grade 5 Akha students).

Parental preference based on gender is a major barrier preventing girls from continuing their education in rural settings. Parents prefer and support boys, rather than girls, to continue their education. In addition, girls have a higher possibility of dropping out of school to help out with household chores, such as carrying water, taking care of siblings, and helping their families with slash-and-burn cultivation.

"There are eight children in my family, and all the boys go to school." I am the only girl in my family, but I had to drop out of primary school. "The main reason behind my dropping out of school is that because all my siblings attend school, my parents took me out of school to help them with chores and agricultural work" (Dropout Akha Girl).

Household chores had a significant impact on ethnic minority students trying to continue to learn in rural primary schools. Chores such as carrying water, steaming rice, taking care of siblings, and going into the rice fields posed challenges for ethnic students' progress in school. Not only did chores affect the minorities' school attendance, but the chores also disrupted their learning while in school and made continuation in school more difficult. Moreover, parents taking their children to the rice fields during the school day were a serious problem, causing disruption to the minority students' school attendance.

"We help with many household chores, such as carrying water, steaming rice, taking care of siblings, and going to the rice fields. During the harvesting season, we have to stop school and go to the rice fields with our parents to collect yields and take care of siblings, even during the school day. We have a lot of household chores to do, such as carrying water, washing the dishes, and taking care of siblings. "Spending more time on household chores gives us less time to concentrate on learning in school" (Grade 5 Akha Students).

Parental divorce had an impact on some ethnic minority students' school attendance in rural areas. Because of parental divorce, children were forced to depend on their aging grandparents to continue attending school; however, their grandparents could not support them and pay their educational costs. Thus, parental divorce was another factor that pushed ethnic minority students out of the education system.

"My parents divorced, leaving me and my brother with our elderly grandparents; parental divorce forced us to rely on my elderly grandparents." My brother proceeded to secondary school, but he dropped out of school last year as our grandparents were

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unable to support and pay for schooling costs. Likewise, now, I am in grade 4 of primary school, because of financial strain, my grandparents said they could not afford my schooling costs. Thus, at the end of this year, I have to drop out of primary school. (Grade-five Khmu Girl).

Parents' deaths were another obstacle hindering some ethnic minority children's primary school attendance in rural areas. To continue to study, these children were forced to depend on grandparents; however, even if they attended primary school, they struggled throughout their lives because their aged grandparents could not support them and pay their educational costs. Therefore, parental death made it difficult for some minority students to continue attending school.

"My parents are dead. Currently, I am staying with my elderly grandparents, and my grandparents said they cannot support and pay for my educational expenses. Therefore, I cannot continue my schooling after grade five. (Grade-five Akha Girl)

Too many siblings in the household were a major barrier for ethnic minority students trying to continue their schooling in rural areas, especially if many siblings were going to school concurrently. Parents were dealing with school expenses such as uniforms, textbooks, pens, and pencils. Paying the costs of schooling for many children attending school was a difficult burden for poorer parents to bear. In families with several children who attended school, the marginalized child dropped out of school to help with family farming in order to keep the young ones in school.

"There are many siblings in our families, and thus, it makes it difficult for our parents to pay for and cope with the high schooling costs for all my siblings going to school" (grade-five students).

Parental illiteracy was also a barrier impacting ethnic minority students' learning not only in school but also at home. Ethnic minority students had difficulty doing homework because their parents were not able to help them out with it.

"Our parents are uneducated." They cannot speak or write the Lao language. Even worse, when we bring school work home, our parents cannot help out. "They cannot support us and never teach us at home" (Grade 5 Akha students).

The shortage of water had an influential effect on ethnic minority students' school attendance in remote primary schools. There was no water supply for one village, and thus the children walked far downstream to carry water. Collecting water was a major barrier that affected not only school attendance but also school absence. When the stream did not provide much water in the dry season, there were numerous villagers waiting in line to collect water. Waiting for a long time to get water became problematic and had a negative effect on the ethnic minority students' access to school in the rural areas.

"In our village, water is a serious problem during the dry season. There is no water supply to the village. Thus, we have to carry water from far downstream. We have to wait in the queue to get water one by one. Some days we miss our class because we are waiting for water. "Lack of water in our village disrupts our learning at school" (grade-five Akha students).

School attendance was also significantly impacted by the poor condition of the school path. The path was very steep and slippery, which made it dangerous for young children walking to school. Some ethnic minority students were absent from class due to the slippery school path. During my fieldwork, ethnic children were observed struggling and trying hard to walk up the wet and slippery path; all of them took their shoes off and tried to walk slowly until they reached the school. When arriving at the classroom during my fieldwork, it was observed that many were absent from class because of the heavy rain.

"In the rainy days, we cannot come to school to study as usual because of the dangerous and slippery road access to the primary school" (Grade 5 Akha Students).

5. Parents' Perspectives

According to parents, household poverty posed a problem for minority students' access to primary school in rural areas. Poorer families struggled to send their children to school due to financial constraints. Often there were many children in the household going to school concurrently; this was an added burden for families to cope with, given the costs of schooling such as the purchase of textbooks, school uniforms, pens, etc. Furthermore, for poor families, having several children was impactful on determining school attendance, as one of their children would often drop out of school to support the remaining siblings in school. According to house-to-house observation and discussion during my fieldwork, the elder child was often targeted and forced to drop out of school because of family poverty and many siblings.

Teachers' Perspectives

The teachers indicated that poor households in rural areas did not send their children to school because of severe poverty. The poverty not only caused ethnic children to drop out of school, but also made it difficult for them to continue attending school. In addition, lack of learning resources, such as textbooks, uniforms, pens, and pencils, was a major challenge impacting ethnic students' school attendance. Because of a shortage of resources, ethnic children struggled to learn in school.

Labor demand in households was also a major obstacle preventing ethnic students' attendance in rural schools. Due to labor needs, families took their children to the rice fields to help collect the rice yields and take care of siblings, even if it was a

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school day. Especially during the harvesting season, taking ethnic children to help with agricultural activities was one of the main causes of school absence.

"When approaching the harvesting season, the parents of minority students come to school to request permission from teachers to take their children to the rice fields to do a variety of chores, such as reaping rice, threshing rice, taking care of siblings, carrying water, and cooking, even if it is a school day" (Somboun Primary Teacher).

Water shortages were also a major barrier to minority students' attendance in rural schools. Due to the lack of a water supply in their village, ethnic children walked to a far stream to collect water. In the dry season, there was not much water; so collecting water could overlap with the minority students' school attendance; either they did not come at all or else came late to school because of their duties collecting water.

"The dry season is the worst period for the ethnic children in our village." Some days they do not come to school because of collecting water (Elaek Primary School Teacher).

Education Staff's Perspectives

From the administrators' perspective, there are many severe challenges facing ethnic minority students' access to primary education in rural areas. Firstly, family poverty was a barrier faced by ethnic minority students, and it was the primary reason that parents did not send their children to school. Secondly, lack of rice in the household had an influential impact on minority students' enrollment in school. A shortage of rice in their household led students to skip meals, and this disrupted their attention in the classroom. Thirdly, having several siblings in the household was also believed to impact ethnic minority students' access to school. Administrators said that parents could not support all of them going to school, and therefore, one of the children had to stop attending school to help support the rest of the children to continue learning, and this is confirmed by household observations: there appeared to be one primary school dropout in each house, mainly the eldest one, especially in Akha families.

Moreover, traditional beliefs about education among ethnic groups had a negative impact on ethnic minority students' access to primary education in rural areas. According to these beliefs, the parents did not send their children, and particularly girls, to school, as they believed that girls must take care of household chores such as carrying water, going to the rice fields, and taking care of siblings. Boys were more likely to attend school and receive an education. Therefore, this belief puts girls behind in schooling in rural and remote areas.

Furthermore, ethnic minority parents did not see education as important for their children, which was a major obstacle for the children attending school in remote areas. Additionally, administrators said families had a low appreciation of the benefits of education for their children, which was seen as the main reason why parents took their children to the rice fields and did not support them going to school.

DISCUSSION

The present study shows that family poverty is a major barrier preventing ethnic children from accessing primary school. This finding is consistent with those of Batool and Liu (2021); Broberg, Wang, Stberg, Adolfsson, Nemes, Sparén, et al. (2018); Bhatti and Awan (2019); and Drajeaa and O'Sullivan (2020). Another major barrier faced by ethnic minority students' access to schooling was house chores such as fetching water, collecting wood, and taking care of siblings. This result is underpinned by UNICEF and UNESCO (2015); Mpyangu et al. (2014); and the finding that there is a link between child labour and children's school absenteeism and school dropout. In addition, the current study found that parental divorce was also a barrier to ethnic minority pupils' attendance at school, especially for those whose parents separated and were forced to rely on their elderly grandparents. However, this result has not previously been described. According to the study, a significant obstacle that made learning challenging for minority children in rural schools was a shortage of instructional materials. This finding broadly supports the work of other studies in this area that link schooling with a shortage of learning materials (Sadiman, 2006; Hossain, 2010; Ananga, 2011). Another significant obstacle for minority kids attending remote schools was a lack of water. In accordance with the present results, previous studies have demonstrated that water shortages were found to be a major barrier to ethnic minority students' education (Staneva, Usmanb, and Carmignania, 2021; Komarulzaman, De Jong, & Smits, 2019; Choudhuri & Desai, 2021; UNESCO, 2021). Furthermore, parental preference based on gender is a significant barrier preventing females from continuing their education in rural areas. Parents favor and encourage guys' academic pursuits more than those of girls. This result is in line with those of previous studies (UNICEF & UNESCO, 2014; World Bank, 2005; Lewis & Lockheed, 2007). Additionally, one unanticipated finding was that parents' deaths were another obstacle hindering some ethnic minority children's primary school attendance. In contrast to earlier findings, however, no evidence of parental deaths was detected. The lack of importance placed on education by ethnic minority parents was a significant barrier for children attending school in

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remote locations. It was found that families had a low appreciation for education, leading to parents taking their children to the fields. These results corroborate the findings of a great deal of the previous work by Siddiqui (2013), Nyamubi (2015), and Mpyangu et al. (2014). The language of instruction was also found to prevent Akha and Khmu ethnic minority children in rural primary schools, which creates a significant obstacle that causes students to misunderstand the concepts of knowledge that teachers are trying to teach or explain in class. This study supports evidence from previous studies (UNESCO, 2016; UNICEF & UNESCO, 2014).

CONCLUSION

There are numerous barriers found in the current study that seem to be major barriers faced by Akha and Khmu ethnic minority students in Samphan District. A significant barrier stopping ethnic children from attending elementary school is familial poverty. Child labour is another major barrier. In each village, children were found to be a major source of labor to do chores such as fetching water, collecting wood, taking care of siblings, and going to the rice field, which resulted in their non-school attendance. Another major issue found in the study was parental divorce, which was found to be a major problem for Akha and Khmu ethnic minority students accessing school. Children were forced to depend on their aging grandparents to continue attending school; however, their grandparents could not support them and pay their educational costs. In addition, a lack of water in the village was another significant barrier to minority students attending rural schools. Children traveled to a distant stream to fetch water, leading to school absenteeism and non-attendance. Furthermore, Akha and Khmu ethnic minority students had problems learning at school due to a shortage of learning materials. Parental preference based on gender is another major barrier preventing girls from continuing their education in rural settings. In a study, it was found that parents prefer and support boys, rather than girls, to continue their education. Furthermore, the deaths of parents hampered the attendance of some ethnic minority children in primary school. These children were forced to depend on grandparents; however, even if they attended primary school, they struggled throughout their lives because their aged grandparents could not support them and pay their educational costs. In addition, education being undervalued by parents is also a main barrier, leading to school non-attendance. The language of instruction was also found to pose problems for minority students in acquiring lessons delivered by teachers. research and write a final report in the future.

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Rechtsvacuum in Execution of Administrative Sanctions and Forced Penalty Decisions and Implications of Settlement Personnel Disputes



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ABSTRACT: The problem that occurs next is that not many TUN Courts have handed down *dwangsom* in decisions to strengthen the executable decision, as a result of implementing regulations for coercive measures that are not yet available. Under Government Regulation (PP) Number 43 of 1991 concerning Compensation and Processes for its Implementation in the State Administrative Court, Article 117 of Law No. 51 of 2009 is implemented by the regulation specified in that regulation. The two main rules of the PP are compensation and compensation. Because forced money (*dwangsom*) is distinct from compensation or compensation, from a legal standpoint, the PP still does not take into account the laws on forced money techniques. The term "legal vacuum" (*rechtsvacuum*) refers to a situation where some things have not been covered by positive legislation, given that the law itself cannot address all facets of life that are constantly evolving. The methodology taken in this text is juridical-normative, or based on legal material and looking at concepts, theories, legal principles, and statutory rules. The study's findings indicate that there are varying and mutually counterproductive norms regarding the quantity of forced money to be paid, the kinds of administrative sanctions to be applied, and the methods for carrying them out, along with transfers of positions and the filling of the Plaintiff's positions by other people, all of which delay the administration of justice.

KEYWORDS: Administrative Sanctions, Execution, Forced Money

I. INTRODUCTION

Execution in the decision of the State Administrative Court becomes part of the implementation of a decision through the assistance of other parties who are not part of the litigants. Of course, the execution can only be carried out if the status of the decision has permanent legal force (BHT) as stated in Article 116 of Law No. 51 of 2009 concerning the Second Amendment to Law no. 5 of 1986 concerning the State Administrative Court (UU Peratun). The need for execution is interpreted if the decision handed down has a consideration in granting all or part of a lawsuit that is binding for each person in the case and the community (*erga omnes*) accompanied by the burden of obligations that must be carried out by the defendant immediately. (Sari & Wibowo, 2023) This has relevance between the level of public compliance and the authority of the State Administrative Court, where decisions carried out by state administrative bodies or officials properly, the authority of the Administrative Court will also be good. However, TUN officials often neglect the matters governed in decisions by exceeding the deadline, namely 90 working days. although in essence not all classifications of types of PTUN decisions can be executed, for example for an injunction contained in a decision that renders invalid or the cancellation of the State Administrative Decision (KTUN) but is not accompanied by a specific obligation to revoke or provide rehabilitation to the defendant or compensation, then no need for execution. Only the nature of a condemnatory decision, or one that contains an order to the losing party, can be executed, while a decision that refers to its declaratory or constitutive nature does not require execution because it applies automatically. (Badriyah Khaleed, 2018)

The means of execution which are part of the State Administrative Court Procedural Laws function as a coercive measure for the party that has suffered a defeat to immediately carry out the decision contained in the verdict in accordance with the specified time. the demand for execution, which only comes into play in sentencing judgments. Yet, it is frequently discovered that the choice cannot be executed precisely or at all for a variety of reasons. This indicates that the decision's quality is poor in that it cannot be implemented at all because doing so is impossible. (Undang Undang Nomor 5 Tahun 1986 Tentang Peradilan Tata Usaha Negara (Lembaran Negara Tahun 1986 Nomor 77, Tambahan Lembaran Negara Nomor 3344)) For instance, forcing the

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defendant to act in accordance with Article 97 of the Law on State Administrative Court while, in reality, this was outside of the defendant's authority. For instance, the lurah is compelled to issue land ownership certificates despite the fact that this is plainly beyond his scope of authority. After the ruling has been given final, binding effect, the situation has changed. In a workplace dispute, for instance, the Plaintiff must be reinstated in his prior position, but it turns out that this post has already been filled. For instance, it may turn out that the defendant's authority has been transferred to another official, making it difficult for him to comply with a court order because he is no longer allowed. The punishments imposed, particularly for employment disputes, are not significantly different from those imposed when Article 116 of the Administrative Court Law's process is used. Only that after the decision was made or after it was given permanent legal standing, changes in the situation were discovered that affected how it was implemented. Based on these modifications, the actions taken to carry out the Plaintiff's rehabilitation will make use of the mechanism provided forth in Article 117 of the Administrative Court Code, namely the settlement mechanism through the Head of the Court in question to arbitrate the determination of compensation. According to Article 117 paragraph (1) of the Administrative Court Code and Article 116 paragraph (1), the head of the court in question is the head of the first level court (PTUN).

Case number 23/G/2018/PTUN.PDG, in which the decision granted and included the Defendant's (West Pasaman Regent) obligation to restore the Plaintiff's rights (rehabilitation), including one of which is by returning the Plaintiff to his original position, is an actual illustration of the difficulty in carrying out a staffing dispute decision (as Regional Secretary of West Pasaman Regency). Because another individual has already been lawfully appointed to the office, it will be challenging to implement the a quo ruling. Article 116 of the State Administrative Court Law, which has a floating nature, is the issue with the legal content of the execution of state administrative court rulings (floating norm). In addition to the issue with norms, there are court judgments that, as was said in the preceding section, cannot be implemented (are non-executable). Based on the nature of each issue, both of these difficulties need to be given different care. Article 116 of the State Administrative Court Law is a "floating standard" because, in practice, the court chairman just acts as a supervisor and does not actually carry out the actual implementation (vide Article 119 of the Law on State Administrative Court). The third issue is that, as a result of adopting regulations for coercive measures that are not yet available, not many TUN Courts have issued dwangsom in decisions to enhance the executable decision. What exists is the Government Regulation (PP) Number 43 of 1991 concerning Compensation and Processes for its Implementation in the State Administrative Court, which implements Article 117 of the Administrative Court Law (Compensation for Civil Service Rehabilitation that cannot be Implemented). The two main rules of the PP are compensation and compensation. Because forced money (dwangsom) is distinct from compensation or other forms of remuneration from a legal standpoint, the PP still does not include any rules on forced money mechanisms.

II. METHODS

The methodology used in this writing is juridical-normative, or based on legal material, and it involves looking at literature that is relevant to the topic of writing as well as concepts, theories, and legal and legislative principles. In this instance, the explanation of the execution of state administrative court rulings is supported by all relevant legal sources. Law No. 30 of 2014 Concerning Government Administration (UU AP) and its implementing regulations as well as Law No. 5 of 1986 Concerning the State Administrative Court as most recently amended by Law No. 51 of 2009 Concerning the Second Amendment to Law No. 5 of 1986 Concerning the State Administrative Court are used as primary legal sources in this paper's discussion (State Administrative Court Law). The secondary legal texts studied include legal works on administrative law, legal theory, and state administrative justice procedural law. (Ali, 2021)

III. RESULTS AND DISCUSSION

1. Execution of Administrative Sanctions Decisions and State Administrative Court Coercion

According to the provisions of Article 116 Paragraphs (3) and (4) of Law Number 9 of 2004, if a TUN Officer is ordered by a court to fulfill the obligation to issue a KTUN but three months later the obligation is still unfulfilled, the plaintiff may submit a request to the appropriate Head of Court asking that the Court order the execution of the decision. The official in question may be subject to compelled measures, such as the forced payment of money and/or administrative punishment, if the defendant still refuses to comply with the court's order. In addition to sanctions in the form of forced payment of money as mentioned above, the imposition of sanctions can also be in the form of administrative sanctions. The essence of administrative sanctions is the exercise of government power by government organs without having to go through the judicial process as an instrument of administrative law enforcement. Pilpus M. Hadjon further explained:

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- a. Real coercion (bestuursdwang); Real coercion is defined as a real action to move, empty, obstruct, repair in its original condition what is being done or has been done which is contrary to the obligations determined by laws and regulations.
- b. Forced money, sometimes known as "dwangsom," is enforced as a substitute to actual compulsion.
- c. Administrative fines are more "condemnatoir" in nature than "reparatoir," according to this definition. there are rules for the maximum fine that may be imposed.
- d. Revocation of favorable State Administrative Decisions is a sanction related to the power to stipulate State Administrative Decisions. It is a form of administrative action. The revocation functions as a sanction and can be either reparatory or condemnatory.
- e. Bail; Security deposit for a positive judgment, such as permits. A security deposit may be required in order to obtain a permit, and if those criteria are not satisfied, the security deposit is deemed forfeited. associated with a successful outcome (granting permission for example). The security deposit is "condemnatoir," which is associated with coercion, reparatoir, which is preventive in character, and reparatoir, which is associated with reimbursement for losses.
- f. Additional or special forms; Additional or special administrative punishments, such as warnings or disclosing the offender's name. It can be argued that administrative sanctions are tools of administrative law enforcement used by organs of government officials in carrying out government functions (executive), as the implementation of legislation in the field of administrative law without having to go through the judicial process, after taking into account the nature of the six types of administrative sanctions listed above (parate executie).(Wiyono, 2019)

The technical execution of decisions in the form of the imposition of administrative sanctions is, in reality, carried out by government officials or entities that have the ability to do so in accordance with statutory requirements because the TUN Court's authority only performs a judicial role (basic regulations). The provisions of Article 116 paragraph (4) of Law Number 9 of 2004 provide a mechanism for carrying out the State Administrative Court's decision in the form of coercive measures, such as the payment of a forced amount of money, and/or administrative sanctions against the defendant. This is true for dwangsom, also known as forced money (administrative official). State Businesses) that fail to follow the requirements of Article 97, subsections b and c when implementing State Administrative Court judgements. In contrast, the provisions of Article 116 paragraph (4) of Law Number 9 of 2004 provide a mechanism for carrying out the decision of the State Administrative Court through coercive measures such as payment of a forced amount of money and/or administrative sanctions against the defendant. This is known as dwangsom, or forced money (administrative official). State Businesses) that fail to comply with Article 97 Subsections B and C and implement State Administrative Court judgements.(Putra, 2021)

One could argue that the use of forced money under the idea of administrative law is a sort of administrative sanction used by government organs or officials as an alternative to real coercion (bestuursdwang) in carrying out their duties. The legal purpose of these sanctions, which were imposed directly without a court order, is "reparatoir," which means that they are meant to stop future harm or loss while also restoring the situation to how it was before. The clarification of Law Number 9 of 2004's Article 116 Paragraph (4) emphasizes that the imposition in the form of payment of an amount of forced money determined by the Judge because of his position stated in the verdict on when deciding to grant the plaintiff's claim is what is meant by "The official concerned is subject to forced money" in this provision. From this clause, it can be concluded that the Administrative Court Judge has the power, as a result of his position, to decide whether to order State Administrative Officials who refuse to follow the State Administrative Court's judgment to make a forced payment of money (dwangsom).(Pratama et al., 2020)

According to Article 116 paragraphs (3) and (4) of Law 51/2009, "dwangsom" is interpreted strictly as the amount of money given if the defendant is unwilling to carry out the decision (as an assurance that the decision is carried out). Dwangsom is also recognized as a coercive measure in civil law, namely under Articles 606a and 606b of the Regulation op de Rechtsvordering (RV). Judge cannot, in theory, decline to hear the Plaintiff's dwangsom claim on the basis that there are no specific dwangsom provisions in the applicable statutes. Although there are general guidelines for dwangsom, few TUN court justices have imposed forced payment or dwangsom penalty orders, which would strengthen the decision's executability. Since that there is no method for imposing forced money, Article 116(4) of the Administrative Court Law does not provide a solid legal foundation for imposing forced money in the case of forced execution. The decision Number 15/G/2017/PTUN.SMD, which deals with a labor dispute, serves as an illustration of a Plaintiff's claim for compelled money that the TUN court refused. In his petition, the plaintiff asked the judges to impose a second sentence (assesoir) in the form of dwangsom. Basically, dwangsom function is not for replaces the principal sentence of a real execution decision. But as a psychological punishment because The defendant neglected to carry out the contents of the court decision thereby causing harm to the Plaintiff.(D. Pattipawae & Salmon, 2022)

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2. Implementation of the Authority of the Metro City National Land Agency for Defects in the Substance of Land Ownership Certificates

Article 116 of the Administrative Court Code contains provisions for the execution or application of TUN court judgments. The implementation of rulings based on Article 117 of the Administrative Court Code do have one particular, though. The specification in question states that the Defendant must notify the Chief Judge of the first instance of any difficulties encountered in carrying out the decision in order to begin the process of assessing compensation. According to the provisions of Article 117, paragraph 1, of the Administrative Court Law, the Defendant is required to inform the head Court and the Plaintiff if the judgment cannot be implemented because of a change after it has been made. Even yet, in line with Article 116, paragraph 4, of the Second Amendment to the Administrative Court Law (UU 51/2009), the Defendant in the employment dispute judgment may be subject to coercive measures if his party refuses to implement the BHT decision. This was put into effect with the caveat that the Chief Justice would not be notified if the defendant had difficulties or complications during the execution. The challenges facing the staffing industry in question include; the court's decision cannot be carried out by the Defendant because he is no longer authorized due to either of the following circumstances: 1. The official who issued the subject of the dispute has transferred authority to another person, making it impossible for him to do so; or 2. The position/position mentioned in the decision has been filled by someone else, making it impossible for the Plaintiff to be reinstated in it. Hence, the next mechanism is the implementation of coercive measures (administrative sanctions and/or forced money (dwangsom)), if the Defendant does not notify the Chief Judge as required by Article 117 paragraph (1) of the Administrative Court Code and does not carry out the judgment. The laws concerning the method for applying dwangsom and administrative punishments, however, are merely attempts. (D. R. Pattipawae, 2019)

When a TUN court ruling is not followed by TUN authorities, judges typically do not dare to use coercion in the form of dwangsom. The judges relied on the plaintiffs' petitum, which unintentionally omitted a dwangsom, in addition to the absence of comprehensive and explicit guidelines regulating the dwangsom system. The judges did not dare to utilize the dwangsom as a means of forcing execution because the petitum did not contain a dwangsom request. Dwangsom thus becomes a punishment that is only referenced in the regulations themselves and cannot be derived in actual practice (inconcrete).

Indeed, there is no statute that specifically addresses compelled money. As a result, when the court takes coercive measures, it is only based on Article 116, Paragraph 4, of the Administrative Court Code as the primary rule, and lacks any other justification for doing so. The State Administrative Chamber/G.4/SEMA 7 2012, which is based on SEMA No.7 of 2012, regulates this provision. The formulation of the TUN chamber for the imposition of dwangsom indicates that dwangsom can be imposed depending on the petitum of the Plaintiff's case. While coercive methods still need additional regulations, such as how to enforce administrative punishments on coercive measures, there is only one regulatory mechanism in place at this time—the imposition of dwangsom. Therefore the author uses the Rechtsverfijning legal construction method to determine specifically how the arrangements are at least regulated by the government so that coercive measures have provisions for their implementation in accordance with Article 116 paragraph (7) of the Administrative Court Law. (Simanjuntak, 2014)

Rechtsverfijning, often known as "legal narrowing," is the refinement or narrowing of the law's general norms by defining more precise qualities to help people understand what a law regulates. Giving notions that are still often used in law particular qualities is known as rechtsverfijning. Moreover, it is done by adding exclusions to how the relevant statute is applied. The type of administrative sanctions that support coercive measures are still not regulated in this discussion's example of coercion under Article 116 paragraph (4) jo. paragraph (7); or what is the specific conception related to the implementation of forced money, keeping in mind that forced money cannot be equated with compensation and compensation (stand alone).

Regarding Article 116 of the Law on State Administrative Court, which is of a floating nature, the issue of the legal substance of the execution of the state administrative court decision exists (floating norm). In addition to the issue with norms, there are court judgments that, as was said in the preceding section, cannot be implemented (are non-executable). Based on the nature of each issue, both of these difficulties need to be given different care. Article 116 of the State Administrative Court Law is a "floating standard" because, in practice, the court chairman just acts as a supervisor and does not actually carry out the actual implementation (vide Article 119 of the Law on State Administrative Court). (Undang Undang Nomor 30 Tahun 2014 Tentang Administrasi Pemerintahan (Lembaran Negara Tahun 2014 Nomor 292, Tambahan Lembaran Negara No. 5601))

In fact, the means of coercion for the implementation of court decisions were instead handed over to government officials. The tools or instruments of coercion to enforce court decisions based on Article 116 of the Law on State Administrative Court are administrative sanctions and forced money (dwangsom). The same thing is then also regulated in Article 72 paragraph (1), Article 80 paragraph (2), and Article 81 paragraph (2) of Law No. 30 of 2014 concerning Government Administration (UU AP).

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These are sanctions imposed on government officials who have violated administrative laws, as defined by Government Regulation (PP) Number 48 of 2016 Governing Processes for Implementing Administrative Sanctions on Government Officials. The adoption of PP 48/2016 as a lex specialist of the Administrative Court Law and Law No. 30/2014, as well as an enlargement of the administrative punishments provisions from the AP Law (UU AP). Because the AP Law has not yet defined administrative sanctions, it is important to keep in mind that there are certain variations between forced effort administrative punishments under the Administrative Court Law and general administrative sanctions under PP 48/2016.

- a. Administrative sanctions are those imposed after a decision has been made and their implementation is directed at TUN officials (Defendant) who do not carry out the decision, as stated in Article 116, paragraph 4, of the Administrative Court Code (as a forced measure according to the Administrative Court Law).
- b. Although PP 48/2016 states that administrative sanctions are often enforced on public servants who violate administrative laws, the imposition does not occur through the courts (before filing a lawsuit). This study uses administrative sanctions of coercive measures, not administrative sanctions generally, as a result of these distinctions.

Yet, it turns out that there are substantial discrepancies between the AP Law and the TUN Judiciary Law at the normative level with regard to the use of administrative punishments and forced money as tools of coercion for carrying out court orders. One of these is that administrative sanctions are interpreted to include forced money in the AP Law, whereas forced money and administrative punishments are distinguished in the TUN Judicial Law. In addition, the TUN Judicial Law interprets forced money as the Plaintiff's right if the decision has not been implemented, as opposed to the AP Law, which only interprets forced money as a security deposit that will be returned to the Defendant if the judgement is carried out (vide Article 116 of the TUN Judicial Law). Although these two contradictory conventions are still in effect at this time, this might lead to confusion in daily life. Government Regulation (PP) No. 48 of 2016 Governing Processes for Applying Administrative Sanctions on Government Employees currently governs the use of administrative penalties as a means of carrying out court orders. It's just that Article 35 of the PP regulates an objection mechanism for administrative sanctions to the Administrative Court with a request to determine whether or not there is an element of abuse of authority, so this regulation is counterproductive for the purpose of imposing administrative sanctions.

There are three issues with Article 35 PP No. 48 of 2016: • The imposition of administrative sanctions based on the execution of a court decision cannot become the subject of a dispute in the state administrative court because it is prohibited by Article 2 letter e of the Law on State Administrative Court (in Law No. 51 of 2009) A request for an evaluation of the components of abuse of power, based on Article 21 of the AP Law Jo, is the method mentioned in Article 35 of PP No. 48 of 2016. It is not the intention of Supreme Court Regulation No. 4 of 2015 to contest the implementation of administrative sanctions. If the objection does not seek administrative punishment from the implementation of the court's judgment, then the State Administrative Court should be contacted using the regular litigation process rather than asking for evidence of abuse of power. Because Article 21 of the AP Law must be viewed in conjunction with Articles 17 to 20, which are meant to address decisions and/or acts that result in state losses as a result of official or personal error, and article 24A paragraph (5) of the 1945 Constitution of the Republic of Indonesia (1945 Constitution) stipulates that the procedural law of the Supreme Court and judicial bodies under it must be regulated in law, so that the regulation of court authority through government regulations is not justified. So based on these three arguments, Article 35 PP No. 48 of 2016 cannot be implemented.

Determining the legal construction of the type of administrative sanction turns out to cause new problems. In the field of staffing, after the TUN Officer is subject to severe administrative sanctions as a coercive measure, the official does not have the authority to return the Plaintiff to his original position, revoke the KTUN which is the object of the dispute and rehabilitate the Plaintiff by returning the Plaintiff to his original position. Considering that severe administrative sanctions are only related to permanent dismissal so when the Defendant is dismissed, can the Defendant still be able to execute, will the decision be abandoned after the forced administrative sanction is imposed.

Due to the conceptual difference, the imposition in this situation can be specific (separated) from the provisions of Article 7 letter d PP Number 48/2016 in order to fill the legal void of coercive administrative punishments. According to the article a quo, the TUN Officer must make a decision and carry it out; however, if the TUN Officer (Defendant) does not do so after 90 working days, compulsory measures are meant as an administrative consequence. According to Government Regulation Number 48 of 2016 concerning Procedures for Imposing Administrative Sanctions on Government Officials, administrative sanction types are typically divided into three categories: light administrative sanctions, moderate administrative sanctions, and severe administrative sanctions. The design of any future administrative consequences for TUN officials who choose not to implement a court order that is legally binding will still be seen as the Defendant's arbitrary acts since they choose not to implement the order. (By way of 2021) Arbitrary actions by TUN officials are subject to severe administrative sanctions, according to Article 17 jo. Article 80 paragraph (3) of Law No. 30/2014 Governing Government Administration (UU AP).

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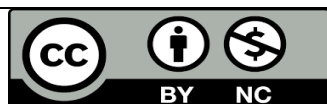
Another option for the government to specify a special administrative sanction for an official who refuses to carry out a decision may be subject to disciplinary punishment in the form of recurrent postponement of the Defendant's allowances for 1 (one) month, so long as the Defendant still refuses to carry out the decision. In the event that the defendant is still unwilling to comply the following month, the sanction will remain in place, postponing payment of the defendant's allowance for an additional month. This concept is predicated on the idea that the decision cannot simply be reversed and that the Defendant must bear responsibility (government accountability). Because the basic income is a requirement for all government employees and civil servants, it is not possible to withhold the Defendant's basic salary, hence benefits owned by the Defendant are withheld rather than the basic salary. Hence, withholding the Defendant's allowance for one month at a time is the legal interpretation of this kind of coercive administrative discipline. In essence, coercion was used to get the defendant to agree to follow the decision. If coercion is used, it does not prohibit the defendant from carrying out the decision, nullifies the main penalty, and cannot take the place of the decision.

CONCLUSIONS

In essence, the Administrative Court Law already provides a mechanism for coercive measures related to the execution of the TUN Court's decision, as in Article 116 paragraph (4). However, the content of the a quo article still contains gaps. For example regarding the provision of forced money (dwangsom) which is imposed if the Defendant does not execute the decision by the deadline of 90 (ninety) working days. There is no regulation pertaining to the forced money, therefore it is unclear how much the nominal must be paid, who the institution or agency is that handles sanctions, or whether the forced money is paid from private or public property. Also, the classification of administrative sanctions, which up to now has been said to be obvious, has not yet been determined for administrative sanctions. Through the rechtsverfining method, the government can take 2 alternatives to overcome the problem of the legal vacuum of coercive measures, namely by. Regulating procedures for implementing forced measures in a new legal product; or and Updating existing legal products. For example, PP No. 48/2016 was updated by including the types of forced administrative sanctions and the procedures for implementing them. Or renewal of PP No. 43/1991 stated nominal provisions to the procedure for paying dwangsom. Considering that the two PPs still do not explicitly regulate the forced effort referred to in Article 116 paragraph (7) of the Administrative Court Law

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Legal Protection of Travelers in Religious Tourism Areas According to Law Number 10 of 2009 Concerning Tourism



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ABSTRACT: Tourism is a sector that contributes to the country's foreign exchange, so tourism's participation in saving the country's economy is needed. saving the country's economy is needed. The tourism development process is inseparable from the ability of local governments in managing existing potential. Consumers who visit in tourism are called tourists. The increasing number of tourists visiting the religious tourism which resulted in the spread of religious tourism destinations in various regions of Indonesia itself. However, due to the large number of enthusiastic tourists which resulted in various problems occur in the management of tourism itself, especially in religious tourism areas. The number of requests for legal protection of tourism management is due to the presence of tourists who are harmed in visiting. tourists who are harmed in visiting. For this reason, legal protection is needed for tourists so that the losses experienced are not always charged to tourists. Objective research to find out the legal protection of tourists according to Law Number 10 of 2009 concerning tourism. The research method is normative juridical research, legal materials in the form of primary and secondary legal materials, research collected by literature study and qualitative normative analysis techniques. literature and qualitative normative analysis techniques.

KEYWORDS: Legal Protection, Religious Tourism, Travelers

I. INTRODUCTION

Indonesia is one of the world's best tourist destinations, because it has the potential to attract tourists to travel. Tourism potential that is able to attract the attention of tourists to travel. Travel. As for the attraction of traveling in Indonesia, namely because of the beauty of natural beauty, has a record of cultural history, religious historical sites, has traditional villages, and supported by tropical weather and community hospitality. Tourism potential of the nation Indonesia is a tourism development capital that must be maintained, developed, and utilized as an effort to improve the welfare of the community as stated in as an effort to improve the welfare of the community as stated in the Constitution of the Republic of Indonesia (Constitution of the Republic of Indonesia). In the 1945 Constitution of the Republic of Indonesia (UUD NRI). Based on the mandate of the Constitution, since 1978 the government has endeavored to develop tourism through TAP MPR No. IV/MPR/1978, namely that tourism needs to be increased and expanded to increase foreign exchange earnings. Improved and expanded to increase foreign exchange earnings, expand employment and introduce culture.

Employment and introduce culture. In 1990, the Government passed Law No. 9 of 1990 concerning Tourism, but this provision was not able to answer all the demands of tourism. Answer all the demands of tourism so that in 2009 the government revised the regulation with Law No. 10 of 2009 concerning Tourism. One of the social social basis for the birth of the Tourism Law is to guarantee the freedom of every person to travel. Travel because traveling is part of human rights. Therefore, the State has an important role in realizing people's desire to travel, as well as guaranteeing and protecting the rights of the people. In traveling, as well as guaranteeing and protecting

(Month)

the rights of tourists, especially Muslim tourists. Muslim tourists are entitled to comfort and safety in traveling. Tourism is one of the strategic sectors that must be developed and maintained so that it can create jobs and can increase employment. So that it can create jobs and can improve the economy economy of the surrounding community. In addition, it can also increase regional income to build quality of life of the community. Tourism can trigger demand for the production of goods and services from visitor activity. Local governments have a role in the establishment and development because it can be a major source of income and lift the underdevelopment of the community.

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Underdevelopment of the community. The existence of insurance / legal protection guarantees for tourists is able to provide a guarantee of safety. So that if there are visitors who will get legal protection as stated in the Tourism Law. In the Tourism Law. In Article 1 number 1 of Law Number 10 of 2009 concerning Tourism (hereinafter referred to as the Tourism Law) tourism is defined as a travel activity that is travel activities carried out by a person or group of people by visiting certain places for the purpose of recreation, personal development or studying the uniqueness of tourist attractions visited in a temporary period. Visited in a temporary period of time. Tourism development in Indonesia is actually very potential which is related to culture-based tourist attractions. Related to that one of the systems desired by the National Development Program (Propenas) in the field of tourism is the development of cultural community-based tourism. Tourism is the development of tourism based on cultural communities because it is realized that the cultural diversity of the that indeed the cultural diversity of the Indonesian nation is a wealth that is priceless and very abundant. priceless wealth and the number is very abundant from Sabang to Merauke.

Culture-based tourism is one type of tourism activity that uses culture as its object. culture as its object. Opportunities and Challenges for Tourism Development in Indonesia. Indonesia. such as nature tourism, and adventure tourism. These objects are often These objects are often packaged specifically for presentation to tourists, with the intention of being more attractive. In In this case, there is often a gap in taste between the arts and the tourism industry. industry. Compromises often have to be made. Artists say that special packaging of these objects for tourists would take away from the authenticity of the culture, while the tourism industry says that this is not wrong as long as it is done in a way that is culturally appropriate. culture, while the tourism industry says that there is nothing wrong with this as long as the does not eliminate the substance or core of a work of art. Cultural tourism as one of the tourism products is a type of tourism that is caused by the attraction of the cultural arts of country. due to the attractiveness of the cultural arts of a region. Cultural tourism in essence is a type of tourism that offers culture in the form of cultural attractions, both tangible and concrete. which are tangible or concrete or intangible or abstract, as well as those that are living culture (culture that still continues) and cultural attractions. Culture (culture that still continues) and cultural heritage (past cultural heritage), as the main attraction to attract tourist visits. Indonesia is known as country with the largest Muslim majority population in the world.

The total Muslim population population is around 207,176,162 (BPS, 2010). The large number of Muslim population does not guarantee that Muslim tourists can feel safe and comfortable in traveling both physically and spiritually, because there are still many tourist destinations that have great potential and spiritual, because there are still many tourist destinations that have great potential to attract Muslim tourists.

II. DISCUSSION

Protection of tourists in religious tourism areas in the tourism business system must also be enforced, given the increasing innovation and development in religious tourism in the area. The development of religious tourism still has many weaknesses. One of them is the absence of a juridical foundation that becomes a reference or standard of halal tourists for business actors and tourists. The state does not yet have a juridical foothold in the development of the halal tourism industry that can guarantee protection and legal certainty for Muslim tourists. While halal tourism has become a new trend and alternative tourism among the public, especially the middle class Muslim community (middle class moslem), this is evidenced by the proliferation of business components labeled as sharia tourism. Therefore, the government needs to formulate, compile, adjust and oversee the implementation of applicable regulations.

The Tourism Law is the juridical basis for tourism development. In principle, the regulation upholds religious norms and the concept of life in maintaining the balance of human relations with God, fellow humans and the environment. However, the content material of the Tourism Law does not regulate how the processing and development of tourist destinations based on sharia principles so that these rules do not guarantee legal protection for Muslim tourists as mandated in the constitution and GCPL. At In developed countries such as Japan, the main cause of the birth of the GCPL is to accommodate the negative effects of industrialization that is developing rapidly and shows high complexity, which causes many victims due to using or consuming products¹.

Various government efforts to protect tourists, including from haram products, namely by passing Law Number 33 of 2014 concerning Halal Product Guarantee, which is one of the government's policies in supporting the implementation of Law Number 8 of 1999 concerning Consumer Protection. Law Number 8 of 1999 concerning Consumer Protection. However, the regulation.

¹ Abdulsyani. Sosiologi: Sistemika, Teori dan Terapan Pariwisata. Jakarta: PT. Bumi Aksara, 2012. Gelgel, I. P. (2009).

²Violetta Simatupang, 2009, Pengaturan Hukum Kepariwisata Indonesia, PT. Alumni, Band Wardiyanta. Metodologi Penelitian Pariwisata. Yogyakarta: ANDI, 2006

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However, this regulation does not guarantee protection and legal certainty for consumers, because The government has extended mandatory halal which means that nonhalal products can still be found on the market. Malaysia, which has a majority Muslim population, is able to become a global leading halal center. This is one of the government policies Malaysia in developing Muslim tourist attractions. The magnitude of the benefits of religious tourism, then the state acts as an accelerator by striving to develop the potential of halal tourism by accelerating the development of infrastructure, tourism access and halal tourism by accelerating the development of infrastructure, tourism access and human resources development as a form of state responsibility in development of human resources as a form of state responsibility in the welfare of the people. welfare of the people. Advancing Indonesian tourism requires efforts to build a sustainable, comprehensive and integrated tourism ecosystem. The strength of Indonesia's current strength is that it has a Muslim majority population.

However, the challenge is the extent to which the infrastructure of tourist destinations and accommodation facilities are capable of follow the development of Muslim tourism demand trends. Therefore, the government needs to accelerate both in terms of regulation, as well as infrastructure development as an effort to make Indonesia as a Muslim tourism destination. infrastructure development as an effort to make Indonesia a country of visit for foreign tourists. One of the country's obstacles in accelerating infrastructure development or improving damaged infrastructure facilities is the limited financing capacity of both central and local governments. Therefore, the government must allocate a larger budget for the acceleration of infrastructure development than the allocation of other fields, because infrastructure development is the driving force of the economy. Is the driving force of the economy. The word "management" comes from the word manage.

In the Big Indonesian Dictionary, it means to lead, control, organize, and strive to make it better, more advanced and responsible for certain work. The word "management" can be equated with management, which also means arrangement or management. Tourism management should refer to management principles that emphasize the values of preserving the natural environment, community, and social values that allow tourists to enjoy the Indonesian Tourism Industry in the Globalization of Trade in Services (GATS-WTO)². Tourism management is not limited to the area, objects, and tourist attractions, but also the tourists and various supporting elements. Because the smooth running of tourism depends on the accuracy of the management of various supporting elements. Therefore, for the accuracy of management, the utilization of various resources as a supporting element of tourism needs to be done carefully and in detail. Tourism management should refer to the principles of management that emphasize the values of preserving the natural environment, community, and social values that allow tourists to enjoy their tourism activities and benefit the welfare of the community. as well as beneficial for the welfare of.

III. INSERT

Indonesia is a state of law, as stated in the 1945 Constitution of the Republic of Indonesia article 1 paragraph (3). So that all aspects of life in society, nation and state must be based on legal norms. This means that the law must be used as a basis for solving problems relating to individuals and groups, both communities and countries as well as in various activities such as tourism issues. Tourism has always been a sector developed by the government. The House of Representatives has enacted the Tourism Law which replaces Law No.9 of 199025. Regulatively, the law aims to encourage small and medium enterprises to help create a Sustainable Tourism Industry. The previous law was deemed incapable of answering the challenges and expectations ahead for Indonesian tourism. The tourism sector is said to be in direct contact with people with the lowest economic level, because that is who will have direct contact with foreign tourists. For this reason, the Tourism Law is established, so that managers, tour guides and small tourism actors can be fostered and developed management in accordance with applicable regulations. The context of religious tourism development has demanded sustainable development. Sustainable development has been so often in recent decades. The world conference on the existence of sustainable tourism in 1995 formulated elaborately Charter of Sustainable Tourism. Sustainable Tourism Charter which is about the development of religious tourism that must be based on sustainable criteria which, among others, can be supported ecologically in a long time, economically feasible.

in a long time, economically viable, ethically and socially just for the local community. Religious tourism is not a new thing in Indonesia. This activity has been placed as one of the habits of religious people in Indonesia. The Indonesian government has long recognized the unique character and multidimensional nature of tourism activities. tourism activities. And therefore tourism policy is placed as a separate sub-policy, namely tourism policy, but under different fields, the most important task that must be carried out by policy makers in a tourism destination is to carry out tourism awareness activities. destination is to conduct tourism awareness activities that involve all stakeholders².

² I Putu Gelgel, 2009, Industri Pariwisata Indonesia Dalam Globalisasi Perdagangan Jasa (GATSWTO) Implikasi Hukum dan Implementasi Hukumnya, Refika Aditama, Bandung.

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Stakeholders. Tourists generally do not have a long-term interest in the stability of social life, cultural preservation of the environment in tourism destinations because they do not own the area. Unlike the local population, they are very dependent on the psychological and historical qualities that are very closely related to tourism destinations. Religious tourism should contribute to sustainable development and be integrated with the natural, cultural and human environment. Governments, non-governmental organizations, and communities are reactive to integrating tourism planning into sustainable development. Governments and multilateral organizations should prioritize and strengthen assistance to tourism projects that contribute to improving environmental quality. Governments should provide support and participation in creating networks for research, dissemination, information and knowledge transfer on religious tourism and the technology of development of religious tourism.

IV. ANALYSIS

Normative protection of tourists can be said to be still relatively low and the applicable law does not have legal force that protects tourists. Until now, tourists tend to only be objects by irresponsible tourism business actors. Who are not responsible. This is an important concern, that a regulation is needed that is not only limited to tourism, but also the protection of tourists from all aspects of travel, lodging, objects of tourist destinations and regulation of the rights and obligations of tourists. In addition, to avoid legal uncertainty, sectoral ego at the government level and the realization of synchronization of laws and regulations. Indonesia is a state of law, as stated in the 1945 Constitution of the Republic of Indonesia article 1 paragraph (3). So that all aspects of life in society, nation and state must be based on legal norms. This means that the law must be used as a basis in solving problems related to individuals and groups, both society and the state as well as in various activities such as tourism issues. Tourism has always been a sector developed by the government. The House of Representatives has passed the Tourism Law which replaces Law No.9 of 199025. Regulatorily, this law aims to encourage small and medium enterprises to help create a Sustainable Tourism Industry. The previous law was deemed incapable of addressing future challenges and expectations for Indonesian tourism. The tourism sector is said to be in direct contact with people with the lowest economic level, because they are the ones who will be in direct contact with foreign tourists. For this reason, the Tourism Law was formed, so that managers, tour guides and small tourism actors can be fostered and developed in accordance with applicable regulations.

The context of religious tourism development has demanded sustainable development. Sustainable development has been so often echoed in recent decades. The world conference on the existence of sustainable tourism in 1995 formulated in detail the Sustainable Tourism Charter. Sustainable Tourism Charter which contains the development of religious tourism that must be based on sustainable criteria which, among others, can be supported ecologically in the long term, economically viable in a long time, economically viable, ethically and socially just for the local community. Religious tourism is not a new thing in Indonesia. This activity has been placed as one of the habits of religious people in Indonesia. The Indonesian government has long recognized the unique character and multidimensional nature of tourism activities. tourism activities. And therefore tourism policy is placed as a separate sub-policy, namely tourism policy, but under a different field, then the most important task that must be carried out by policy makers in a tourism destination is to conduct tourism awareness activities. destination is to conduct tourism awareness activities involving all stakeholders.

Stakeholders. Tourists generally do not have a long-term interest in the stability of social life, environmental cultural sustainability in tourist destinations because they do not own the area. Unlike the local population, they are highly dependent on the psychological and historical qualities that are closely related to tourism destinations. Religious tourism should contribute to sustainable development and be integrated with the natural, cultural and human environment. Governments, non-governmental organizations and communities should be reactive in integrating tourism planning into sustainable development. Governments and multilateral organizations should prioritize and strengthen assistance for tourism projects that contribute to improving environmental quality. Governments should provide support and participation in creating networks for research, dissemination, information and knowledge transfer on religious tourism and religious tourism development technologies.

The realization of synchronization of laws and regulations. Explicitly, the right of tourists to obtain legal protection is regulated in the provisions of Article 20 letter c of the Tourism Law. Apart from the Tourism Law, the legal protection of the rights of tourists as consumers is regulated in The legal protection of the rights of tourists as consumers is regulated in Article 4 of Law No.8 of 1999 concerning Consumer Protection, hereinafter referred to as the Consumer Protection Law. Among the consumer rights referred to are the rights to security, safety, and security in consuming goods and / or services in article 4 letter a. besides that, it is the right to obtain advocacy, protection and efforts to resolve consumer protection disputes properly in article 4 letter e. The crucial problem found in the Indonesian nation today is the emergence of legal culture degradation in the community. society. Many behaviors in the life of the Indonesian people can illustrate this. Examples of legal degradation that are very easy to see are many

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actions that harm the community that are not resolved, such as the legal protection and security of the Tourism Office. as in the legal and security protection of the Tourism Office relating to the rights of consumers of tourism service users. For example, tourism problems that lack attention to legal protection and security. This does not mean that there is no rules of law, and the weakness of the legal structure. But more due to still weak legal culture. which in this case is public legal awareness. Awareness⁴.

Indonesian people's legal awareness is increasingly not getting better but is decreasing. In addition to the legal culture of the Indonesian people that needs to be improved, it is also very important to increase the exemplary behavior of the Indonesian people. It is also very important to increase the exemplary behavior of law enforcement officials (judges, prosecutors, police and lawyers) in enforcing the law, and also increase the obedience of law enforcement officials to the law. In addition, it is necessary to support legal facilities and infrastructure, education, and effective and efficient supervision. Law enforcement in terms of tourism management as well as legal protection and security at tourism sites that aim to reduce the impact of degradation of tourism quality. aims to reduce the impact of tourism quality degradation. Law enforcement administration has a function as an instrument of control, prevention, and prevention of crime or that can harm tourism service users. Can harm users of tourism services. Law enforcement through civil mechanisms can allow for the filing of compensation claims for the occurrence of acts that interfere with the security of tourism service users which are usually carried out through tort claims. lawsuit. Based on the rights and obligations of tourists, associated with the provisions of the Consumer Protection Law, a tourist can be said to be a tourist. Consumer Protection Law, a tourist can be said to be a consumer in the field of tourism. As consumers, tourists have rights that are regulated in article 4 of the Consumer Protection Law. Law

Tourism and Consumer Protection Law can be used as a reference to protect and regulate the rights and obligations of tourists as consumers of tourism services. to protect and regulate the rights and obligations of tourists as consumers of tourism services. tourism services. Protection of tourists must be maintained, because without it, tourists tend not to choose Indonesia as a tourist destination. tourists tend not to choose Indonesia as a tourist destination country. If this happens, it will have a negative impact on the development of tourism in the country. country. Therefore, the existence of legal protection in the area of religious tourism here is not only for the benefit of the tourists themselves but also for the benefit of the the manager in managing the tourism so that there are no people who feel harmed . Its responsibility as well as on the authority of regional level laws and regulations or establish regional policies formulated in regional regulations, regional head regulations and other regional provisions. Regional level legislation is defined as legislation formed by the regional government or an element of the regional government or an element of the regional government that is authorized to make regional legislation. Local regulation content material is all material content in the context of implementing regional autonomy and assistance tasks, accommodating and considering the characteristics or special conditions of the region and is a further elaboration of higher laws and regulations. Based on this explanation, with regard to tourism, basically the regions are given the authority to manage themselves. Referring to the spirit of regional autonomy outlined by Law No. 32 of 2004 concerning regional government, basically in an effort to provide legal protection for tourists, local governments are given the authority to manage their own tourism. To provide legal protection for tourists, the local government can form a regulation in the form of a regional regulation that generally regulates the protection of consumers, especially tourists. Consumers, especially tourists.

This local regulation can be formed, as long as it does not conflict with the principles of legislation. Shaping the tourism sector, the tourism law mandates that tourism is an integral part of national development that is carried out in a systematic, planned, and organized manner. Development that is carried out systematically, planned, integrated, sustainable, and responsible while still providing protection for religious values, culture that lives in the community, preservation and quality of the environment, and national interests. National interests. Based on the postulation framework, the next strategic step is to elaborate in a series of policies that certainly endeavor to encourage, strengthen, and enforce the concept of sustainable tourism development. In the governance of tourism organization, it should refer to the concept of sustainable tourism development as affirmed in Article 2 of the Tourism Law. Tourism development and development must be based on local wisdom and special local sense that reflects the uniqueness of cultural heritage and the uniqueness of the environment. Preservation, protection, and improvement of the quality of resources that are the basis for the development of tourism areas. Development of additional tourist attractions rooted in local cultural treasures. Provide support and legitimacy to the development and development of tourism if proven to provide positive benefits but otherwise control and or stop the tourism activity if it exceeds the threshold of the natural environment or social acceptability even though on the other hand it is able to increase community income. Every community has priority rights to become a worker/laborer, consignment, and management in the tourism business sector³.

³ Manan. Bagir et al, Hukum Kepariwisata & Negara Kesejahteraan (Antara Kebijakan dan Pluralisme Lokal), Cet ke I, Surakarta: Halaman

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In the context of this manager, each community is given the right to cultivate its resources in the tourism business sector. This construction makes the surrounding community no longer a marginalized community, but has a more bargaining position in determining their own and other tourism business activities. Position in determining and enjoying the benefits of tourism in the region. Thus, after looking at the naked eye carried out by researchers, this tourism law is a basic benchmark or general benchmark which is certainly strengthened by the regulations under this regulation, meaning that this tourism law cannot stand alone or cannot be solely applied just like that because it is general in nature which certainly talks about the principles or basic thoughts related to tourism. Therefore, Government Regulations, Regional Regulations, Ministerial Regulations must be issued as special regulations. If this Law is a general Law, it will be the benchmark in formulating Government Regulations. If this Law is a general Law, it will become a benchmark in formulating Regional Regulations, Government Regulations, and Ministerial Regulations where each consideration will definitely become a benchmark or reminder in formulating the Law under it, namely the Tourism Law.

Furthermore, that the implementation of the Tourism Law is not merely directly applied absolutely just like that but of course there are other supporting legal regulations or special laws that complement it in order to increase the security of tourism service users. Has a very good essence that tourism management is inseparable from the principles of good governance. Law enforcement officials do not convey that the Tourism Law is rarely socialized to the public and the disposition is that there is a transfer of authority so that it becomes uncertain in dealing with all matters related to tourism. The role of the community in efforts to implement Article 20 Letter C of the Tourism Law states that "Every tourist has the right to legal protection and security" greatly influences the application of the Law, because the higher the role and awareness of the tourism management community. Of the implementation of the Tourism Act will make it easier for the Government to implement and enforce the Act in order to fulfill the human rights of tourism service users. Of users of tourism services. In addition, strict sanctions for tourism managers who are negligent to the security of users of tourism services, along with the Government, must bear the cost of compensation.

In addition, strict sanctions for tourism managers who are negligent towards the security of users of tourism services together with the Government must bear the cost of compensation for those arising later if there are victims of a lack of security for users of tourism services. The problem of law enforcement is not only about the disobedience of the community to the Law that has been set by the Government. However, it can start from the values possessed by the community that are not appropriate, then the regulations set by the Government that do not include ideal values in the right formula, and every entrepreneur just follows their own desires. The contribution of thinking ideas from the author here is due to the fact that there are still many religious tours that have not been managed based on the Law.

Many religious tours have not been managed based on the Tourism Law. And in its management there is no maximum legal protection. and instead of that the management of the Regional Government is also very lacking, so that religious tourism is almost neglected and not protected. Religious tourism is almost neglected not well taken care of. Problems also come if there are tourists who experience losses, then the accountability is confused because there is no manager for the tour and from the local government it seems that they do not want to participate in the camp. Local government also does not seem to want to interfere in the accountability. Therefore, the urgency of regulations made by the local government or local tourism office is needed so that the management and legal protection of religious tourism areas can be supervised and run as well as possible. Can be supervised and run as well as possible and in accordance with the Tourism Law⁴.

Tourists are subjects that play a very important role in the world of tourism. It is the traveler who determines the back and forth or success of the world of tourism. To succeed in the field of tourism, efforts or steps are needed that lead to the protection of tourist rights. That leads to the protection of the rights of tourists. In the contract of protection against tourists, then avoid and strive for prevention of possible disturbances to tourists. The existence of disturbances to tourists can cause tourists to feel unsafe and even threatened both their lives and their property. Tourists in this case need to be protected from various kinds of disturbances that exist. Disturbances to tourists can be caused by losses. The disturbance can occur at the place of arrival, travel, lodging, tourist attractions, restaurants, or entertainment venues.

In addition, disturbances can also be caused by activities from the surrounding community that make tourists experience losses. The tourism development process is inseparable from the region's ability to manage existing potential and this is also supported by the knowledge and skills of existing human resources. Knowledge and skills of existing human resources as well as community participation in a climate of openness and democratization and also realizing how important tourism is in influencing the development of an area, an area from a poor area to a developed and developing area. Developed and developing regions. The granting of authority to the head of an advanced and developing regional government. The region is a form of implementation of regional autonomy. Law Number 32 of 2004 concerning Regional Government adheres to the principle of autonomy, broad,

⁴ Industri Pariwisata Indonesia Dalam Globali Perdagangan Jasa (GATSWTO) Implikasi Hukum dan Aplikasinya. Bandung: Refika Aditama.

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real and responsible. Broad, real and responsible. This means that the regions are given the authority to regulate and manage government affairs outside the central government affairs that have been determined by law. The Regional Government Organizer in carrying out its duties, authorities, obligations and

Regional Government Organizers in carrying out their duties, authorities, obligations and responsibilities as well as on the authority of regional level laws and regulations or establish regional policies formulated in regional regulations, regional head regulations and other regional provisions. Local level laws and regulations are defined as laws and regulations formed by the local government or one of the elements of the local government or one of the elements of the local government authorized to make local laws and regulations. Local regulation content material is all material Content in the context of implementing regional autonomy and assistance tasks, accommodating and considering the characteristics or special conditions of the region and is a further elaboration of higher laws and regulations. Based on this explanation, with regard to tourism, basically the regions are given the authority to manage themselves. Referring to the spirit of regional autonomy outlined by Law No. 32 of 2004 concerning regional government, basically in an effort to provide legal protection for tourists, local governments are given the authority to manage their own tourism. To provide legal protection for tourists, the local government can form a regulation in the form of a regional regulation that generally regulates the protection of consumers, especially tourists. Consumers, especially tourists⁵.

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⁵ *Ibid*

⁶ Moeka Publising Suwanto, Gamal. Dasar-dasar Pariwisata. Yogyakarta: ANDI OFFSET, 2002

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In addition, strict sanctions for tourism managers who are negligent towards the security of users of tourism services together with the Government must bear the cost of compensation for those arising later if there are victims of a lack of security for users of tourism services. The problem of law enforcement is not only about the disobedience of the community to the Law that has been set by the Government. However, it can start from the values possessed by the community that are not appropriate, then the regulations set by the Government that do not include ideal values in the right formula, and every entrepreneur just follows their own desires. The contribution of thinking ideas from the author here is due to the fact that there are still many religious tours that have not been managed based on the Law. Many religious tours have not been managed based on the Tourism Law. And in its management there is no maximum legal protection. and instead of that the management of the Regional Government is also very lacking, so that religious tourism is almost neglected and not protected. Religious tourism is almost neglected not well taken care of.

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V. CONCLUSIONS

Local governments are still pragmatic in their efforts to explore local revenue in the tourism sector. in the tourism sector, i.e. by trying to get as much profit as possible through the establishment of regional companies and the collection of retribution. Based on previous discussion, it can be concluded that the country has developed tourism with the concept of halal tourism but it is not yet optimal and comprehensive because there is no regulation, limited facilities and accessibility. regulations, limited tourist facilities and accessibility. Therefore, the state holding power must be able to act as a regulator, facilitator, accelerator in the development of halal tourism. development of halal tourism. First, the role of the state as a regulator is to develop tourism system by compiling sharia tourism legal arrangements as a juridical basis for the government, sharia tourism actors, and other stakeholders. juridical basis for the government, business actors and the community, in protecting Muslim travelers based on the principles of expediency, legal certainty, and safety. based on the principles of expediency, legal certainty and balance.

Through responsive and progressive legal instruments, it is expected that every legal product related to the development of halal tourism will be a foothold in the development of tourism with the concept of religious tourism. development of tourism with the concept of religious tourism. Second, the role of the state as accelerator, namely accelerating the development of infrastructure / infrastructure facilities, tourist transportation based on sharia principles. Third, the role of the state as a facilitator, namely providing facilities, products and services with the concept of religious tourism to ensure the safety and comfort of Muslim tourists. and comfort of Muslim tourists. The potential and opportunities of the religious tourism sector must be accompanied by the development of adequate legal instruments and regulate clearly and comprehensively, especially in the aspect of protection of Muslim tourists. clear and comprehensive, especially in the aspect of legal protection of tourists concerning the fulfillment of the rights and interests of tourists, such as concerning the fulfillment of the rights and interests of tourists, such as the guarantee of provisions standardization of facilities and legal protection in the development of religious tourism. the.

The local government or the local regency tourism office should already have laws and regulations regarding the management of tourism. So that losses from tourists who visit can be resolved in accordance with existing regulations. existing regulations. But if the management has not been balanced with clear regulations, then the management of tourism will experience clear regulations, then the tourism management will experience imbalances in accountability to tourists. inequality in accountability to tourists. Although there are no clear and comprehensive regulations in carrying out the religious tourism activities, in an effort to provide legal protection and legal certainty guarantees to tourists, there are several laws and regulations that can be used as alternative footing in the context of utilization of religious tourism products and services by tourists, including the Consumer Protection Act and the Tourism Act. So the legal protection of tourists becomes so important to pay attention to A tourist who visits and is in a tourist destination country is very likely to experience events or events that jeopardize the safety and security of his property and life. property and life. Acts of theft, robbery, fraud, and other unfair treatment can be experienced by tourists who are visiting and are in a tourist destination country. can be experienced by tourists who are enjoying their tour. If a tourist experiences these events, then a tourist will feel that his rights are not protected. feel that his rights are not protected. This certainly disrupts the comfort of travel. For the events experienced, every tourist has the right to request and receive protection from a country they visit. This protection protection means protection of the comfort and safety of both life, property, and dignity.

Dignity. Regarding the rights and legal protection and security of tourists in Article of the Law on Tourism is regulated as follows: Every tourist has the right obtain: accurate information about tourist attractions, tourism services in accordance with standards, legal protection and security. in accordance with standards, legal protection and security, health services, protection

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of personal rights, and insurance protection for high-risk tourism activities. High-risk tourism activities. In the provisions of article 20 of the Tourism Law mentioned above, that tourists have the right to obtain legal protection and security, protection of personal rights and insurance protection for high-risk tourism activities. High-risk tourism activities. The Government and Regional Governments are obliged to provide tourism information, legal protection, and security and safety to tourists. Efforts to provide legal protection and safety of tourists involve not only the government, but also tourism entrepreneurs. The involvement of tourism entrepreneurs to⁷.

The involvement of tourism entrepreneurs to take responsibility for protecting tourists is logical considering that they also enjoy the benefits of the presence of tourists. The progress of tourism business activities that are carried out is highly dependent on the level of tourist visits. With the implementation can minimize tourism managers who do not comply with the Law, so that the capacity and carrying capacity of tourism becomes more optimal than before. Not only that, the Regional Government and all tourism components in Malang Regency should be able to elaborate these provisions in Regional Regulations and implement these provisions consequently in the context of law enforcement in the tourism sector. In addition, consumers / tourists must. In addition, consumers/tourists must be more careful in conducting tours by obeying the instructions/rules of the guide in order to avoid things that can harm themselves and others⁸.

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⁷ Marsono Fahmi Prihantoro, Dkk, Dampak Pariwisata Religi Kawasan Masjid Sunan Kudus, Terhadap Ekonomi, Lingkungan, dan sosial Budaya, Yogyakarta, UGM Gadjah Mada University Press, 2016 Hlm 7

⁸ Manan. Bagir et al, Hukum Kepariwisata & Negara Kesejahteraan (Antara Kebijakan dan Pluralisme Lokal), Cet ke I, Surakarta: Halaman

Social Promotion, A Pathway for Achieving in School in Nigeria



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ABSTRACT: Nigeria's education commits to the building of a just and egalitarian society. Social promotion is a 21st century approach in education that tends to favour no child left behind in schooling. The concept is framed around the principle of egalitarianism whereby provisions for education are such that can guaranty equal opportunities for all children to achieve in school through effective teaching and learning. Consequently, a simple regression was therefore conducted to examine whether social promotion significantly predicts learner achievement in public primary schools in Cross River State, Nigeria. Three research hypotheses were formulated to guide the research. 20,000 pupils, including 10,000 boys and 10,000 girls, were purposefully recruited from 50 schools for the study. The social promotion and achievement in school questionnaire (SPASQ) was used to generate data. Based on the notion of social justice, data was statistically analysed via SPSS. The results indicate that effective teaching, effective learning and automatic promotion significantly predict learner achievement in school. It is therefore recommended that provisions should be made to foster recruitment of qualified and competent teachers and a supportive learning environment, and social promotion should replace the merit-oriented examination to produce a process that can facilitate achievements for all children in school.

KEYWORDS: social promotion, achievement, children, primary school, Nigeria.

INTRODUCTION

Education systems in the 21st century are making reforms oriented around the vision of social promotion (Brophy, 2006, Ndaruhutse, Brannelly, Latham & Penson, 2008; Hernandez-Tutop, 2012; Social Promotion, 2012). Recent changes made in policy and programmes pledge allegiance to an education in which no child is left behind in it. A no-child-left-behind measure (Ewa, 2020) invokes the concept of ensuring all children are making progress in school and achieving from learning. It is an approach that looks beyond the merit principle of evaluating a child's academic performance. Emerging from research as a means to support disadvantaged learners, the practice challenges the effects of grade repetition on the educational system (Hernandez-Tutop, 2012; Ewa, 2020). A requirement that mandates that a learner has to pass prescribed examination(s) to be promoted in school subscribes to the competent based curriculum. Quite a number of educational systems seriously take learner abilities into consideration to measure the extent of learning. It is an indication of standard agenda implying a process for selecting children who are able to meet set benchmarks to qualify for promotion.

Social promotion does not place a stress on merit. It is rather a difference on education in a democratic direction. Merit system explores what is the ideal, always searching to find the 'best pupil' in learning. Social promotion contrasts the idea of compelling a learner to merit a pass and/or promotion. Consequently, the criteria nonetheless provide that all children are to receive automatic promotion (Brophy, 2006; Ndaruhutse et al., 2008). Given this viewpoint, social promotion is synonymous with automatic promotion. One attempt to define the concept is that documented in Hernandez-Tutop (2012) and Social Promotion (2012). From the perspective of these writers, the strategy involves moving a learner to the next grade regardless of whether s/he meets stipulated qualification criteria in order to keep the person at par with peers at school (*cf.* Ewa, 2020). Such a definition presents a picture in which all the beneficiaries of education have an insurance cover from any incidences that might lead to dropout from school. In the light of the propositions for an education that is indeed for all, classroom tests are instruments of which usefulness is to perform continuous diagnosis of learner abilities in order to address issues that can cause ineffectiveness in learning.

Social Promotion, A Pathway for Achieving in School in Nigeria

LITERATURE REVIEW

Social promotion emerged in recent literature such as Brophy (2006), Ndaruhutse et al., (2008), (Hernandez-Tutop, 2012) and Social Promotion (2012) as a strategy for grounding education for all on a strong participative frame and to challenge all inequitable social, institutional and pedagogical arrangements. Driving forward towards a more accommodated curriculum, progressivist activities are shifting the phase of education from grade retention to social promotion model. A very popular trend in the 19th and 20th century education across the world is the merit promotion (Hernandez-Tutop, 2012) relying on grade retention as an intervention to academic achievement. Even today education in Nigeria demonstrates tenacity with this practice. Looking at it from a conservatist perspective, merit promotion facilitates quality assurance in the standard of education, more so that it can guarantee sustainability in the quality of it. Merit promotion is a phrase made relevant in education to signify achievement in learning through the fulfillment of set criteria. Movement to the next grade/class, graduation and certification, within this plan, takes place just to benefit the brightest or the intelligent learner or a learner who wants to continue in education (Hernandez-Tutop, 2012). As a process by which to achieve in school success is made possible subject to testing and passing the test. This is being emphasised in the national policy on education of Nigeria (Federal Republic of Nigeria - FRN, 2008) and it focuses on making summative judgment on performance so powerful (Shohamy, 2001; Resnick and Schantz, 2017). Most times the tests or examinations produce a measure of only the cognitive competencies of the examinees. Cognitive tests are about evaluating how much of the units of instructions a learner has been able to commit to memory and can reproduce same on demand. Education in the present day cannot assume a no-child-left-behind posture by furthering an inheritance of which design favours individual achievement more than a whole group success.

The reasoning among proponents of merit promotion, e.g. Anderson (2000), indicates an uncritical compliance to a prevalent practice, a dominant system in which mental skills serve as a key criterion for setting the bar on achievement for children in school. A change in the direction of all turns the demerits from the counterproductive effects of grade retention (Ewa, 2020) to advantages for automatic promotion. Drawing from Hernandez-Tutop (2012:3), it is a change from: (1) a stress on merit to a stress on efficiency; (2) a focus on individual to group learning; (3) a belief in different capability to equal capability; (4) a move from adjusting pupils to school to adjusting the school to the pupil; and (5) a focus on the best pupils to all pupils. Promotion is effected in this way for the social and psychological interests of the learner. As a new way in education, children are likely to be made to engage in classroom programmes involving exploration, analysis and criticising relevant issues of educational value during lessons, guided by teachers. The argument leverages on the 'assessment for learning' discourse - a formative approach involving the continuous tracking, feed backing and improvement of performance to be able to predict the achievement of a learner (Miske, 2003; Guskey, 2003; Organisation for Economic Co-operation and Development - OECD, 2005; Kuze and Shumba, 2011). It helps evolve a progress monitoring system which teachers use to identify the strength and weaknesses of children in order to facilitate positive outcomes going forward (United Nations Educational, Scientific and Cultural Organisation - UNESCO, 2000; Shepard, 2006). What a way to launch new directions for teaching and learning (Darling-Hammond and Rustique-Forrester, 2005). It is empowering whereby teachers can collaborate with children - and even parents - to make decisions about promotion, taking into cognizance the needs and interests of the learner. Different studies have been carried out in the turn of the 21st century in the global west and sub-Saharan Africa on the overall issue under examination. Results of some of the research are against the application of merit promotion as a means to sustain educational standards (Jimerson, 2001a). For example, Roderick and Nagaoka (2005) employed a regression discontinuity design to match the level of achievement of retained learners and comparison group. The outcome of the study revealed that grade 3 learners who repeated class under the Chicago high-stakes testing policy scored lower in the test two years after the retention. Mackatiani (2017) conducted a mixed methods research to examine the influence of examinations oriented approaches on quality education in primary schools in Kenya. One of his findings suggests that examinations based system increases inefficiency in education and the number of overaged children in primary schools in Kenya rose due to failure and repetition. What causes it, according to Boit, Njoki & Chang'ach (2012), is that examinations prioritise theoretical learning over practical learning and training. However, grade repetition applies at the end of the sixth year cycle in Burundi at a time where teachers and parents perceived that the child is prepared and has covered enough learning materials in the curriculum to engage in a qualifying examination to transit to secondary education (Jimerson, Kaufman, Anderson, Whipple, Figueroa, Rocco, and O'Brien, 2002). It implies that examination is tied to a child's readiness; not to school stipulations.

An education that indeed recognises and values difference in children welcomes reforms that generate a humane policy on grade promotion (King, Orazem & Paterno, 2008). Interventions in education are utilised to support the achievement of all children; not particular ones. Introducing social promotion in the context of Nigeria also means a call to jettison the grade retention policy. That could minimise the behaviour of children where they may want to contemplate drop out for failure to meet the minimum standard requirement, and scale up the quantity of them that can actually complete the full cycle of schooling. Some learners, especially the over aged ones, find it difficult to cope with the humiliation associated with repeating a class. Schools in

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Nigeria tend to become fixated on standards system and examination is now an addiction. That forecloses other alternatives that can facilitate achievements. Examination does not in all situations give a true reflection of knowledge as it involves a one-off measurement of performance. Effective learning is what promotes knowledge. The decision of the school then concerning promotion is based primarily on pupil attendance and skills acquisition in contrast to that which is determined by way of the usual teacher made test or the standardised test. Primary education involves huge investment, more so, as it is being provided free of charge for Nigerian children following the introduction of the Universal Basic Education (UBE) scheme in the country (Universal Basic Education Commission - UBEC, 2004). Some of the difficulties experienced in regard to the education of children are the increased pressure that is put on the meagre budgets often allocated to primary schools in Nigeria. Standard based promotion poses extra cost on education because grade retention doubles or trebles the resources needed to re-teach and re-test a child who has failed in the previous year(s). The social promotion system rather helps to save cost.

Despite the talks about 'all' 'equality', 'social justice', education continues to serve as a tool for fostering class distinctions among learners in Nigeria. The school therefore plays a role in reproducing social inequality (Croizet, Autin, Goudeau, Marot & Millet, 2019). Institutions display a reflection of a capitalist environment as they uphold differentials by forcing a pattern of classifications that stratify achievements and determine the fate of children. Enu and Joseph (2018) add to the understanding of this debate in their article in which they decry that the functioning of the school in Nigeria also exacerbates social class whereby learner achievement in school is determined by test. Apart from utilising it for promotion to a higher grade, test scores also serve as guides for selecting applicants in the labour market. Every pupil has the desire to succeed from schooling to be able to have a promising career future. That is realisable provided the individual is able to scale through a stiff competition. As such, there is a tendency for some (slow) learners to even engage in unethical practices e.g. examination malpractices.

A condition for reconstructing the disparities entrenched in the school system in Nigeria is by adopting a plan that considers the achievement of all as a medium to level class differences. Argument in relation to ensuring equal opportunities and possibilities in education concentrates on making schools become genuinely egalitarian by abolishing the divide between the achieving and underachieving learners. It implies the provision of equal access all through the various levels of formal education (*also see* Enu and Joseph, 2018), including the outcomes of learning, since achievement is the final point of demonstrating educational attainment. 'Achievement for all' in schooling does not produce a demotivating effect on the hardworking learner. While some perceptions might pitch against this reasoning here as rather favouring those demeaned as 'dull learners', it is however important to note that children develop at different pace and there are those whose development might be delayed. The motivation to achieve is not always exogenous to the child, arising from the variables in the external environment around the individual. Each child has intrinsic drives to learn at his pace and to achieve.

THEORETICAL FRAMEWORK

The discourse of social promotion being examined in the present study is informed by the notion of social justice as espoused by Hytten and Bettez (2011). It is fundamentally grounded around provisioning understanding education for social justice. Education is being conceived within the realm of social justice as services programme whose aim is to develop all humans possessing varying characteristics and belonging to a multicultural backgrounds. Consequently, it raises concerns about whether the available provisions and structures offer equal opportunities for all the recipients to achieve the objectives of their education. Central to this field is a tag on 'equal distribution of opportunities for all to achieve'. From such a position it is implicative that there are inequities which are institution based, and these constitute a threat to the education of children. A change thus becomes imperative via a just approach. Such a change allows for a socially just teaching that supports the learning and achievement of all children (Grant and Gillette, 2006) in school. A socially just school also reflects a socially inclusive environment (World Bank, 2013; Woodcock, 2013; Ewa and Ewa, 2019) in which the school is changed to accept all and all are helped to achieve from learning. The inequities that inhibit learner achievements are characteristic of unjust provisions that exclude and marginalise certain background of children in education. A system that is examination oriented, as it is the case presently in Nigeria, produces disparities in achievements among learners and does not represent an education that is indeed for all. An education system that pursues a just society highlights social promotion in school as a means to ensure no child is actually left behind (Brophy, 2006, Ndaruhutse et al., 2000), Hernandez-Tutop, 2012 & Social Promotion, 2012).

STATEMENT OF THE PROBLEM

A key philosophy on which the Nigerian policy on education is anchored is 'the building of a just and egalitarian society' (FRN, 2008:1). It indicates that provisions in education are to support effective learning and achievement of all children across the various processes of schooling. Social promotion is an education for social justice approach that has potentials to address the challenges inherent in the existing methods being applied to determine pupils' achievements in school. Currently, the attention

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given to competence based examinations tend to overwhelm the importance of effective teaching and learning in schools in the country. This is a contradiction in policy. On the one hand the education policy points at having a just and equal society and on the other emphasises the use of examinations to promote learners to the next grades in school. Policy is inconsistent in terms of the process by through which children are made to achieve educational goals. The practice undermines the decision to ensure justice and egalitarianism in learner achievements in schools. This model of examination is solely used to predict learner achievement. Incidences of school dropout occur because many children fail to meet minimum requirements in such examinations and as such, asked to repeat the grade/class. Even though different stakeholders are making efforts to intervene, the insistence that every learner must pass qualifying examinations tend to put a clog on the wheel of progress of children whose development is delayed so that some of them are actually left behind. Thus, that seems to create variations in the opportunities available for the children to succeed in future.

PURPOSE OF THE STUDY

This research examined whether social promotion predicts learner achievement in state primary schools in Cross River State, Nigeria. It particularly investigated whether:

1. Effective teaching predicts learner achievement in school.
2. Effective learning predicts learner achievement in school; and
3. Automatic promotion predicts learner achievement in school.

RESEARCH QUESTIONS

These questions were raised for the study:

1. Does effective teaching predict learner achievement in school?
2. Does effective learning predict learner achievement in school?
3. Does automatic promotion predict learner achievement in school?

STATEMENT OF RESEARCH HYPOTHESES

The following null hypotheses were formulated to guide the study:

1. Effective teaching does not significantly predict learner achievement in school.
2. Effective learning does not significantly predict learner achievement in school.
3. Automatic promotion does not significantly predict learner achievement in school.

THE METHODOLOGY

Research Design

The survey is being adopted as an appropriate design for the research to take a quantitative direction (Creswell, 2003; Muijs, 2004). It follows scientific procedures and processes to access numerical data, and statistically presents a picture of the situation in the context. As such, it allows data generation via questionnaires. It implies that the non-quantitative strategies such as case study, ethnography and content analysis (Robson, 2011) are not useful in the circumstance.

Research Area

Cross River is among the 36 federal states that constitute Nigeria (Nigerian National Population Commission, 2010, 2013). It is located at the south-south geopolitical zone of the country, sitting on the coast of the Atlantic Ocean. Cross River State is a multicultural, multi-ethnic and multilingual society. Children in this area are boys and girls belonging to these diverse backgrounds. They receive formal education in public primary schools located across the state. All public schools in this place subject pupils to examination/test as a medium to progress to the next class/grade and to graduate from school (FRN, 2008). Apparently, this is in compliance with the directive from the national policy on education.

Study Population

The present study focused on all primary age children in primary schools located in the state. Over 80 thousand pupils including boys and girls aged between 6 and 11+ years were registered in these schools from grade one to six (FRN, 2008; Cross River State Universal Basic Education Board, 2022). Only children in grade 4 and 5 aged from 9 years and above participated in the study. Pupils within this age range can read and write simple sentences in English. Their peers in the junior primary section were excluded due to concerns about their cognitive and linguistic abilities. Also, pupils in primary 6 did not participate. These ones were preparing for their graduation examinations and there was the need not to bother them.

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Sample and sampling method

20 thousand pupils, representing 25 per cent of the population, were recruited via a purposive sampling procedure (Creswell, 2003; Muijs, 2004; Robson, 2011) from 50 schools – 400 pupils per school - for this study. It enabled an equal representation of participants: 10 thousand boys and 10 thousand girls. More so, the strategy was deployed so as to draw respondents that could provide rich data to support the study. Officials at the Education Board and in schools used their records to assist to identify the schools and pupils respectively so as to ease sampling.

Data Tool

The social promotion and achievement in school questionnaire (SPASQ) was employed to collect data from participants. This data source is drawn from other similar ones used, but modified appropriately to reflect the focus of the present study. Children in the research area are familiar with questionnaires and can use it. SPASQ has three sections: information area, the demographic part and response aspect. The first part is meant to inform participants about the study and indicate their roles therein. The second collected information on the age, name of school and class of the participants. The third part had 15 items, five to address each hypothesis. Since the research involved children, the two Likert scale of 'YES' and 'NO' was used to make it easy for them to complete the questionnaire.

Establishing trustworthiness

The study adopted a positivist/realist paradigm to check for validity, reliability and generalisability (Muijs, 2004). Also such a philosophy is applied to ensure the processes, events and procedures involving access and analysis of data were performed with minimum error and fraud (Cohen, Manion & Morrison, 2000; Carcary, 2009). The researcher is research active. SPASQ was nonetheless scrutinised for validity and internal consistency by experts in measurement and evaluation, and was adjudged to be good and useful. It was later piloted in one school within the research site using 50 pupils. Data arising therefrom was subjected to statistical analysis for reliability test via the Cronbach Alpha. The result showed .79 signaling that the instrument is suitable for use in the primary study.

Ethical considerations

Negotiations were made with gatekeepers – education authority and head teachers - to be able to access the schools. Staff of the Education Board and teachers used their records to identify the schools and pupils. The children were given participation sheets to read and to give informed consent to participate. However, they cannot self-consent to take part in research. Parents and teachers had to endorse the consent forms on their behalf. The children were allowed two weeks to decide to take part before being served the questionnaire. Names of schools and pupils are anonymous, and participants' data are confidential. Data was stored safely by the researcher, and used only for the purpose of the research.

Data Analysis

All participants completed and returned the SPASQ. All 'YES' responses in the document were scored 2 points and 'NO' responses one point each. The simple linear regression was used to analyse data hypothesis-by-hypothesis. Simple linear regression is used to examine the linear correlation between each of the variables for social promotion: effective teaching, effective learning, automatic promotion and learner achievement in school (the dependent variable). The statistical package for the social sciences (SPSS) was deployed to facilitate data analysis. See summary of SPSS output of simple linear regression on tables 1, 2 and 3 below:

Table 1: Simple regression test of effective teaching and learner achievement.

Coefficients^a

Model	Unstandardised coefficient		Standardised coefficient	t	Sig.	95% Confidence Interval for B	
	B	Std. Error				Lower bound	Upper Bound
1 Constant	-5.623	4.020		-1.874	.000	98.632	142.463
Effective teaching	.176	.56	2.31	3.183	.000	0.764	1.450

a. Dependent Variable: Learner achievement in school

Result of simple linear regression is shown on table 1 above. Estimates of the coefficients are presented in the B column. Constant (β_1) = -5.623; effective teaching (β_2) = .176; P-value for the two coefficients as given in the Sig. column = .000. The calculated t for β_1 = 3.183 is higher than β_2 = -1.874 and P-value = .000 at 95% confidence interval for B. As such, the null hypothesis that states: effective teaching does not significantly predict learner achievement in school is rejected; the alternative hypothesis is retained.

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It suggests that effective teaching significantly predicts learner achievement in school. Effective teaching is strongly correlated with learner achievement in school.

Table 2: Simple regression test of effective learning and learner achievement.

Coefficients ^a							
Model	Unstandardised coefficient		Standardised coefficient	t	Sig.	95% Coefficient interval for B	
	B	Std. Error	Beta			Lower bound	Upper Bound
1 Constant	-5.623	4.020		-1.874	.000	98.632	142.463
Effective learning	.189	.56	2.31	3.281	.000	0.764	1.450

b. Dependent Variable: Learner achievement in school

The outcome of data analysis on table 2 show two coefficients: constant (β_1) = -5.623; effective learning (β_2) = .189; p-value for the two coefficients given in the Sig. column = .000. The calculated t for β_1 = 3.281 is higher than β_2 = -1.874 and P-value = .000 at 95% confidence interval for B. As such, the null hypothesis that states: effective learning does not significantly predict learner achievement in school is rejected; the alternative hypothesis is accepted. It indicates that effective learning significantly predicts learner achievement in school. Effective learning has a strong connection with learner achievement in school.

Table 3: Simple linear regression test of automatic promotion and learner achievement.

Coefficients ^a							
Model	Unstandardised coefficient		Standardised coefficient	t	Sig.	95% Coefficient interval for B	
	B	Std. Error	Beta			Lower bound	Upper Bound
1 Constant	-5.623	4.020		-1.874	.000	98.632	142.463
Automatic promotion	.218	.56	2.31	3.631	.000	0.764	1.450

c. Dependent Variable: Learner achievement in school

Table 3 presents result of data analysis for hypothesis three. The two coefficients as shown in column B: Constant (β_1) = -5.623; automatic promotion (β_2) = .218; p-value for the two coefficients given in Sig. column = .000. The calculated t for β_1 = 3.631 is higher than β_2 = -1.874 and P-value = .000 at 95% confidence interval for B coefficients. As such, the null hypothesis that states: automatic promotion does not significantly predict learner achievement in school is rejected; the alternative hypothesis is accepted. It suggests that automatic promotion significantly predicts learner achievement in school. Automatic promotion has a strong correlation with learner achievement in school.

DISCUSSION OF FINDINGS

Findings from data analyses are being discussed hypothesis-by-hypothesis as follows:

Hypothesis One

The outcome of analysis of data for hypothesis one suggests that effective teaching significantly predicts learner achievement in school. No education can rise above the quality of its teacher (Federal Republic of Nigeria, 2008). Teachers have a strong influence on pupils' learning. Effective teaching is feature of an effective teacher. It is characterised in terms of profitable content knowledge, systematic and appropriate utilisation of instructional procedures, adequate content coverage (Ding and Sherman, 2006), attention to learner emotional needs, a supportive physical environment for learning and positive teacher-learning interactions. Teacher performance during classroom lessons predicts learner achievement. Increased spending on standard examinations does not correlate to an increase in test scores. Higher expenditure on the examinations does not yield sustainability in children's achievement (Barnes, 2011). Learner achievement in tests is accomplished through a thorough, meaningful and consistent teaching of the child (*cf.* Adeyemi, 2020). Teaching that is effective is more importantly intended at the all-round development of a child's abilities; not just for testing.

Hypothesis Two

The result of data analysis for this hypothesis indicates that learning effectiveness significantly predicts learner achievement in school. Children who learn how to learn well have the tendency to develop understanding, knowledge for criticism, creativity, and innovations other than to pass qualifying examinations. It is a life-long achievement. When the direction of learning is that which

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encourages memorisation (rote learning) it leads to a dead end. They may not remember the facts and, if they do, the information may not be useful or exploratory. Such learning is temporary and the purpose is to assist the learner produce positive test scores perhaps as a fulfillment of teacher accountability and to impress parents. Now the world has become a society that is knowledge-based. Effective learning is the ability of a learner to 'rethink what is taught, how it is taught, and how learning is assessed' (Bransford, Brown & Cocking, 2000:13). Effective learning is about learning to practice what is learnt, learning to develop meanings, learning with others to develop them and learning to change who we are (Lieberman and Pointer-Mace, 2008). Learning in this sense is not directed; rather it promotes personal explorations whereby children can independently develop how they think.

Hypothesis Three

The finding from data analysis of this hypothesis surmises that automatic promotion significantly predicts learner achievement in school. This procedure is indeed no-child-left behind (Brophy, 2006; Ndaruhutse et al., 2008; Hernandez-Tutop, 2012 & Social Promotion, 2012) in education. Social promotion mitigates risks to learner achievement, thus averting the propensity of school dropout. Education is not only about teaching to test. Within the school are children with different abilities, talents and needs. It is inappropriate to subject all of them to a one-off test as a means for them to qualify for promotion to the next grade/class, get certificated and and/or to graduate. Boit, Njoki & Chang'ach (2012) argued that examinations prioritise theoretical learning over practical learning and training. Social promotion looks beyond the mental capacity which a child is expected to demonstrate in an examination. It underscores effective teaching and learning as a process for enabling all learners to develop knowledge, understanding, exploration, critical skills, hands-on-tasks (practical) and to achieve, each according to his pace.

RECOMMENDATIONS

Arising from the findings of this study, the following recommendations were made:

1. Qualified and competent teachers should be recruited to ensure effective teaching.
2. Friendly and supportive provisions from policy to practice should be made available for children to learn effectively in school; and
3. The first two suggestions should serve as processes and procedures to support the application of automatic promotion to replace the one-off standard-based examinations to support the achievements of all learners.

CONCLUSION

An education system that genuinely seeks the achievement of all learners adopts social promotion to ensure the progress of children at school is just and equal. The outcome of the research has indicated the way examination oriented practices places the education of children in at risk in Nigerian schools. Many pupils in Nigeria leave school without achieving the purpose of getting education. Others feel dissatisfied because the process for determining achievements rather produces class differentials among pupils and limits opportunities for success for some of them. Automatic promotion emerged from research apparently as no-child-left-behind. No-child-left-behind is anti-examinations and opposed to any other process which makes progress in school restrictive for pupils. Implicitly, as a new way forward, social promotion ensures the policy provisions and objectives of education create an environment that facilitates effective teaching and learning so that all learners can develop useful knowledge and skills to support a meaningful life in future.

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Influence of a Magnetic Field on Blood Flow Through an Inclined Tapered Vessel with a Heat Source



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ABSTRACT: In this study, we investigated the effect of a heat source on blood flow through a gradient-tapered vessel under the influence of a gradient magnetic field by reformulating the problem using a mathematical model representing the blood momentum and energy equations. The partial differential equations were dimensionlessly scaled using a scaling parameter and further reduced to a system of ordinary differential equations. A coupled system of regular equations was solved using the series method to obtain analytical solutions for temperature and blood velocity profiles. Numerical simulations were performed using Wolfram Mathematica version 12 and varied parameters relevant to the investigation. The results showed that the relevant parameters—magnetic field, radiation parameter, Grashof number, and tilt angle contributed to liquid temperature and blood flow velocity, respectively. The novelty of this study is the fact that heat can be introduced from a heat source for the purpose of helping blood circulation, and magnetic fields tend to accelerate blood flow velocity.

KEYWORDS: Heat source, Blood, Flow, Vessel, Magnetic field, Angle of inclination, Tapered angle

1. INTRODUCTION

Blood flow through blood vessels and atherosclerosis of the cardiovascular system, including hardening of the arteries due to plaque accumulation were studied by solving the underlying equations formulated using several suitable methods. There are several researchers who have investigated blood flow, and they are: Elshehawey and Husseny [1] studied peristaltic transport in ferrofluids with porous boundaries. Sinha and Misra [2] studied blood flow through arteries with permeable walls. Makinde and Osalusi [3] studied steady-state magnetohydrodynamic (MHD) flow in a two-dimensional channel with permeable boundaries. Elangovan and Ratchagar [4] conducted a study of his MHD flow in steady state through a circular vertical pipe with a permeable boundary. Makinde and Chinyoka [5] studied unsteady MHD flow in porous two-dimensional channels with impermeable and porous walls. Sattar and Waheedullah [6] studied the unsteady flow of a viscoelastic fluid through a porous medium surrounded by two porous plates. Xin-Hui Si et al. [7] studied asymmetric laminar flow in porous channels with expanding or contracting walls. A homotopy analysis (HAM) method was employed to obtain the flow profile of the velocity field. Bunonyo and Amos [8] studied blood flow through notched arteries and their results proved useful. Bunyoño et al. [9] formulated a model that studied the blood flow of atherosclerosis and was solved using an analytical approach. Hanvey and Bunonyo [10] discussed the therapeutic effects on blood flow through arteries and showed that increasing the Grashof number resulted in increased blood flow. The problem of unstable aspiration was described by Tsangaris et al. [11]. A case of periodic suction in parallel plate flow was reported by Ramanamurthy et al. [12]. Murthy and Bahali [13] conducted a study of micropolar liquid flow through circular tubes under the influence of a transverse magnetic field with constant suction or injection at the tube wall. Sharma et al. [14] studied the effect of a transverse magnetic field on blood flow in a cylindrical tube containing magnetic particles. Eldesoky [15] studied the slip effect on transient MHD pulsatile blood flow through porous media in arteries under the influence of body acceleration. Similarly, Eldesoky [16] studied the effect of relaxation time on pulsatile MHD blood flow through porous media in arteries under the action of cyclic body acceleration.

The purpose of this article is to extend the work done by Srivastava [17], to investigate the effects of heat and magnetic fields; we reconstructed the problem by introducing the effects of heat sources on blood flow in inclined tapered vessels. , is a thermo-magnetic therapy treatment. Use the series method in solving the governing equations formulated to obtain various flow profiles simulated using Wolfram Mathematica version 12.

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2. MATHEMATICAL FORMULATION

According to Srivastava [17], the equation describing the steady flow of blood through the cylindrical artery inclined at an angle α is described as:

$$\rho \vec{F} = -\frac{\partial P^*}{\partial z^*} + \mu \left(\frac{\partial^2 u^*}{\partial r^{*2}} + \frac{1}{r^*} \frac{\partial u^*}{\partial r^*} \right) - \frac{\mu u^*}{k^*} + \vec{J} \times \vec{B} \quad (1)$$

According to Darcy's law, the blood velocity is:

$$u^* = -\frac{k^*}{\mu} \frac{\partial P^*}{\partial z^*} \quad (2)$$

Following the current density and magnetic field relation, we have:

$$\vec{J} \times \vec{B} = \sigma (\vec{E} + \vec{u} \times \vec{B}) \times \vec{B} \quad (3)$$

$$\beta_r = -\frac{1}{\rho} \left(\frac{\rho - \rho_\infty}{T^* - T_\infty} \right) \quad (4)$$

Substituting equations (2)-(4) into equation (1), we have the momentum equation reduces to:

$$\rho g \sin \alpha = -\frac{\partial P^*}{\partial z^*} + \mu \left(\frac{\partial^2 u^*}{\partial r^{*2}} + \frac{1}{r^*} \frac{\partial u^*}{\partial r^*} \right) + \rho \beta_r (T^* - T_\infty) - \frac{\mu u^*}{k^*} - \sigma B_0^2 u^* \quad (5)$$

We shall introduce the energy equation with a source to investigate the effect of heat on equation (5), according to Bunonyo and Amos [8], we have:

$$\rho c_p \frac{\partial T^*}{\partial t^*} = k_T \left(\frac{\partial^2 T^*}{\partial r^{*2}} + \frac{1}{r^*} \frac{\partial T^*}{\partial r^*} \right) + Q_0 (T^* - T_\infty) \quad (6)$$

Equations (5) and (6) are subject to the following boundary conditions:

$$\left. \begin{aligned} u^* = 0, T^* = T_w & \quad \text{at } r^* = h^* \\ \frac{\partial u^*}{\partial r^*} = 0, \frac{\partial T^*}{\partial r^*} = 0 & \quad \text{at } r^* = 0 \end{aligned} \right\} \quad (7)$$

The dimensionless parameters are:

$$\left. \begin{aligned} z^* = \frac{z}{d}, r^* = \frac{r}{d_0}, h^* = \frac{h}{d_0}, v^* = \frac{bv}{\delta u}, u^* = \frac{u}{u_0}, k^* = \frac{k}{d_0^2}, P^* = \frac{Pd_0^2}{d\mu\mu_0}, t^* = \frac{vt}{d_0^2}, Rd = \frac{Q_0 d_0^2}{\mu c_p} \\ Fr = \frac{u_0^2}{gd_0}, M = \frac{\sigma d_0^2 B_0^2}{\mu}, Re = \frac{\rho u_0 d_0}{\mu}, \theta = \frac{T^* - T_\infty}{T_w - T_\infty}, Gr = \frac{d_0^2 \beta_r (T_w - T_\infty)}{v u_0}, Pr = \frac{\mu c_p}{k_T} \end{aligned} \right\} \quad (8)$$

Following equation (8), equations (5) to (7) are reduced to:

$$\frac{Re}{Fr} \sin \alpha = -\frac{\partial P}{\partial z} + \frac{\partial^2 u}{\partial r^2} + \frac{1}{r} \frac{\partial u}{\partial r} - \left(\frac{1}{k} + M^2 \cos^2 \alpha_1 \right) u + \theta Gr \quad (9)$$

$$Pr \frac{\partial \theta}{\partial t} = \frac{\partial^2 \theta}{\partial r^2} + \frac{1}{r} \frac{\partial \theta}{\partial r} + Rd Pr \theta \quad (10)$$

The corresponding boundary conditions are:

$$\left. \begin{aligned} u = 0, \theta = 1 & \quad \text{at } r = h \\ \frac{\partial u}{\partial r} = 0, \frac{\partial \theta}{\partial r} = 0 & \quad \text{at } r = 0 \end{aligned} \right\} \quad (11)$$

3. REDUCTION TO ORDINARY DIFFERENTIAL EQUATION

Equations (5)-(6) are reduced to system of ordinary differential equations using the following:

$$\left. \begin{aligned} u &= u_0 \\ \theta &= \theta_0 e^{\omega t} \\ -\frac{\partial P}{\partial z} &= P_z \end{aligned} \right\} \quad (12)$$

Using equation (12), equations (9)-(11) are reduced to:

$$\frac{d^2 u_0}{dr^2} + \frac{1}{r} \frac{du_0}{dr} - \beta_1^2 u_0 = P_z + \frac{Re}{Fr} \text{Sin}\alpha - \theta_0 Gr \quad (13)$$

$$r^2 \frac{d^2 \theta_0}{dr^2} + r \frac{d\theta_0}{dr} + \beta_2^2 r^2 \theta_0 = 0 \quad (14)$$

where $\beta_1^2 = \left(\frac{1}{k} + M^2 \cos^2 \alpha_1 \right)$, $\beta_2^2 = (Rd - \omega) Pr$

The corresponding boundary conditions are:

$$\left. \begin{aligned} u_0 = 0, \theta_0 = e^{-\omega t} & \quad \text{at } r = h \\ \frac{du_0}{dr} = 0, \frac{d\theta_0}{dr} = 0 & \quad \text{at } r = 0 \end{aligned} \right\} \quad (15)$$

3.1 Method of Solution

Solving equations (13)-(14), let the solutions be in the following form:

$$\theta_0(r) = \sum_{n=0}^{\infty} a_n r^{n+\alpha} \quad (16)$$

$$w_0(r) = \sum_{n=0}^{\infty} a_n r^{n+\alpha} \quad (17)$$

Differentiate equation (16) twice and substitute the results into equation (14), we obtain:

$$\theta_0(r) = a_0 A J_0(\beta_2 r) + B a_0 \left[J_0(\beta_2 r) \log r + \frac{\beta_2^2 r^2}{4} \left(1 - \frac{6\beta_2^2 r^2}{4^3} + \frac{44\beta_2^4 r^4}{4^3 \cdot 6^3} \right) \right] \quad (18)$$

If $B = 0$, then equation (18) reduces to:

$$\theta_0(r) = A J_0(\beta_2 r) \quad (19)$$

Solving equation (19) using the boundary condition in equation (15), we have:

$$\theta_0(r) = \frac{e^{-\omega t} J_0(\beta_2 r)}{J_0(\beta_2 h)} \quad (20)$$

Substitute equation (20) into equation (13), which is:

$$\frac{d^2 u_0}{dr^2} + \frac{1}{r} \frac{du_0}{dr} - \beta_1^2 u_0 = P_z + \frac{Re}{Fr} \text{Sin}\alpha - \frac{e^{-\omega t} Gr}{J_0(\beta_2 h)} J_0(\beta_2 r) \quad (21)$$

Solving the homogenous part of equation (21), we have:

$$\frac{d^2 u_0}{dr^2} + \frac{1}{r} \frac{du_0}{dr} + (i\beta_1)^2 u_0 = 0 \quad (22)$$

Solving equation (22), we obtained the homogenous solution as:

$$u_{0h}(r) = A I_0(\beta_1 r) \quad (23)$$

The particular solution of equation (21) can be presented as:

$$u_{0p} = -\frac{1}{\beta_1^2} \left(P_z + \frac{Re}{Fr} \text{Sin}\alpha \right) + \frac{e^{-\omega t} Gr}{\beta_1^2 J_0(\beta_2 h)} J_0(\beta_2 r) \quad (24)$$

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The solution to equation (21) is the sum of equations (24) and (23), which is:

$$u_0(r) = AI_0(\beta_1 r) - \frac{1}{\beta_1^2} \left(P_z + \frac{Re}{Fr} \text{Sin}\alpha \right) + \frac{e^{-\omega t} Gr}{\beta_1^2 J_0(\beta_2 h)} J_0(\beta_2 r) \quad (25)$$

Applying the boundary conditions in equation (15), we can simplify equation (25) as:

$$u_0(r) = \frac{1}{\beta_1^2} \left(P_z + \frac{Re}{Fr} \text{Sin}\alpha \right) \left(\frac{I_0(\beta_1 r)}{I_0(\beta_1 h)} - 1 \right) + \frac{e^{-\omega t} Gr}{\beta_1^2} \left(\frac{J_0(\beta_2 r)}{J_0(\beta_2 h)} - \frac{I_0(\beta_1 r)}{I_0(\beta_1 h)} \right) \quad (26)$$

Substituting equation (26) into equation (12), we obtained:

$$u(r) = \frac{1}{\beta_1^2} \left(P_z + \frac{Re}{Fr} \text{Sin}\alpha \right) \left(\frac{I_0(\beta_1 r)}{I_0(\beta_1 h)} - 1 \right) + \frac{e^{-\omega t} Gr}{\beta_1^2} \left(\frac{J_0(\beta_2 r)}{J_0(\beta_2 h)} - \frac{I_0(\beta_1 r)}{I_0(\beta_1 h)} \right) \quad (27)$$

$$\text{where } A = \frac{1}{\beta_1^2 I_0(\beta_1 h)} \left(P_z + \frac{Re}{Fr} \text{Sin}\alpha \right) - \frac{e^{-\omega t} Gr}{\beta_1^2 I_0(\beta_1 h)}$$

$$I_0(\beta_1 r) = \left(1 + \frac{\beta_1^2 r^2}{4} + \frac{\beta_1^4 r^4}{64} + \frac{\beta_1^6 r^6}{2304} \right) \text{ and } I_0(\beta_1) = \left(1 + \frac{\beta_1^2}{4} + \frac{\beta_1^4}{64} + \frac{\beta_1^6}{2304} \right)$$

$$J_0(\beta_2 r) = \left(1 - \frac{\beta_2^2 r^2}{2^2} + \frac{\beta_2^4 r^4}{2^2 \cdot 4^2} - \frac{\beta_2^6 r^6}{2^2 \cdot 4^2 \cdot 6^2} \right) \text{ and } J_0(\beta_2) = \left(1 - \frac{\beta_2^2}{2^2} + \frac{\beta_2^4}{2^2 \cdot 4^2} - \frac{\beta_2^6}{2^2 \cdot 4^2 \cdot 6^2} \right)$$

4. RESULTS

This section talks about numerical simulation of the analytical function as solved in the previous section using Mathematica, version 12, where we shall vary the pertinent parameters within a specified range and study the results of the effect of those parameters. The parameters ranges of values we shall consider in the course of the simulation are as follows:

$$0 \leq Pr \leq 21, 0 \leq Rd \leq 10$$

$0 \leq Re \leq 1, 10 \leq Gr \leq 30, 0 \leq M \leq 10, 5 \leq \alpha \leq 25, 0.5 \leq h \leq 1, 0 \leq \alpha_1 \leq 1$. The plots below shows the effect of Prandtl number Pr , Reynolds number Re , Grashof number Gc , Magnetic field parameter M , angle of inclination α , tapered angle α_1 , the height of stenosis h and radiation parameter Rd on blood temperature $\theta(r, t)$ and blood velocity profile $u(r)$ respectively.

4.1 Effect of Prandtl Number and Radiation Parameter on Blood Temperature

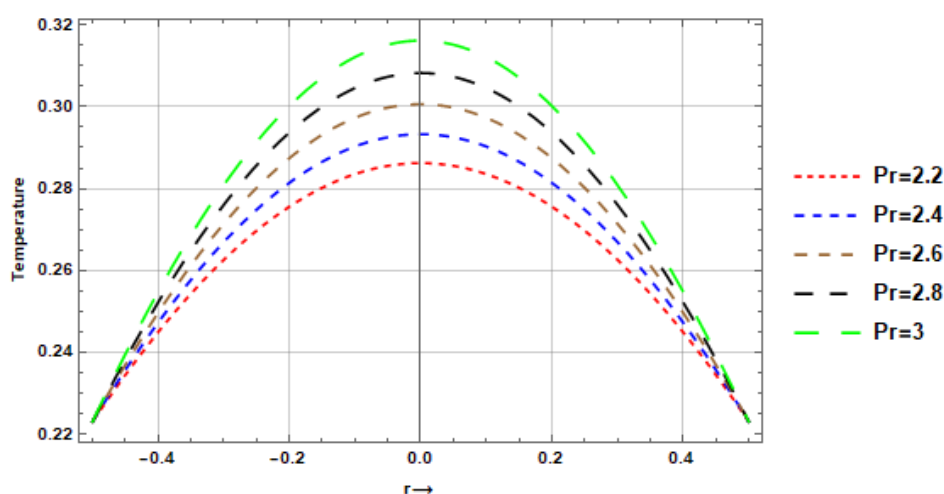


Figure 1. The effect of Prandtl number on Blood Temperature

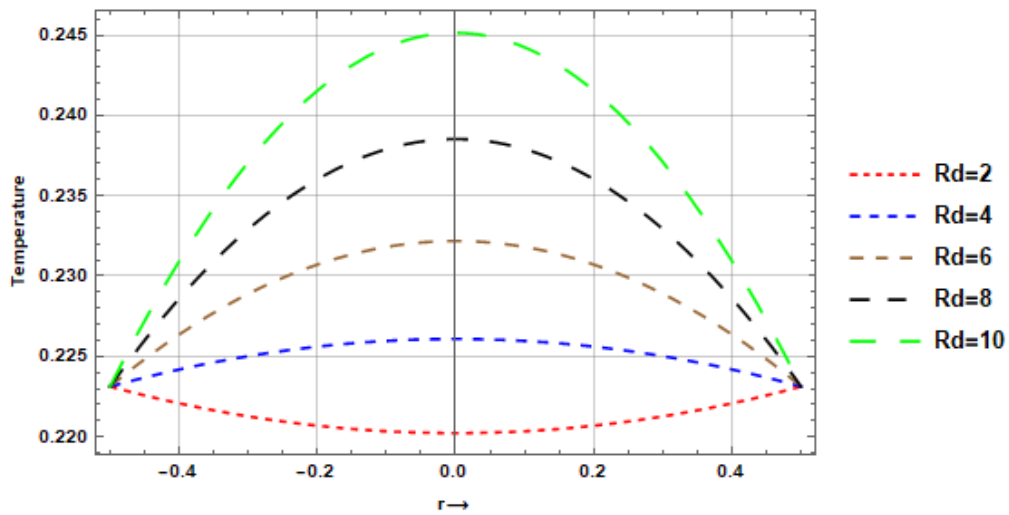


Figure 2. The effect of Heat Source Parameter on Blood Temperature

4.1 Effect of the Different Values of the Pertinent Parameters on Blood Velocity

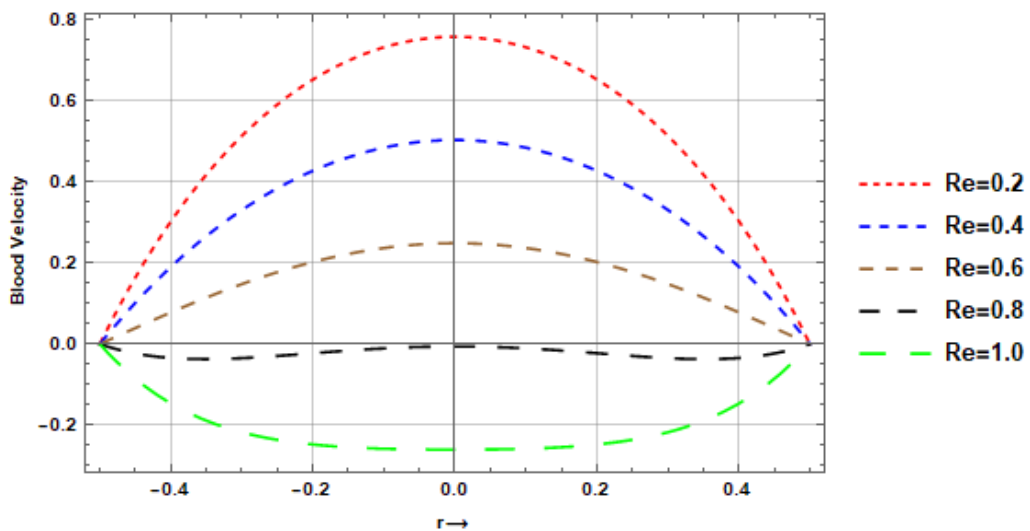


Figure 3. The effect of Reynolds number on Blood Velocity

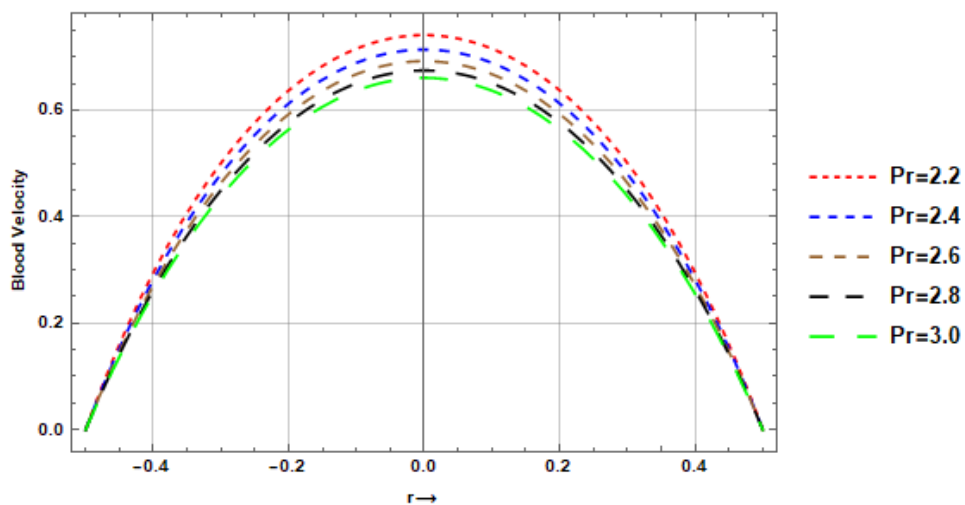


Figure 4. The effect of Prandtl number of Blood Velocity

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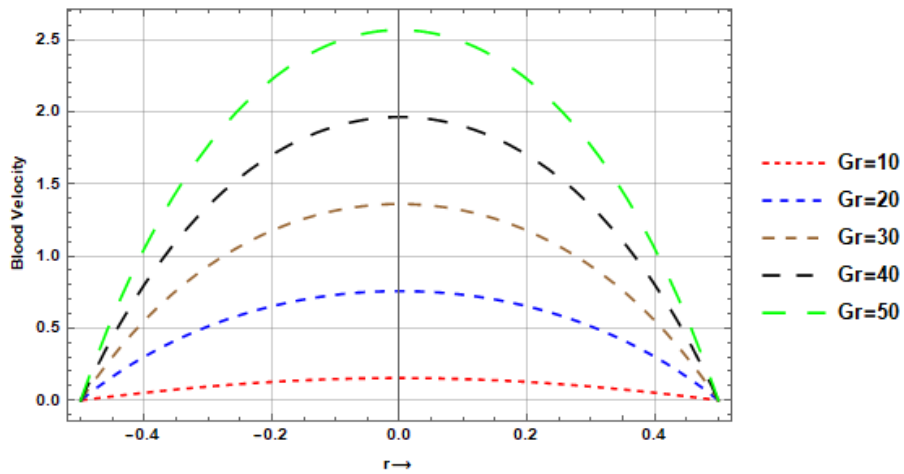


Figure 5. The effect of Grashof number on Blood Velocity

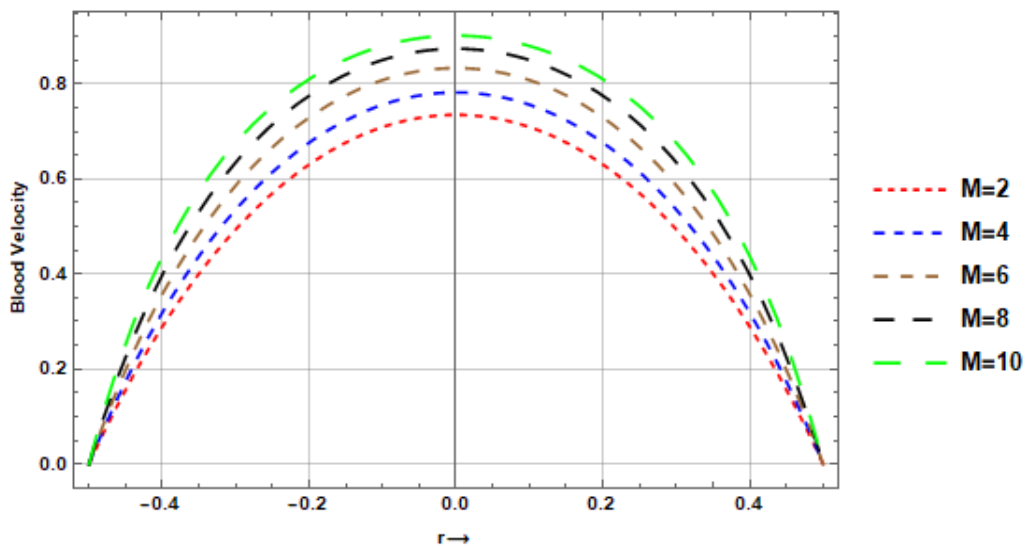


Figure 6. The effect of Magnetic Field on Blood Velocity

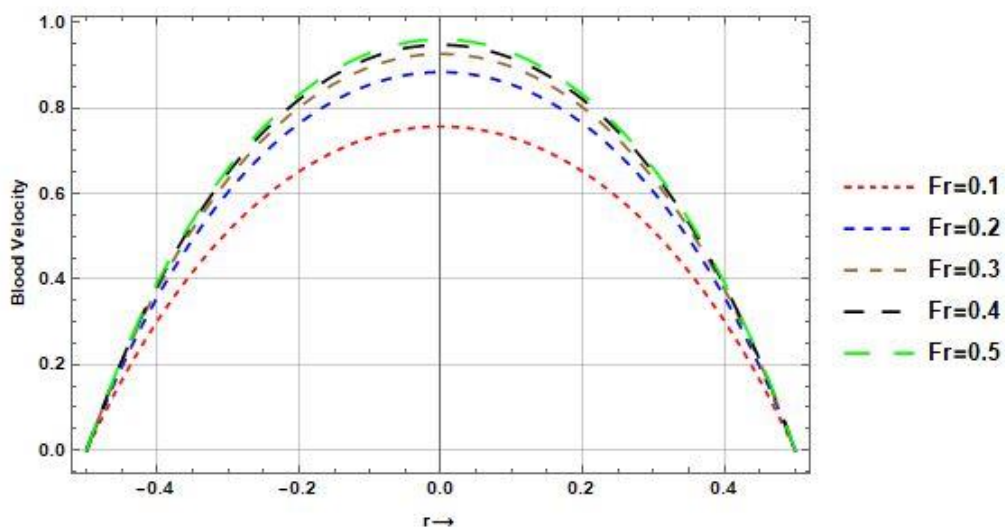


Figure 7. The effect of Froude number on Blood Velocity

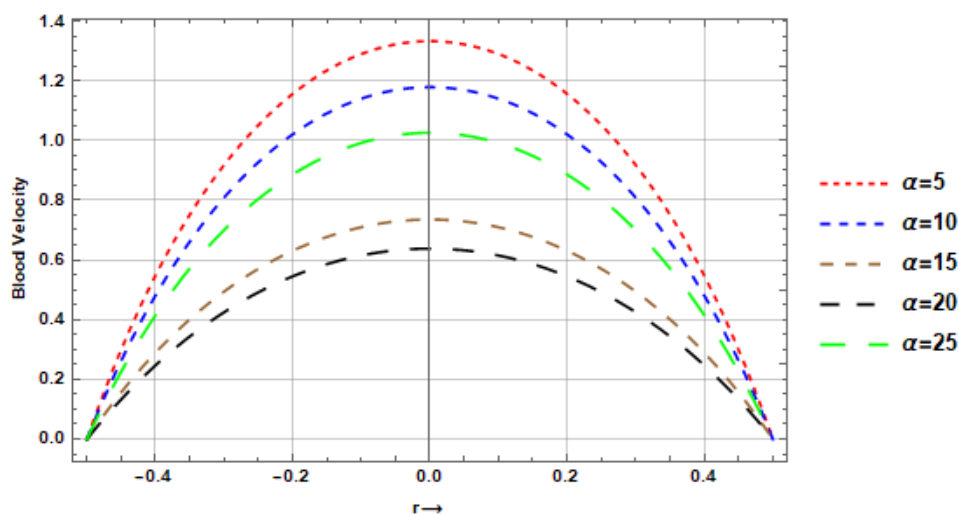


Figure 8. The effect of Angle of Inclination on Blood Velocity

5. DISCUSSION

Mathematical models were formulated to investigate blood flow through a blood vessel at an inclined angle with a tapered angle induced by a magnetic field. The models were scaled and reduced to a system of ordinary differential equations, subject to some specific boundary conditions. In addition, the analytical solutions representing the blood velocity and temperature profiles with some pertinent parameters were simulated using Wolfram Mathematica, version 12, and the results are discussed based on the figures as follows: Figure 1 depicts that the temperature of the fluid increases for an increase in the Prandtl number. This result is consistent with the view that blood temperature can be controlled if the Prandtl number is kept under check. The heat source parameter was investigated, and the result was found to be promising because it is seen in Figure 2 that the temperature of the fluid increases for every increase in heat from the source. This result might be very helpful for patients planning heat therapy.

The Reynolds number effect was also investigated, and the result found in Figure 3 depicts that the blood velocity profile decreases with an increase in Reynolds number. This result is consistent with the view that, for a fixed kinematic viscosity of the fluid in a varying length of the blood vessel, the blood velocity decreases due to the loss of head of the fluid through the vessel. Figure 4 illustrates that the blood velocity decreases with an increase in Prandtl number. It is seen in this figure that the velocity amplitudes are quite close for an increasing Prandtl number of 2.2, 2.4, 2.6, 2.8, and 3.0, respectively.

Figure 5 indicates that the blood velocity increases with an increase in the Grashof number value from 10, 20, 30, 40, and 50 units, respectively. However, every other contributing parameter was made constant, holding its values. If a device with a magnetic field interacts with an electrically conducting fluid, it generates a force called the Lorentz force, which opposes and retards the flow. The effect of magnetic fields on blood flow was investigated, and the results are presented in Figure 6. The figure shows that blood velocity decreases with an increase in magnetic field. The result of this investigation could be very helpful in the detection of tumor growth and treatment.

Figure 7 showed that the Froude number has an effect on blood velocity. The result is based on the view that the blood velocity increases with an increase in Froude number while holding the parameter values of the other parameters constant. This research also investigated the impact of the angle of inclination of blood vessels on blood flow. Figure 8 illustrates that an increase in the angle of inclination of the blood vessel decreases the blood velocity. The results obtained here have made it clear that in solving flow problems, depending on the position or location, the patient positioning should be considered so important as to avoid hypotension.

In conclusion

from our investigation, we have shown that the blood flow through an inclined vessel can be modeled. However, it was seen that the pertinent parameters, such as the magnetic field, radiation parameter, Grashof number, Froude number, and the angle of inclination, all affect the blood temperature and blood circulation, which were not discussed in previous researcher, Srivastava [17].

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Review: Fluorophores for detecting Nitroaromatic Compounds, Picric Acid



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ABSTRACT: Literature surveys of fluorophores for sensing nitroaromatic compounds, during past ten years have been done. Fluorophores have been classified in various categories, based on their structure and their mechanism of sensing is discussed.

KEYWORDS: Picric acid, Fluorophores, sensors, Limit of detection, K_{sv}

1.1. INTRODUCTION

Environment is the sum total of surrounding of an organism, a combination of external physical conditions that affects and influences the development, growth and survival of an organism. It includes both aquatic and terrestrial plants and animals, along with their habitat. Pollution is an undesirable effect in the environment, which degrades the quality of life in an eco-system. Pollutants are substances, present beyond a limit in the atmosphere, which are responsible for degrading the quality of environment. Volatile organic compounds (VOCs) are responsible for contributing in the formation of ground level ozone¹. VOCs react with oxides of nitrogen and form ozone. Ground level ozone affects human health and is a major reason of atmospheric pollution. The other such family of pollutants is organic nitro compounds. It is used in dyes, pharmaceuticals, firework industries, and also as a chemical explosive in mining. In recent past these explosives have been frequently used by terrorist organization². Chemical explosives contain huge amount of energy stored in the chemical bonds. After explosion, stable species such as carbon monoxide, carbon dioxide, and nitrogen oxides are formed. Hence most of the explosives are derivatives of organic compounds containing $-NO_2$, $-ONO_2$, $-NHNO_2$ groups, which release the above mentioned gases³. Their decomposition may take years, days, hours or seconds, depending on their life time⁴. During rapid decomposition, they may deflagrate at a slower speed (speed less than that of sound), while in detonation they decompose at a speed greater than that of sound (leaving shockwave traversing the explosive material).

The nitrated derivatives of the organic and inorganic compounds, once released in the atmosphere pose threat to the normal life of civilians⁴. Picric acid (PA) was extensively used as an explosive in world war II. A large amount of it is released in the environment, and gets lodged in soil and water bodies⁵. Its degradation too is not very fast, and it remains in the water and soil, for a long time. Its harmful effects on human health are many. It causes irritation to eyes, skin, mucous membrane of nose, in addition to causing harm to various organs and body systems (respiratory, digestive and excretory systems)⁶. It is one of the major causes of cancer, dermatitis and sclerosis. Hence, it is declared as one of the major pollutants, by US environment protection agency (EPA). Therefore, the precise, sensitive, selective and accurate detection of these compounds is important. Sensing techniques such as gas chromatography-mass spectrometry (GC-MS), Ion mobility spectroscopy (IMS), Raman spectroscopy and metal detectors are some of the methods, already in use^{7,8,9,10}. Amongst these techniques fluorescence spectroscopy is more attractive. In a fluorimeter, the use of photomultiplier tube (PMT) allows the fast and sensitive detection of analyte^{10,11,12}. Moreover, the technique is also not very expensive. To use fluorescence technique for the sensing application one requires conjugated organic molecules for which fluorescence emission spectrum changes with the addition of pollutant. The literature survey of the various categories of sensory materials explored in last ten years has also been presented in section 1.4. It was not possible to include all the reported materials in this work, rather we intended to present notable examples from various categories to justify the enthusiasm in this area of research. Sensory materials for detecting explosives

In this section, materials explored for detecting nitro aromatics (NACs) is presented. A number of nitrogen containing fluorophores have been used to sense picric acid (PA). PA has low pK_a value ($pK_a = 0.42$). Owing to its low pK_a , it remains in a dissociated form in solution, which can interact with positive centers on the fluorophore²⁰. This gives rise to electrostatic interactions with positive charges on the fluorophore. Ultimately it leads to close proximity between positive sites on fluorophore and negative picrate

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anion. For an efficient fluorophore, it should have greater binding affinity for PA or an increased rate of electron/energy transfer from fluorophore to PA. Charge/energy transfer between fluorophore-PA forming a non-fluorescent complex, ultimately leading to quenching of fluorescence.

In general, the mechanism involved in quenching the fluorescence of fluorophore by PA is proposed to be because of the followings possibilities:

1. Proton transfer from PA to electron rich sites on fluorophore.
2. Charge/energy transfer from excited fluorophore having LUMO at higher level to the LUMO of PA which is at lower level²¹. If fluorophore has extended network of conjugation (pyrene, anthracene, derivatives), it may undergo π - π interaction, and can also intercalate PA within its layers. A donor-acceptor-donor type system is formed, which exhibits intermolecular charge transfer. Redox potentials of donor and the acceptor can predict the electron transfer. RET/PET are possible in such cases.
3. Electrostatic interaction and hydrogen bonding between differently charged sites on fluorophore and PA²².

We have discussed several fluorophores, and their sensing mechanism. In most of the cases, quenching is on account of charge transfer, energy transfer, PET, or proton transfer²². Herein we reviewed various types of fluorophores, employed to sense nitro aromatic compounds. Depending upon their structure, we have divided them into several classes and have given a brief review of fluorophores to sense nitro aromatic compounds, explored, in last ten years. The list is as follows:

1. Polymers
2. Supra-molecular system
3. Metal organic framework system
4. Nano materials
5. Small molecule fluorophores

1.2.1. Polymers

Polymers are used to detect nitro aromatic compounds. Based on their electronic and structural properties, polymeric fluorophore interact with the analyte, thereby sensing it. Quenching of fluorescence by electron deficient nitroaromatic compounds can be easily monitored by photoluminescence studies. Fluorescent organic polymers and polymetalloles have been discussed underneath.

1.2.1.1. Organic polymers

Poly(p-phenylenevinylenes) (OP1)²³ like polyacetylene are luminescent conjugated polymers, which absorb nitroaromatics and its emission get quenched. Chart 1 show the molecular structure of all organic polymers (Ops) discussed in this manuscript. Bulky phenyl substituents of (OP2)²¹ and (OP3)²⁴ hinder π - π stacking and self-quenching. Dialkoxy-substituted aromatic ring of (OP6)²¹ is more electron rich than diphenyl-substituted aromatic ring of (OP4)²⁵, thus permitting stronger columbic interactions with the nitro aromatics. Backbone of (OP2)²⁶ is almost planar, while that of (OP3) is twisted. Greater degree of planarity of (OP2) makes it a better sensor. Non planarity of (OP4)²⁶ makes it poor sensor. Thicker films are less sensitive. In (OP5)²¹ addition of surfactants to poly (p-phenylenevinylenes (PPV) was also explored. Addition of cationic surfactant to PPV increased interaction between organic analyte and the polymer, thereby amplifying efficiency of quenching²⁷. In (OP6) the pendant phenyl group with branched alkoxy substituents encapsulated the polymer backbone. This led to porous structure, which facilitated the penetration of analyte. This improved the sensitivity of the fluorophore^{15, 28}.

Poly(p-phenyleneethynylenes) (PPE)

Thin film of (OP7)²³ PPE, showed quenching with nitro aromatics. The polymer contains two bulky pentyptcene moieties on either side of the polymer backbone. Pentyptcene groups rendered porosity and prevented inter-chain π stacking and self-quenching.²⁴ This rendered stability to the polymer film.

Polymeric porphyrins

Porphyrins (OP8)²⁵ with substitutions are excellent polymer sensors. Polymer contains cavities that are specific for specific target analyte. The polymer is highly porous, with shape selective cavity for analyte. Properties such as stability, porosity, rigidity, and hydrophobicity can be altered by varying porphyrin, functional groups, cross linking reagents and reaction conditions.

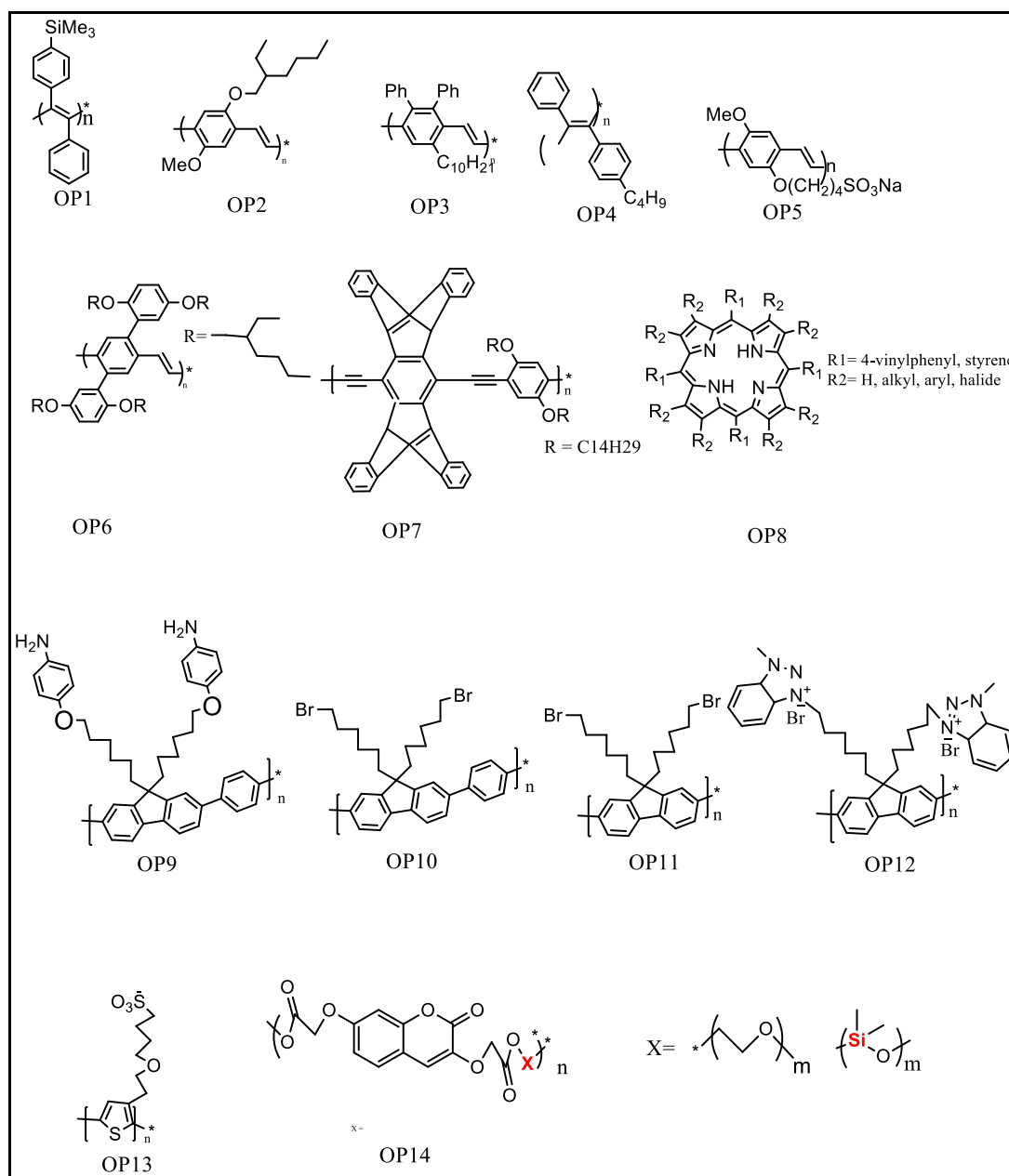


Chart 1: Structure of fluorophores of organic polymers

Polyfluorene backbone (OP9, OP10, OP11, OP12)^{21,29} gives overlap between absorption spectra of PA with emission as well as excitation spectra of the polymer. Polyfluorene derivatives with Cationic side chains involve resonance energy transfer (RET), photo-induced electron transfer (PET) etc for sensing PA (Chart 1).

Poly (3-alkylthiophene) (OP13): Encapsulated Poly (3-alkylthiophene) (OP13) in poly (*N*-*iso*-propylacrylamide) (PNIPAM) microgels is a fluorescent probe for sensing aqueous picric acid. Encapsulation of the poly (thiophene) in the PNIPAM micro gels breaks π - π interactions between polymer chains that would normally lead to aggregation quenching of fluorescence. The sensing capacity of the micro gels could be recovered after quenching by heating the aqueous suspensions. Structural collapse of the micro gels forces out the quencher molecules and restores the initial fluorescence signal of the polymer³⁰.

Coumarin-based copolymer (polyethylene oxide or poly dimethylsiloxane units in the backbone),(OP14)²⁴ display excellent sensing for PA. These gel like polymers exhibit result in polymer thin film. They can sense PA with high sensitivity.

1.2.1.2. Inorganic polymers

Poly silanes They have Si-Si backbone. The electronic properties are on account of σ - conjugation along the Si-Si chain. It gives high mobility of hole, high NLO susceptibility and high emission in the spectral region. Poly(3,3,3-trifluoropropylmethylsilane),(IP1)³¹ is a rigid polymer having F atom in the adjacent pendant group. Helical, and rod shaped poly silanes have been obtained. The sensitivity of

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the polymer is due to electron withdrawing CF_3 groups, which stabilize the HOMO and LUMO. Owing to electron withdrawing nature of CF_3 , a positive center develops at Si, thereby increasing its ability to bind with nitro group of the analyte.¹

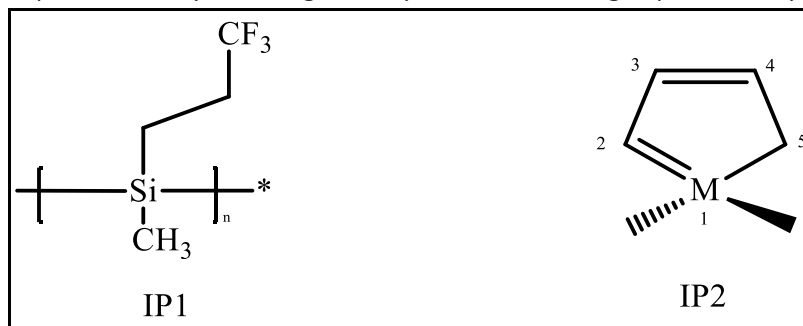


Chart 2: Structure of fluorophores of inorganic polymers

Metallole-silane copolymer

Metalloles are analogues of cyclopentadiene having elements of group 14 (Si, Ge, Sn, Pb) substituted at sp^3 carbon. There is reduction in HOMO-LUMO band gap which makes metalloles highly luminescent, and electron transporting materials (Chart 2). Tuning of HOMO-LUMO can be done by using appropriate functional group (IP2)³².

An example of poly (1,1-metallole) is poly (tetraphenyl) silole, having Si-Si backbone surrounded by organic and bulky phenyl substituents on silacyclopentadiene ring. The polymer provides pathway for electron transfer. The hydrophobic exterior separates the metallole chain and prevents self-quenching.

1.2.2. Supra molecular fluorophores

Chart 3 show the molecular structure of supra molecular fluorophores (SMF). SMF 1, SMF 2, and SMF 4 are highly fluorescent compounds. Their fluorescence gets quenched by PA. The formation of ground state complex and electrostatic interactions between fluorophore and PA are proposed to be the reasons for the formation of charge transfer complex (CTC)³³.

Systems consisting of macro cycles, dendrimers,³⁴ supra molecular polymers, metal organic frameworks, have been utilized in detection of explosives. In (SMF 3), protonation of pyridine nitrogen, along with charge transfer was the reason for quenching.³⁵

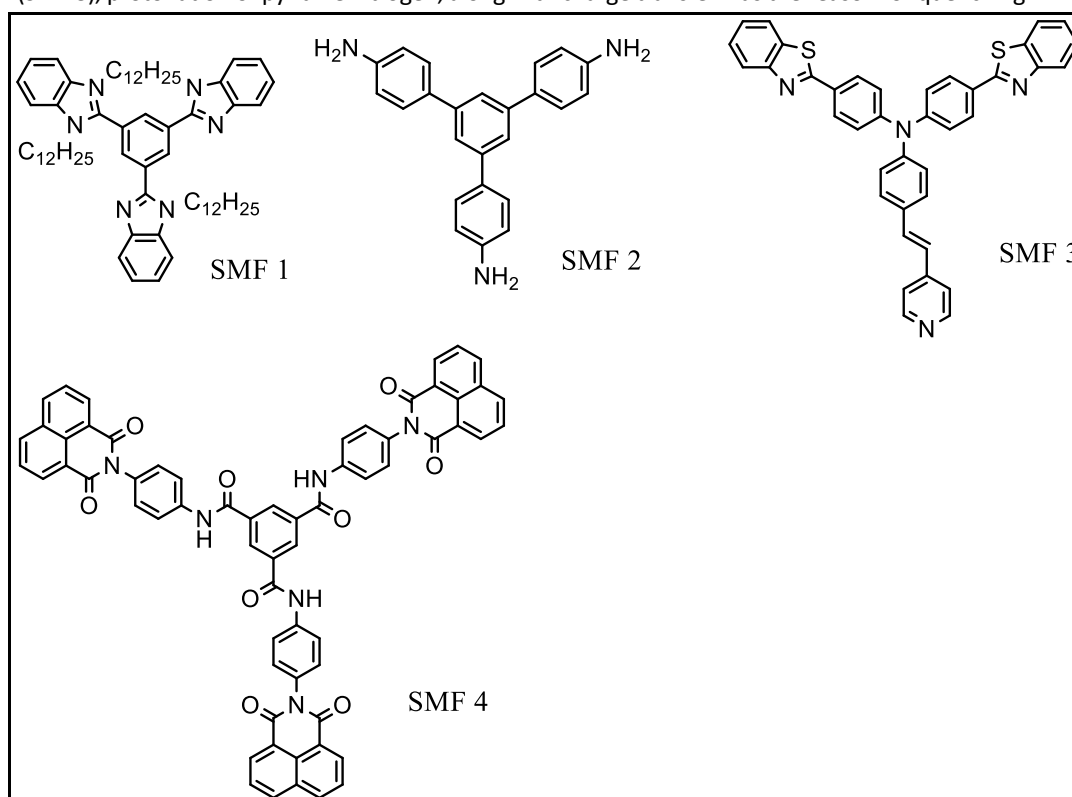


Chart 3: Structure of supra molecular fluorophores

1.2.2.2. Dendrimers

Dendrimers are branched polymeric macromolecule, consisting of a core and attached dendrons in the form of branches. Dendrons separate the inner core from the surrounding environment. The groups on the surface of dendrons interact with the surrounding environment. Fluorophore can serve as core. If the surrounding dendrons are also fluorescent, the fluorescence

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intensity of dendrite will depend on the number of branching. Most of the dendrimers are spherical in shape. Porous films of such materials can serve as effective solid sensors for detecting NACs. Carbazole and florene based dendrimers showed effective sensing for NACs. The quenching affinities of dendrimer were found to increase with increase in branching of dendrons. Strong intermolecular interactions between carbazole dendrimers (D1, D2, and D3)³⁵ and fluorene dendrimer (D10)³⁵ and nitro aromatic compounds were responsible for fluorescence quenching of their dendrimers.

Dendrimers can combine with polymers and small molecules. D4 and D5 (chart 4) can detect nitro aromatic compounds³⁶. Their emission is quenched by the nitro aromatic compounds due to strong donor-acceptor binding. Electron deficient PA assists in proton transfer from acidic -OH to -NH₂ group of D4 and D5. Thus D4 and D5 are protonated and complex is formed by electrostatic interaction between them and PA, and fluorescence is quenched³⁷.

The above compounds D6³⁴ and D7³⁴(chart 4) form aggregates, which showed enhanced fluorescence. PA being strong acid undergoes dissociation readily. The protons released from PA, results in protonation of -NH₂ groups of the aggregates. Electrostatic interaction between aggregates of protonated fluorophore and picrate anion result in fluorescence quenching³⁷. (D8)³⁵ and bifluorene based dendrimers (D9)³⁵ are excellent fluorophores, and they form thin film, display reversible quenching interactions with nitrated analytes (chart 4). Mechanism of quenching of dendrimers is collisional quenching, in contrast to static binding interaction in case of polymer sensors.

(D10)³⁵ proved as an excellent sensor for NACs, the compounds exhibited AIEE. The aggregates were excellent fluorophores, whose fluorescence was quenched by NACs. The mechanism of quenching is attributed to charge transfer because of lower energy level of LUMO of nitro aromatic compound. Higher energy level of LUMO of fluorophore allows electron jump to the LUMO of analyte.

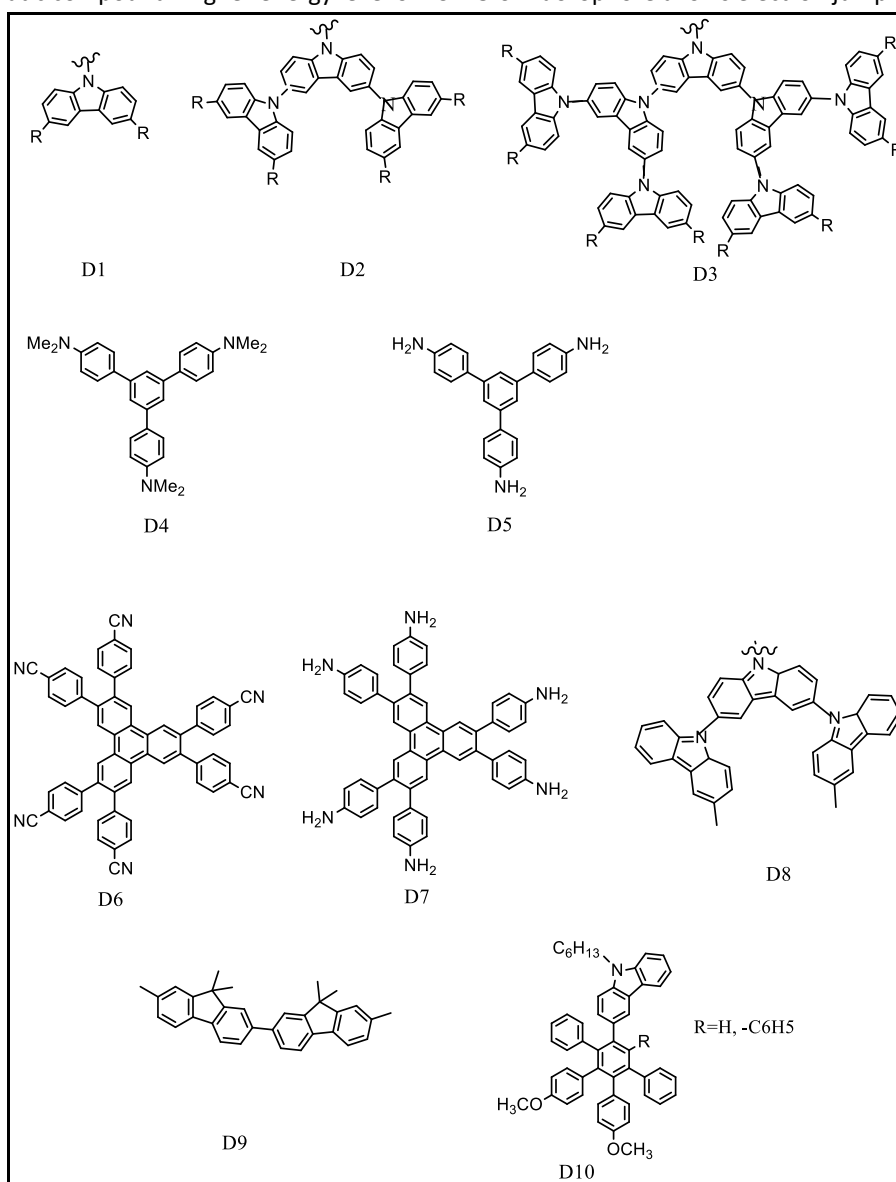


Chart 4: Structure of dendrimer fluorophores

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1.2.2.3. The Curcumins

The curcumin based probe C1 and C2 have curcumin linked with L-cysteine and L-tryptophan respectively³⁶. Presence of basic amine groups help it to binds with PA. Electrostatic interaction of protonated fluorophores (C1 and C2) with PA anion causes strong aggregation and association, responsible for fluorescence enhancement. Curcumin cysteine (C1) and curcumin tryptophan(C2) exhibit turn on fluorescence sensing with PA. Fluorescence of C1 and C2 gets enhanced on binding with PA. Curcumin shows strong absorbance at 380 nm due to π - π^* transition, exhibiting yellow colour. When curcumin binds with amino acids cysteine and tryptophan, a red shift is observed in the absorption spectra. This is attributed to binding of amino acid with curcumin, leading to extended conjugation. These compounds C1 and C2 exhibit emission at around 535 and 540 nm respectively. On binding with PA an enhancement in fluorescence intensity is observed³⁸.

Sensing of PA by C3 and C4 is attributed to electrostatic interaction between the probes and PA³⁷. Basic amine group of C3 and C4 interacts with phenolic group of PA. Fluorophores C3 and C4 interact with PA and are quenched. PA transfers its proton to the basic amine group and forms hydrogen bond interactions. Charge transfer complex between C3/C4 and PA occurs, (Chart 5) which leads to decrease in energy of thus formed complex. Internal charge transfer (ICT) is the reason of fluorescence quenching³⁹.

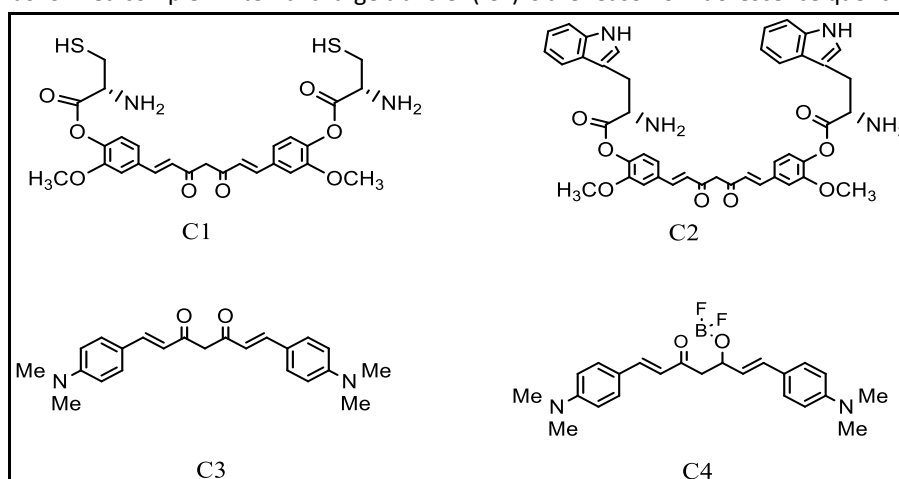


Chart 5: Structure of curcumin fluorophores

1.2.2.4. Hexaphenylbenzene Derivatives

These molecules exhibit aggregation induced emission enhancement (AIEE)³⁸. The hexaphenylbenzene (HPB) unit in probes (H1, H2 and H3) lend rotation through phenyl spacers. These molecules form supra molecular assemblies. Due to difference in HOMO levels between fluorophore and NACs, they render energy transfer. The aggregates of HPB derivatives form porous spherical aggregates. The donor methoxy group contributes significantly towards enhancing the sensitivity of the fluorophore aggregates (Chart 6). Derivative H1 has hydrophobic methoxy groups at the periphery of the aggregates⁴⁰.

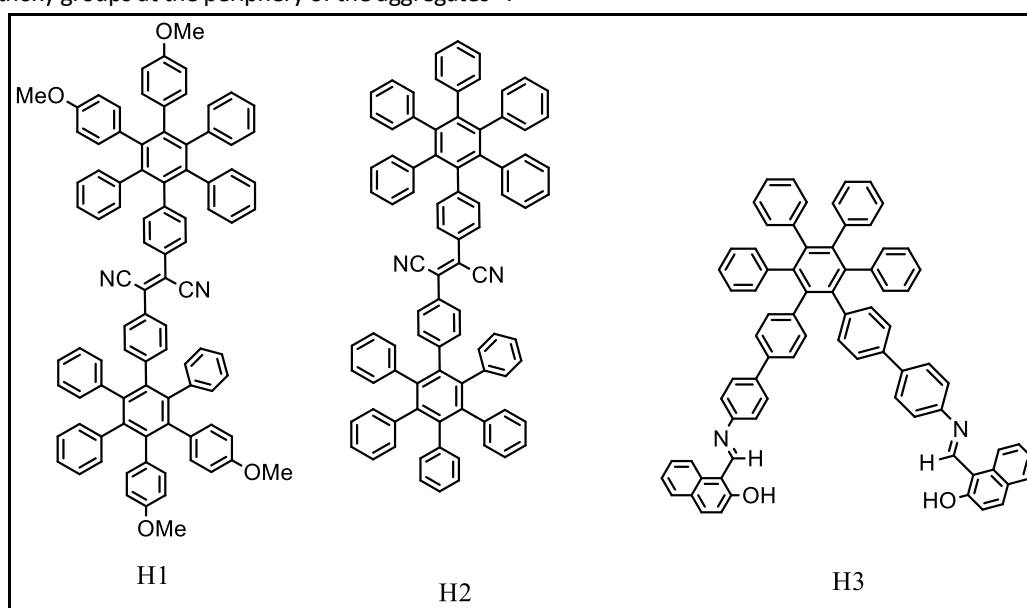


Chart 6: Structure of hexaphenylbenzene fluorophores

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1.2.2.5 Pentacene based derivatives

Pentacene scaffold is rigid and planar molecule. P1 has single pyridine attached. Increasing the number of pyridine rotors (P2 and P3) on the pentacene core, leads to an increase in fluorescence intensity⁴¹. Derivative P4⁴¹ and P5⁴¹ are donor-acceptor-donor type system, exhibiting intermolecular charge transfer, when reacted with PA. The presence of alkyl chain on P5, in the aggregated state is responsible for enhancement in the emission efficiency. In P5 the presence of alkyl chain provides more porosity to the aggregates of fluorophore (Chart 7). Its efficiency is greater as PA gets lodged in the porous fluorophore⁴¹.

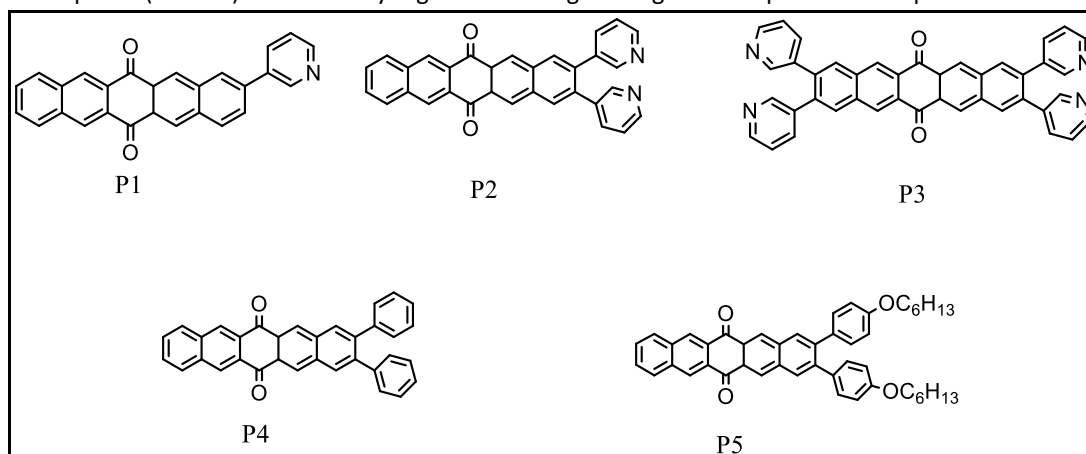


Chart 7: Structure of pentacene based fluorophores

1.2.3. Metal Organic Framework

MOFs contain of metal ions or clusters coordinated to organic ligands. This give rise to one, two or three dimensional coordination polymers. Often, they are porous. MOFs are inherited with properties such as porosity, rigidity and hold applications in catalysis, adsorption, sensing, drug delivery etc. with transition metals as nodes, luminescent MOFs can be developed which can recognize electron deficient molecules such as NACs^{42,43,29}. Endowed with secondary functional groups have better binding site for the analyte. Small size of MOFs is favored for attaining better surface area and porosity, thereby increasing the diffusion of analyte into the MOFs^{42,43,29}. Cd(II) /Zn(II) luminescent MOFs with electron donors have been proved as excellent sensors for detecting NACs.

Zn-MOF with 9,10-bis(4-carboxyphenyl)anthracene ligands (MOF 1) exhibited quenching with PA. (MOF 1) bearing a mixture of 4,4'-biphenyldicarboxylate and 1,2-dipyridylethene ligands⁴⁴ has the ability to detect nitro aromatics (Figure 1.7)

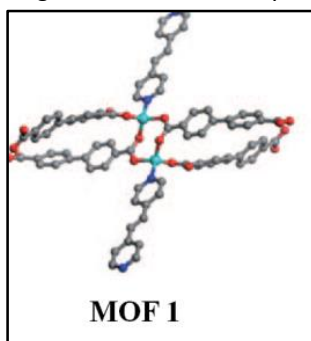


Figure 1.7: Structure of MOF of Tb³⁺

Mechanism of quenching in (MOF 1) (Figure 1.7) was on account of (PET) from MOF to nitro aromatic. Resonance coupling between neighboring anthryl groups enhance exciton migration and facilitate charge transfer, thereby quenching the fluorescence of (MOF 2)⁴⁴ is zeolite like porous MOF, luminescent in solid state. The highly efficient π system acts as binding site for nitroaromatics. Large optical band gap provides reduced excited state, and is the driving force for electron transfer to quencher.

MOF 2 (Figure 1.8) was designed using organic ligand- terphenyl-3,3',5,5'-tetracarboxylic acid and terbium nitrate. The asymmetric unit of MOF2 contained two Tb³⁺ ions, two ptpc⁴⁻ ligands, one coordinated DMF, one coordinated water molecule, two dimethylammonium ions, one lattice DMF molecule and six lattice water molecules. This 3D framework contained (1D) channels along a and b axis, which facilitated the diffusion of PA. The host-guest interaction were mainly electrostatic in nature. The MOF sensor had good recyclability for PA⁴⁵.

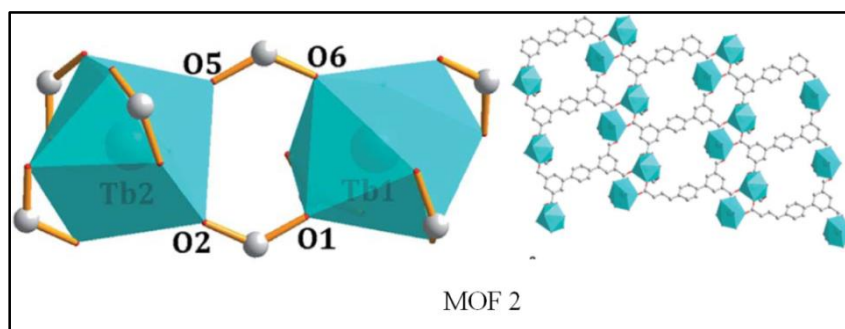


Figure 1.8: Structure of MOF of Tb^{3+}

7-amino-4-methyl coumarin was used to construct (MOF 3) and (MOF 4) (Figure 1.9) contain amino-4-methyl coumarin- detected PA to 0-100 μM range (Fig 1.9). The absorption spectra of PA overlapped with the emission spectra of MOFs, leading to RET and quenching of fluorescence⁴⁶.

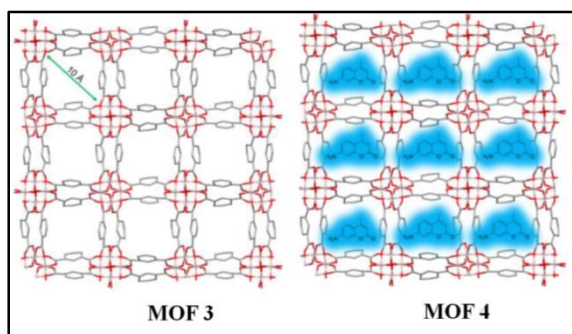


Figure 1.9: Structure of MOF of coumarin

Cd-MOF (MOF 5) (Figure 1.10) has asymmetric units consisting of one and a half independent Cd(II) ions, one fully deprotonated organic ligand and one dimethylammonium ion. Fluorescence resonance energy transfer (FRET) between MOF 5 and PA was responsible for fluorescence quenching⁴⁷.

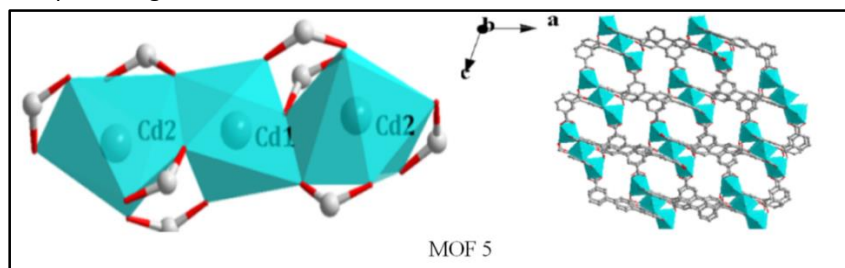


Figure 1.10: Structure of MOF of cadmium

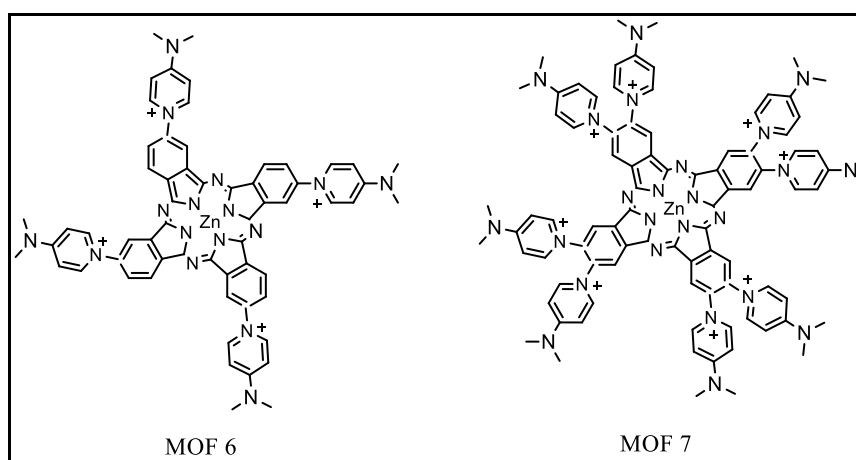


Chart 8: Structure of MOF of zinc

MOF 6 and MOF 7 (Chart 8) are zinc phthalocyanine derivatives, having 4 and 8 pyridinium units. They exhibited aggregation induced emission enhancement (AIEE). The π rich conjugated system exhibited emission in red region. Electron deficient NACs

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undergo π - π^* interaction and hydrogen bonding interaction, thereby quenching the fluorescence. MOF 7 is a better sensor of PA⁴⁸.

1.2.4. Nanomaterials

Nanomaterials have been recently used for detecting explosives⁴⁹. Nanomaterial in the form of quantum dots, quantum clusters, metal organic frameworks, carbon dots having fluorescent properties have been synthesized⁵⁰. Because of their Nano size, they provide a large surface to volume ratio, and hence large surface area for detection of explosives⁵. Due to Nano sized structure, increased sensitivity could be easily achieved^{51,52}.

High surface to volume ratio of nanoparticles make them good choice to interact with analyte. Nanofibres can be coated with fluorophore. These in turn can interact with the explosive, and thus behave as sensors for them. Fluorophore can be coated on the surface of SiO₂ and on glass surface by spin coating. And such surfaces can be used as probe to sense the explosive¹.

Graphene quantum dots (GQDs) are small fragments of graphene^{53,54}. Graphene is a semiconductor with zero band gap and dimension in the range below 20nm. Nitrogen doped GQDs exhibit excellent fluorescence. The fluorescence was quenched by NACs. Spectral overlap of absorption spectra of NACs and emission spectra of GQDs was responsible for FRET mechanism, leading to quenching.

1.2.5. Small Molecule Fluorophore

These have proved as good sensor for NACs. They differ from polymeric system in their quenching mechanism⁵⁵⁻⁶⁰. The advantages of using small molecules are:

Easy synthesis

- Their isolation and purification by chromatographic techniques.
- Their high quantum yield.
- The easy structure and characterization.

Their reproducibility is certain⁵⁶⁻⁶⁵, as compared to that of polymeric systems.

Small molecule (SM1)⁵⁷ emits weakly in THF, but addition of water increases its fluorescence intensity. But addition of picric acid quenches the fluorescence. SM1 also behaves as acid-base indicator owing to its ratio metric fluorescence emission.

(SM2) exhibited emission, which was quenched by picric acid. The pyridine nitrogen accepts proton from picric acid (Chart 9). The overlap of emission of SM2 with absorption spectra of PA resulted in FRET mechanism of quenching⁵⁸.

Pyrene probe SM3, displayed transition. Pyridine nitrogen forms hydrogen bond with -OH of picric acid and quenched the fluorescence of pyrene fluorophore⁵⁹.

SM4 has pyrene moiety. It exhibits host-guest complex formation with multiple hydrogen bond interactions with PA⁹.

The bright green fluorescence of SM5 is quenched, due to protonation of pyridine nitrogen, followed by PET from excited fluorophore to ground state of PA⁶⁰.

SM6 showed quenching of fluorescence with PA, but with higher concentration of PA a weak emission band appeared. The appearance of new emission band could be attributed to increased ICT upon protonation of pyridine nitrogen⁷¹.

SM7 also exhibited fluorescence quenching with PA, but, with increasing concentration of PA, the emission spectra of SM6 showed slight red shift. This led to conclusion that SM6 caused fluorescence quenching by combined ICT and FRET mechanisms⁶¹.

SM8 formed 1:1 complex with PA SM9-SM11 showed blue emission. They formed ground state charge transfer complex with PA. Protonation of imidazole nitrogen increased efficiency of PET and caused fluorescence quenching. Probe SM9 having -OH, exhibited additional hydrogen bonding with PA, hence, showed efficient quenching with PA, compared to SM10 and SM11⁶².

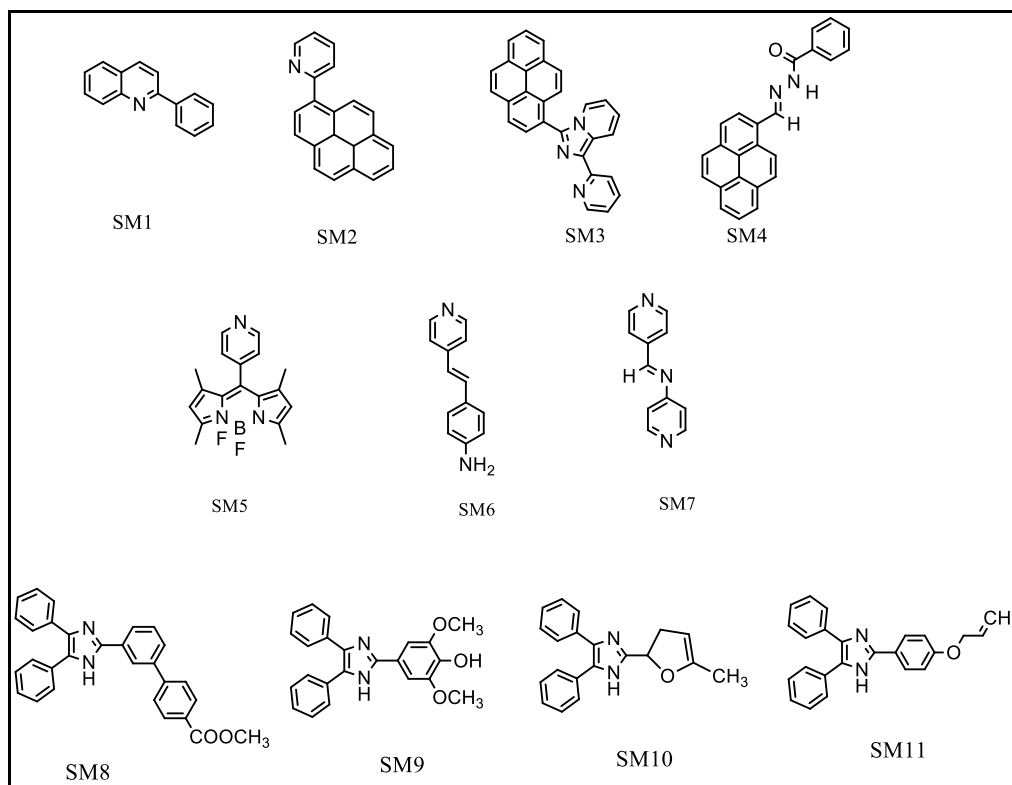


Chart 9: Structure of small molecule fluorophores

Naphthalene diimide (NDMI)(SM13)⁷³, based cation derivative also exhibits excellent electrical, optical and visual changes. Response to PA is on account of anion-exchange induced π - π interaction, leading to ground state (GS) charge transfer mechanism. π - π stacking interaction leads to complex formation between PA and NDMI derivatives. HOMO/LUMO energy levels decide probability of ground state charge transfer complex formation (Chart 10).

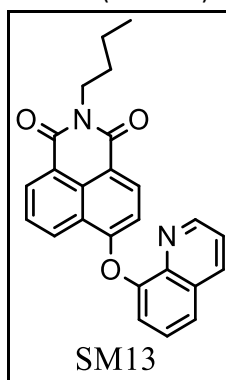


Chart 10: Structure of small molecule fluorophores (Naphthalene diimide)

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The Effect of Achievement Motivation and Self Confidence on Freestyle Swimming Performance; A Correlation Study on Senior High School Students in Yogyakarta



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ABSTRACT: This study is to analyze: (1) The effect of achievement motivation on freestyle swimming achievement. (2) The effect of self-confidence on freestyle swimming achievement. (3) The influence between achievement motivation and self-confidence on freestyle swimming achievement. This type of research is quantitative with an ex post facto approach. The population in this study were high school students in Yogyakarta. Researchers did not examine the entire population, the sampling technique used random sampling totaling 150 students. The instrument used was a questionnaire. Data analysis techniques using ANOVA analysis. The results showed that (1) There is a significant influence between achievement motivation on freestyle swimming achievement, with a p-value of $0.000 < 0.05$. (2) There is a significant influence between self-confidence on freestyle swimming performance, with a p-value of $0.000 < 0.05$. (3) There is a significant influence between achievement motivation and self-confidence on freestyle swimming performance, with a p-value of $0.000 < 0.05$.

KEYWORDS: achievement motivation, self-confidence, freestyle swimming performance

INTRODUCTION

These days, swimming is in great demand by the public, from children to adults, whether they are in the village or in the city. The definition of swimming in general is one of the sports carried out in water that is fun, healthy for the body, and can be done by any group (Lloret et al., 2021); (Britton & Foley, 2021). There are four styles of swimming that are contested, namely: (1) freestyle; (2) backstroke; (3) breaststroke; (4) butterfly (Akmaludin et al., 2021). Of the four styles contested, freestyle is the fastest and easiest style. The swimmer's freestyle swimming generally uses the crawl style, because the crawl style is the fastest and most efficient style of all swimming styles. Therefore, someone who masters the crawl style will gain an advantage because of the many numbers that are contested. Freestyle swimming or called the crawl style is the basic swimming that a swimming student must be good at. While the 50 meter and 100 meter freestyle swimming race numbers are swimming race numbers that are mostly followed by swimming students (Supriyanto, 2019).

The rapid development in swimming has motivated many students to compete in achievement. The factors that can support the maximum achievement are physical condition, tactics, technique, and mentality. The mental element that needs the attention of the coach as the basic capital to reach maximum performance is achievement motivation and self-confidence. Achievement motivation is the main determinant of achieving success in sports. Motivation in the context of sport is one of the most studied cognitive variables (Monteiro et al., 2018: 2). Achievement motivation is very important for students to have, because students who have high achievement motivation will always try hard to reach maximum achievement. Students who have achievement motivation will always improve their abilities to be better than before (Gardner et al., 2017); (Brunstein & Heckhausen, 2018).

Besides achievement motivation, another psychological factor that coaches need attention to achieve maximum achievement is self-confidence. Self-confidence is an aspect of personality that must be possessed by students in any sport, because it is related to confidence (Sanader et al., 2021). Self-confidence as the belief that you can successfully perform the desired behavior. Self-confidence means thinking, active, aggressive in approaching problem solving and not separated from the environmental situation that supports it. Responsible for the decisions that have been taken, be able to look at facts and reality objectively based on abilities and skills (Sihotang et al., 2017).

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Researchers depart from the assumptions of previous research conducted (Supriyanto, 2019) that there is a correlation between self-confidence and swimming student achievement. (Yani, 2017) in his study proved that there is a significant relationship between achievement motivation and swimming achievement 50 meters freestyle. (Maulidin, 2018) proves that achievement motivation on swimming skills 50 meters of breaststroke. Based on this, the researcher is interested in conducting a study entitled "The Relationship between Achievement Motivation and Self-Confidence to Freestyle Swimming Achievement."

METHOD

This type of research is descriptive quantitative with a correlational approach. Correlation research is a study that aims to find whether or not there is a relationship and if the correlation is there, how close the relationship is, and whether or not the relationship is meaningful. The population in this study were high school students in Yogyakarta, totaling 458 students. Samples were taken based on random sampling techniques totaling 150 students. The 50 meter freestyle swimming achievement instrument was measured using a test. The freestyle swimming test was measured by swimming 50 meters of freestyle swimming in a 50 meter long swimming pool. Swimming time is measured using a stopwatch with units of seconds. Achievement motivation and self-confidence instruments using questionnaires. The lattice of research instruments in table 1.

Table 1. Grid of Instruments

Variable	Indicators	Item Numbers	
		Favorable	Unfavorable
Achievement Motivation	Task Selection Risk	1, 2, 5, 6	3, 4
	Feedback	7, 8, 10	9, 11, 12
	Responsibility	13, 14, 15	16, 17, 18
	Creative-Innovative	19, 20, 22	21, 23
	Time for Task Completion	24, 27	25, 26, 28
	Have a Realistic Goal	29, 30, 31, 33	32, 34
Self-Confidence	Physical skill and training	1, 2, 4, 9, 10	3, 6, 7, 8, 11, 12, 13
	Cognitive efficiency	14, 17, 18, 22	15, 16, 19, 21, 23, 24
	Resilient	25, 27	26, 28

The technique of data analysis used is a prerequisite test consisting of normality test, linearity test, while the hypothesis test uses partial and simultaneous tests. The analysis was carried out using SPSS 23.

RESULT

The results of the descriptive analysis are intended to determine the respondents' responses to the variables of achievement motivation, self-confidence, and freestyle swimming achievement based on the results of filling out the questionnaire. Descriptive statistics based on mean and standard deviation are in Table 2.

Table 2. Descriptive Statistics

No	Variable	Statistics
1	Achievement Motivation	78.98 ±7.09
2	Self-Confidence	60,15±5.63
3	Freestyle Swimming Achievement	50.12±7.10

The data normality test in this study used the Kolmogorov-Smirnov method. The results of the data normality test conducted on each group were analyzed with the SPSS version 20.0 for windows software program with a significance level of 5% or 0.05. The data summary is presented in Table 3.

Table 3. Normality Test Results

No	Variable	p	Sig	Description
1	Achievement Motivation	0.758	0.05	Normal
2	Self-Confidence	0.368	0.05	Normal
3	Freestyle Swimming Achievement	0.550	0.05	Normal

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Based on the statistical analysis of the normality test that has been carried out using the Kolmogorov-Smirnov test in Table 6, the achievement motivation and self-confidence variables on students' freestyle swimming achievement obtained normality test results with a p -value > 0.05 , which means that the data is normally distributed.

The linearity test of the relationship is tested using the F test. The relationship between the independent variable (X) and the dependent variable (Y) is declared linear if the p -value > 0.05 . The results of the linearity test can be seen in Table 4.

Table 4. Linearity Test Results

No	Functional correlation	p	Sig.	Description
1	Achievement motivation * Freestyle swimming achievement	0.504	0.05	Linier
2	Self-confidence * Freestyle swimming achievement	0.659	0.05	Linier

Based on the analysis results in Table 4 above, it can be seen that the correlation between achievement motivation and freestyle swimming performance p -value $0.504 > 0.05$ and the correlation between self-confidence and freestyle swimming performance p -value $0.659 > 0.05$ is considered linear.

The multicollinearity test uses the Variance Inflation Factor (VIF) value in the regression model, if $(VIF) > 10$, then the variable has a problem with other independent variables. The multicollinearity test results can be seen in Table 5.

Table 5. Multicollinearity Test Results

No	Variable	Tolerance	VIF
1	Achievement motivation	0.784	1.092
2	Self-confidence	0.784	1.092

Based on Table 5 above, the variance inflation factor (VIF) value is obtained, the achievement motivation variable (X_1) = 1.092 and self-confidence (X_2) = 1.092. Both independent variables have VIF values smaller than 10, so it can be concluded that there is no multicollinearity between the independent variables.

Then hypothesis analysis is analyzed, which are partial tests and simultaneous tests. The t test (partial) was conducted to determine the effect of each independent variable, namely achievement motivation and self-confidence on freestyle swimming achievement. The results of the t test (partial) analysis are presented in Table 6 as below.

Table 6. Partial Test Analysis Results (t test)

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	17.406	7.044		2.471	0.017
	Achievement motivation	0.458	0.086	0.494	5.315	0.000
	Self-confidence	0.566	0.107	0.493	5.303	0.000

a. Dependent Variable: Freestyle swimming achievement

Achievement motivation variable obtained p -value 0.000. Because the p -value of $0.000 < 0.05$, then H_0 is rejected, meaning that H_1 which says "There is a significant effect between achievement motivation on freestyle swimming achievement" is accepted. Positive value, meaning that if achievement motivation is getting better, then freestyle swimming achievement will also be better.

The self-confidence variable obtained a p -value of 0.000. Because the p -value of $0.000 < 0.05$, then H_0 is rejected, meaning that H_2 which reads "There is a significant effect between self-confidence on freestyle swimming achievement" is accepted. Positive value, meaning that if self-confidence is getting better, then freestyle swimming achievement will also be better.

The F test is used to test the hypothesis whether the independent variables together (simultaneously) affect the dependent variable. H_3 says "There is a significant effect between achievement motivation and self-confidence on freestyle swimming achievement". The results of the analysis in Table 7.

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Table 7. F Test Analysis Results (Simultaneous)

ANOVA ^b						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1564.813	2	782.407	46.764	0.000 ^a
	Residual	736.166	296	16.731		
	Total	2300.979	298			
a. Predictors: (Constant). Self-confidence. Achievement motivation						
b. Dependent Variable: Freestyle swimming achievement						

Based on Table 7 above, the calculated F coefficient is 46,764 and the p-value is 0.000 < 0.05, then Ho is rejected, meaning. The alternative hypothesis which says "There is a significant effect between achievement motivation and self-confidence on freestyle swimming achievement", is accepted.

The Coefficient of Determination is essentially used to measure how far the ability of the regression model to explain the variation in the dependent variable. The analysis results in Table 8 are as below.

Table 8. Coefficient of Determination Analysis Results

<i>Model Summary</i>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.568	0.323	0.320	4.0914
<i>Predictors: (Constant), Self-confidence, Achievement motivation</i>				

The coefficient of determination R Square or achievement motivation and self-confidence in explaining or predicting freestyle swimming achievement variables is 0.323 or 32.3%. This means that the variables of achievement motivation and self-confidence have an effect on freestyle swimming achievement of 32.3%, while the rest is affected by other factors of 67.7% outside this study.

DISCUSSION

Based on the results of the study, it shows that there is a significant effect between achievement motivation on freestyle swimming achievement. (Yani, 2017) in his study proves that there is a significant correlation between achievement motivation and 50 meter freestyle swimming achievement. (Maulidin, 2018) proves that achievement motivation affects swimming skills 50 meters breaststroke. Students who have high achievement motivation have more encouragement to be able to achieve maximum achievement. Achievement motivation is a person's drive to succeed or succeed in competition, with a measure of excellence in the form of other people's achievements and previous achievements. Achievement motivation is a push that happens in individuals to always improve certain qualities as well as possible or more than what is normally done (Nicholls, 2017). This finding means that if you want to increase swimming speed in sprint numbers, it can be made by paying attention to the level of athlete motivation both intrinsic and extrinsic that student seeds have, in addition to physical, technical, tactical, mental also greatly affects the maximum achievement of students. Students with high achievement motivation will tend to choose challenging activities or tasks and also tend to avoid tasks that are too easy because they do not get satisfaction from the results of achieving the tasks. Students will carry out the training program provided seriously and with high discipline.

Based on the results of the study, it shows that there is a significant effect between self-confidence and freestyle swimming achievement. Previous research conducted (Supriyanto, 2019) shows that there is a relationship between self-confidence and swimming student achievement. Students who have confidence in their abilities and are able to make appropriate use of them can achieve the expected achievements (Kovach, 2018). In addition, self-confidence needs to be managed during the competition so that students are able to focus on achieving targeted achievements. The reality in the field shows that confidence in one's ability is the main capital, because in training and in competitions the first thing a swimming student has is confidence in one's ability to achieve or improve his achievement time in the form of record time both with opponents and without opponents (against himself). Students who have self-confidence will be able to perform by applying all the potential they have which is helpful for the benefit of themselves and even others in the context of social interaction. Self-confidence has positive impacts on emotions, this can be seen if individuals who have high self-confidence, it will be easier to control themselves in a stressful situation.

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Based on the results of the study, it shows that there is a significant effect between achievement motivation and self-confidence on freestyle swimming achievement. The fast development in swimming has motivated many students to compete in achievement. An achievement can be reached if a student has mastered several factors that support the achievement of that performance. The factors that can support the achievement of a maximum achievement are physical condition, tactics, technique and mentality. The mental element that needs the attention of the coach as a basic capital to achieve maximum achievement is achievement motivation and self-confidence.

Motivation is defined as a push that comes from outside or inside an individual to carry out an activity that guarantees the activity and can determine the direction and the amount of effort exerted for the activity, so as to achieve the set goals (Rocchi & Pelletier, 2017). Motivation results in the growth of strength in a person to move, try, for certain goals to be achieved. The encouragement that exists within to make changes in behavior that are better in achieving a goal. Achievement motivation contains operational task values such as attainment value, intrinsic motivation, and utility value or extrinsic value. This means that when individuals, in this case Judo students, have a value placed on a task, this value will increase students' confidence to achieve goals that are higher than the expectations they want to achieve. Achievement motivation has been viewed as a traditional psychological construct that has been developed long ago in psychological research (Larson et al., 2014).

Self-confidence is a sense of confidence in which he will be able to complete his task well in a performance. Self-confidence is one of the main capital and absolute requirements for achieving sports achievements. Self-confidence is influenced by objective aspects related to aspects of achievement motivation, which is feed back / evaluating an individual's self-assessment is very important. Judging from individuals who have high self-confidence and achievement motivation really like feed back on the work they have done. He considers feed back very useful as an improvement in future work results (evaluation). Self-confidence is often used to refer to a positive and healthy attitude in students to perform optimally. Self-confidence is one of the determinants of a student's success. Self-confidence increases motivation to achieve achievements in sports, because the higher the confidence in one's abilities, the stronger the enthusiasm to strive for achievement (Pelana et al., 2021).

CONCLUSION

The results showed that (1) There is a significant effect between achievement motivation on freestyle swimming achievement, with a p-value of $0.000 < 0.05$. (2) There is a significant effect between self-confidence on freestyle swimming performance, with a p-value of $0.000 < 0.05$. (3) There is a significant effect between achievement motivation and self-confidence on freestyle swimming performance, with a p-value of $0.000 < 0.05$.

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Influence of BMI, Body Fat Percent, Physical Activity, on Sports Fitness; Correlation Study on Students of SMP Negeri 3 Bandar Lampung



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ABSTRACT: This study aims to determine the relationship between BMI, percent body fat, and physical activity on physical fitness of VIII grade students of SMP Negeri 3 Bandar Lampung. This type of research is quantitative with a correlational approach. The population in this study were VIII grade students of SMP Negeri 3 Bandar Lampung aged 13-14 years as many as 100 people, based on total sampling technique. The instruments used to measure BMI are scales and meters, measurement of body fat percentage is done in several parts, namely biceps, triceps subscapula, and suprailliac, physical activity using questioner Physical Activity Level, Physical fitness is measured by the Physical Fitness Test (TKJI) age 13-15 years. Data analysis techniques using Pearson Correlation Product Moment analysis. The results showed that (1) There is a significant influence between BMI on physical fitness of VIII grade students of SMP Negeri 3 Bandar Lampung with r count 0.374. (2) There is a significant effect of body fat percent on the physical fitness of VIII grade students of SMP Negeri 3 Bandar Lampung with r count 0.439. (3) There is a significant influence between physical activity on physical fitness of VIII grade students of SMP Negeri 3 Bandar Lampung with r count. (4) There is a significant influence of BMI, body fat percent, and physical activity on the physical fitness of students in class VIII of SMP Negeri 3 Bandar Lampung with r count. (5) Physical activity has a greater influence on the physical fitness of VIII grade students of SMP Negeri 3 Bandar Lampung with r count. The coefficient of determination shows that physical activity has an influence of 40.96% on physical fitness.

KEYWORDS: BMI, persen lemak tubuh, aktivitas fisik, kebugaran jasmani

INTRODUCTION

Physical fitness is one of the components in human life that is very necessary, so that all daily activities can run well. Physical fitness can be obtained by doing physical activities regularly, measured, and programmed (Hastie, 2017). Good physical fitness is the main capital for a person to carry out physical activities repeatedly in a relatively long time without causing significant fatigue. By having good physical fitness, a person is expected to be able to work productively and efficiently, not susceptible to disease. Low levels of physical activity are one of the factors in increasing body mass index (BMI). Changes in BMI can occur in various age groups and gender, including children (Pandey et al., 2017).

BMI and physical activity are two interrelated variables because the higher the intensity of physical activity, the better the BMI. Conversely, the lower the physical activity performed, the worse the BMI is likely to be. Low physical activity causes the accumulation of energy by the body in the form of fat (Bowden Davies et al., 2019). If this happens continuously, it will cause an increase in BMI. However, the level of physical activity performed must be in accordance with portions, regular and not excessive in order to produce good results. BMI is a very simple way of categorizing children's weight and can be used in large-scale population studies. The measurement only requires two components, namely body weight and height (Djalalinia et al., 2020). BMI can be used for nutritional status assessment or determining body composition proportion standards in adults, adolescents and children (Trung et al., 2019); (Peterson et al., 2017).

The habit of passive behavior patterns to do physical activity, especially in children, makes the opportunity to increase body mass index even greater. There is an assumption that the higher a person's BMI, the lower the physical activity. Individuals with low physical activity have a greater risk of increasing body weight than children who are active in regular exercise. Inactive people require less energy. A person who tends to consume fat-rich foods and does not engage in balanced physical activity, will become obese. Percent body fat, one of the indicators in anthropometric measurements, describes the ratio of fat mass and fat free mass in a person's body. High body fat percent can be influenced by several things, such as nutrient intake, education,

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nutritional knowledge, family income, physical activity, and lifestyle. Dietary deviations have been common in the community lately. Some people usually consume foods that tend to be high in energy (fat, protein, and carbohydrates) and low in fiber such as fast food (Sobhani et al., 2021).

This is reinforced by research (Roberts et al., 2018) on 7745 adolescent girls and 6610 adolescent boys. The results of cross sectional analysis show that on average adolescents have a BMI of 19.1 for adolescents who never consume fast food or less than 1 time / week. Then the average adolescent had a BMI of 19.2 for those who consumed fast food 1-3 times/week, and a BMI of 19.3 for those who consumed fast food 4-7 times/week. There is a positive relationship between high fast food consumption and increasing one's BMI. Hopefully, the research to be conducted can optimize the factors that support physical fitness in students. Starting from improving nutrition and food intake, rest, and sports activities. It is hoped that after this research can increase the awareness of students to consume foods that are nutritious for health. In addition, students who go to school in villages and in cities can fulfill an adequate and balanced portion of nutrition so that there is no gap between the two schools. After nutrition and food intake are fulfilled, the author hopes that students can maintain a good rest pattern so that growth and development increase optimally.

METHOD

This type of research is correlational research. Correlational research is research conducted to determine whether there is a relationship between two or more variables. The population in the study was class VIII students of SMP Negeri 3 Bandar Lampung aged 13-14 years as many as 100 people, based on total sampling technique. The instruments used to measure BMI are scales and meters, measurement of body fat percentage is done in several parts, namely biceps, triceps subscapula, and suprailliaca, physical activity using questioner Physical Activity Level, Physical fitness measured by the Physical Fitness Test (TKJI) age 13-15 years. Data analysis technique is Correlation Product Moment. Previously, a normality pre-test was carried out.

RESULT

The results of descriptive analysis aimed to determine BMI, percent body fat, physical activity, and physical fitness level of SMP Negeri 3 Bandar Lampung students. The complete results are in Table 1.

Table 1. Descriptive Statistics of Motor Ability Variables

No	Statistics	N	Mean ± SD
1	BMI (X1)	100	18.61 ± 3.08
2	Body Fat Percent (X2)	100	18.68 ± 5.50
3	Physical Activity (X3)	100	1.81 ± 0.28
4	Physical Fitness (Y)	100	14.33 ± 3.04

The data normality test in this study used the Kolmogorov-Smirnov method. The results of the data normality test conducted on each group were analyzed with the SPSS version 20.0 for windows software program with a significance level of 5% or 0.05. The data summary is presented in Table 2.

Table 2. Normality Test Results

No	Variabe	p-value	Sig	Description
1	BMI (X1)	0.510	0.05	Normal
2	Body Fat Percent (X2)	0.589	0.05	Normal
3	Physical Activity (X3)	0.504	0.05	Normal
4	Physical Fitness (Y)	0.380	0.05	Normal

Based on the statistical analysis of normality tests that have been carried out using the Kolmogorov-Smirnov test in Table 2, the variables of BMI, percent body fat, physical activity, and physical fitness level obtained normality test results with p-value > 0.05, which means the data is normally distributed.

The analysis technique used to test the hypothesis uses the Pearson Product Moment correlation test analysis technique. If the p-value < 0.05, then the hypothesis is accepted and the p-value > 0.05, then the hypothesis is rejected. The results of the analysis are presented as follows.

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Table 3. Correlation Test Results

correlation	r hitung	p-value	Description
BMI (X1) to Physical Fitness Level (Y)	0.374	0.000	Significant
Body Fat Percent (X2) to Physical Fitness Level (Y)	0.439	0.000	Significant
Physical Activity (X3) to Physical Fitness Level (Y)	0.640	0.000	Significant

Based on Table 3 above, the relationship between BMI (X1) to the level of physical fitness (Y) obtained the coefficient r count 0.374 and p-value 0.000 <0.05. Based on the analysis, the hypothesis that there is a significant relationship between BMI and the level of physical fitness of students of SMP Negeri 3 Bandar Lampung is accepted. The correlation coefficient is positive, meaning that if BMI is getting better, then the students' physical fitness level will also be better. BMI gives an influence of 13.98% on physical fitness.

Based on Table 3 above, the relationship between physical activity (X3) to the level of physical fitness (Y) obtained the coefficient r count 0.640 and p-value 0.000 <0.05. Based on the analysis, the hypothesis that there is a significant relationship between BMI and the level of physical fitness of students of SMP Negeri 3 Bandar Lampung is accepted. The correlation coefficient is positive, meaning that if physical activity is getting better, then the students' physical fitness level will also get better. Physical activity provides an influence of 40.96% on physical fitness.

The F statistical test is carried out with the aim of showing all independent variables included in the model that have a joint influence on the dependent variable. If the p-value < 0.05, the hypothesis is accepted and the p-value > 0.05, the hypothesis is rejected. The results of the analysis are presented as follows.

Table 4. Anova (F) Test Results

Model Summary		Model
R		0.821
R Square		0.674
Adjusted R Square		0.650
Std. Error of the Estimate		0.8958
Change Statistics	R Square Change	0.674
	F Change	28.206
	df1	3
	df2	41
	Sig. F. Change	0.000

Table 4 shows that the calculated F value is 28.206. The F distribution table is searched using the 95% confidence level, obtained for the F table of 2.83. Because the value of F count > F table (28.206 > 2.83) then Ho is rejected, meaning that simultaneously BMI, percent body fat, and physical activity on physical fitness of students in class VIII SMP Negeri 3 Bandar Lampung.

The magnitude of the correlation or influence of BMI, percent body fat, and physical activity on physical fitness (R) is 0.821. The percentage of the influence of the independent variable on the dependent variable called the coefficient of determination which is the result of the R pengudratan is 0.674. It means that BMI, percent body fat, and physical activity give a joint influence (simultaneously) on physical fitness by 67.4%, and the remaining 32.6% is determined by other factors or variables.

DISCUSSION

Effect of BMI on Physical Fitness

Based on the results of research conducted on VIII grade students of SMP Negeri 3 Bandar Lampung, it shows that BMI, percent body fat, and physical activity have an influence on physical fitness. Based on data analysis BMI has an influence on physical fitness. This is shown by the pearson correlation value of 0.374, meaning that BMI has an influence of 13.98% on physical fitness. BMI with obese category can affect physical fitness. In the research results obtained that students who have BMI in the obese category do not exist. So there is a low influence of BMI on the level of physical fitness. These results can be interpreted that BMI is one component that affects a person's physical fitness. These results are supported in research (Koliada et al., 2017); (Vancampfort et al., 2017); (Borga et al., 2018), showing that there is a relationship between BMI and physical fitness level.

Based on the results of this study, it can be concluded that there is a significant relationship between BMI and physical fitness level. Children with obesity tend to have lower physical fitness levels compared to children with normal body mass index. An

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increase in body mass is associated with the level of food consumption. In obesity there is excessive accumulation of fat in the body tissues so that oxygen consumption becomes less optimal, this will certainly reduce the level of physical fitness. Children with obesity also tend to have limited physical activity. This also causes low levels of physical fitness in children with obesity (McCoy & Morgan, 2020).

Effect of Percent Body Fat on Physical Fitness

Body fat percentage is the ratio of body fat mass compared to body composition. Body composition includes two things, body mass index and body fat percentage. Body fat percentage depends on the type of physical activity performed on a daily basis and the diet consumed. The results of the body fat percentage analysis show that there is a significant influence on physical fitness. This is indicated by the pearson correlation value of 0.439, so percent body fat has an influence of 19.27% on physical fitness. In research conducted (Kye et al., 2021); (An et al., 2019); (Park et al., 2018), that the higher a person's body fat percent, the lower the level of physical fitness. The data obtained by the average student body fat percent is in the normal category, this is in accordance with the theory which states that an increase in body fat percent can reduce the level of physical fitness. Based on the results of the body fat percent analysis, it shows a positive correlation, meaning that there is a significant influence on the level of physical fitness. The value of the correlation coefficient means that the higher the percent of body fat, the higher the level of physical fitness. In accordance with the theory which states that an increase in body fat percent can reduce the level of physical fitness.

Based on the analysis that has been done, there are still many students eating high-fat, high-calorie foods, and drinking drinks that contain a lot of sugar, especially from irregular eating patterns during the night hours, this causes excessive fat accumulation in students. In the measurement results there were 6 students who had the obese category. After analysis, it turns out that the students are female who have bad habits from diet, rest, and also eat foods that contain lots of calories such as junk food consumed at night. These bad habits cause a high risk of obesity. Children who have excessive body weight or are overweight (obese) usually have a high habit of eating light foods, a lot of solitude, a lot of silence in the room or at home, more sleep, so less or even do not like physical activity and exercise. Children who are obese in addition to their movement skills will tend to be stiff and not agile. This is caused by the number of calories entered and energy expended is not balanced, resulting in obesity in children (Agita et al., 2018).

Effect of Physical Activity on Physical Fitness

In physical activity research using activity instruments carried out for 24 hours (Activity recall) expressed in Physical Activity Level (PAL). Calculation of PAL values is done by referring to the formula issued by FAO (2019). In the results of the analysis that has been carried out, there is a significant influence between physical activity on the physical fitness of students. This is indicated by the pearson correlation value of 0.640. So, physical activity has an influence on physical fitness by 40.96%. These results are positive, meaning that the better the physical activity, the better the physical fitness, on the contrary, if the physical activity carried out is low, then the low level of physical fitness possessed by students.

Physical activity is not only limited to sports-specific activities, but also other activities that require physical labor, such as sweeping, mopping, washing, walking, dancing, painting, hoeing, walking, and so on (Hussain et al., 2019). The bad thing that is usually done by students of SMP Negeri 3 Bandar Lampung is that the high intensity of playing online games has various kinds of impacts or influences on both the physical and psychological individuals. The physical impact can be in the form of fatigue in the limbs due to too long playing games which causes decreased body health so that it is easily sick. As for students who have moderate physical activity, they do sports or their hobbies, such as playing basketball, futsal, soccer, and others. While those who do physical activity in the heavy category, do sports activities that have been scheduled and have their respective training programs. Many benefits for the body are caused by physical activity. Other benefits are such as increased cardiorespiratory fitness, increased muscle strength, decreased symptoms of depression, and a sustained decrease in blood pressure.

Effect of BMI, Percent Body Fat, and Physical Activity on Physical Fitness

Based on the results of the analysis as a whole BMI, percent body fat, physical activity, and physical fitness must have good criteria, due to the magnitude of the coefficient of determination of 0.674. Contains the understanding that BMI, percent body fat, and physical activity provide a joint influence on physical fitness by 67.4%, and the remaining 32.6% is determined by other factors or variables. There are still many students who are lazy in doing physical activities such as exercising, often consuming fast food, very high academic demands. Moreover, gadget life with fast internet connections makes students addicted to playing mobile games, no time in playing social media, so that there is a lack of rest time at night. This clearly affects the level of physical fitness in a person. While a good level of physical fitness is needed by every individual.

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For students, having a body condition with excellent condition is the main thing, because it is to face the learning process optimally. This can be seen in the results of data analysis, students who have BMI in the normal category, percent body fat in the normal category, good physical activity, will have good physical fitness as well. This is very necessary to support learning activities at school and daily activities outside of school. This is reinforced by the theory put forward (Liu et al., 2021) that having a good physical condition of the body will greatly affect the functions and systems of the body's organisms, including, (1) there will be an increase in the ability of the circulatory system and heart work, (2) there will be an increase in strength, stamina, and other physical conditions, (3) there will be a better economy of motion during exercise, (4) there will be a faster recovery in the organs after exercise, (5) there will be a quick response from our body organisms if at any time such a response is needed. Therefore, students must pay attention to their respective physical conditions to be able to carry out the learning process properly and daily activities.

CONCLUSIONS

Based on data analysis, it can be concluded that: (1) There is a significant influence between BMI on the physical fitness of VIII grade students of SMP Negeri 3 Bandar Lampung with a pearson correlation value of 0.374. It is said to be low in the guidelines for the degree of relationship. The coefficient of determination shows that BMI has an influence of 13.98% on physical fitness. (2) There is a significant effect of body fat percent on the physical fitness of VIII grade students of SMP Negeri 3 Bandar Lampung with a pearson correlation value of 0.439. It is said to be quite strong in the guidelines for the degree of relationship. The coefficient of determination shows that the percent of body fat gives an influence of 19.27% on physical fitness. (3) There is a significant influence between physical activity on physical fitness of class VIII students of SMP Negeri 3 Bandar Lampung with a pearson correlation value of 0.640. It is said to be strong in the guidelines for the degree of relationship. The coefficient of determination shows that physical activity has an influence of 40.96% on physical fitness. (4) There is a significant influence of BMI, percent body fat, and physical activity on the physical fitness of VIII grade students of SMP Negeri 3 Bandar Lampung with a coefficient of determination of 0.674. Containing the meaning that BMI, percent body fat, and physical activity provide a joint influence on physical fitness by 67.4%. (5) Physical activity has a greater influence on the physical fitness of VIII grade students of SMP Negeri 3 Bandar Lampung with a pearson correlation value of 0.640. The coefficient of determination shows that physical activity has an influence of 40.96% on physical fitness.

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Analysis of Financial Services Authority Regulation Number 10/Pojk.05/2022 Concerning Information Technology-Based Joint Funding Services in the Perspective of Legal Purposes



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ABSTRACT: There is the regulation of the Financial Services Authority Number 77/POJK.01/2016 and the Financial Services Authority Regulation Number 10/POJK.05/2022 concerning Information Technology-Based Joint Funding Services. This research focuses on the laws and regulations in Indonesia relating to regulating financial technology peer-to-peer Lending in Indonesia. This study uses a statutory approach and a conceptual approach. This research aims to determine whether changes to regulating financial technology peer-to-peer Lending can better support legal objectives. The resulting research is that Each amendment article has positive consequences for the organizers, the funders, and the recipients of the funds. In general, changes in these regulations are intended to benefit most of society, as said by Jeremy Bentham. This research uses normative juridical analysis. This research is limited to a study based on secondary data.

KEYWORDS: conceptual, Funding, financial, regulation, technology

I. INTRODUCTION

There is Development in the use of financial technology in Indonesia. As we know, that is the closed relationship between Law and Technology (Roger Brownsword, 2022) Financial technology can be used in payments, investments, and other economic activities. In Europe, some research on the regulation of the digital services Act studies it from the perspective of ethical, legal, and social implications. (Aina Turilazzi, 2023). Borrowing is one economic activity that uses financial technology as a medium. This lending and borrowing activity is often called an online loan, Fintech Peer to Peer Lending (P2P Lending), or information technology-based Lending and borrowing. The facts in the community show 102 companies and 864,223 lender entities in Indonesia. The number of borrower entities is 76, 658,671. The total credit distribution nationally is 326 352 trillion. Of the total funds, 33.82 trillion are outstanding. The data shows facts from a positive perspective and facts from a negative perspective. From a positive perspective, the community desperately needs funds in the form of loans with easy administration. This fact shows that information technology-based lending and borrowing will show a promising future trend with Indonesia's large population. However, the data also shows that bad credit is a problem that will hinder the Development of this Lending and borrowing activity. The legal facts also show that in Indonesia, there are regulations issued by two competent authorities related to this activity. Financial Services Authority (FSA) and Bank Indonesia are two institutions that have the authority to regulate and supervise information technology-based lending and borrowing activities. The arrangements in the two institutions have the impact that the regulatory process in Indonesia needs to be faster and more apparent. Legal facts show that the regulation from FSA regarding information technology-based lending and borrowing is regulated in Financial Services Authority Regulation 77 /POJK.01/2016 concerning Information Technology Based Borrowing and Borrowing Services. 18/SEOJK.02/2017 concerning Governance and Risk Management of Information Technology in Lending Services and Borrowing Money Based on Information Technology. Other legal facts, as current legal facts, show a Financial Services Authority Regulation Number 10/POJK.05/2022 concerning Information Technology-Based Joint Funding Services, which states that it is not Joint. It states revoking and declaring the invalidity of Financial Services Authority Regulation 77 /POJK.01/2016 concerning Information Technology -Based Borrowing and Borrowing Services. This research aims to find answers to whether changes to regulating financial technology peer-to-peer Lending can better support legal objectives.

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Previous research was conducted by Johan, who researched the Financial Technology Company's Debt Collection method from a legal perspective (Johan, 2022). Another study was also conducted by Anny Retnowaty et al. I. They examined the prospects of criminal law efforts in handling conflicts in economic activities using financial technology (Anny Retnowati et al., 2022). Another study was conducted by Angelina (Angelina et al., 2021), which examined the key factors that affect the use of P2P Lending with added trust and risk. Hidayat conducted another study, T (Hidayat, 2020), which examined the unethical practices carried out by P2P Lending for borrowers who were late or did not pay their loans. Other research was also carried out by Fajri Kurniawan and Chandra Wijaya (2020), who examined loan factors that could affect peer-to-peer Lending in Indonesia. From the research that has been done, this research has never been done by other researchers. Another research was conducted by Syifa Rana Tsary and Dahlia (Syifa Rana Tsary, Dahlia, 2022), who researched the existence of financial technology in Indonesian society.

II. METHODS OF RESEARCH

This writing research is normative juridical (Andika PP and Mohamad Z, 2019, Aprilina Matilda Liko et al. I, 2023). Two approaches are used, namely, the statutory approach and the conceptual approach. This study uses secondary data. Secondary data (Lego Karjoko et al., 2020) consists of primary legal materials) and secondary legal materials. The data are collected, separated, presented, and analyzed. The analysis technique used is the qualitative analysis technique (Mustapha Z et al. I, 2021). The method of concluding is deductive. Although not used in detail in this study (Grachev L. L, 2019), the economic approach will be instrumental in the research law.

III. RESULT AND DISCUSSION

The legal objective is the legal objective put forward by Jeremy Bentham. Jeremy Bentham argues that something is considered acceptable or not measured by the consequences of that action. Jeremy Bentham is a thinker whose teachings are Utilitarianism (Cello, 2021). According to Bentham, the utility principle is a principle that approves or rejects any action that increases or decreases the party's happiness affected by the action. Approving and rejecting the activity is seen from whether it is good or not the action result (Niesen, 2019). In this case, the Government must increase the happiness that the community will enjoy. The best-known phrase from Bentham is "the greatest happiness for the greatest numbers." The purpose of Law is to achieve happiness for most people. Utility theory is associated with legislators or legislators, and laws are a concrete form of Law. Legislators or legislators must try to make the Law can bring happiness to the community. The purpose of seeking profit is used for the business's continuity and the company and benefits many people. If this is not the case, It can return the State's duty to regulate the purpose of seeking profit according to its nature.

Lending and borrowing money based on information technology is a service that helps people in the economic and financial sectors. Previously, the legal basis for information technology-based lending and borrowing services was the Financial Services Authority Regulation Number 77/POJK.01/2016 concerning Information TechnologyBased Borrowing and Borrowing Services. Information technology-based money, or what is currently known as information technology-based joint funding services, is under Financial Services Authority. The regulation is Financial Services Authority Regulation Number 10/POJK.05/2022 concerning Information Technology-Based Joint Funding Services. The consequence of enacting the new rules is that the old ones, namely Financial Services Authority Regulation Number 77/POJK.01/2016, are repealed and no longer valid. There have been several regulatory changes regarding information technology-based joint funding services after the coming into effect of Financial Services Authority Regulation Number 10/POJK.05/2022. That regulation concerning Information Technology-Based Joint Funding Services and Financial Services Authority Regulation Number 77/POJK.01/2016 is no longer valid. These changes include the following:

The first change is studied from the aspect of the title of the regulation. Financial Services Authority Regulation Number 77/POJK.01/2016 uses the title of information technology-based money lending services, while the Financial Services Authority Regulation Number 10/POJK.05/2022 uses the title of information technology-based joint funding services. The change in the mention of the title was due to the types of financial institutions' operations. Some were of the conventional operational type, and some were of the sharia operational type. The term lending and borrowing in the Financial Services Authority Regulation Number 77/POJK.01/2016 cannot accommodate the type of sharia operation. So it is then replaced with the title of information technology-based joint funding service (starting now abbreviated as LPBBTI) in the Financial Services Authority Regulation Number 10/POJK.05 /2022 This change will have positive consequences for the Development of this economic activity in encouraging better economic Development from the aspect of legal objectives for benefit as stated by Jeremy Bentham. These changes show good potential for achieving legal objectives.

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The second change is from the form of the organizing legal entity. Organizers in Article 2 paragraph (2) Financial Services Authority Regulation Number 77/POJK.01/2016 may comprise limited liability company legal entities and cooperatives. Whereas the Operator in Article 2 paragraph (2) Financial Services Authority Regulation Number 10/POJK.05/2022 must be established as a limited liability company legal entity. These changes are based on the nominal capital that must be paid up. Rp. 25,000,000,000.00 (twenty-five billion rupiahs) is a substantial value for cooperatives, so cooperatives cannot become organizers. In addition, these changes also pay attention to the principles adopted by cooperatives, namely the principle of kinship to improve the welfare of members in particular and society in general so that cooperatives must first prioritize activities or activities that can prosper their members because activities held in LPBBTI will be more focused on the interests of the general public. The changes have provided more significant opportunities for limited liability companies to participate in developing the national economy, especially in LPBBTI. However, on the other hand, they have closed opportunities for cooperatives to get involved and join LPBBTI so that they can hinder the achievement of equality before the Law even though limited liability companies and Cooperatives have the same position as legal subjects in the form of legal entities.

The third amendment relates to parties entitled to own the Organizer's shares. In Article 3 of Financial Services Authority, Regulation Number 77/POJK.01/2016, parties entitled to owning the Organizer's shares may consist of: Indonesian citizens and legal entities and foreign nationals and foreign legal entities. Whereas in Article 3 Financial Services Authority Regulation Number 10/POJK.05/2022, the parties entitled to own operator shares may consist of: Indonesian citizens and/or Indonesian legal entities and Indonesian citizens and/or Indonesian legal entities as referred to in the letter a, together with foreign legal entities and/or foreign nationals. In this case, foreign nationals can become owners through a shareholder mechanism only through transactions on the Stock Exchange. This change limits the involvement of foreign citizens or foreign legal entities because foreign nationals or foreign legal entities can only become shareholders if they join together with Indonesian citizens or legal entities. This policy provides opportunities for Indonesian citizens or legal entities to become organizers. In addition, the Stock Exchange monitors the involvement of foreigners and foreign legal entities because they can only become shareholders through transactions on the Stock Exchange. It follows the expectations stated in the general explanation of the Financial Services Authority Regulation Number 10/POJK.05/2022, which aims to improve supervisory efficiency.

The fourth change concerns paid-up capital. In Article 4, Financial Services Authority Regulation Number 77/POJK.01/2016 Providers must have paid-up capital of at least Rp—1,000,000,000.00 (one billion rupiahs) at the time of registration. Furthermore, when applying for a permit, the Provider must have paid-up capital of at least IDR 2,500,000,000.00 (two billion five hundred million rupiahs).

Meanwhile, in Article 4, Financial Services Authority Regulation Number 10/POJK.05/2022, Providers must have paid-up capital of at least IDR 25,000,000,000.00 (twenty-five billion rupiahs) at the establishment time. Sources of funds for equity participation in Providers are prohibited from money laundering activities, terrorism financing, Funding for the proliferation of weapons of mass destruction (Anti-Money Laundering and Counter-Terrorism Financing - Bank Indonesia. <https://www.bi.go.id/en/fungsi-utama/sistem-pembayaran/anti-pencucian-uang-danpengecahan-pendanaan-terrorisme/default.aspx>), and other financial crimes and loans. Based on this explanation, it is known that there has been an increase in capital, namely to a minimum of IDR 25,000,000,000.00 (twentyfive billion rupiahs), which is regulated in the Financial Services Authority Regulation Number 10/POJK.05/2022. It is intended so that the parties who wish to become organizers are well prepared, one of which is related to the provision of initial capital. Apart from that, the Financial Services Authority Regulation Number 10/POJK.05/2022 also regulates the types of sources of funds that are prohibited for equity participation. The increase in the number of capital obligations that the Administrator must own has the will to guarantee the ability of the Administrator's capital. Guaranteed capital capability is an essential factor in business continuity. The main goal of the Law is to provide benefits, as said by Jeremy Bentham, to the majority of people, which is the primary goal of the legislators of this regulation.

The fifth change, then, concerns the controlling shareholder (PSP). Financial Services Authority Regulation Number 77/POJK.01/2016 does not regulate controlling shareholders (PSP). Whereas in Article 5 Financial Services Authority Regulation Number 10/POJK.05/2022, the Administrator is required to determine at least 1 (one) controlling shareholder. The new rule change in the Financial Services Authority Regulation Number 10/POJK.05/2022 is more detailed because it recognizes and regulates controlling shareholders who have a role in controlling policies to be taken by company management. It is also in line with what is expected in the general explanation of the Financial Services Authority Regulation Number 10/POJK.05/2022, which is to prevent the implementing company from mismanagement situations that could potentially disrupt the sustainability of this business activity. The purpose of the Law is to provide benefits, as said by Jeremy Bentham, to the majority of people, which is the primary will of the legislators of this regulation.

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The sixth amendment concerns registration, licensing, and business permits. Article 8 Financial Services Authority Regulation Number 77/POJK.01/2016 stipulates that Providers are required to submit applications for registration to the Financial Services Authority. The next stage is that a Provider that has been registered with the Financial Services Authority must submit an application for a license as an Operator within a maximum period of 1 year from the date of registration with the Financial Services Authority as stipulated in Article 11 of the Financial Services Authority Regulation Number 77/POJK.01/2016. Whereas in Article 8 paragraph (1) Financial Services Authority Regulation Number 10/POJK.05/2022 Providers carrying out LPBBI business activities must obtain a business license from the Financial Services Authority. Providers that have obtained a business license from the Financial Services Authority are required to submit an application for registration as an Electronic System operator to the competent authority no later than 30 calendar days from the issuance date of the business license from the Financial Services Authority as stipulated in Article 8 paragraph (2) of the Financial Services Authority Regulation Number 10/POJK.05/2022. Based on this explanation, it is known that in the Financial Services Authority Regulation Number 77/POJK.01/2016, the Organizer first registers and then takes care of licensing.

Meanwhile, in the Financial Services Authority Regulation Number 10/POJK.05/2022, the Organizer must first obtain a business license before registering. It shows that the licensing and registration mechanism implemented in the new regulations has become more stringent and focused because operators must first obtain a business license before they can apply for registration with the Financial Services Authority. This mechanism is intended to provide legal protection to people who have legal relations with the organizers. The purpose of the Law is to provide benefits, as said by Jeremy Bentham, to the majority of people, which is the primary goal of the legislators of this regulation. The seventh amendment regarding the conversion from Conventional Operators to Operators is based on Sharia Principles. Financial Services Authority Regulation Number 77/POJK.01/2016 does not regulate the conversion from a conventional operator to an operator based on sharia principles. Whereas in Article 10 Financial Services Authority Regulation Number 10/POJK.05/2022 Conventional Providers that convert to Providers based on Sharia principles must obtain approval from the Financial Services Authority. Changes in the Financial Services Authority Regulation Number 10/POJK.05/2022 have provided opportunities and convenience for conventional operators who wish to become operators based on sharia principles as long as they have obtained approval from the OJK so that OJK can carry out optimal supervision. It also follows the principles of effectiveness and efficiency, which are included in the general explanation of the Financial Services Authority Regulation Number 10/POJK.05/2022. This regulation desires to accommodate the Development of sharia operational types to make it easier for the public to find financial institutions that follow their beliefs. The purpose of Law to be able to provide benefits (Jeremy Bentham) for those in need is the essence of this goal.

The eighth change is regarding HR qualifications. Article 14 paragraph (2) Financial Services Authority Regulation Number 77/POJK.01/2016 stipulates that members of the Board of Directors and members of the Board of Commissioners must have at least 1 (one) year of experience in the financial services industry. Article 16 paragraph (1) Financial Services Authority Regulation Number 10/POJK.05/2022 states that members of the Board of Directors, members of the Board of Commissioners, and officials 1 level below the Board of Directors must have a certificate work competency from a professional certification body in the field of financial technology registered with the Financial Service Authority. The new rules in the Financial Services Authority Regulation Number 10/POJK.05/2022 can indirectly encourage and influence Members of the Board of Directors, members of the Board of Commissioners, and officials 1 level below the Board of Directors to deepen their abilities and competencies. The parties occupying these positions are also intended to be competent in their respective fields. The obligation of members of the Board of Directors and members of the Board of Commissioners who are experienced and must have competency certificates is to guarantee good management and supervision within the company. This arrangement aims to guarantee the sustainability of companies that provide benefits to the community per Jeremy Bentham's legal objectives.

The ninth amendment is regarding the use of foreign workers. Financial Services Authority Regulation Number 77/POJK.01/2016 does not regulate the use of foreign workers. Whereas Article 18 Financial Services Authority Regulation Number 10/POJK.05/2022 stipulates that Providers may employ foreign workers. The use of foreign workers as implemented in the Financial Services Authority Regulation Number 10/POJK.05/2022 is related to the provisions of Article 28D paragraph (2) of the 1945 Constitution, which stipulates that everyone has the right to work and receive rewards and fair and proper treatment in the working relationship. Article 28D paragraph (2) of the 1945 Constitution allows everyone to get jobs, including foreign workers. In addition, the involvement of foreign workers can help develop science and technology in Indonesia, especially in the field of LPBBI. As Jeremy Bentham said, these provisions will benefit society if the obligation to transfer technology and skills from foreign workers can be adequately implemented.

The tenth change is regarding the use of outsourcing workers. In the Financial Services Authority Regulation Number 77/POJK.01/2016, no provisions govern the use of outsourced workers. Meanwhile, in Article 19 of Financial Services Authority

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Regulation Number 10/POJK.05/2022, the Operator can hand over part of the work implementation to a third party with an outsourcing agreement. Delegation of tasks by administrators to third parties as stipulated in Financial Services Authority Regulation Number 10/POJK.05/2022 can provide employment opportunities for the community and participate in reducing unemployment. The purpose of these arrangements is to benefit the community, as Jeremy Bentham said.

The eleventh change is regarding ability and compliance assessment. Financial Services Authority Regulation Number 77/POJK.01/2016 does not regulate capacity and compliance assessment. Whereas Article 21 Financial Services Authority Regulation Number 10/POJK.05/2022 stipulates that the primary party candidates consisting of PSP, directors, board of commissioners, and DPS must obtain approval from the Financial Services Authority before carrying out their actions, duties, and functions as parties main. The provisions for capability and compliance assessment regulated in Financial Services Authority Regulation Number 10/POJK.05/2022 have given the responsibility to the Financial Services Authority to provide assessment and approval to prospective main parties before they carry out their duties. It has positive impacts and benefits because it can produce critical parties who have the ability, is competent, and are protected from things that break the rules. These provisions also aim to achieve the expectation of implementing the effectiveness and efficiency of supervision as stated in the general explanation of the Financial Services Authority Regulation Number 10/POJK.05/2022. The purpose of this arrangement is to guarantee the sustainability of companies that provide benefits to the community following Jeremy Bentham's legal objectives

The twelfth change is regarding the type of Funding. The Financial Services Authority Regulation Number 77/POJK.01/2016 does not recognize productive and multipurpose Funding. Whereas Article 25 of Financial Services Authority Regulation Number 10/POJK.05/2022 stipulates that LPBBTI can be carried out through productive Funding and multipurpose Funding. The new arrangements listed in the Financial Services Authority Regulation Number 10/POJK.05/2022 regulate more specifically or specifically because the types of Funding that can be used have been determined, namely productive Funding and multipurpose Funding. The purpose of Funding, which is the main object of this activity, needs to be determined more clearly, because the problem that occurs in funding activities using this information technology is the unclear purpose of using funds in this regulation, so the purpose of using funds is more aimed at consumption by borrowers. As a result, there are many defaults. The purpose of this change is to provide benefits to the community, as said by Jeremy Bentham, which will only be achieved if there is a good understanding from the parties regarding the purpose of using the funds. The thirteenth amendment is regarding funding affiliation. Financial Services Authority Regulation Number 77/POJK.01/2016 does not regulate funding affiliations. Whereas Article 26 paragraph (4) Financial Services Authority Regulation Number 10/POJK.05/2022 stipulates that the maximum funding limit by each funder and its affiliates is no more than 25% of the final funding position at the end of the month. Affiliation provisions, as stipulated in the Financial Services Authority Regulation Number 10/POJK.05/2022, aim that the Funding provided to donors is no more than IDR 2,000,000,000.00 (two billion rupiahs). This provision aims to improve the health of donors and their affiliates. The purpose of the Law to provide benefits, as stated by Jeremy Bentham for related parties, can only be achieved if the parties comply with this rule.

The fourteenth amendment is regarding interest rates and the economic benefits of Funding. Article 17 of Financial Services Authority Regulation Number 77/POJK.01/2016 does not recognize the term economic benefits of Funding but only recognizes interest rates. The regulation regarding interest rates is that the Provider provides input on the interest rates offered by Lenders and Borrowers by considering the fairness and Development of the national economy. Whereas in Article 29, the Financial Services Authority Regulation Number 10/POJK.05/2022 has recognized and regulated the economic benefits of Funding, namely that the Organizer is required to comply with the provisions on the maximum limit for economic benefits of Funding. Changes in the Financial Services Authority Regulation Number 10/POJK.05/2022 result in the Organizer having no obligation to provide input on interest rates. However, the Administrator is required to comply with the provisions on the maximum economic benefit limit of Funding. The economic benefit is the rate of return, including interest, profit sharing, and margin. This change will provide benefits, as stated by Jeremy Bentham, for the community as recipients of funds to avoid the arbitrariness of funders as parties with a better bargaining position.

The fifteenth amendment is regarding Recipients of funds/loans recipients. In Article 15 paragraph (2), Financial Services Authority Regulation Number 77/POJK.01/2016, loan recipients can be individual Indonesian citizens or legal entities. Whereas in Article 28 paragraph (2) Financial Services Authority Regulation Number 10/POJK.05/2022 Recipients of funds consist of Indonesian citizens, Indonesian legal entities, and or Indonesian business entities. The new regulation in the Financial Services Authority Regulation Number 10/POJK.05/2022 allows Indonesian business entities to be involved as recipients of funds. It also shows equality before the Law. Apart from that, this arrangement can help Indonesian business entities that need funds to help meet industry needs so they can develop optimally, as explained in the general explanation of Financial Services Authority

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Regulation Number 10/POJK.05/2022. The purpose of Law to be able to provide benefits to society in general, as stated by Jeremy Bentham, can be seen in the provisions of this article.

The sixteenth change concerns escrow accounts and virtual accounts or payment gateways. Article 24 of Financial Services Authority Regulation Number 77/POJK.01/2016 stipulates that Providers must use escrow and virtual accounts. Whereas Article 36 Financial Services Authority Regulation Number 10/POJK.05/2022 stipulates that Providers are required to use escrow accounts and virtual accounts or payment gateways. The new regulation in the Financial Services Authority Regulation Number 10/POJK.05/2022 aims that all Funding activities between Users do not go through Provider accounts but use escrow accounts and virtual accounts and can also use payment gateways.

The seventeenth amendment concerns components in electronic documents containing agreements between administrators and lenders or funders. One of the components listed in Article 19 paragraph (2) Financial Services Authority Regulation Number 77/POJK.01/2016 is loan interest rates. Meanwhile, Article 31 paragraph (2) Financial Services Authority Regulation Number 10/POJK.05/2022 does not include loan interest rates but instead lists the economic benefits of Funding. In addition, other components were not previously included in the Financial Services Authority Regulation Number 77/POJK.01/2016: the use of Personal Data, Funding collection mechanisms, and risk mitigation in the event of lousy Funding. Based on this explanation, it is known that the electronic document components of agreements between providers and funders regulated in Financial Services Authority Regulation Number 10/POJK.05/2022 are completed and detailed than the electronic document components regulated in Financial Services Authority Regulation Number 77/ POJK.01/2016. It is also intended that consumers' needs for more optimal protection can be accommodated correctly following the mandate in the general explanation of Financial Services Authority Regulation Number 10/POJK.05/2022. This provision aims to accommodate the type of sharia operations and clarify the mechanism for implementing rights and if there is a problem with the payment obligations of the beneficiary. The purpose of this change shows the legal will to provide benefits to the parties, as stated by Jeremy Bentham.

The eighteenth amendment concerns detailed information on using funds provided to lenders or lenders. Article 19 paragraph (5) Financial Services Authority Regulation 77/POJK.01/2016 contains detailed information: the number of funds lent to the Borrower; the purpose of using the funds by the Borrower; loan interest rate; and loan term. Whereas Article 31 paragraph (5) Financial Services Authority Regulation Number 10/POJK.05/2022 details the following information: final position of Funding; the purpose of using funds; economic benefits of Funding; and Funding period. The regulation in the Financial Services Authority Regulation Number 10/POJK.05/2022 does not describe the number of funds lent but instead is replaced by explaining the final position of the Funding. It impacts lenders' difficulty finding information about the nominal amount of funds lent. However, on the other hand, through the Financial Services Authority Regulation Number 10/POJK.05/2022, lenders do not only obtain information regarding the number of interest rates. However, they can obtain information regarding the economic benefits of Funding, which may include interest, profit sharing, and margin. The purpose of this provision is to disclose information to beneficiaries, which provides benefits, as stated by Jeremy Bentham in making decisions regarding receiving funds.

The following nineteenth amendment concerns components in electronic documents that contain agreements between lenders or funders and recipients of loans or funds. One of the components listed in Article 20 paragraph (2) of Financial Services Authority Regulation 77/POJK.01/2016 is loan interest rates. Meanwhile, Article 32 paragraph (2) Financial Services Authority Regulation Number 10/POJK.05/2022 does not include loan interest rates but instead lists the economic benefits of the Funding. In addition, there are additional components not previously included in Financial Services Authority Regulation 77/POJK.01 /2016 namely regarding the use of Personal Data, and mechanisms for settling rights and obligations per statutory provisions if the Organizer cannot continue its operational activities. Based on this explanation, it is known that the electronic document components of agreements between funders and fund recipients regulated in Financial Services Authority Regulation Number 10/POJK.05/2022 are completed and detailed than electronic document components regulated in Financial Services Authority Regulation 77/ POJK.01/2016. In the end, it can provide users with clear, adequate, and helpful information, as Jeremy Bentham said.

The twentieth amendment regarding stipulates regulation information details. Financial Services Authority Regulation Number 77/POJK.01/2016 does not include details. Whereas in Article 32 paragraph (5) Financial Services Authority Regulation Number 10/POJK.05/2022, detailed information on the use of funds is as follows: final position of the amount of Funding, economic benefits of Funding, and Term of Funding. The settings listed in the Financial Services Authority Regulation Number 10/POJK.05/2022 are more detailed and detailed so that beneficiaries can obtain complete and adequate information so that, in the end, they can provide clear and adequate, and valuable information to users as said by Jeremy Bentham.

The twenty-first change is about risk mitigation and risk management. Article 21 Financial Services Authority Regulation Number 77/POJK.01/2016 stipulates that Operators and Users must carry out risk mitigation. Whereas Article 35 of Financial Services

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Authority Regulation Number 10/POJK.05/2022 stipulates that Providers must implement effective risk management and facilitate risk mitigation for Users. Through Financial Services Authority Regulation Number 10/POJK.05/2022, it can provide opportunities for administrators and users to be better able to manage uncertainty related to threats because organizers have implemented risk management properly and facilitate risk mitigation for users so that in the end it is not too dangerous in carrying out LPBBTI activities. It also follows what is stated in the general explanation of Financial Services Authority Regulation Number 10/POJK.05/2022: that the community can receive the benefits as stated by Jeremy Bentham.

The twenty-second amendment is about cooperation with government agencies. Financial Services Authority Regulation Number 77/POJK.01/2016 does not regulate cooperation with government agencies. Meanwhile, Article 39 of Financial Services Authority Regulation Number 10/POJK.05/2022 stipulates that providers can cooperate with government agencies to become distribution partners for state securities to support government programs. Through cooperative arrangements with government agencies as stipulated in the Financial Services Authority Regulation Number 10/POJK.05/2022, it provides opportunities for organizers to participate in national economic Development. In addition, this collaboration also reflects the application of Article 28D paragraph (3) of the 1945 Constitution, which regulates that every citizen has the right to equal opportunities in Government, one of which is through cooperation with government agencies.

The twenty-third amendment is regarding the obligation to use electronic systems. Article 26 paragraph (4) Financial Services Authority Regulation Number 77/POJK.01/2016 only regulates the provision of other communication media besides information technology-based money lending and borrowing services electronic systems to ensure continuity of customer service, which can be in the form of electronic mail, call centers, or other communication media. Meanwhile, Article 42 of the Financial Services Authority Regulation Number 10/POJK.05/2022 stipulates that Providers must use Electronic Systems in their business activities. Based on this information, it is known that in the Financial Services Authority Regulation Number 77/POJK.01/2016, no specific article explicitly regulates the obligation to use electronic systems. Whereas in the Financial Services Authority Regulation Number 10/POJK.05/2022, especially those related to financial reports, which will provide benefits, as said by Jeremy Bentham, for the sustainability of the company's business.

The thirtieth amendment regulates Reporting obligation of the Provider. Article 44 Financial Services Authority Regulation Number 77/POJK.01/2016 stipulates that Providers who have obtained licenses must submit periodic reports electronically to OJK consisting of monthly and annual reports. Whereas Article 65 Financial Services Authority Regulation Number 10/POJK.05/2022 stipulates that Periodic reports consist of monthly and annual financial reports that have been audited by a public accountant registered with the Financial Services Authority. The arrangements regarding the types of reports listed in the Financial Services Authority Regulation Number 10/POJ.05/2022 are detailed because they consist of periodic reports and incidental reports, which are not regulated in OJK Regulations and must be reported immediately. Authority Regulation Number 10/POJK.05/2022, an article regulates the obligation to use an electronic system to benefit the community, as Jeremy Bentham said, to obtain better information.

The twenty-fourth change regulates centers of fintech lending data and disaster recovery. Article 25 Financial Services Authority Regulation Number 77/POJK.01/2016 stipulates that providers must use data and disaster recovery centers. Whereas Article 43 of Financial Services Authority Regulation Number 10/POJK.05/2022 stipulates that Providers must submit Funding transaction data correctly and entirely to the data center at the Financial Services Authority. Datacenter settings are centralized to the Financial Service Authority, aiming to optimize supervision further to provide more benefits for the parties.

The twenty-fifth amendment concerns equity. In the Financial Services Authority Regulation Number 77/POJK.01/2016, there are no provisions governing equity. Meanwhile, Article 50 of Financial Services Authority Regulation Number 10/POJK.05/2022 stipulates that providers must have equity of at least IDR 12,500,000,000.00 (twelve billion five hundred million rupiahs) at any time. In Jeremy Bentham's opinion, it aims to ensure substantial capital from the organizers, which will ensure the continuity of this activity which benefits the community.

The twenty-seventh amendment concerns the responsibility of the Operator for user losses. Article 37 Financial Services Authority Regulation Number 77/POJK.01/2016 stipulates that the Administrator is obliged to be responsible for User losses arising from the errors and negligence of the Board of Directors and the Operator's employees. In the Financial Services Authority Regulation Number 10/POJK.05/2022, no provisions govern the Operator's responsibility for user losses. Based on this explanation, it is known that the Financial Services Authority Regulation Number 10/POJK.05/2022 does not regulate the responsibility of the Organizer for User losses arising from errors and/or negligence, the Board of Directors and Employees of the Operator so that the question is if this occurs losses as described above, which party is responsible.

The twenty-eighth amendment is regarding the Board of Directors. Article 14 paragraph (2) Financial Services Authority Regulation Number 77/POJK.01/2016 stipulates that a Provider must have at least one board of directors' member. Whereas Article 55 paragraph (1) Financial Services Authority Regulation Number 10/POJK.05/2022 stipulates that a Provider must have at least two

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members of the Board of Directors. Based on this explanation, it is known that the minimum arrangement of 2 members of the board of directors in the Financial Services Authority Regulation Number 10/POJK.05/2022 aims to increase the availability of parties who will manage the organizing company, which will ensure the continuity of this activity. The purpose of the Law to provide benefits, as stated by Jeremy Bentham, for the parties is shown in this change.

The twenty-ninth amendment is regarding the internal audit. Financial Services Authority Regulation Number 77/POJK.01/2016 does not regulate internal audits. Whereas Article 58 Financial Services Authority Regulation Number 10/POJK.05/2022 stipulates that Providers must have an internal audit unit run by at least 1 (one) HR person. The regulation regarding the obligation to have an internal audit unit in the Financial Services Authority Regulation Number 10/POJK.05/2022 has a good effect because it can prevent and minimize errors and violations. Apart from that, through internal audit, it can also guarantee quality and integrity in the implementation of LPBBI, esphe Financial Services Authority Regulation Number 77/POJK.01/2016 also does not include the obligation to audit monthly and annual reports by public accountants, while the Financial Services Authority Regulation Number 10/POJK.05/2022 regulates the obligation to audit monthly and annual reports by public accountants. So that the reports submitted can be adequately accounted for, it also aims to create a better and integral supervisory system that will ensure the continuity of this activity, which will ultimately provide benefits, as said by Jeremy Bentham.

The following thirty-first change is regarding Mergers and Consolidations. Financial Services Authority Regulation Number 77/POJK.01/2016 does not regulate mergers and consolidations. Whereas Article 72 of Financial Services Authority Regulation Number 10/POJK.05/2022 stipulates that Providers may perform Mergers or Consolidations by obtaining approval from the Financial Service Authorities. Based on this explanation, it is known that the Financial Services Authority Regulation Number 10/POJK.05/2022 provides more opportunity and freedom for organizers to merge or consolidate as long as they have obtained approval from the Financial Services Authority. It's also under what is expected in the general explanation of Financial Services Authority Regulation Number 10/POJK.05/2022, namely so that the needs of the industry can develop optimally, healthily, and contributively that provide benefits to society, as said by Jeremy Bentham.

IV. CONCLUSIONS

This research aims to determine whether changes to regulating financial technology peer-to-peer Lending can better support legal objectives. The results showed 31 changes from the Regulation of the Financial Services Authority Number 77/POJK.01/2016 Concerning Information Technology-Based Money-Lending Services, which revoked the Financial Services Authority Regulation Number 10/POJK.05/2022 Concerning Information Technology-Based Joint Funding Service. Each amendment article has positive consequences for the organizers, the funders, and the recipients of the funds. In general, changes in these regulations are intended to benefit most of society, as said by Jeremy Bentham.

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The Influence of Product Quality, Service Quality and Price on Customer Loyalty at Skuy Burgerin Shop in Bukittinggi with Customer Satisfaction as Mediation Variable



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ABSTRACT: This study aims to explain the effect of product quality, service quality and price on customer satisfaction and loyalty at Skuy Burgerin in Bukittinggi. At the present time, fast food businesses are starting to grow in Indonesia. Skuy Burgerin is an original burger outlet made in Indonesia. The sample used in this study was 165 respondents who were customers of the Skuy Burgerin Shop in Bukittinggi. The sampling technique used non-probability sampling, namely purposive sampling. The analytical technique used is the Structural Equation Model (SEM) method using AMOS software version 22. The results show that there is a positive and significant effect of product quality, service quality and price on customer satisfaction and customer loyalty at Skuy Burgerin in Bukittinggi.

KEYWORDS: product quality, service quality, price, customer satisfaction, and customer loyalty.

PRELIMINARY

At the present time, fast food businesses are starting to grow in Indonesia. Apart from being an alternative choice of places to eat, many fast-food restaurants are also the choice of places to gather with family, friends, and relatives. Since this rapid development, culinary entrepreneurs have been challenged to be able to adapt to the times, where the quality of services and products must be maintained or improved so that consumers are not disappointed with the products or services in each restaurant, and it is hoped that consumers will repurchase the products offered (Makarawung, 2020).

Skuy Burgerin is an authentic burger shop made in Indonesia, located on Jalan Hafid Jalil, Tengah Jua, subdistrict Aur Birugo Tigo Baleh, Bukittinggi, West Sumatra. The existence of burgers that are increasingly in demand by the public has encouraged domestic producers to create their own burgers with a distinctive taste that other burger manufacturers do not have. In the midst of competition in the burger market in Indonesia, especially in the increasingly stringent city of Bukittinggi, burger producers are of course competing to provide quality products, service quality, and prices to please their customers so that consumers are satisfied and loyal to these burger producers.

Consumer loyalty in general can be interpreted as a person's loyalty to a product, including certain goods and services. Loyalty is an attitude and behavior, such as repeating subscriptions and purchases and recommending positively, thus influencing actual consumers and potential consumers (Widyastuti and Mu'afiah, 2015). According to Santoso (2019), consumer loyalty is very important for companies that maintain the continuity of their business and their business activities. Loyal customers are those who are so satisfied with a particular product or service that they have the enthusiasm to introduce it to anyone they know. Consumer loyalty can be formed because of customer satisfaction (Oliver, 1999). When a customer is satisfied with the product or service received from a company providing the goods or service, it is very likely that the customer will make a repeat purchase (Mulia, 2021). In this study, there are 3 things to learn to make someone satisfied and loyal to the Skuy Burgerin shop: product quality, service quality, and price.

LITERATURE REVIEW

Customer Loyalty

According to Aldina et al., (2021) loyalty is a condition where customers have a positive attitude towards a brand, are committed to the brand, and intend to continue their purchases in the future. Furthermore, according to Delimat et al. (2019) customer loyalty is a relationship between the company and the customer in which satisfaction is created so that it provides a good basis for repurchasing the same item and forming a word of mouth recommendation that is profitable for the company.

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If consumers get benefits from previous purchases, it indicates that they will repurchase. Consumers will recommend other people buy certain products if they feel satisfied with the product, this happens because product quality, service, and product performance are as expected. Therefore, companies should continue to innovate so that product performance remains good and continues to improve (Sasongko, 2021).

Customer Satisfaction

Customer satisfaction is an important factor in various business activities. According to Hadian & Rahmat (2019), satisfaction is defined as pleasant fulfillment. That is, consumers feel that consumption fulfills some needs, desires, goals, or so on, and this fulfillment is pleasurable. Thus, satisfaction is the consumer's feeling that consumption produces a result contrary to the standard of pleasure versus displeasure. According to Dhisasmito & Kumar (2020), the satisfaction felt by customers can increase the intensity of their buying. In order for satisfaction to affect loyalty, it is necessary to add/increase satisfaction, so that it can combine personal satisfaction. According to Albari & Kartikasari (2019), customer satisfaction is a measure of a person's emotions after comparing performance or perceived results with his expectations.

According to Aldina et al., (2021), customer satisfaction increases profits because it creates customer loyalty and repurchase intention. If the customer has a deep experience after buying a product or service provided by the company, then customer loyalty will increase. Research conducted by Dhisasmito & Kumar (2020) reveals that there is a positive and significant effect of consumer satisfaction on loyalty. Based on that, the hypothesis can be made as follows:

H1: Customer satisfaction has a positive and significant effect on customer loyalty.

Product Quality

Product quality is the ability of a product to carry out its functions, including reliability, durability, accuracy, ease of operation, and product repair, as well as other valuable attributes. Every company that wants to be able to meet the needs and desires of customers will try to make quality products, which are displayed both through the outer characteristics (design) of the product and the core of the product itself (Delima et al., 2019).

In many marketing activities, including in the fast food business, customer satisfaction is an important factor for the success of the business and has the possibility to influence customer loyalty in the future (Woen & Santoso 2021). Ahsan & Lumandono (2021) argue that product quality is the ability of a particular product or brand to carry out the expected functions and, as an ingredient, to meet basic human needs. Quality products have an important role in forming customer satisfaction. The higher the quality of the product provided, the greater the satisfaction felt by customers. Research conducted by Albari & Kartikasari (2019) shows product quality has a positive and significant influence on customer satisfaction. Based on that, the hypothesis can be made as follows:

H2: Product quality has a positive and significant effect on customer satisfaction.

Research conducted by Albari & Kartikasari (2019) shows that product quality contributes the most to loyalty. This is also proven by research conducted by Woen & Santoso (2021), which shows that product quality has a positive and significant effect on customer loyalty. Based on that, the hypothesis can be made as follows:

H3: Product quality has a positive and significant effect on customer loyalty.

Service Quality

According to Ahsan & Lumandono (2021) service quality can be interpreted as an effort to meet consumer needs and desires as well as accuracy in delivering them to balance consumer expectations.

Customer satisfaction is the degree to which a customer feels happy or disappointed after comparing the services or products received with what they expected. Several researchers have succeeded in proving the positive effect of service quality on customer satisfaction, which can be seen in Albari & Kartikasari (2019) and Dhisasmito & Kumar (2020). Based on that, the hypothesis can be made as follows:

H4: Service quality has a positive and significant effect on customer satisfaction.

According to Kristantyo (2021), service quality is the main factor influencing customer loyalty because customers who are satisfied with their personal values and experience a positive mood towards service will have high loyalty to the company. The results of this hypothesis are based on the results of previous research conducted by Albari & Kartikasari (2019), which tested the hypothesis that the service quality variable has a positive and significant effect on customer loyalty. Based on that, the hypothesis can be made as follows:

H5: Service quality has a positive and significant effect on customer loyalty.

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Price

Price is the amount of money charged for an item or service or the amount of money exchanged by consumers for the benefits of using or owning the product or service (Ahsan & Lumandono, 2021). More broadly, price is the sum of all the values that customers give up to gain the benefits of having or using a product or service.

One of the factors that influence customer satisfaction is not only in terms of service but can also be influenced by the price proposed by the seller, therefore, price is one of the key factors for customers to want to carry out transactions (Anindya et al., 2022). Errors in determining the price will have an impact that is not good for the company. If it is too expensive, the customer will be disappointed and not return. It may not even be a transaction because the price is too expensive. Vice versa. If the company sets a very low price. The customer is happy, but it will have an impact on the company's losses. The results of this hypothesis are based on the results of previous research conducted by Albari & Kartikasari (2019), Dhisasmito & Kumar (2020) and Woen & Santoso (2021) which tested the hypothesis that the price variable has a positive and significant effect on consumer satisfaction. Based on that, the hypothesis can be made as follows:

H6: Price has a positive and significant effect on customer satisfaction.

Reasonable prices have a direct and positive effect on customer loyalty. This empirical finding also supports the findings of Albari & Kartikasari (2019), who previously proved that fair pricing, both directly and through satisfaction as a variable mediator, has a positive effect on customer loyalty. Based on that, the hypothesis can be made as follows:

H7: Price has a positive and significant effect on customer loyalty.

Research Framework

Based on the literature review and hypotheses described above, the research framework can be structured as shown in Figure 1.

RESEARCH METHODOLOGY

The type of research used in this research is quantitative research, which is survey-based. Survey research is a research method that aims to obtain an overview of the characteristics of the population described by the sample. In general, the unit of analysis in survey research is the individual. Survey research is thus research that takes samples from one population and uses a questionnaire as the main data collection tool (Adiyanta 2019).

This research was conducted in Bukittinggi, West Sumatra. The population in this research is all customers who are visitors to the skuy burgerin shop in the city of Bukittinggi, West Sumatra. Sampling was carried out using a non-probability sampling technique. In this study, the authors used a sampling technique, namely purposive sampling. Purposive sampling is a sampling technique that involves giving the sample directly to respondents whose criteria have been determined in the research, because that person is able to provide the desired information. The considerations in selecting the sample in this study are:

- a. Respondents are female and male who live in the city of Bukittinggi, West Sumatra, and are millennials with an age range of 18 to 40 years.
- b. Visiting the Skuy Burgerin Shop in the last 1-2 weeks.
- c. Have purchased the burger menu two times or more at the Skuy Burgerin Shop Bukittinggi, West Sumatra.

The sample used in this study was composed of 165 respondents. Data collection was carried out by surveying respondents using a list of questions in the form of a combination of digital (a Google form) and hard copy/prints for direct visitors. A questionnaire is a data analysis technique that is carried out by providing a set of questions or statements for respondents to answer (Sugiyono, 2015). The analysis technique used is the Structural Equation Model (SEM) method using AMOS version 22 software. To get a good model, the test must fulfill the procedure that must be done first, which is in accordance with the criteria of Goodness-of-Fit.

ANALYSIS RESULTS

Before the research was carried out, the instrument used to collect the actual data was first tested (instrument test) to determine its level of validity and reliability.

The purpose of the validity test is to measure the legitimacy or validity of a questionnaire. A questionnaire is said to be valid if the questions on it are able to reveal something that will be measured by the questionnaire (Ghozali, 2017). The correlation coefficient values for both the dichotomous item scores and the polytomous item scores for each item are compared with the correlation coefficient values in the r-table at a certain alpha, for example, $\alpha = 0.05$. If the correlation coefficient of the item scores with a total score that is greater than the correlation coefficient of the r-table, the item correlation coefficient is significant, and the item is empirically valid. The reliability test according to Sekaran & Bougie (2017), the reliability of a measurement is an

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indication of the stability and consistency with which the instrument measures concepts and helps assess the accuracy of a measurement. The combined item reliability coefficient for polytomous item scores is calculated using the alpha coefficient (Ghozali, 2017). This study uses a reflective model evaluation, so the criteria used to see internal consistency is composite reliability with criteria > 0.6 (Henseler, Ringle, and Sinkovics 2009). If the variable has a value > 0.6 , it is declared reliable and is considered very good to be used as input in the data analysis process to test the research hypothesis. Validity and reliability tests were carried out on 30 respondents. According to Utari (2018), in instrument trials with a minimum of 30 people, the value distribution will be closer to the normal curve. The results of the validity test and reliability test can be seen in Table 1.

Test the validity of formal data using AMOS version 22 and the entire list of questions that represent each variable being tested. According to Ghozali (2017), data is said to be valid if the factor loading value is > 0.5 . The results of the validity test in Table 1 show that all question indicators representing 5 variables are valid with a value of > 0.5 . Ghozali (2017) states that the test results are said to be reliable if they have a construct reliability value of > 0.7 . The results of this test indicate that the C.R value for each variable is greater than 0.7.

Table 1. Validity Test and Reliability Tests Results

Variable	Point	Factor Loading	Result	Construct Reliability	Result
Product Quality	The appearance of the burger menu presented by Skuy Burgerin is interesting	0,845	Valid	0,9048	Reliable
	Skuy Burgerin products have various menu variations	0,737	Valid		
	The taste of the burger menu produced by the Skuy Burgerin shop is appetizing	0,723	Valid		
	The burger menu presented by Skuy Burgerin is clean, healthy and nutritious	0,836	Valid		
	Skuy Burgerin's burger menu has the freshness of food and can be seen in the color, texture, and aroma	0,790	Valid		
	The Skuy Burgerin shop always serves a burger menu with the right temperature	0,762	Valid		
Service Quality	Skuy Burgerin has the ability to provide services as promised, in a reliable, accurate, and consistent	0,717	Valid	0,8948	Reliable
	Skuy Burgerin has the ability to provide fast service to customers and hear and resolve customer complaints	0,743	Valid		
	Skuy Burgerin has employees who provide polite and trustworthy services.	0,819	Valid		
	Skuy Burgerin provides sincere and individual or personal attention given to consumers by trying to understand consumer desires	0,801	Valid		
	The condition of the place to buy (representative) Skuy Burgerin and the equipment is very complete, and the staff is skilled and has good communication skills in serving consumers.	0,882	Valid		
Reliable	The price of the Skuy Burgerin burger menu offered is affordable	0,746	Valid	0,8957	Reliable
	The price of the burger menu offered by the Skuy Burgerin shop is in accordance with the quality	0,801	Valid		
	The price for the burger menu from the Skuy Burgerin shop is reasonable for the quality.	0,809	Valid		
	The price of the Skuy Burgerin burger menu offered is competitive with its competitors.	0,672	Valid		
	The price for the Skuy Burgerin burger menu is in accordance with market prices	0,760	Valid		
	The price of Skuy Burgerin's burger menu products is in accordance with the existing quality	0,811	Valid		

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Consumer Satisfaction	Overall, I am satisfied with the Skuy Burgerin burger menu product	0,815	Valid	0,9673	Reliabel
	The burger menu offered by Skuy Burgerin meets my expectations	0,838	Valid		
	am willing to repurchase Skuy Burgerin burger menu products in the future	0,852	Valid		
	like to recommend Burger Menu products to friends or family	0,821	Valid		
	Overall, I am satisfied with the handling of the complaints and suggestions system at Skuy Burgerin	0,886	Valid		
	am satisfied with Skuy Burgerin's decision in handling customer complaints	0,859	Valid		
	Overall, I am satisfied with Skuy Burgerin's decision in handling customer complaints	0,843	Valid		
Consumer Satisfaction	Are you satisfied with the return of the Skuy Burgerin product, if you are not satisfied you can take steps to return the product in an extreme way or file a lawsuit against Skuy Burgerin	0,844	Valid	0,9673	Reliabel
	Are you satisfied with the warranty given by Skuy Burgerin?	0,871	Valid		
	Are you satisfied with Skuy Burgerin? Do a product recall immediately for all products on the market, both those with problems and those without problems related to consumer safety and health.	0,803	Valid		
	Are you willing to do word-of-mouth information sharing about Skuy Burgerin products?	0,848	Valid		
	Are you satisfied with the quality control severity of one or more defects in a Skuy Burgerin product or service that may cause it to be unacceptable (or damaged)	0,843	Valid		
Consumer Loyalty	am willing to say positive things about Skuy Burgerin shop to others	0,718	Valid	0,8378	Reliabel
	bought another product at the Skuy Burgerin shop.	0,765	Valid		
	am willing to refer the Skuy Burgerin shop to others	0,698	Valid		
	I am not easily influenced by competitors' pull, even though competitors offer various advantages such as discounts and others, and I still buy Skuy Burgerin products	0,819	Valid		

Table 2 Goodness of Fit Index Test Results

<i>Goodness of fit index</i>	<i>Cut-off value</i>	Research Model	Model
Probability	> 0.05	0,000	Marginal Fit
CMIN/DF	< 2.0	1,381	Good Fit
GFI	> 0.90	0,813	Marginal Fit
RMSEA	< 0.08	0,048	Good Fit
AGFI	> 0.90	0,784	Marginal Fit
TLI	> 0.90	0,953	Good Fit
CFI	> 0.90	0,957	Good Fit

Based on the overall goodness of fit measurement in Table 2 above, there is an index that indicates the marginal fit of the research model. Nevertheless, the model proposed in this study is still acceptable because the value, CMIN/DF, RMSEA, CFI and CFI meet the fit criteria.

The results of hypothesis testing can be seen in Table 3 below. From data processing, it can be seen that there is a positive relationship between variables if CR shows a value above 1.96 and below 0.05 for the p value (Ghozali, 2017). In Table 3, the results of the regression weight test can be seen, which explains the influence of the coefficients between related variables.

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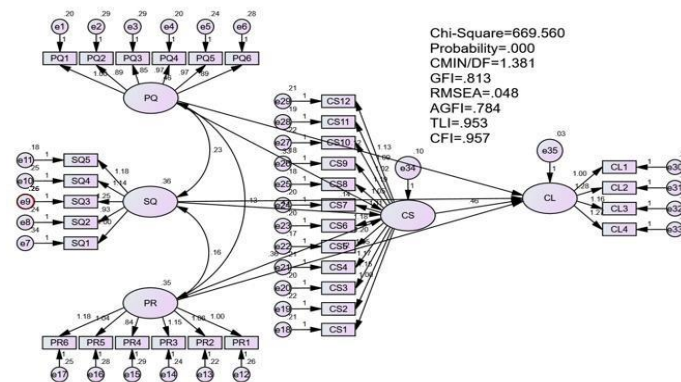


Figure 2. Structural Equation Model Results

Table 3. Hypothesis Test Results

No	Hypothesis	Estimate	C.R.	P	Result
1	Satisfaction has a positive and significant effect on customer loyalty;	0,457	4,718	0,000	Supported
2	Product quality has a positive and significant effect on customer satisfaction;	0,330	5,482	0,000	Supported
3	Product quality has a positive and significant effect on customer loyalty;	0,119	2,156	0,031	Supported
4	Service quality has a positive and significant effect on customer satisfaction;	0,431	5,545	0,000	Supported
5	Service quality has a positive and significant effect on customer loyalty;	0,139	2,044	0,041	Supported
6	Price has a positive and significant effect on customer satisfaction;	0,355	5,458	0,000	Supported
7	Price has a positive and significant effect on customer loyalty.	0,124	2,125	0,034	Supported

results of the regression weight analysis show that:

a. Effect of Consumer Satisfaction on Consumer Loyalty

The estimated parameter value of the regression weight coefficient is 0.457. This shows that the influence of consumer satisfaction on consumer loyalty is positive. This means that better customer satisfaction will increase consumer loyalty. Testing the relationship between the two variables shows a CR value of 4.718 > 1.96 and a probability value of 0.000 (p < 0.05), so that hypothesis 1 which states that customer satisfaction has a positive and significant effect on customer loyalty is accepted.

b. Effect of Porduk Quality on Consumer Satisfaction.

The estimated parameter value of the regression weight coefficient is 0.330. This shows that the effect of product quality on consumer satisfaction is positive. This means that the better the quality of the product, the greater the consumer satisfaction. Testing the relationship between the two variables shows a CR value of 5.482 > 1.96 and a probability value of 0.000 (p < 0.05), so hypothesis 2 which states product quality has a positive and significant effect on customer satisfaction is accepted.

c. Effect of Product Quality on Consumer Loyalty.

The estimated parameter value of the regression weight coefficient is 0.119. This shows that the effect of product quality on consumer loyalty is positive. This means that the better the product quality, the more customer loyalty will increase. Testing the relationship between the two variables shows a CR value of 2.156 > 1.96 and a probability value of 0.031 (p < 0.05), so that hypothesis 3 which states product quality has a positive and significant effect on customer loyalty is accepted.

d. Effect of Service Quality on Consumer Satisfaction.

The estimated parameter value of the regression weight coefficient is 0.431. This shows that the effect of service quality on customer satisfaction is positive. This means that the better the quality of the service, the greater the customer satisfaction. Testing the relationship between the two variables shows a CR value of 5.545 > 1.96 and a probability value of 0.000 (p < 0.05), so hypothesis 4 which states service quality has a positive and significant effect on customer satisfaction is accepted.

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e. Effect of Service Quality on Consumer Loyalty.

The estimated parameter value of the regression weight coefficient is 0.139. This shows that the effect of service quality on consumer loyalty is positive. This means that the better the quality of service it will increase consumer loyalty. Testing the relationship between the two variables shows a CR value of 2.044 > 1.96 and a probability value of 0.041 ($p < 0.05$), so hypothesis 5 which states service quality has a positive and significant effect on customer loyalty is accepted.

f. Effect of Price on Consumer Satisfaction

The estimated parameter value of the regression weight coefficient is 0.355. This shows that the effect of price on consumer satisfaction is positive. This means that the better the price, the greater the consumer satisfaction. Testing the relationship between the two variables shows a CR value of 5.458 > 1.96 and a probability value of 0.000 ($p < 0.05$), so that hypothesis 6 which states that price has a positive and significant effect on customer satisfaction is accepted.

g. Effect of Price on Consumer Loyalty

The estimated parameter value of the regression weight coefficient is 0.124. This shows that the effect of price on consumer loyalty is positive. This means that the better the price, the greater the consumer loyalty. Testing the relationship between the two variables shows a CR value of 2.125 > 1.96 and a probability value of 0.034 ($p < 0.05$), so that hypothesis 6 which states that price has a positive and significant effect on customer loyalty is accepted.

DISCUSSION

Based on the SEM analysis research that has been done, the results show that product quality has a positive and significant influence on customer satisfaction. So that the better the quality of the products offered, it will lead to satisfaction from consumers at the Skuy Burgerin Shop in Bukittinggi. In line with previous research by Albari & Kartikasari (2019) which stated that product quality variables had a positive and significant effect on customer satisfaction. The quality of the products offered to consumers plays an important role in increasing consumer satisfaction. Products with good quality according to consumer expectations will lead to higher consumer satisfaction.

Product quality also has a positive and significant influence on consumer loyalty. The higher the quality of the products owned by the Skuy Burgerin Shop in Bukittinggi, the more loyal consumers will be in making repurchases. This is in line with research by Albari & Kartikasari (2019) which shows that product quality has a positive and significant effect on customer loyalty. Product quality is very important for companies to get and retain consumers who will buy again. Product quality that is considered good and can meet expectations is able to make consumers stay with the company. Vice versa, if consumers judge that the product quality is not able to meet their expectations, they will look for other products that are considered to have better quality.

Service quality has a positive and significant effect on consumer loyalty. In line with previous research by Albari & Kartikasari (2019) which proved the positive effect of service quality on customer satisfaction. The better the service quality is perceived by consumers, the higher the satisfaction will be. Service quality is an important thing that must be considered by the company because it reflects the expectations of consumers. If consumers get services that match or even exceed their expectations, then the quality of the service will be considered good and will create satisfaction.

The effect of service quality on consumer loyalty also shows a positive and significant effect. The better perceived service quality from consumers will be able to retain consumers to come and make purchases again at the Skuy Burgerin Shop in Bukittinggi. In line with previous research by Albari & Kartikasari (2019) which showed that service quality has a positive and significant effect on customer loyalty. Service quality is an important element in achieving consumer loyalty. Service quality has a special advantage, where there is interaction between employees and consumers. When consumers can receive services that are of value and meet their expectations, they can create a sense of comfort and generate customer loyalty by making repurchases.

The test results show that price has a positive and significant effect on consumer satisfaction. In line with previous research by Albari & Kartikasari (2019) which proved that price has a positive and significant influence on consumer satisfaction. This means that the better the company is at applying the price offered for its products, the greater the satisfaction felt by consumers. Consumers will compare prices with the performance of the product or service they get. The prices set by Kedai Skuy Burgerin are considered to be in accordance with the quality of the products and services that consumers obtain, which makes consumers feel happy and satisfied when making purchases.

The effect of price on consumer loyalty also shows positive and significant results. This means that the better the price of the product is perceived by consumers, the more loyal they can be. In line with previous research by Albari & Kartikasari (2019) which proved that fair pricing has a positive effect on customer loyalty. The prices offered by Kedai Skuy Burgerin are considered affordable by consumers, thereby increasing consumer loyalty. Consumers feel that the price they pay when purchasing the

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product is in accordance with the quality of the product they expect, so they continue to repurchase Kedai Skuy Burgerin and do not look for other alternatives.

Consumer satisfaction has a positive and significant effect on the resulting consumer loyalty. The higher the satisfaction felt by consumers for their experience in making purchases at Kedai Skuy Burgerin, the higher consumer loyalty can be. This is in line with previous research by Dhisasmito & Kumar (2020) which revealed that there is a positive and significant effect of consumer satisfaction on loyalty. Consumer satisfaction is a factor in the realization of loyal consumers or loyal customers to the company. Consumers who achieve a high level of satisfaction will form a bond with the company and eventually build loyalty. Higher satisfaction from consumers, makes them loyal, makes them make repeat purchases, and makes them recommend to others.

CONCLUSION

The results of the research that has been done allow it to be concluded that all the hypotheses proposed can be accepted. Customer satisfaction has a positive and significant influence on customer loyalty. Product quality, service quality, and price have a positive and significant impact on customer satisfaction and loyalty.

Thus, the business manager of Kedai Skuy Burgerin who runs the food and beverage business is expected to be able to maintain the quality of the products offered to consumers, improve service for the better and set prices according to consumers' purchasing power. This will create satisfaction for consumers when they visit stores and make them return to visit and purchase products. Forming loyal consumers will provide benefits for the company in maintaining its existence in the long term.

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Fraud of Financial Reports in Food and Beverage Companies

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ABSTRACT: The formulation of the problem in this research is How is the influence of financial stability, external pressure, financial targets and Ineffective monitoring against fraudulent financial statements (a case study on Food and Beverage Companies listed on the Indonesia Stock Exchange for the 2017-2021). The type of research used is associative research. The data used is secondary data. The sampling method used is purposive sampling method based on certain criteria. The samples in this study are 12 food and beverage companies listed on the Indonesia Stock Exchange in 2017-2021. The data collection technique is document analysis. The method of data analysis in this study is quantitative analysis. The results of this study indicate that Financial Stability, External Pressure, ineffective monitoring has no effect on fraudulent financial statements, Meanwhile Financial Targets has a significant effect on fraudulent financial statements.

KEYWORDS: Financial Stability, External Pressure, Financial Targets, Ineffective monitoring and Financial Statement Fraud

1. INTRODUCTION

Financial reports are one of the most important information in assessing the development of a company that is in good condition or not, and is used to assess the achievements of the company in the past, present and future plans (Maith, 2013). Each company has financial reports that aim providing information regarding the financial position, performance and changes in the company's financial position that is useful in making decisions and showing the performance that has been carried out by management (Betri, 2020). Taxes have a very important role in a country, without taxes the country's life will not be able to run properly. Infrastructure development and construction of public facilities are all financed by taxes. Therefore, the government will continue to strive to increase tax revenues to meet national development needs. Implementation of tax collection by the government, is not always well received by companies. Companies as corporate taxpayers always try to pay taxes as low as possible because taxes will reduce income or net profit, while the government hopes to get as much income from taxes as possible so that it can finance the implementation of government programs that are realized for the community (Maisyaroh, 2016).

However, the company has a desire to display positive financial report results to attract parties who have an interest in the company so that company management uses various ways to display financial reports. One of them is by manipulating financial reports so that the company's condition looks good. This act of manipulating financial reports is a form of fraud. Fraud is an unlawful act committed by people from within or outside the organization, with the intention of obtaining personal or group benefits that directly harm other parties (Betri, 2020) Fraud can have a major effect on changes in a company's economic position. Basically fraud in the company is an act based on dishonesty that can be committed by someone, both leaders and employees, which results in losses to the company.

There are various types of fraud that we often encounter in companies, namely, fraudulent financial statement, asset misappropriation and corruption, Association of Certified Fraud Examiners (ACFE),2019. Fraud usually occurs due to weak internal controls and lack of understanding and pressure from various parties so that the company's performance can be assessed as good so that the company gets encouragement to commit fraud namely by manipulating financial reporting.

Fraud in financial statements is a misstatement or omission of amounts or disclosures that are intentionally made with the aim of deceiving users (Betri, 2020). company that public offering is a company that makes that happen fraud which is more than companies that have not been listed on the stock exchange. Basically what drives someone to commit fraud is financial need, but many are also driven because of their greed or because of a conflict of interest between management (*agent*) with shareholders (*principal*) that benefit one party so that fraudulent financial statements occur.

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The fraud committed is very diverse, namely by utilizing accounting principles, carrying out earnings management to carrying out illegal actions. If there is no prevention, fraudulent financial reporting will often occur. Researchers tested several factors that cause fraudulent financial statements namely pressure proxied using financial stability, external pressure, and financial targets, while opportunity is proxied using supervisor ineffective monitoring (Purba, 2021).

Pressure namely financial pressure which is interpreted as a general incentive for employees who misuse assets. Employees who have a lot of debt or those who are involved in drug and gambling addiction problems can steal to meet their personal needs (Betri, 2020).

Financial Stability is a condition that describes the company's financial condition in a stable condition. To determine the stability of the company's financial condition can be seen from its assets. The company's financial condition is said to be stable if the company can meet current routine needs, future needs, even sudden or sudden needs (Wahyuni and Budiwitjaksono, 2017) Financial Target is a financial target given by the shareholder and must be achieved by the manager in one period. Financial targets is the risk of excess pressure on management to achieve financial targets given by management, including the objectives of receiving incentives from sales and profits (Kayoi and Fuad, 2019).

Opportunity is a weakness in internal control, thereby creating opportunities for theft. Inadequate segregation of duties almost certainly becomes a license for employees to commit theft (Betri, 2020). Ineffective Monitoring is a condition that illustrates the weakness of oversight of the company in monitoring the company's performance. If this happens, the opportunity or opportunity for someone to commit fraud is very large (Utama and Yuniarta, 2020).

Previous research (Purba, 2021) states that Financial Stability has a positive influence on the occurrence of fraudulent financial statements. Meanwhile (Rachmania, 2017) research results Financial Stability has no effect on fraudulent financial statements. (Sihombing and Rahardjo, 2014) External Pressure have an influence on fraudulent financial statements. Meanwhile (Ancient, 2021) External Pressure has no effect on fraudulent financial statements.

According to (Ayuningrum, Murni and Astuti, 2021) Financial Targets effect on fraudulent financial statements. However (Wahyuni and Budiwitjaksono, 2017) stated Financial Targets does not have a significant effect on fraudulent financial statements. The results of the study (Ratmono, Diany and Purwanto, 2017) show that opportunity has a significant effect on financial statement fraud. Meanwhile (Paramitha, Frederica and Iskandar, 2022) opportunity has no significant effect on fraudulent financial statements. (Sulkiyah, 2016) states that Ineffective Monitoring have an influence on the occurrence of fraudulent financial statements. However, according to (Rachmania, 2017) argues that Ineffective Monitoring has no effect on fraudulent financial statements.

Phenomena associated with fraudulent financial statements are cited in Association of Certified Fraud Examiners (ACFE) 2019, conducted research, which stated that fraud the most detrimental in Indonesia based on the total value of the loss is corruption as much as 64.4%, asset misappropriations as much as 20.9%, and fraudulent financial statements as much as 9.2%. Even though financial statement fraud has a small percentage of losses of 9%, the majority or the most incidents compared to corruption and misuse of assets with a loss value of below IDR 10 million, but the fewest events with the largest loss value of above IDR 10 billion are in corruption cases (ACFE, 2020)

The phenomena of fraudulent financial statements in food and beverage companies in 2018 PT Tiga Pilar Sejahtera Food Tbk, there was fraudulent financial statements that started with an internal management dispute. Based on the results of the Ernest & Young auditor's investigation, the management did mark up funds for the 2017 financial statements of Rp. 4 trillion in several accounting posts, namely income of Rp. 662 billion and earnings before interest, taxes, depreciation of Rp. 329 billion and amortization of transfer of funds of Rp. 1.78 trillion by old management to relations (Kesuma, 2021).

Financial Stability

Financial Stability is the company's financial condition is in a stable condition balance to know the stability of the company's financial condition can be seen from its assets, because the number of assets explains the amount of company wealth (Rachmania, 2017).

The company's financial condition is said to be stable if the company can meet current routine needs, future needs, even urgent or sudden needs (Wahyuni and Budiwitjaksono, 2017) According to (Skousen, Smith and Wright, 2009) Financial Stability is a condition that describes the company's financial condition in a stable condition. Financial stability is proxied by the ratio of changes in total assets (ACHANGE), if the ratio of changes in assets of a company is greater, the possibility of fraudulent financial statements in the company is also higher (Sihombing and Rahardjo, 2014). Measurement of Financial Stability uses the formula:

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$$ACHANGE = \frac{Total\ asset\ (t) - Total\ Asset\ (t - 1)}{Total\ Asset\ (t - 1)}$$

Source: (Skousen, Smith and Wright, 2009)

External Pressure

External pressure is pressure received by company management to fulfill the wishes of external parties (Rahmayuni, 2018). Demands to fulfill requirements in paying or fulfilling debt agreements are recognized as a source of external pressure. So that managers feel pressure as a result of the need to obtain additional debt or equity financing so that the company remains competitive (Skousen, Smith and Wright, 2009). According to SAS No.99 When there is excessive pressure from external parties it will create a fraudulent risk of financial statements.

Measurement of External Pressure uses the Leverage ratio, which is the ratio of total debt divided by total assets. The Leverage Ratio (Lev) shows the proportion of the total use of debt by a company. Companies with high leverage have debt prerequisites and earnings manipulation motivation. The greater the leverage level of a company, the higher the probability of a Fraud Financial Statement occurring (Norbarani and Rahardjo, 2012). External Pressure Measurement uses the formula:

$$LEV = \frac{Total\ Debt}{Total\ Assets}$$

Source: (Yesiariani and Rahayu, 2017)

Financial Targets

Financial target is a pressure or target in achieving company goals set by the directors or management which includes the goal of receiving incentives either from sales or profits (Yesiariani and Rahayu, 2017).

Financial targets are proxied by Return On Assets (ROA). ROA percentage is used to see changes in probability levels to show how efficiently the assets have been used which are intended to attract investors to invest and increase the value of shares as described (Skousen, Smith and Wright, 2009). Measuring Financial Targets in this study uses the formula:

$$ROA = \frac{Net\ Profit}{Total\ Assets}$$

Source: (Yesiariani and Rahayu, 2017)

Ineffective Monitoring

Ineffective Monitoring is a condition that describes the weakness of company supervision in monitoring company performance (Aprilia and A, 2017). If this happens, the opportunity or opportunity for someone to commit fraud is very large (Utama and Yuniarta, 2020). Ineffective management monitoring is caused by (Tuanakotta, 2010).

a. Management Dominated by one person or a small group, with no controls to compensate.

b. Oversight by an independent audit committee over the financial reporting process and internal controls is not effective According to (Skousen, Smith and Wright, 2009) Ineffective Monitoring can be measured by the Ratio of

Independent Commissioners (BDOUT) by comparing the number of independent commissioners with the total number of commissioners. Financial Services Authority Regulation Number 33/POJK.04/2014, one of which states that the number of independent commissioners must have a percentage of 30%. Due to the large amount of supervision from the independent board of commissioners, it is hoped that the company will run effectively and avoid fraud (Stefanus, 2019).

Supervisory ineffectiveness is proportional to BDOUT (*The Percentage Of Board Members Who Are Outside Members*) namely the ratio of the number of independent commissioners to the total number of commissioners. Measuring Supervisory Ineffectiveness in this study uses the formula:

$$BDOUT = \frac{Total\ Independent\ Boards}{Total\ Boards}$$

Source: (Ancient, 2021)

Fraudulent Financial Statements

Fraudulent Financial Statements involves an attempt to overstate income, whether by overstating assets and income or by writing off liabilities and expenses, the company also deliberately understates profits (Betri, 2020).

Financial statements that are misstated intentionally or carelessly, so that they are misleading, inaccurate, and inconsistent with GAAP (Generally Acceptable Accounting Principles), constitute fraud on investors. The most common type of financial statement

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fraud involves overstatement of opinion and earnings, as well as understating costs, which can inflate a company's ability to generate profits (Wind, 2014).

Earnings management is a strategy in accounting that is useful for knowing the state of the company and the company's Performance. Earnings management is closely related to the level of earnings or the business performance of an organization because the level of profit or profit earned is often associated with management performance, therefore it is not surprising that managers often try to show their achievements with the profits achieved (Priantara, 2013).

Several cases of financial statement fraud that occurred were motivated by earnings management practices. Earnings Management is used to report Fraud measurement. Researchers use the accrual model, namely the accrual section which is a manipulation of accounting data called abnormal accruals ordiscretionary accruals. Accrual accounting weaknesses create opportunities for managers to implement earnings management strategies anddiscretionary accruals (accounting estimating policy). Measurement of Financial Statement Fraud using the formula:

$$\text{Manajemen Laba} = \frac{\text{Akrua}l \text{ Modal Kerja (t)}}{\text{Penjualan Periode (t)}}$$

Source: (Permatasari, 2017)

Information:

Δ AL = Change in Current Assets in Period t

Δ HL = Change in Current Liabilities in Period t

Δ Cash = Change in Cash and Cash Equivalents in Period t

Hypothesis

Based on the framework, the research hypothesis is proposed as an answer to the formulation of the research problem as follows:

H₁: Financial Stability Affects Fraudulent Financial Statements. H₂: External Pressure Affects Fraudulent Financial Statements.

H₃: Financial Targets Affect Fraudulent Financial Statements.

H₄: Ineffective Monitoring Affect Fraudulent Financial Statements

2. METHODOLOGY

The type of research used by the author in this study is associative research. The data used in this study are secondary data. Secondary data is data obtained through collecting information from existing sources, such as company financial report data at www.idx.co.id, journals, articles, and previous studies. Location of this research carried out in 33 Food and Beverage Companies listed on the Indonesia Stock Exchange in 2017-2021. The dependent variable in this research is Fraudulent Financial Statements (Y), while the independent variable is Financial Stability (x₁), External Pressure(X₂), Financial Target (X₃), Ineffective Monitoring (X₄).The population used in this research is 33 companies Food and Beverages listed on the Indonesia Stock Exchange in 20172021. In this study, the sampling technique used is purposive sampling method. Namely the technique of determining the sample with certain considerations or criteria (Sugiyono, 2016) in order to obtain a research sample of 12 Food and Beverage Companies listed on the Indonesia Stock Exchange (IDX) in 2017-2021. Method of collecting datain this study using the document analysis method, namely analyzing the contents of research supporting documents such as annual financial report documents in www.idx.co.id.

The data analysis method used in this study is quantitative data analysis. The analytical technique used to find out fraudulent financial statements in Food and Beverage companies is multiple linear regression analysis. Data analysis techniques in this study were assisted by *statistical program for special science* (SPSS). Before conducting the analysis, the following tests must be carried out:

Classic assumption test

According to (Wiratna, 2018) the classic assumption test consists of:

a. Normality test

The normality test aims to measure whether the data is normally distributed. In this study, to detect the normality of the data, it was carried out through statistical analysis using a test *kolmogorv smirnov* (K-S).

b. Multicollinearity Test

The multicollinearity test aims to determine whether or not there is a high correlation between independent variables in a multiple smooth regression model. To test multicollinearity can be seen from *Tolerance Value* or *Variance Inflation Factor* (VIF). if the tolerance value > 0.10 and the VIF value <10.0 then there is no multicollinearity in the regression model.

c. Heteroscedasticity Test

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Heteroscedasticity test aims to test the difference in residual variance from one observation period to another. How to predict whether there is heteroscedasticity in a model can be seen with the scatterplot image pattern, regression which cannot occur heteroscedasticity, if:

- 1) The data points spread above and below / around the number 0.
- 2) Data points do not collect only above or below.
- 3) The spread of data points is not can form a wavy pattern that widens then narrows and widens return.
- 4) Spread of dots and non-patterned.

d. Autocorrelation Test

The autocorrelation test aims to determine whether there is a correlation between the previous variables. To detect autocorrelation by carrying out the Durbin Watson Test (DW test), i.e. If d lies between dU and (4-dU) then there is no autocorrelation.

Hypothesis testing

a. Multiple Linear Regression Analysis

Multiple linear regression analysis is a linear relationship between two or more dependent variables (X_1, X_2, X_3, X_4) With the dependent variable (Y) (Sugiyono, 2016) This analysis used to find out the relationship between the independent variables and the dependent variable whether each variable positively or negatively related.

b. Partial Test (t test)

The t test is a test that shows how much great influence independent variable(X_1, X_2, X_3, X_4) on the dependent variable individually.

3. RESULT AND DISCUSSION

Classic assumption test

a. Normality Test Results

The normality test aims to find out whether the data is used normally distributed, so it can be used in statistics. In this study to detect data normality using non-parametric statistics with Kolmogorov-Smirnov (K-S). Based on the results of the normality test, it is known that the significance value is $0.200 > 0.05$, so the residual values are normally distributed. As shown in the table below:

Table 1. Normality Test Results

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		36
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	.17937650
Most Extreme Differences	Absolute	.098
	Positive	.066
	Negative	-.098
Test Statistic		.098
Asymp. Sig. (2-tailed)		.200 ^{c,d}
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		
d. This is a lower bound of the true significance.		

Source: SPSS Output Results version 25, 2022

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b. Multicollinearity Test Results

Test results multicollinearity can be seen from the table as follows:

Table 2. Multicollinearity test results

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.120	.198		.606	.549		
	financial stability	.106	.363	.056	.292	.772	.852	1.173
	external pressure	-.157	.286	-.116	-.550	.587	.710	1.409
	financial targets	-.047	.835	-.014	-.056	.956	.537	1.863
	supervisory ineffectiveness	-.129	.588	-.048	-.219	.828	.659	1.517

a. Dependent Variable: fraudulent financial statements

Source: SPSS Output Results version 25, 2022

Based on the table above, the tolerance value for the variable Financial Stability is 0.852, External Pressure is 0.710, Financial Targets is 0.537 and Supervisory Ineffectiveness is 0.659 which means the value is > 0.10. Variable VIF value Financial Stability of 1.173, External Pressure of 1.409, Financial Target of 1.863 and Supervisory Ineffectiveness of 1.517 which mean < 10.00, then these variables do not show symptoms of multicollinearity.

c. Heteroscedasticity Test

Heteroscedasticity test results can be seen in picture 1 below:

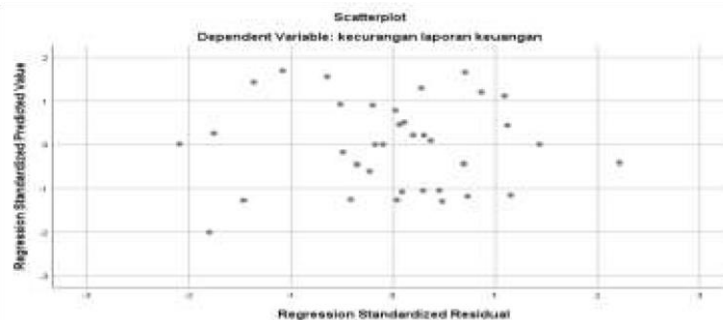


Figure 1. Heteroscedasticity Test Results

Source: SPSS Output Results version 25, 2022

Based on the picture above, it shows that the points spread randomly and do not form a clear pattern and are spread both above and below zero on the Y axis. This means that there is no heteroscedasticity.

d. Autocorrelation Test

The results of the autocorrelation test in this study are shown in table 3 below:

Table 3. Autocorrelation Test Results

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.126 ^a	.016	-.111	.19060	1.734
a. Predictors: (Constant), supervisor ineffectiveness, external pressure, financial stability, financial targets					
b. Dependent Variable: fraudulent financial statements					

Source: SPSS Output Results version 25, 2022

Based on the table above it is known that DW 1.734 then this value will be compared with the table value Durbin Watson where the number of samples $n = 36$ and the number of variables $K = 4$ then the value is obtained Durbin Watson of 1.734 > from the upper limit (DU) which is 1.7277 and less than $(4-DU)$ namely $4-1.7277 = 2.2723$ then as a basis for decision making from the test Durbin Watson that there are no problems or symptoms of autocorrelation.

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Hypothesis testing

a. Multiple Linear Regression Analysis

This analysis is to determine the relationship between variables Financial Stability, External Pressure, Financial Targets, Ineffective Monitoring on Fraudulent Financial Statements. Results regression analysis double linear seen in the following table 4:

Table 4. Multiple Linear Regression Calculation Results

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1(Constant)	.439	.293		1.499	.146
financial stability	.001	.037	.007	.036	.971
external pressure	-.425	.312	-.411	-1.364	.185
financial targets	.661	.317	.572	2.082	.048
supervisory ineffectiveness	-.982	.811	-.283	-1.211	.237

a. Dependent Variable: fraudulent financial statements

Source: SPSS Output Results version 25, 2022

Multiple linear regression test results on variables Financial Stability, External Pressure, Financial Targets, Ineffective Monitoring on Fraudulent Financial Statements, can be formulated regression equation as following:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e$$

$$Y = 0.439 + 0.001X_1 - 0.425 X_2 + 0.661X_3 - 0.982 X_4 + e$$

- 1) Constant value of 0.439. this shows that if the variable variable Financial Stability, External Pressure, Financial Target, Ineffective Monitoring constant or 0, then the variable Fraudulent Financial Statements will increase by 0.439
- 2) Regression coefficient value Financial Stability of 0.001, meaning if Financial Stability up by 1 %, Fraudulent Financial Statements will increase by 0.001 assuming other variables are constant or fixed
- 3) Regression coefficient value External Pressure equal to - 0.425, meaning if External Pressure down by 1%, Fraudulent Financial Statements will decrease equal to - 0.425 assuming other variables are constant or fixed
- 4) Regression coefficient value Financial Targets of 0.661, meaning if Financial Targets up by 1 %, Fraudulent Financial Statements will increase of 0.661 assuming other variables are constant or fixed
- 5) Regression coefficient value Ineffective Monitoring of – 0.982, meaning if Ineffective Monitoring down by 1%, Fraudulent Financial Statements will increase of -0.982 assuming other variables are constant or fixed

b. Partial Test (t test)

The t test was conducted to determine whether there is a variable effect Financial Stability(x1), External Pressure(X2), Financial Target (X3), Ineffective Monitoring (X4) partially to the variable Fraudulent Financial Statements (Y). The results of hypothesis testing individually orPartial can be seen through table 5 below:

Table 5. Partial Test Results (t test)

Coefficients ^a					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1(Constant)	.439	.293		1.499	.146
financial stability	.001	.037	.007	.036	.971
external pressure	-.425	.312	-.411	-1.364	.185
financial targets	.661	.317	.572	2.082	.048
supervisory ineffectiveness	-.982	.811	-.283	-1.211	.237

a. Dependent Variable: fraudulent financial statements

Source: SPSS Output Results version 25, 2022

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1) Effect of Financial Stability(X1) against Fraudulent Financial Statements (Y)

The results of the hypothesis show that variable Financial Stability(X1) t_{count} of 0.036, mean while t_{table} with significant level (α) 5% or 0.05 and (df) = $n-k-1$ is $(60-4-1) = 55$ is 1,673 means t_{count} smaller t_{table} . i.e. $0.036 < 1,673$ and significant $0.971 > 0.05$, it can be concluded that H_0 is accepted and H_a is rejected, meaning Financial Stability has no effect and is not significant to Financial Statement Fraud

2) Effect of External Pressure (X2) on Fraudulent Financial Statements (Y)

The results of the hypothesis show that the External Pressure variable (X2) has a value of t_{count} as big -1.364 where as t_{table} with significant level (α) 5% or 0.05 and (df) = $n-k-1$ is $(60-4-1) = 55$ is 1,673 means t_{count} smaller t_{table} that is $-1.364 < 1,673$ and significant $0.185 > 0.05$, it can be concluded that H_0 is accepted and H_a is rejected, meaning that external pressure has no effect and is not significant on fraudulent financial statements.

3) Effect of Financial Targets (X3) on Fraudulent Financial Statements (Y)

The results of the hypothesis show that the Financial Target variable (X3) has a t_{count} as big 2,082 where as t_{table} with significant level (α) 5% or 0.05 and (df) = $n-k-1$ is $(60-4-1) = 55$ is 1,673 means t_{count} bigger t_{table} that is $2,082 > 1,673$ and significant $0.048 < 0.05$, it can be concluded that H_0 is rejected and H_a is accepted, meaning the Financial Target has effect and is significant on fraudulent financial statements.

4) Effect of Ineffective Monitoring (X4) on Fraudulent Financial Statements (Y)

The results of the hypothesis show that the Ineffective Monitoring variable (X4) has a t_{count} as big -1.211 where as t_{table} with significant level (α) 5% or 0.05 and (df) = $n-k-1$ is $(60-4-1) = 55$ is 1,673 means t_{count} smaller t_{table} that is $-1.211 < 1,673$ and significant $0.237 > 0.05$, it can be concluded that H_0 is accepted and H_a is rejected, meaning Ineffective Monitoring has no effect and is not significant to fraudulent financial statements.

DISCUSSION

Effect of Financial Stability on Fraudulent Financial Statements

Based on the results of hypothesis testing shows that H_0 accepted H_a rejected, which means the variable Financial Stability which is proxied by ECHENGE has no significant effect on fraudulent financial statements at Food and Beverage Companies listed on the Indonesia Stock Exchange (IDX) in 2017 – 2021. This shows that any change in total assets owned by the company does not affect management to commit Fraudulent Financial Statements, because companies with large assets tend not to exercise financial stability in an effort to attract investors to invest in the company. Asset change high or too low because management cannot manage assets properly (Septriani and Handayani, 2018) However, unstable financial conditions are not a pressure for management to manipulate the company's financial statements because this is likely to worsen the company's financial condition going forward (Mintara and Hapsari, 2021)

Based on the results of this study, financial stability has no effect on Fraudulent Financial Statements because the increase in total assets owned by the majority of food and beverage companies listed on the Indonesia Stock Exchange (IDX) in 2017 – 2021 is only slight or the increase is not significant so it does not affect the potential for fraudulent financial statements.

Financial Stability shows a company's financial condition is in a stable condition, to be able to know the stability of the company's financial condition can be seen from its assets. The higher the company's total assets, the more wealth the company has. With the condition of financial stability, the company continues to increase every year. It will gain the trust of the public, government, creditors, and shareholders to invest their funds in the hope of obtaining a higher rate of return. big.

The results of this study are in line with research conducted by (Ijudien, 2018), (Prayoga and Sudarmaji, 2019), (Ajeng *et al.*, 2020), (Mintara and Hapsari, 2021) stated that *financial stability* does not have a significant effect on fraudulent financial statements. Where as (Purnama and Astika, 2022) States that *financial stability* effect on fraudulent financial statements.

Effect of External Pressure on Fraudulent Financial Statements

Based on the partial results of hypothesis testing, it shows that H_0 is accepted and H_a is rejected, meaning that External Pressure has no significant effect on fraudulent financial statements in Food and Beverage Companies listed on the Indonesia Stock Exchange (IDX) in 2017 – 2021. This suggests that the companies used as samples in this study have the ability to pay debts and other sources of financing obtained from external parties, so that the value of the total debt ratio (LEVERAGE) obtained does not become a pressure for the company's management and does not influence the company's management to commit fraudulent financial statements.

In addition, many companies choose to issue shares again to obtain additional business capital from investors, without having to enter into a new debt agreement which can lead to a greater debt burden and lower company financial leverage.

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This is proven based on research data on Food and Beverage Companies listed on the Indonesia Stock Exchange (IDX) in 2017 – 2021 which shows that the average total debt ratio shows a value of 0.354333 or 35%, meaning that the company is able to manage the funds obtained from this debt to produce assets for company. Based on the results discretionary accruals shows a low average value, meaning that even though there is pressure from external parties as principals who demand that the company must obtain additional business capital from third parties, the company is able to manage these funds and not commit fraudulent financial statements.

Fraud financial reports occur due to pressure that is often experienced by company management, namely the need to obtain additional debt or external sources of financing, research financing and development expenditures or capital to remain competitive (Skousen, Smith and Wright, 2009). When pressure is excessive from external parties, risks can occur Indonesia Stock Exchange (IDX)

The results of this study are in line with (Apriliansa and Agustina, 2017), (Septriani and Handayani, 2018), (Purnama and Astika, 2022) states that external pressure has no effect on fraudulent financial statements. Mean while according to (Skousen, Smith and Wright, 2009), (Sihombing and Rahardjo, 2014) States that external pressure effect on fraudulent financial statements.

Effect of Financial Targets on Fraudulent Financial Statements.

Based on the partial results of hypothesis testing, it shows that H_0 is rejected and H_a is accepted, meaning the Financial Target influential and significant to fraudulent financial statements in Food and Beverage Companies listed on the Indonesia Stock Exchange (IDX) in 2017 – 2021. ROA is a ratio that proves the size of the return generated on the use of company assets, besides that ROA is also used to assess the performance of managers in determining bonuses, wage increases and others. If a low ROA value indicates lower profits generated so that the company's performance will be assessed as poor, this can lead to fraudulent financial reporting.

Likewise, with a high ROA value in the previous year, the possibility for companies to manipulate financial reports is even greater. This condition sometimes triggers managers to take various ways so that the specified targets can be achieved, one of which is by committing fraudulent financial statements.

The phenomenon that occurs in MYOR companies in 2021, where the Financial Target has increased very significantly compared to the previous year. This can influence management to commit financial statement fraud.

Financial Targets is excessive pressure on management to achieve financial targets set by the board of directors or management within a certain timeframe. (Puspitadewi and Sormin, 2018) stated that the main benchmark in financial targets is an increase in the amount of profit earned by the company, because achieving profit can be used to measure company performance and value. The results of this study are in line with research conducted by (Herdiana and Sari, 2018), (Ayuningrum, Murni and Astuti, 2021), (Paramitha, Frederica and Iskandar, 2022), stating that *financial targets* effect on fraudulent financial statements. While according to (Annisya, Lindrianasari and Asmaranti, 2016), (Saputra and Kesumaningrum, 2017), (Diansari and Wijaya, 2018) state *financial targets* has no effect on fraudulent financial statements.

Effect of Ineffective Monitoring On Fraudulent Financial Statements

Based on the partial results of hypothesis testing, it shows that H_0 accepted H_a rejected, which means Ineffective Monitoring has no effect and is not significant on fraudulent financial statements of Food and Beverage Companies listed on the Indonesia Stock Exchange (IDX) in 2017 – 2021. This happens because the existence of a company's independent board of commissioners is only a regulatory requirement to comply with OJK regulations and not to suppress the possibility of their existence fraudulent financial statements, but in practice they may be influenced and get intervention from the company.

The results of this study are strengthened by research conducted (Yesiariani and Rahayu, 2017) explained that the existence of an independent commissioner provides little guarantee that company supervision will be more independent and objective and away from the intervention of certain parties. However, the Ineffective Monitoring cannot be fully measured from the number of independent commissioners because the company must have an internal control design that is able to cover opportunities for actions to occur. fraudulent financial statement.

Ineffective Monitoring is a weak oversight of the company, so that it is used as an opportunity by managers to act fraudulently and misbehave.

Based on the average value obtained by the sample companies, it shows an average ratio of independent commissioners of 0.33 which proves that the average company complies with OJK regulations No.57/PJOK.04/2017, namely that the board of independent commissioners in a company is at least 30% of the total number of commissioners. So that with these conditions the size of the supervisory unit can be indicated as limited to complying with regulations and has not yet become a company urgency because Ineffective Monitoring does not necessarily lead to the risk of fraudulent financial statements.

Fraud of Financial Reports in Food and Beverage Companies

The results of this study are in line with (Listyaningrum, Paramita and Oemar, 2017), (Thalia and Meiden, 2021), (Sabaruddin, 2022), (Paramitha, Frederica and Iskandar, 2022) stating that ineffective monitoring has no effect on fraudulent financial statements. Meanwhile, according to (Aprilia and A, 2017), (Septriani and Handayani, 2018) States that ineffective monitoring effect on fraudulent financial statements.

4. CONCLUSIONS

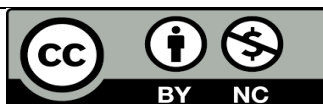
Based on the results of the research and discussion described above, it can be concluded that, partially variable Financial Stability, External Pressure and ineffective monitoring no effect and is not significant to fraudulent financial statements (Y). But variable Financial Targets significant effect on fraudulent financial statements in the company Food and Beverages listed on the Indonesia Stock Exchange (IDX) in 2017 – 2021.

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The Effect of Secretome Hypoxia Mesenchymal Stem Cells (SH-MSCs) Cream on IL-6 Gene Expression (In Vivo Study on Psoriasis-like Rats Model Induced by SH-MSCs)



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ABSTRACT: Psoriasis is caused by chronic inflammation of the skin that occurs in various countries. Current therapy is still dominated by long-term anti-inflammatory which causes various side effects. Hypoxic secretome mesenchymal stem cells (SH-MSCs) contain soluble molecule bioactive anti-inflammatory cytokines that can suppress inflammation. However, the role of SH-MSCs on IL-6 gene expression in psoriasis-like has not been studied until now. The aim of this study was to determine the effect of SH-MSC administration on IL-6 gene expression in Psoriasis-like rats induced by IMQ 100 mg. The research design is an experimental posttest control group design. The experimental subject was divided into four treatment groups consisting of a healthy group (no treatment), positive control group (only IMQ 100 mg), P1 group (SH-MSC therapy 100 μ L/kgBW in 100 mg cream) and P2 group (SH-MSCs therapy 200 μ L/kgBW in 100 mg cream). P1 and P2 were given SH-MSC topically for 14 days. At the end of the treatment, termination, extraction skin and IL-6 gene expression analysis by qRT-PCR. The results of this study showed that the mean expression of the IL-6 gene in the healthy group was: 1.00 ± 0.00 ; positive control: 6.16 ± 1.19 , P1: 3.06 ± 1.65 , P2: 1.06 ± 0.41 . Analysis data using Kruskal Wallis test with $p < 0.05$ and Mann Whitney $p < 0.05$ so that there was a significant difference between treatment group. The administration of SH-MSC had a significant effect on improving conditions in psoriasis-like model rats as indicated by a decrease in IL-6 gene expression.

KEYWORDS: IL-6 gene, SH-MSCs, psoriasis

I. INTRODUCTION

Psoriasis is a skin disease caused by chronic inflammation that occurs in countries around the world. Until now the treatment of Psoriasis is still dominated by anti-inflammatory long-term use which causes various side effects.⁽¹⁻³⁾

The prevalence of Psoriasis in adults in the United States is 0.51% in a population of 799,607 patients with disabilities and/or over 65 years of age. The highest prevalence in the world was reported in Norway, namely as much as 11.43% in a population of 10,302 people from Tromso. Among 12 studies in Europe, the countries with the lowest and highest prevalence were reported in the UK 1.3% and Norway 11.43% respectively. Three studies in Australia showed a prevalence between 2.30% - 6.60%. The prevalence of psoriasis in adults in Brazil is around 1.30%. The prevalence of psoriasis in Indonesia reaches 2.5% of the population and there are still many who have not received medical treatment.^(4,5)

In psoriasis, IL-6 is produced by keratinocytes, fibroblasts, endothelial cells, dendritic cells, macrophages, and type 17 T helper cells, and has been shown to exert many biologic effects in affected tissues, including (i) keratinocyte growth, activation, and production proinflammatory cytokines/chemokines (especially those synergizing with TNF- α and IL-17A). The proinflammatory cytokine IL-6, signaling via STAT-3, allows Tmem/eff cell release of Treg-mediated suppression in the murine system. IL-6 protein is highly increased and most highly expressed by CD31+ endothelial cells and CD11c+ dermal dendritic cells (DC) in psoriasis skin lesions. Elevated levels of IL-6 in the skin and serum are characteristic of psoriasis. Serum IL-6 level is considered as a marker of inflammatory activity in psoriasis as well as an indicator of treatment response.^(4,5)

Mesenchymal Stem Cell (MSC) secrete soluble factors, referred to as Secretomes, which play a multifactorial role in the regulation of circulating inflammatory cells. For example, the secretome contains TGF- β and IL-10, which block T-cell proliferation. It is also

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believed that these soluble factors are able to change the secretion profile of dendritic cells to increase the production of anti-inflammatory cytokines including IL-10 and decrease the production of inflammatory cytokines including IFN- γ .⁶

The role of the Secretome Hypoxia Mesenchymal Stem Cell (SH-MSC) in psoriasis has not been studied, so this study wanted to investigate the role of the secretome as seen from the expression of the IL-6 gene in Wistar rats with psoriasis by administering the topical cream with SH-MSC concentration of 100 μ L/kgBW in 100 mg cream and 200 μ L/kgBW in 100 mg cream.

II. MATERIAL AND METHOD

Experimental Subject

A 24 male Wistar rats with 8-12 weeks of age and 200-250 grams of body weight. The rats were clean-shaven on the dorsal and smeared Imiquimod cream dose of 100 mg for 10 days, so that a psoriasis-like condition was validated through macroscopic and microscopic examination. The rats were divided into a healthy group, a control group where psoriasis-like rats were given standard cream and the treatment group was given secretome cream.

MSCs Isolation and Cultivation

MSCs was isolated from the umbilical cord of 19-day-old pregnant rats carried out in the biosafety cabinet class 2 SCCR laboratory Faculty of Medicine Universitas Islam Sultan Agung Semarang. Samples were then collected in sterile culture washed with 0.9% NaCl and phosphate-buffered saline (PBS), The Wharton jelly that separated from the umbilical cord of blood vessels chopped into small fragments. The fractions were then evenly placed in the T25 flask until they adhered to the bottom of the flask for 2-3 minutes. After that, soaked with 1 cc of medium, incubated at 37°C, pH 7, 20% O₂ and 5% CO₂, then the medium flask was removed and replaced every three days in 10-15 days. Cell growth was observed using an inverted microscope and repeated until it reached 80% confluent stem cells. After that the cells were separated using BDTM. MSCs were incubated under hypoxic conditions with an O₂ concentration of only 2.5% for 2 hours indoors.

SH-MSCs Dose

Positive control group received IMQ 100 mg induced with standard cream, P1 received SH-MSC therapy 100 μ L/kgBW in 100 mg cream and P2 received SH-MSC therapy 200 μ L/kgBW in 100 mg cream. The healthy group did not receive any treatment. The MSCs were given for 14 days.

Rats Termination

At the end of the treatment, termination was carried out using a lethal dose cocktail of 10 ml containing Ketamine 50 mg/kgBW, Xylazine 10 mg/kgBW and Acepromazine 2 mg/kgBW which were injected intramuscularly. Once it's done extraction skin and IL-6 gene expression analysis by qRT-PCR.

Data Analysis

Normality test using the Shapiro Wilk test. The distribution of data in this study was not normal ($p < 0.05$) so the Kruskal Wallis test was performed. The results of the Kruskal Wallis test obtained a p value < 0.05 then continued with the Mann Whitney test to find out the differences between group.

RESULT

Characteristics and Differentiation Mesenchymal Stem Cells (MSCs)

MSCs use an umbilical cord of 19 days-pregnant rats. the isolation and cultivation carried out after the 5th pasase which cell showed attached to the bottom of the flask with spindle-like cell morphology (Figure 1A). Flow cytometry Quantitative test results are obtained the percentage of positive expression of CD90.1 was 97.8%, CD29 was 99.0%, negative expression of CD45 was 2.0%, and CD31 was 2.1% (Figure 2). MSCs were tested for differentiation to determine their ability to become adipogenic and osteogenic derivatives (Figures 1B and 1C).



Figure 2. Detection of CD90.1, CD29 Surface Markers, Negative Expression of CD45, and CD31

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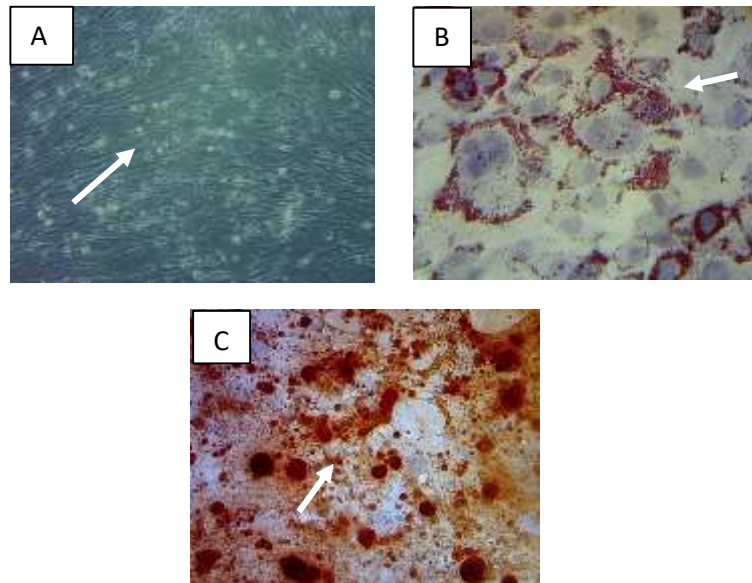


Figure 1. (A) MSCs validity test with a similar shape with fibroblasts at 200x magnification (B) MSCs validity test of adipogenic differentiation at 200x magnification (C) MSCs validity test of osteogenic differentiation at 200x magnification

Mesenchymal Stem Cells (MSCs) which was incubated under the hypoxic conditions with 5% concentration of O₂ for 24 hours using hypoxia chamber contained more cytokines interleukin-10 or IL-10 and Transforming growth factor-β, where there was more spindle-like (Figure 3).

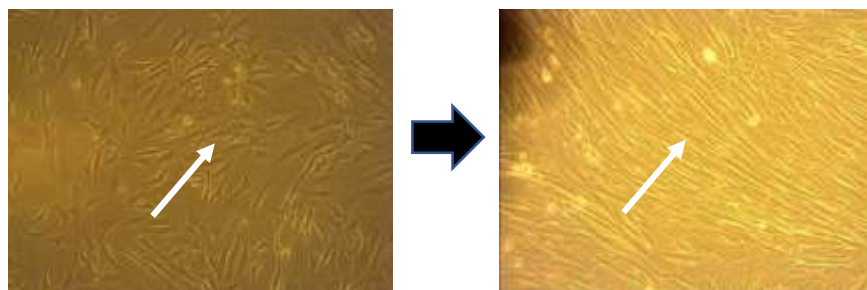


Figure 3. Different visualization of hypoxic mesenchymal stem cells

Validity test of Psoriasis-Like Rats

Validity test result of psoriasis-like rats showed that the administration of IMQ 100 mg can induce psoriasis-like which showed a significant increase in erythema, scale, and thickness, as well as a psoriasis-like appearance on the microscopic visualization (Figure 4).

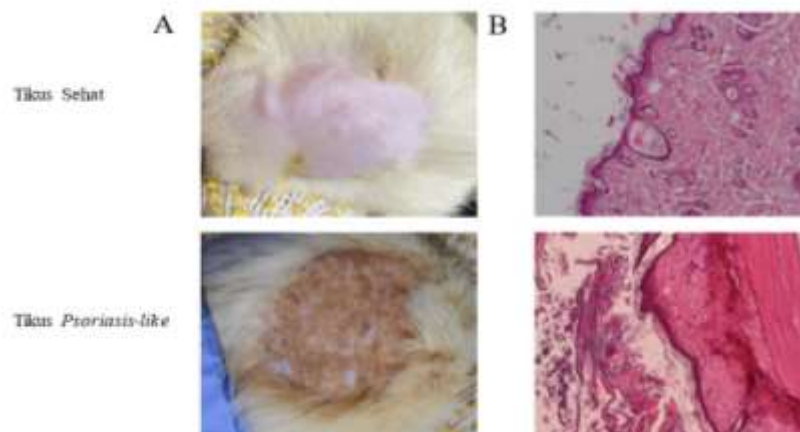


Figure 4. Validity test Psoriasis-like rats (A) Macroscopic appearance and (B) Microscopic images of healthy rats and rats induced with IMQ 100 mg showing signs of psoriasis-like

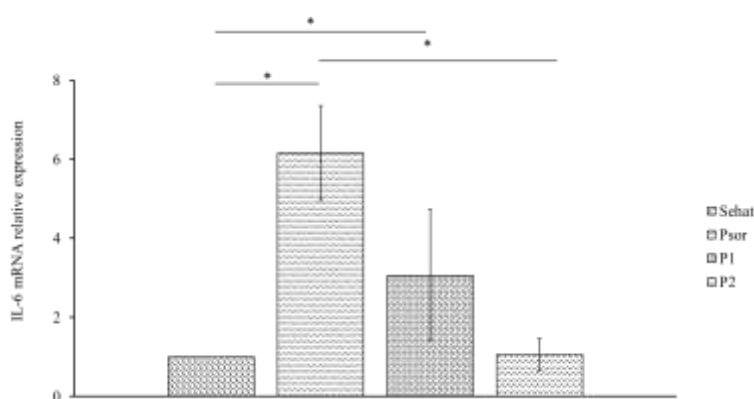
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Expression of IL-6

The measurement of IL-6 expression in mRNA skin tissue of psoriasis-like rats using qRT-PCR method and calculated using the Livak method to determine the qRT value. In this study, there was a decrease in IL-6 gene expression in the group that received SH-MSC cream compared to the group that did not receive SH-MSCs cream. The decrease of IL-6 gene expression for group that given SH-MSC cream at a dose of 200 μ L/kgBW in 100 mg cream was more significant than the SH-MSC group at a dose of 100 μ L/kgBW in 100 mg cream (Table 1 and Figure 5).

Table 1. Data on IL-6 Gene Expression Research

Variable	Group				p-value
	Shamn=6 Mean \pm SD	KP n=6 Mean \pm SD	P1 n=6 Mean \pm SD	P2 n=6 Mean \pm SD	
Expression contains IL-6	1.00 \pm 0.00	6.16 \pm 1.19	3.06 \pm 1.65	1.06 \pm 0.41	
<i>Sapphire wilk</i>	0.00	0.872	0.972	0.910	
<i>Kruskal Wallis</i>				0.000	



Picture 5. RT-PCR results of IL-6 gene expression level ratio.

*** Shows a significant difference between the healthy, positive, treatment 1 and 2 groups ($p < 0.05$).**

III. DISCUSSION

Mesenchymal Stem Cells (MSCs) secrete a soluble factor, known as Secretom, which plays a multifactorial role in the regulation of circulating inflammatory cells which contain TGF- β and IL-10. There are studies that reveal MSC administration can increase anti-inflammatory factors and immuno-suppressant such as interleukin-10 (IL-10), hepatocyte growth factor (HGF), transforming growth factor- β (TGF β 1), and prostaglandins. E2 (PGE2) which can act as an anti-inflammatory.⁷⁻¹² This study aims to determine the effect of topical application of various doses of SH-MSC cream on the expression of the IL-6 gene which plays a role in Psoriasis Like. This study used male rats of the Wistar strain because they included vertebrate mammals with structures of organs and tissues similar to humans. Test animals were induced by IMQ 5% dose of 100 mg to make Psoriasis Like conditions.¹³

Expression IL-6 functions as a mediator for the notification of the occurrence of several emerging events such as autoimmunity and tissue damage. In addition to immune-mediated cells, mesenchymal cells, endothelial cells, fibroblasts, and many other cells are involved in IL-6 production in response to various stimuli.¹⁴ Increased levels of IL-6 in the skin and serum are markers of an inflammatory process that occurs in cases of psoriasis. In the case of psoriasis, IL-6 is produced by various cell types in psoriatic plaques, including keratinocytes, fibroblasts, endothelial cells, DCs, and macrophages. The produced IL-6 further augments the IL-6-rich microenvironment in psoriasis plaques that can induce itpSTAT3 in Th17 effector and memory cells. signalingpSTAT3 persistence in T cells is required for early Th17 differentiation and promotion of Th17 cytokine production, unleashing uncontrolled activation of effector T cells, and preventing the suppressive activity of regulatory T cells.⁽¹⁴⁾ This process can also promote keratinocyte growth and proliferation, and promote hyperplasia epidermal psoriasis.¹⁵

In this study, SH-MSC cream was given by topical significantly and dose-dependently decreased IL-6 gene expression in psoriasis-like mouse skin. In giving SH-MSC cream dose of 100 μ L/kgBW in 100 mg cream can decrease expression the IL-6 gene was up to 3.06 \pm 1.65 while at the SH-MSC cream dose of 200 μ L/kgBW in 100 mg cream the IL-6 gene expression decreased by 1.05 \pm 0.41

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with the control group as high as 6.16 ± 1.19 . Based on the results of this study, showing that administration of SH-MSC cream can reduce inflammation in psoriasis-like cases induced by IMQ through down regulation expression of the proinflammatory cytokine IL-6.

This research needs to be validation autoimmune markers test. The variations of intervention in the form of standard drug administration psoriasis-like compared with therapy using SH-MSC, and variations in the time of administration after being induced Psoriasis-like are needed in order to determine the potential for prevention or cure psoriasis-like which is more optimal.

IV. CONCLUSION

The administration of SH-MSC cream at a dose of 100 μ L/kgBW in 100 mg cream and a dose of 200 μ L/kgBW in 100 mg cream had an effect on decreasing IL-6 gene expression in male rats of the Wistar strain model psoriasis-like between treatment groups compared to controls.

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Making Access to Primary Education Sincerely for All in Nigeria



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ABSTRACT: Access oriented approach only favours parity in the education of boys and girls in Nigeria. It is a strategy that reflects social justice to ensure mass education of the citizenry. From the perspective of social inclusion, however, parity keeps the provisions of the education for all away from achieving an objective that sincerely includes all children in school. The social inclusion notion engenders a paradigm shift, expanding the frontiers of such a provision. Access in this sense is understood beyond the notion of mere pupil numbers to a strategy that provides opportunities for diverse children to enroll and attend school.

KEYWORDS: access, attendance, children, inclusion, primary education.

INTRODUCTION

Parity based access to education is a feeble provision for primary age children in Nigeria. Access involves creating favourable conditions and/or avenues to wrestle disadvantages and enable mass enrolment and attendance of all eligible children in schools to achieve primary education (Lewin, 2009; Chataikaa, Mckenzieb, Swarc & Lyner-Cleophasd, 2012). The perspectives shared by these authors define access in an extensive way, looking at it as to be an education for all strategy that is broad in context transcending enrolment. A critical examination of the policy has shown almost a similar pattern in access in Nigeria as that reported by Lewin and Chataikaa et al. Beyond gender, access, as it is being applied at the moment, is not expansive and holistic to accommodate children from all other backgrounds in regard to the places available and attendance in school. A broad-based access that includes all the backgrounds of children in school makes for a sincere and well-intentioned provision for their education. A society that is pursuing strategic and sustainable development takes the education of children very seriously. Juvenile education is a key factor to making that development goal sustainable. Provisioning education for all children indicates a desire to develop them to become functional members of the society.

Doing so implies that there is recognition of the vital position juvenile education occupies in national development agenda. Of all levels of education, primary education is the most essential. All other levels of education rely on it even though it continues to suffer neglect. Even the Federal Government of Nigeria (2008), as expressly stated in the National Policy on Education (NPE), acknowledges primary education as the aspect of education that determines the fate of other levels of education. An efficient approach for government to invest early in human capital development to mitigate cost on national economic capacity. Secondary education is nonetheless also important except that it builds on the foundation already laid by its predecessor. It is implicit. Primary education is a core undertaking in the process of developing an effective manpower. Enabling it for children is a measure that sustains a succession plan where the young can replace the old to effectively continue to man and manage the various institutions of government in the future.

INTERROGATING ACCESS TO EDUCATION IN NIGERIA

Looking at it from the standpoint of access, primary education is only on the margins of enabling a genuine education for all in Nigeria. Over the years the policy on primary education follows a path that predominantly favours access (Universal Basic Education Commission- UBEC, 2004; United Nations Educational, Scientific and Cultural Organisation – UNESCO, 2012; Ewa, 2019). The focus on access, within the context of the education for all agenda, is a reference to the strict implementation of the enrolment process in schools. Ensuring access in this sense indicates a moral responsibility on the part of stakeholders to give every child a chance (Bruns, Mingat & Rakotomalala, 2003) to be placed in school. Ever since this objective has continued to dominate efforts in terms of the number of primary age children that receive places in school. Even with the adoption and implementation of parity in the number of boys and girls in primary enrolments the future of a significant number of children in Nigeria is still at stake.

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According to the National Audit Office (2010:6) 'access is a crucial first step into education'. It is a prerequisite for schooling for every child. Access emerged as a measure to redirect provisions going forward and accelerate progress. It comes as a lever to activate the process of ensuring mass education in the form of widening participation of more children in formal education. The hint is that perhaps what applies at present is not enough to serve the needs of children including those living in disadvantages across societies. One gender appeared to be overrepresented in school than the other. Across many low-income countries, including Nigeria, more boys than girls had places in school (World Bank, 2006). UNESCO (2004) estimated that 103 million 6- to 11-year-olds in developing countries, representing about one-fifth of the total were out of school in 2001.

A significant portion of the out-of-school children are likely females. In consequence, access which in this case is viewed from the angle of equality in education leans onto the distributive perspective of social justice. One emphasis of this theory is parity and fairness in the distribution of social services (Hyttén and Bettez, 2011). Social justice in education highlights the importance of ensuring that there is a balance in the number of boys and girls who receive places in primary schools to get primary education. Given this position, the understanding of social justice in education is 'gender based access', concentrating on bolstering the place of females in schools. In referring to the backgrounds of children in terms of the benefits available in educational opportunities for them, other identifiers are also salient, in addition to being male and female. Access opportunities for children within the frame of education for all (EFA) often ignores, or rather marginally covers other demographics such as the language, tribe, religion, special education needs etc of children in school enrolments and attendance. Gender based access as it is the focus in international (UNESCO, 2004) and national policy on education (Federal Republic of Nigeria, 2008) plays down on the importance of making education widely accessible for all eligible children in Nigeria. When the placement of children in school becomes lumped and attached to just male and female, exclusion and marginalisation of the background of other children within particular groups is made possible.

As such it became more necessary to upscale commitments towards increasing the number of children in schools. Before 1990, or even 2000 access was not a critical priority in children's education in primary schools (World Bank, 2006). Up until the close of the 20th century countries and partner agencies often focused on internal efficiency measures in schools such as dropout and repetition rates. Even at that having reliable data on these assessment criteria was problematic. Often times the measures and outcomes are presented as estimates. Estimates do not give the exact picture of the issue. Rather they are helpful only to provide a clue about the situation of things on ground. This might be due to enrolment dynamics in different geographic locations. The need to expand enrolment became pertinent in realisation of the crucial role juvenile education performs in facilitating social mobility. Studies have proven that there is huge return on investment in primary education. For example, World Bank (2002b) and Glewwe (2002) found that the knowledge and skills children gain from primary education make a difference in economic mobility. Before now other research findings have indicated positive benefits of primary education in national economic growth (Hanushek and Kimko, 2000) and development. The inquiry conducted by Coulombe, Tremblay & Marchand (2004) on a similar issue corroborates these findings.

Since basic education is a right for all children, including those residing in hard-to-reach locations, the children deserve more in education than having to equalise access for boys and girls in schools. Although access is being introduced as a procedure approach to expand education opportunities for children in school challenges still remain. It has yet to fully meet its enrolment objectives, or it overlooks other enrolment objectives. As stated earlier, access is following a unidirectional trajectory which is parity between boys and girls in school admissions. Such a pursuit is narrow and also falls short of the requirement of equality in the education of children. The number of boys who are attending school tend to dwindle as the the focus on girls rises (Humphreys and Crawford, 2014). Apart from the differences in gender, boys and girls do not all have a homogenous background. Drawing the lines of equity in access along the path of a 'gender based parity' process weakens the commitment to achieving a broad-based equality in practice. Any such undertakings create a fragile way of implementing access when other markers of the identities of boys and girls such as religion, tribe and location are being ignored. Gender based access shifts attention away from a broad enrolment process. Access that is measured by gender highlights between group – boys and girls – enrolment; not within group enrolment variables as shown in the current practice. Within group access procedure for example involves a situation whereby within male children across different social backgrounds e.g. migrants, language, religion, tribe, location etc are equally represented in school admissions. A similar consideration will apply for the females too. It is a thorough process and drives efforts on access a step further.

Tackling parity in enrolment alone tends to keep juvenile education away from achieving its full purposes in regard to its human development endeavour. This plays down on the value of the other critical aspects of providing whole education for the child. As part of educational support services as documented in the NPE, a key resolve of the Federal Government of Nigeria (2008:38) to implement the policy on primary education is to 'enhance access to learning. Here access means enabling all children,

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not just to enter school, but to also engage in classroom lessons so that they can benefit from learning. In practice nonetheless the attention on parity in enrolment dominates the efforts committed to learning. It goes beyond saying that primary education, as the foundation builder, is not limited to access. As conditions are being provided to encourage the child to be present in school what next? Except to raise pupil population, school enrolments in themselves do not stem the losses in learning and achievement among pupils. Many families make decisions to enroll their children in school not just for the sake of it. The expectation is that the children will have the opportunity to engage with school activities and achieve from learning in the long term. Failure to learn paints a gloomy future for a child and imposes a huge cost on national development. Children develop relevant skills from learning and can complete their education and have better prospects (Organisation of Economic Co-operation and Development - OECD, 2012).

The gender approach is just an initial step to access. Even at that it is limited in scope and practice. A multirole strategy takes access forward further and expands it. It is an alternative that is multipurpose and expansionist. Further expansion of access is likely to address the inequities in the ways primary education is made to become more accessible for all children. Other researchers also align with this position. Okeke (2008), for instance, corroborates that access has to provide free and unlimited, unhindered and unfettered opportunities at each level of education to obtain knowledge, skills, and abilities available at that level needed to optimally participate and contribute to development in the society. Nwogu (2015) in his work, *barriers to equality of access to educational opportunity in Nigeria: a philosophical perspective*, takes a similar line of thought. The initiators of the concept of access to education probably did not take these factors into consideration. Arguably the thinking among them could be that gendered parity is a method that is potent enough to foster equal rights in education and to raise mass literacy. After all we have just male and female in the human race. By that it is believed the right of children to education within the school system is assured. Such a pronouncement of access is nonetheless infirm.

MOVING FROM PARITY BASED ACCESS TO INCLUSION BASED ACCESS IN NIGERIA

What exists currently is parity in access to education of children in primary schools. A stronger commitment to widen access is possible and doable especially if primary education is given top priority in terms of financing. A brief assessment would provide an insight in relation to the monetary allocation often earmarked to primary education. National budgetary allocations are made annually to this subsector of the educational system of Nigeria. It is just that the attention which stakeholders provide is negligible to the extent that very meagre funds are allotted to this area. UNESCO proposes that from 15 per cent to 26 per cent of the annual national budget be given to education as a whole (Olugbenga and Yakubu, 2021). This recommendation is in realisation of the fact that education is the most impactful sector in every society. Primary education is very crucial to stimulating that impact. In practice, however, the Nigerian government allocates just a little above 6.7 percent of the overall budget to education. (Primary) schools receive far less than that disbursement in the actual implementation of the budget. Primary education does not fare well when government demonstrates such level of disregard for it. When a building foundation is poorly laid, either cracks or outright collapse is certain to occur to the elevations of the building. A consequence of poor funding of primary education in Nigeria is that schools will not have adequate carrying capacity for access. Carrying capacity in this sense refers to having enough staffing, infrastructure, remuneration of teachers, and equipping schools to be able to respond positively to the needs of a diverse pupil population (Ewa and Ewa, 2019) within local communities.

The out of school population in Nigeria are boys and girls from different social backgrounds in the country. Some children are not in school because the school policy and culture of practice there are such that cannot meet the educational needs of, for instance, a Fulani child, a Christian child, a *Boki* speaking child, overaged pupil, a pregnant pupil, an orphan, a child with impairments etc. The existing policies and cultures in and outside the school are not able to address the vulnerabilities of children. Children's interests, parent's permission, homes chores, teacher attitudes and distance to school are some issues that determine the way primary age children attend and complete school in Nigeria (Aliero, 2020). Similar issues take place too in Pakistan as documented at different times by Stromquist (2014), Vayachuta, Ratana-Ubol & Soopanyo (2016) and Yousaf, Shehzadi & Bibi (2021). It is obvious that the socio-economic, geographical and psychological environments within the school and beyond the walls of the school are factors responsible for the extent to which a child can access primary education in Nigeria, even in other climes. Singly or in combination, these issues have consequences on how children enroll and attend school. Many children lose access due to dissatisfaction at school. Child centred policies and practices, on the other hand, have positive motivation to children's enrolment and attendance in school.

A pathway to reinforce education for all, especially in developing countries like Nigeria, is to reposition access for it to become inclusive. At the moment, it is still a 'survival of the fittest' kind of approach. Only children who are resilient survive the tough conditions surrounding their education in local community schools. Others are left behind. It is disadvantages that can cause primary age children to be excluded in education. When such disadvantages become persistent the implication is that the access

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opportunity is constrained to move the education for all policy beyond the periphery involving just ensuring equilibrium in the number of boys and girls that get places in schools at a given time. Further from the gender based parity role it is ascribed with, access, in a more inclusive interpretation, has a social inclusion character (World Bank, 2013; Robo, 2014; Ewa and Ewa, 2019) creating possibilities for equal enrolment, attendance, an even achievement for all children in primary education. The social inclusion viewpoint acknowledges that within the parity strategy there are children who experience disadvantages so that even when they are present their presence is not being recognised and valued in school. Primary age children who stay on the sidelines of their education constitute a population that is powerless, non-dominant and unsupported.

A socially inclusive (Robo, 2014) education approach is one in which all members of the target population are recognised, respected, feel valued (Ewa and Ewa, 2019) and there is a support system to cater for exigencies. Social inclusion pushes the boundaries of access wider to encompass children's attendance. For without attendance, the effort for children to be present in school is useless. Having all children attend (regularly) is a signal that the environment in school is significantly supportive of their education. It implies that issues that deprive them from learning are in check or minimal. A holistic education programme is inclusive. It does not only prepare the children for school, more importantly, it provides chances for them to succeed once they are there (Robo, 2014). Inclusion is an affirmation of the social inclusion theory to broaden narrow views concerning parity in education. Access, within the ambit of social inclusion, is in pursuit of inclusion and inclusion liberates access from whatever hindrances to enable education that is sincerely for all.

Whereas inclusion illuminates parity in education and presents a genuine understanding of 'education for all', it is a paradigm style that is given various conceptual connotations. For instance, Garuba (2003), Ajuwon (2008), Olofintoye (2010) and Olaleye, Ogundele, Deji, Ajayi, Olaleye & Adeyanju (2012) conceive the concept as the process of enrolling learners with impairments in the mainstream classroom. For these authors, access of children with impairments to a general school is regarded as inclusion. In other words, inclusion in this case is a step to enabling the presence of only children with disabilities in general school settings. Also commenting about this misconception, Ainscow, Booth, Dyson, Farrell, Frankham, Gallannaugh, Howes & Smith (2006) pointed that some parents think that inclusion involves making their children to attend the same schools in which their peers with bad behaviours are also learning. These are anti-inclusion ideas that attribute the faults to learning on the child. Probably, it is reasons or definitions such as this that access to school is restricted to parity. Agents of parity based access believe that children are to be fitted into an unchanged school cultures and practices (Ewa and Ewa, 2019). However, the social inclusion doctrine requires the school to be changed to be able to welcome all children and enable them learn. Such changes have to reflect in school policy, practices, teachers' attitudes, teacher education, children's attitudes and school buildings to facilitate enrolment and attendance of all of them. This is a shift from the existing order to an inclusion based access in Nigeria. It is a movement that that can enhance the capacity of the school to respond to the differing demographics of primary age children available and the social contexts of the school environment.

Inclusion based access is a change that is belated. Inclusion is the philosophy that underpins access to education in conception from inception. It is just that the initiators seemingly stopped short of naming it as such. May be its introduction was to be a gradual process or a first step towards an education that includes all in terms of pupil enrolment and attendance in schools. An inclusive framework on access ensures that, aside from parity, other backgrounds of children are being taken into account in school placements and that they are not only placed there but all of them are learning. Following such a process towards inclusion suggests a cautious exercise. In contrast, however, caution is becoming risky to the education of some children because it is rather slowing down commitments and actions of stakeholders to move provisions forward towards guaranteeing the kind of access to education that includes all children in primary education in the country.

CONCLUSION

Access is adopted in education policy as a mass literacy strategy in primary schools in Nigeria. It is a concept whose specific purpose is to ensure the equalisation of educational opportunities in schools for boys and girls. Apparently, it is a distributive justice approach to upscale the number of girls in primary schools compared to boys. Access, in this perspective, highlights gender based parity in education and ignores other backgrounds of children, and more importantly, the need for all of them to learn in school. Boys and girls belong to a diverse background and these issues have implications for access and attendance in school. The emphasis of the policy is that an equal amount of primary age children from both genders are to receive places in school. But, many of those who are present in school are not learning. Access portends inclusion. It is, however, not genuinely inclusive. An inclusion based access is expansionist in scope and that would reflect in policy and practice. Having such a broad and multirole arrangement helps to extend the boundaries of parity and guarantees that all children across backgrounds are not just given places, but are also attending school.

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The Maternal Darkness: A Voice of The Indonesia Former Bomber Mother



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ABSTRACT: This article discusses the reality of regretful experience from a female terrorist of becoming a mother in the perspective of the study of motherhood and terrorism. Female terrorists' activities are often correlated to maternal inequalities. Figure of a mother is always seen as a perfect role and it is women's responsibilities to provide life, full of tenderness, affection and nursing in kindness. On the other hand, motherhood in criminal activities, especially terrorism, is often seen as a new mask in its modus operandi which leads to new exploitation. This study investigates the role and agency of women which are more active in terrorism and its relevancies to motherhood. Regretting motherhood is a research finding that argues if motherhood is a philosophical thing which all women dream about (Donath, 2017). The regret experience occurs since the beginning when a woman becomes a mother or conducting role as a mother, including for women who are involved in terrorism. The findings of this interview are the first study that reveal regretting experience of becoming mother of women involved in terrorism in the context of Indonesia. Women who are involved in terrorism tend to acquire deeper understanding in religion, especially in religion-based parenting, they generally believe if the noble duty of a mother in nurturing and educating, yet this case shows the opposite. The finding of the research argues the general assumption and uncovers the anomalies in the role of motherhood and religious norm which attach to mother involved in terrorism. This research uses in-depth interview method to two terrorism perpetrators, a woman who is a wife and also mother together with her husband, both of them planned to carry out a suicidal bombing in one of regional police headquarters in Indonesia but were thwarted. The result of this study adds argumentation related to repositioning of motherhood in the context of women involved in terrorism as a new perspective.

KEYWORDS: Maternal regret; maternal inequalities; motherhood; religion; terrorism

I. INTRODUCTION

MATERAL REGRET

The world is recently shocked by the widespread trend of anti-marriage and childfree (Bentley University, 2021); (New York Times, 2021). Culturally, in many events and social agendas, the question of getting married and having children becomes common as normative discussion, including in Indonesia (Kompas.com, 2022). The trend turns out to be able to distort the answer of those questions which is a scourge for young generation regarding the time limit to get married and biological clock to have children for women. Despite of its novelty, anti-marriage and childfree trends have statistically affected in three countries including Sweden, Japan, and South Korea (CNBC Indonesia, 2019). On of them, in South Korea, #NoMarriage movement affects the number of birth rate. According to a report from Fox News, birth rate in South Korea is among the lowest in the world and the young generation's interest in working is also very low which cause huge deficit of retirement fund for the country (Kumparan.com, 2019). The population in Japan has also decreased since the Covid-19 Pandemic which affects to the number of schools. In addition, the Japanese also delay to get married or not married at all which give impact to the decreasing of Japan's fertility rate (Nilamsari, 2023).

Referring to that social reality, no matter what option a woman chose, in fact, will always put its own label and judgement. The Inconvenience of a women in marriage also affects on how she performs her role as a mother. Although this movement and trend have widely spread, the construction of motherhood is still closely defined by marriage bond and child ownership (O'Reilly, 2020). O'Reilly (2016) divides the core of motherhood from assumption of patriarchal society, which are (1) that all women in the world are wanting to be a mother (essentialism assumption); (2) that mother's ability and love attach to women (naturalism assumption); (3) that all women will find happiness and fulfil their life goals by becoming mother (idealism

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assumption). Those three assumptions are like normative rules that frame the future of woman's life, which can not be separated from the role as mother. Therefore, a movement emerges against that construction.

In patriarchal society, becoming a mother is considered as a complete achievement for women. However, that point of view is just a dominant construction of the perfect standard of women which is harmful to the women themselves. Women seem not allowed to have choices and other achievement. Women who eventually choose this option considered as deviant in religious and cultural norm. On the other hand, many feminist literatures and motherhood studies are trapped in arguing the definition of good mother and bad mother only. Inability of women in fulfilling the normative standard of a mother truly brings their lives into hell. Experience and feeling of women who laments about their role as mother seems to be a taboo to be discussed and shape them into a representation of inappropriate mother and even tend to be an evil mother. Goodwin & Huppaz (2010) mention that a good mother is an institutionalized social construction and practiced all at once encouraging women's subordinate role (Zefferey & Buchanan, 2020).

This article focuses on women's regret and inconvenience in facing the changes in their lives when becoming a mother. This concept of regret is not limited to conflict (ambivalence) at the early stage of pregnancy or adjustment to life as a mother in most literacy (Donath, 2017). Regret in this context covers the whole experiences from the beginning, at certain time or during the motherhood. Regret occurs due to the unpreparedness and unwillingness from women to be a mother which then give impact to many things.

Regret is an experience that is always considered as strange to be expressed, especially the regret of being a mother (Donath, 2017), but it is undeniable that the experience exists and is experienced by many women. The journey of becoming a mother is not an easy thing. Physical, psychological, biological, reproductive, social, cultural, financial, and ideological changes surround a woman's journey of becoming a mother. Meanwhile, the experiences of women who play the role of mother are very complex in different situations and context. The complexity of women's experience in motherhood, is not as easy as distinguishing between good and bad, moreover if it is only formed by normative construction of patriarchal society. Even for trivial things, society can easily judge the inability of a mother to cook or mothers who choose to pursue their career instead of taking care of their children as an unreasonable and evil mother or even other judgement.

A mother's remorse becomes indecent thing as if it is on par with crime. So that many mothers tend to be silent in order to not getting more judgement in their lives. A journalist for Mare Claire magazine, Treleaven (2016) revealed that the experience of maternal regret has actually existed since 2008 in America, which based on the publication of the article of Corinne Maier's No Kids: 40 Reasons Not to Have Children. In fact, this controversial topic has developed and was covered by many online media and continued in 2013. Treleaven (2016) explains that there is a Facebook community named I Regret Having Children which has nine thousand members and becomes the subject of the interview of Mari Claire magazine. The result of the interview revealed that many mothers shed their regrets and complaints in closed online media with anonymity. Their main reason is to still be able to express their feeling without having to pay attention to stigma and the impact of judgment of their actions.

According to Zufferey & Buchanan (2020) normative standard of motherhood is harmful dan widening the social discrimination gap to women. Normalization of motherhood such as parenting and handling the chores are seen as if mothers have similar background and condition, harmonious life, less problem with in law and financially secure. This is the form of imbalance situation that needs to be criticized in the study of motherhood. The situation of being homeless, having disability, suffering mental illness, experiencing abusive relationship, becoming mother behind the bars, even including mothers who are affiliating with terror group need to have space in this study. These are things which need to be repositioned that if motherhood is not determined by normative societal standard or institution and culture that shape it.

BOMBER MOTHER: A STUDY FROM INDONESIA

The women involvement in terrorism was first recognized only as obedient partner to conduct the commands from husband dan group leader (Knop, 2007; Cunningham, 2007a; Davis, 2013; Raghavan & Balasubramaniyan, 2014; Regner, 2017). Marriage bond and the ownership of children are main things for women who are involved by her husbands in terrorism activity. Their husbands never order them to be in the same line which they call as the battle for religion. However, the transformation of women role in terrorism activity has been recognized by many researchers in the world or in Indonesia (Cook & Vale, 2018; Biswas & Deylami, 2019; IPAC, 2017; Gan et al., 2019; Shapiro & Maras, 2019). Al-Qaeda and ISIS, two major international terrorist organizations, have made significant impact on the changes of global terrorism development. ISIS seems to open a transitional space for women to have an equal position and carry out the fight as minority group by religious text propaganda (Spencer, 2016; Pearson, 2016; Kneip, 2016; Chatterjee, 2016; Khelggat-Doost, 2017; Biswas & Deylami, 2019).

Women involvement as suicidal bomber has been widely known, on 21st of May 1991, female member of LTTE (Liberation Tigers of Tamil Eelam) attacked the Prime Minister of India, Rajiv Gandhi, by suicidal bombing (NDTV, 2016); on 25th of January

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1998, female member of LTTE in Sri Lanka, killed eight people in Kandy City by suicidal bombing (CNN, 1998); in 2006, a pregnant woman from LTTE attacked the head of military staff of Sri Lanka in one of high-security places in Sri Lanka by suicidal bombing (NY Times, 2006). In 2015, Ait Boulahcen was allegedly as part of the key actor in Paris Bataclan Concert Hall bombing and International Stade de France football field. Boulahcen blew herself up and known as the first female suicide bomber in Europe. It shows that the role transformation of women involvement in terrorism especially in global context has occurred before the transformation itself appears in Indonesia.

Meanwhile, there at least several terrorism activities which involving significant role of woman in Indonesia since 2016 and received big attention from media. For example, case of Dian Yulianti Novi (2016) to carry out a bombing in Presidential Palace, and some place in Surabaya (2018), Sibolga bombing (2019), the attack to the Minister of Coordinating of Politics, Law, and Security Affair (2019), and also the latest case during 2021 such as Church bombing in Makassar and the attack to Police Headquarters.

Referring to the timeline and those events, this article will focus on one of female terrorist case who plan to carry out suicidal bombing with her husband in Indramayu, West Java. The network group is related to the case of a husband and wife who planned to blow themselves up using a pot bomb in Indramayu Police Station but was successfully thwarted. They were arrested in 2018 at their place with some prepared explosive material as evidence.

DMK, a former female terrorist who has completed her sentence in 2011, has background as a migrant worker. She had worked as female worker with experience in Dubai from 2001 to 2005, in Kuwait from 2006 to 2009, and in Saudi Arabia from 2011 to 2014. DMK has three siblings and divorced-family background. Moreover, her parents' divorce leads her into disappointment and trauma because of conflicts that linger in her mind and causes disharmonious at home. Her parents put low attention to their children's education and religious aspect. DMK often witnessed the idolatrous practices by his mother and people around her, such as the serve of offerings and put belief in Shamans. She got her religious education from her uncle whom also part of Nahdlatul Ulama (NU), the relationship with her parents was not good so she was taken care by the extended family. However, not long after her brother enrolled in Pondok Pesantren, DMK together with her two sisters took part in study and taklim with her brother. The differences in ideology had emerged between her uncle and her brother so they eventually learn from her brother's group.

The acquaintance with her first husband is an unforgettable moment in 2010 but unfortunately, she had to go back to work as female worker (TKW) because she had to pay her mother's debt and it triggered domestic problem then leads into divorce. DMK, after being a widow for two years then undergo a taaruf with one of her brother's friends, AS, and had unregistered married (nikah siri) to be the second wife in 2017. This marriage finally leads her into unpredictable destiny, an experience that has never been imagined about an invitation to fight in the name of religion.

The intention and purpose of DMK and AS actually ended in judge's verdict that gave DMK a four-year sentence and five years for AS. They were both charged with the crime of supplying explosive material and financing terrorism for DMK. It is mentioned that DMK gave money, her saving from being female worker to buy explosive material, in amount of five million rupiahs and gave a used car worth almost ten million rupiahs.

Regarding with the prepared explosive materials found in the rented house are potassium chlorate, potassium nitrate, sulphur, and aluminium. DMK and AS learned how to build the bomb from G and N who are caught earlier. They met three times to learn how to assemble bomb in May and June 2018. The assembled bomb from G and N were firstly ready to use and continued with bomb from DMK and AS. Both couples agreed to attack the Indramayu Police Station, but with different time and method, DMK and AS planned to carry out a suicidal bombing by using a car that would be crashed into the police station during the Independence Day Ceremony in 2018.

Since the divorce from her first husband, she experienced many conflicts with her mother and heart struggle. DMK had no intention to get married again and prioritize her relationship to God. Her trauma leads her into the deepening of her religion knowledge with her brother's friends. Desperately, she even was recognized for being at the point to not continue her life anymore in the world and imagining the happy after life that was always promised for the believers, namely heaven. However, her pilgrimage leads her to the second husband who brings her to the purpose of fighting in the name of religion. It was not easy for her to be a second wife. She had to share her role as wife and mother for her four step children. Despite of it, DMK only wanted a blissful marriage and reaching the heaven faster. One of those ways is by carrying out suicidal bombing in police station. DMK was eager to do it because of the offering from her husband and higher value of the after life compared to the life in this world. The experience of desperation seems bridged with religious narration that she got from the second marriage and instant worship to reach heaven. Unfortunately, DMK was found pregnant. She can not believe that she is able to have children for she was infertile at her first five-year marriage. DMK was sure she can not have children but God gave her when she had plan to "find heaven".

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Regarding to this case, for what DMK experienced, the normative view might assume that having children would control and put away DMK's intention to blow herself and her husband up by suicidal bombing. It is because the assumption of value and religious norm always put mother as heaven in life. Unfortunately, DMK has another opinion, she thought that having children is not the life she dreamt. She assumed that children obstruct her plan to reach heaven together with her husband. DMK planned to give her child to her little sister and continued her plan to do the suicidal bombing. Her second husband, AS, seemed had no intention to take care of DMK's inner conflict and still continue his activities and meetings with the member of radical group during this suicidal bombing planning.

The theorisation of essentialism of motherhood, naturalism, and idealism are indisputable in DMK's experience and make this case becomes interesting. In fact, regret and inconvenient of a new mother does not bring happiness and love like what the society always glorifies. Including at the Moslem society who always make mother as the door of heaven for her children. DMK was dragged in crime when former husband and wife who taught her to build bomb were caught earlier. She was caught when she had an eight-month pregnancy, almost giving birth, and no happiness at all. In fact, from the result of the interview, DMK has maternal darkness that encourages her not to have children and choose her way to heaven.

II. RESEARCH METHOD

The research in this article is part of research in order to complete author's dissertation study in Department of Criminology, Universitas Indonesia. The title of dissertation is Motherhood Based Female Terrorism in Indonesia. One of the female mother sources, DMK, has different point of view for her role and rarely happens in female Moslem community and patriarchal construction in Indonesia. Therefore, the author specially discusses this phenomenon in a separate case study analysis.

Case study is a detailed qualitative research model about individual during particular time line (Herdiansyah, 2014), which focuses on DMK's case. Black & Champion (1992) proposed the advantages of case study model, including the flexibility in data collection, by interviews, observations, audio-visual materials, and focus group discussions. In addition, it is possible to reach more specific dimension of the investigated topic (Herdiansyah, 2014). Generally, data sources in context of criminology study object, specifically motherhood study, is not always approachable. This cannot be separated from the nature of criminology research object that has relation to bad value, moral and immoral, breaking the law or not, which are very sensitive and not easy to express by civilized people (Mustofa, 2015).

This research also uses document study in a form of court decision which is downloaded by the author from Supreme Court (Mahkamah Agung) website to go into DMK and AS's (her husband) case journey. The purpose is to contextually see DMK's role in terrorism crime. After that, the author searches the information about DMK and AS undergoing criminal sentence by submitting research request letter to the Directorate General of Correction, Ministry of Law and Human Rights. Later on, it is found that DMK undergoes her criminal sentence at Sungguminasa Class IIA Women Prisons, South Sulawesi and her husband at Pasir Putih High Risk Class IIA Prison, Nusa Kambangan.

Next, the author proposes a request for an interview at Prison, through the Directorate General of Correction, Ministry of Law and Human Rights. In-depth interview with DMK was done twice by conveying the identity of author and delivering the interview consent form, each interview was conducted for 4 hours. It is because the topic of the study and its contact with the informant's dark life history which needs quite long time to dig information on the view and life experiences of the informant (Maxfield & Babbie, 2015). The unstructured interviews were done just like casual conversations between women and prioritizing the informant's trust to the author, sometimes the author put some questions about women's lives such as cooking, fashion, and make up.

Undeniably, the study of motherhood in this research is framed with feminist approach. Basically, the feminist research has goal of trying to provide new knowledge which is based on women's experience reality and actively describes the structural changes in social world (Mustofa, 2015). Robbins (1996) stated that "feminist researchers produce feminist research". Basically, the principle of partiality and gender sensitivity of the researcher are very much relied on writing the article. The drawback of women case study which is conducted by women certainly resulted bias, yet to minimize it, this research also reveals the result of the interviews with DMK's husband, AS, to be a triangulation of the author's interview result with DMK.

III. RESULT AND DISCUSSION

A. Mask of Motherhood: Transformation of Women's Involvement in Terrorism (Size 10 & Bold & Italic)

Women involvement in terrorist organization or group is often assumed as a new mask of motherhood that was intended for deceiving. Not only that, this new mask has actually developed into a movement by using the name of women and religion freedom. The value created for women becomes ambiguous and imbalance for it depends on the power owner. Beauvoir (1956), in his first book *Facts and Myths*, revealed a psychoanalytic study regarding 'many faces' myth and incarnated in female figure.

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Beauvoir's opinion (1956) leads to women ability to disguise themselves, be undetected, to deceive and be 'two-faces' due to socio-cultural practices that give different pressure to their lives. Moreover, women who live with patriarchal background and have no right to express their voices, tend to do extreme actions (Jahanbani & Willis, 2019). Beauvoir (1956) also concluded that myths that were created depend on men's interest and beneficial only (exploitative). Including the necessity of women's role in terrorist group, either as nurturing mother or to carry out the attack.

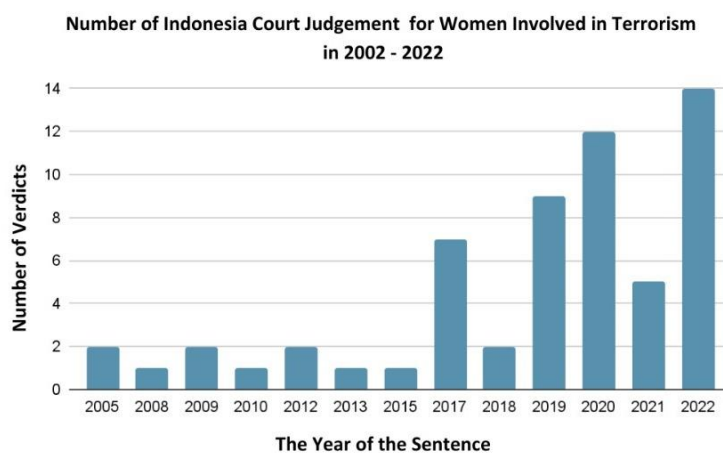
It is undeniable that women's role in terrorism in the global context has transformed, from passive role into active role. A study by Wickham et al., (2020, page 953) mentioned several important roles of women in terrorism, such as being the suicidal bomber, intelligent collector, informant, sexual bait, recruiter, even lone wolf terrorist. Wickham et al., (2020, page 964) also stated that women involvement in terrorism must be considered as critical thing and should not be underestimated for their hidden acts of violence and often unexpected because of the media representation about women, especially Moslem women. Moreover, female suicide bomber is considered more deadly than male suicide bomber because they have feminine characteristic, are rarely checked by security, have more freedom to move, and obtain smoother access to their targets (Alakoc, 2020, page 811).

The changes of passive role of women in terrorism, such as assistance and domestic role, into the active role can be triggered by several factors. Gan et al. (2019, page 214-215) stated that most women who finally join the ISIS have personal motivations and reasons to participate in the activities, for example their social experience. If women are being in an environment which empowers and allows them to explore their potential, this leads into their efficacy improvement and put the foundation for successful performance. In tis context, by proposing "the call to strike" formally among women and using women as role model in their propaganda, ISIS has elevated the women status, provided them platform to broaden their scope of responsibilities, and taken up more position in the frontline.

From political side, the changes of women role in ISIS might also occur because of the decreasing of male troops and male foreign terrorist fighters from outside Iraq and Syria, this is due to the large numbers of male fighters who died in the battle, which causes ISIS to call the women to get spot. The Islamic group itself stated that women are able to be outside home just to be fighters if there is lack of men for jihad¹, or to perform administrative task for the Caliphate. The fact that women are eligible in the frontline shows the desperation of ISIS in utilizing the remaining resources to perform attacks.

Women who become mothers are also often used in terror groups, as mother who takes care of the next generations. A study by Haq (2017) describes the role of motherhood in Laskar-i-Tayyiba (LT) terrorist group in Pakistan. The study explains the supportive role and domestic work as women's responsibilities. The main responsibilities of women in that group are to be the mothers of their offspring whom they call as religion fighters and to spread the message to the surrounding communities. The sadness and grieves of mothers are basically exploited by the LT group to gain large support regarding their goals and political agendas.

In the context of Indonesia, since Bali Bombing I in 2002 until 2022, there are fifty-nine women who have been convicted in terrorism criminal acts. This is the following graph of sentencing data in the last twenty years.



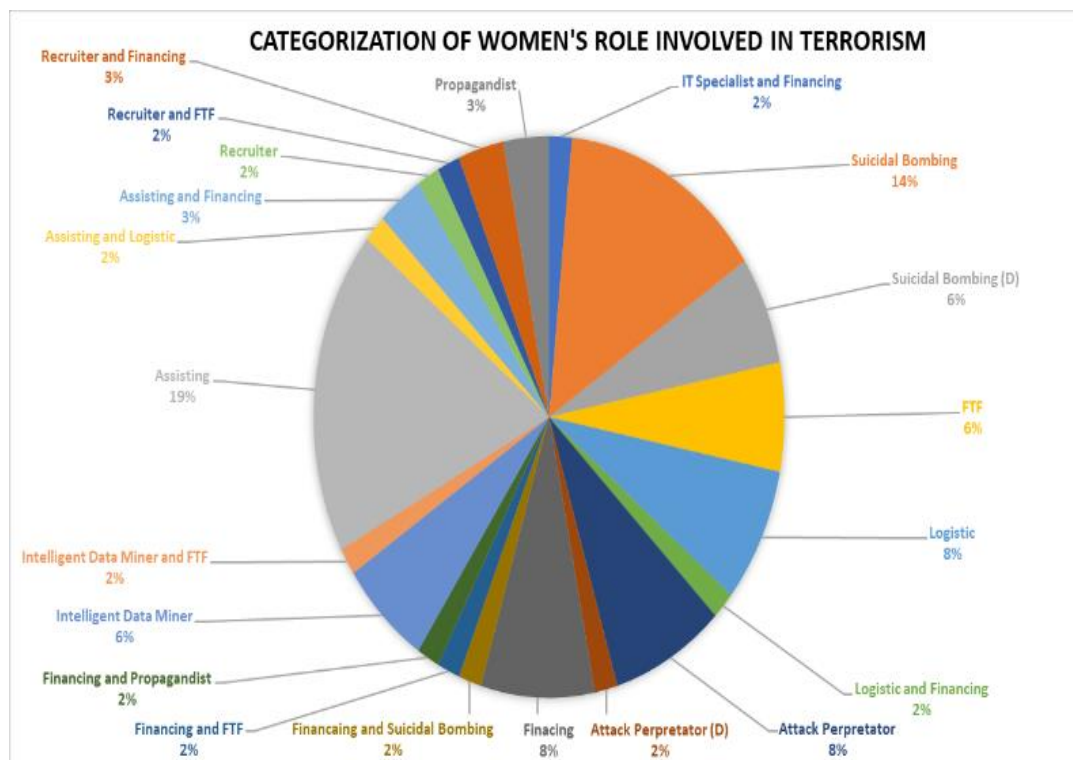
Picture 1. Number of Court Judgement of Women Involved in Terrorism 2002-2022

¹ Jihad is a full-power effort to reach the good deed; a truly effort to defend Islam by sacrificing wealth, body, and soul; holy war to fight the disbeliefs (kafir) to defend Islam with specific requirement (KBBI version V Year 2016). While Rahman (2018) in his study stated Jihad is "fighting" or "trying hard", but not in the meaning of "war in physical violence".

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Referring to the graph, as previously mentioned, the existence of two big terrorist groups Al-Qaeda and ISIS provides borderline for the women involvement in terrorism activities. The existence of ISIS in 2013-2014 also gives an influence to the women involvement in terrorist groups in Indonesia. AS we can see in the graph, the number of court decision after 2015 are increasing; it shows us if this terrorist group seems provides spot for women to participate in political movement as self-actualization in women's agencies. The data above convinces that women actualization in terrorism is not a small number. This shocking phenomenon put on a new stigma for women. The transformation of value which was passive has now used a new narration to voluntarily participate and carry out attacks, plan a suicidal bombing or those who have already taken an action.

Meanwhile, the author also categorizes the involvement of women in the terrorist group by their roles as shown in the diagram below:



Picture 2. Categorization of Women's Role Involved in Terrorism

According to the diagram above we can see that if the women's roles are varied and many of them have multiple roles. The highest number of roles are Assistance (19%), Suicidal Bombing (14%), and Financing (8%). In addition, many of the female convicts have multiple roles. As stated by Beauvoir (1956), it indicates that women or mothers are multitasking because of the social and cultural pressures, so they are encouraged to take extreme actions, one of which is the role of perpetrators and dying suicidal bomber. Those with died status means that they have carried out the action and causes themselves to die. The total number of women involved is sixty-four, fifty-nine of them have received the verdict and the last five become suicidal bomber and perpetrators causing themselves to die. Women's role in logistic is those who provide places and search for hiding places for the groups, while assistance is those who have role to assist the terror group for purchasing, participating in training, and preparing things aside from providing property and food supplies. The propagandist role is aimed to those who spread the content in order to gather sympathy, while recruiters are those who invite and find new network. Financing is role for those who voluntarily make funding and or collecting fund for terrorist group. In addition, the attacker role and suicidal bomber role are distinguished by the used equipment, sharp weapons, or bomb. The rest of them, FTF, either are those who want to move to the conflicted countries like Iraq, Syria, and South Philippines or those who have returned from these countries.

The shocking incident in Surabaya in 2018 is called as mother of satan (Nugroho, 2018) (Nathaniel, 2018) not only because of the bomb type but because the three family members included their children in suicidal bombing actions. From the normative point of view, this certainly leads to the irrationality of motherhood. It is irrational because how on earth a father and a mother can kill their children together in the name of religion. The author's previous research finding leads to the urgency of motherhood redefinition. In this context, mothers who involve their children in suicidal bombing considered as protector from miserable things in this world (Taskarina, Meliala, & Putri, 2022). The terrorist groups make a narrative construction about afterlife that it is more important, precious, and satisfying than any other things in the world (Maryono, 2020). They make

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mothers and children as vulnerable target to be exploited and fulfil their political needs. They continuously keep narrating it as propaganda of the battle in the name of religion.

The anomaly pointed in this article is that there is another point of view of reaching the afterlife faster via mother. We can find it in DMK's radical opinion that she wanted to choose her own heaven and regret of being mother because it slows her down from her suicidal bombing action with her husband. So, beside of the motherhood redefinition (Taskarina, Meliala, & Putri, 2022), there are other empirical facts that have relation with regretting motherhood which experienced by mothers in general. Both of these points of views are very rare transformation forms of motherhood value which can be considered as maternal darkness because it is bizarre and can't be explained by a woman. Therefore, these empirical facts need to be discussed further for adding the variety of perspectives and to reposition the construction and judgement for women involved in terrorism.

B. Maternal Darkness: The Unspoken Voice from Former Mother Bomber

Being reluctant to talk about regret in public is certainly a natural thing (Donath, 2017). Moreover, if the regret is a material that can be judged by society. One of those is the experience of becoming mother and facing the burdens and obstacles. Regret in this context is an expansion from contrary experiences but unable to be explained. Sometimes, the inconveniences and complaints from most mothers are normatively considered by judging them as spoiled and whiny, even demanding them to 'just do it, because we all do the same' (O'Reilly, 2020).

Before going through the informant's case questions, the author reviews about the informant's childhood in order to reminisce the happy moments. But then, DMK actually experienced various events that demanded her to grow up earlier and left disappointment that made her away from her parents. DMK has a deep disappointment of her mother since she was a kid until she grew up. Her parents' divorce left big impact on how she hardly adapted and accepted her mother's way of praying and living life with the new husband. Here is the excerpt:

R1 : *What are you afraid of? When your Mom or Dad was angry?*

DMK : *Mom.*

R1 : *Why? What happened when your mom was angry?*

DMK : *She hit me. When my father was angry, he just talked wildly.*

(Interview, April 1, 2022)

DMK : *It's because her second husband. But she didn't want to let her husband go, I mean you, I mean I'm sorry for her but Mom always stands for her husband. She should have defended her children...*

DMK : *She was not responsible for her four children. I couldn't see good things in her. While her husband spent her money. That's why she always stands for him. So, four of us thought that our Mom was under spell. She must have been controlled by her husband.*

DMK : *Hmm Mom... No, nothing about Mom. She's indifferent. No prohibition. My mom has different ways to her children. My Mom, she did too much shirk/neglect so she's different from common people, eh the old people and modern people.*

(Interview, November 29, 2022)

DMK has a deep disappointment because her Mom cheated from her Dad, was in debt, put belief in Shaman, and always served the sajen²/offerings¹. The accumulation of her disappointment resulted in anger and hatred that leads into different way, far from general view about religion, prioritizing the puritan group. This encouragement then leads into the form of ideal things that DMK dreamt about, out of her parents' perspectives. Guildiman & Meloy (2020) called it as pathways to violence which consists of four main factors: (1) anger; (2) shame; (3) blame; (4) loss in love/life. In DMK's case, we can see that parents' divorce, disappointment in parenting, loss her right as child, burden to pay family's debt, and separation with her husband, are the main background.

Referring to that analysis, this article doesn't specifically discuss the radicalization that occurs in mothers. Yet, the changes in DMK's perspective shows that there has been a process of radicalization since her beginning of disappointment. Borum's Four-Stage Model of the Terrorist Mindset (Borum, 2011) divides the terrorists' mindset into four stages: (1) Grievance; (2) Injustice; (3) Target Attribution; (4) Distance/Devaluation. DMK has experienced all the four stages, her perception forms an ideal picture

² Sajen is the offering, a must-served thing in ceremony, and also called as the offering which is served in particular moment in specific order to show belief in spirit/ghost, in particular places (Koentjoroningrat, 2002, page 349). While in KBBI version V Year 2016, Sajen is food (flowers and else) which is served to the spirit and its relative.

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on how human should prioritize religion, but her trauma and depression of child rearing, especially her mother, give big influence to how she never ever wanted to have children and regret to have it.

DMK, one of former female convicts in terrorism, experienced it. It is unexpected that most terrorist group generally glorify the religion narrative about Mother as a Way to Heaven. But in reality, DMK actually regrets of having children and wants to leave them. She even chooses to look for her own way to heaven together with her husband. Just like a dark twilight, she is deep in silence and stammered when she tells her experience in the interview. The interview begins with asking her childhood and continues to her case. In the middle of the interview, DMK told the author about how she regrets of being pregnant and delaying her suicidal bombing plan at the Regional Police Headquarters in Indonesia. Started with her despair of worldly things, DMK stated that she asked her husband herself to initiate a suicidal bombing. Here are some excerpts from the interview:

DMK : *Yes. I don't want to live anymore. He also wonders why, ((husband)).*

R : *Why?*

DMK : *Yeah, I just don't want to.*

R : *Why not?*

DMK : *That's what I want.*

R : *You want to do it yourself not because of your husband?*

DMK : *No, because of Allah. It's the time.*

(Interview, April 1, 2022)

DMK : *Yeah, I just don't, not really... My motivation is, Insya Allah, heaven. This world is boring to me.*

(Interview, November 29, 2022)

In this part, DMK confidently answered that she prefers to find a blessed way to dead (in her opinion) by doing suicidal bombing. On the second interview, DMK still stated the same thing. She was choked and there is sorrow in her eyes when she talks about her regret of being mother and no regret for still joining the terrorist group. She looked around for several times to make sure no one hear what she said during the interview. However, this stage of conversation has finally occurred after having some small talks with the informant.

R : *You said that you don't want to live anymore. But you have kid, don't you? You would give a new life, right? You didn't think about it at that time?*

DMK : *I did think about it.*

R : *You would raise the kid?*

DMK : *No. No. I would just leave it to Allah, to the Messenger (Rasul) in Jihad². Just it.*

R : *Do you have any regret?*

DMK : *No.*

R : *Do you still want to carry out the Amaliyah?*

DMK : *I still have no idea. Let's see.*

(Interview, April 1, 2022)

R : *Do you want to take care of your own children?*

DMK : *(paused for a moment) ... Just leave it to God.*

(Interview, April 1, 2022)

R : *If I could meet with Abi Syafi'i, do you want to say something to him??*

DMK : *Take a good care of yourself. Be Istiqomah.*

(Interview DMK, April 1, 2022)

Meanwhile, in a separate interview with DMK's husband in Nusa Kambangan High Risk Prison, he agreed with what DMK said.

R : *Did you have any specific reason at that time?*

AS : *Yes. It's because my wife wanted to carry out the Amaliyah³ together.*

³ Amaliyah in terrorism context is an action to seek martyrdom; where a group of radical Moslems often act as suicidal bomber which they call as amaliyah al-isytyshad (Busyro, 2010, page 49).

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AS : *No matter what, she wants to die together. May be because she really loves me (laughing)*
Okay, look. I have a hope because DMK loves to read Al-Qur'an and repeat it with the translation. So later, I can easily direct her than my first wife.

R : *You mean that DMK is eligible?*

AS : *Yes, she is.*

(Interview AS, November 9, 2022)

In her radicalization process, DMK was encouraged by the opened access through her husband to get the materials for bomb assembling. Borum's disappointment lines are (2011): (1) grievance; (2) ideation; (3) research and planning; (4) preparation; (5) breach-attack. In fact, almost all of these operations are financed by DMK's money including to buy the materials and second-hand car which was used to bring the explosive materials. Those five grievance stages are found in DMK's case.

On the next session, DMK was asked again about her decision whether she wants to change it or leaves her children, she still has the same point of view about jihad dan she also confessed that she was confused to take next step.

R : *After all these things, you said that you want to focus on your child. What would you do if you are offered to join the group again? Would you join them?*

DMK : *Insya Allah if... I'm still joining them actually. (paused for a while). Let's see when my husband is coming.*

R : *Hm'mm. But what about now?*

DMK : *Mmmm, I still have no idea. I'm still confused.*

(Interview DMK, November 9, 2022)

DMK still not want to take care of her child once she already gave birth because her main purpose is the afterlife or heaven, in her perception. She gave her child to her little sister. She wants nothing but the heaven she dreamt about. The same answer occurred at the second interview, the conflict arouses when the author asked if DMK still want to carry out suicidal bombing. DMK waits for her husband's decision and agreement to carry on the plan or not, as if she waits for her husband to free and they continue their terrorism activities (istiqomah). From the beginning, domination of DMK's husband plays important role in decision making. So, it is not surprising that many ambiguous answers come up due to her husband doctrine.

According to this experience, it is important to know that we cannot generalize irrationality view from normative perspective of motherhood, including mothers who are involved in terrorism, experience of women involved in terrorism, and it's undisputable. The regret comes after her dark childhood life or social interaction which was dominated by radical, extreme, and terrorist group that drives her illusion and fantasy of heaven rather than prioritizing motherhood essentialism.

C. Repositioning of Motherhood

Figure of a "Mother" still have a mystical view in most of the society. DMK's experience and how she narrates it gives extraordinary different perspective from most women in terrorist group. Bueskens (2018) mentions that a small group of mothers who are not used to talk in front of people, tend to offer valuable knowledge into social changing process. The image of an ideal mother which is presented by normative motherhood is not easy to reach and causes the mothers feel guilty, grudge, and anxious about their messed and chaotic motherhood experience, as showed in Donath (2017). The relentless tension between motherhood experience and social discourse of motherhood which tried to claim and control it causes the mothers hide their taboo emotion of motherhood regret (Reilly, 2020).

Motherhood has close relation to marital status and children ownership; this narrow meaning of motherhood needs to be reconsidered. Motherhood becomes one of patriarchal culture constructions which has varied meaning in various dimension and time, changeable, continuously challenged, or redesigned with different ways or formulas (rich, 1976). In addition, Kowino (2013) also stated in his study that motherhood experience is not supposedly limited only in women who are giving birth to children. In other word, a person may have children without being associated with motherhood or vice versa, even without child ownership can not nullify the manifestation of motherhood in a woman. Therefore, this article is aimed as initial part of main finding in my research titled motherhood based female terrorism which is redefining (Taskarina, Meliala, & Putri, 2022). However, in the middle of the writing process, the redefining stage is not enough to broaden the argumentation about motherhood, there is another position of motherhood that is visible in the context of women involved in terrorist groups. It is the regretting of motherhood.

The discussion in this area is certainly limited because it is difficult to express in appropriate sentence or even no words is appropriate to express it (Donath, 2017), moreover in the context of women involved in terrorist group. Motherhood is also inseparable from intersection of another dimension which related to women's life reality. Motherhood as an institution and ideology (Rich, 1976) has intersection with other aspects, such as class, religiosity or beliefs, occupation and ability, family,

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internet and mass media, motherhood agency, empowerment, and socio-politics. Therefore, motherhood is not a single concept so that these impacts of intersection will provide different perspective in every woman's experience.

The intersection analysis of motherhood in religious dimension also broaden the paradigm. The past and present variety of religion and belief understanding influences the point of view as social construction and new culture about motherhood (Guignard, 2020, page 157). Women involved in terrorism is offered religious narratives and contexts, in this case is Islam. One of them is the religious argument that said Mother as *madrasatul ula'* (the first madrasah) for their children. This is one of the most popular narratives among women in terrorist group and believed by most of women involved as informant in this research, except for DMK.

DMK's responses and answers are remain the same at both interviews. The neglect of childcare is the impact of her regret from being mother. Yet she kept it herself because it is an uncommon thing for ummahat to share to other women in the group. The demand if women could be at the front line like men influences her way of thinking about carrying out suicidal bombing with her husband. The camouflage of her love and affection is poured into her dream of heaven than taking care of her child. DMK's interaction with her mother and the parenting style of her mother tend to push DMK to be apathetic in continue her role as mother. Even her suicidal bombing plan had successfully detected by the police and she is still alive together with her husband and child, DMK still has no intention to plan the parenting system for her child.

DMK's regret reveals that the normative mandate of essentialisation, naturalisation, and idealisation is just an ideological construction that determines how motherhood should be understood and practiced. The construction does not reflect the real and life experiences of women as mother. In this case, those regretful mothers use their real experiences to argue the normative narration of motherhood. Even the regret of a mother does not negate if a woman is not a real mother. The regret of a mother is a real experience that needs attention and guidance. The promotion of empowering mother seems to put aside the fact that experience needs to be changed, repositioning this experience through program guidance and patriarchal counter-narratives on motherhood practices. This can be a renewal of mother empowerment (Reilly, 2020).

The purpose of empowered motherhood is, to take back the power by decreasing patriarchal motherhood practice, discursively or materially, to control and manage emotional regulation on motherhood model. A theory of empowered motherhood begins by positioning mother outside from definition which is institutionalized in patriarchal institution (Rich, 1986). The essence of the empowered motherhood practice is authentic application of mother's experience and prioritize self-love as the basis, so that the full amount of love will relate to how the mother share her love with her children. Butterfield (2010) explained that authenticity is an ethical term which represents the honesty to ourselves, like on making a decision that is consistent with someone's belief and values (Reilly, 2020).

IV. CONCLUSION

Maternal regret is not only about culturally, psychologically, and economically unreadiness; it is also the whole changes of a woman's life which involves physical, biological, reproductive, social, culture, financial, and ideology. DMK's regret experience becomes one of interesting reflection in the context of women involvement in terrorist group. In the midst of women's role for assisting and taking care of the children in terrorist group which are counted as jihad, DMK chose to prioritize her fight which she refers as jihad even she has to leave her child. Being a suicidal bomber and then caught with her husband, in fact, does not get rid of her main intention and she even refused the parole. All of the law enforcement officers who are in charge for coaching and mentoring tried their best in making ways so DMK wants to tell about her child's development. In the second interview, DMK's face expression and voice tone remain the same.

This is also confirmed with the answers from DMK's husband interview, AS. It is said that DMK's action is pure for heaven purpose and taking along her husband as the more beloved person than her child. This is certainly irrational for normative motherhood perspective, but the reposition of motherhood is also needed in the context of women involved in terrorist group. DMK, who is just recently released form the prison, needs some programs and activities that is not only judging what she had done and believed in the past. The dark crimson side of her experience needs a balance perspective aside from the illusion of heaven. This case study can be a reflection for further research of terrorism and gender to broaden the argumentation of women in involvement in terrorist group, especially about motherhood out from its normative definition.

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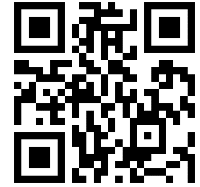
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Urinary Bladder Cancer-Epidemiological and Histopathological Study



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ABSTRACT: Urinary bladder cancer is the main reason for morbidity and mortality throughout the world. Urothelial carcinoma is a common primary tumor of urinary bladder (90%). To investigate the epidemiological and histopathological aspects in Libyan patients suffering from urinary bladder cancer, we performed a study on 39 bladder cancer biopsies from transurethral resection of bladder tumor (TURBT) and cystoscopic samples obtained from Oncology Department- Al Hawari Hospital, over the period of (2021- May 2022), Tiba Medical Laboratory (2021- July 2022), and Alnoon Medical laboratory (2019- January 2022) at Benghazi, Libya. Of the 39 cases, 34 (87.2%) were diagnosed in men, and 5 (12.8%) were found in women, the men/ women ratio being of 6.8/1. The highest incidence of bladder tumors was recorded in individuals aged between 61 and 80 years old. In this age group, there were admitted 24 patients with bladder cancer, representing 61.5%. The most common pathological types of urinary bladder carcinoma found was Invasive Urothelial Carcinoma TCC (48.72%) followed by noninvasive Urothelial Carcinoma TCC (46.15%), and Squamous Cell Carcinoma SCC in (5.13%). A case of SCC on top of Schistosomiasis was also seen. Grade III was found in 51.2% of our patients and 43.5% of them had stage II. This study has highlighted upon the importance of histopathological study in evaluating urinary bladder cancer. Cystoscopic studies and biopsies help in early detection of bladder neoplasms and they form the mainstay of the diagnosis and follow up. The objects of this work were to assess epidemiological features of the bladder cancer in Benghazi - Libya with regard to frequency, age and sex distribution. Furthermore, to describe the Histopathological features of the urinary bladder cancer, particularly Transitional Cell Carcinoma (TCC) in urinary bladder biopsies.

KEYWORDS: Bladder Cancer, Transitional Cell Carcinoma, Histopathology.

LITERATURE REVIEW

Urinary bladder cancer is considered the ninth most common malignancy in the world, with a higher incidence in the developed countries (Parkin et al., 2002) with transitional cell carcinoma (TCC) as the most frequent microscopic type (Golka et al., 2004). Bladder cancer is a new tissue formation most often of urothelial origin with potential for local, locoregional and distant invasion. It is most often a tumor invading the bladder muscle (American Cancer Society, 2016). It is sometimes a tumor which does not directly infiltrate the bladder muscle but given that it is of high histological grade; this could presage an evolution towards the mode infiltrating the bladder muscle. This ambiguity in evolution will lead us to speak more often of a bladder tumor. Bladder cancer with 16,390 deaths in 2016 is one of the deadliest genitourinary tumors in the USA (American Cancer Society, 2016). In Europe, it is the second urological cancer after prostate cancer (Ferlay et al., 2015). Although it is more frequently diagnosed in males, female patients show worse prognosis (Scosyrev et al., 2010, Otto et al., 2012). Carcinogenesis of UCB often requires exposure to occupational carcinogens and environmental pollution (Letasiova et al., 2012). Smoking and occupational exposure are the main risk factors. In Africa, in bilharzia endemic areas, there is a histological type, squamous cell carcinoma, characterized by a high risk of local progression, recurrence and reduced sensitivity to chemotherapy and radiotherapy (Honoré et al, 2021). It has been estimated that around 50% of all Urinary

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Cancer Bladder (UCB) cases can be attributed to tobacco smoking, with considerable variation in groups of former and current smokers. Many of the ingredients in tobacco smoke such as aromatic amines are excreted by the kidneys, and therefore directly expose the urothelium to toxic metabolites. Due to its reservoir function the exposure time is the longest in the urinary bladder. Metabolites of tobacco smoke may cause inflammatory reactions and lead to perturbation of cellular processes which may alter gene expression. We have previously reported on changes of different gene expressions in UCB tissue depending on smoking status in microarray study (Worst et al., 2014). Most cases of urothelial carcinoma of the bladder present in patients over the age of 50 years, but they can also rarely occur in younger adults and children. The latter tend to be low-grade, indolent neoplasms, but occasional highly aggressive examples are reported in young adults. White individuals are more often affected than patients of African descent (Goldblum et al., 2018). In the present cross-sectional study, we proposed to evaluate the epidemiological, and Histopathological features of bladder cancer in the patients admitted to Oncology Department- Al Hawari Hospital over a period (2021- May 2022), Tiba Medical Laboratory (2021- July 2022), and Alnoon Medical laboratory (2019- January 2022).

PATIENTS AND METHODS

This is a descriptive, retrospective study of histologically confirmed cases of urinary bladder cancer. Data of patients in this study was retrieved from the medical records in The Department of Oncology- Al Hawari Hospital within the period (2021- May 2022), Tiba Medical Laboratory (2021-July 2022), and Alnoon Medical laboratory (2019- January 2022) at Benghazi, Libya. The material for the study comprised of biopsies from TURBT and cystoscopic samples. In this study, all patients who were diagnosed with primary bladder cancer and registered in the mentioned records were included. Demographic (Epidemiological) data were examined regarding the frequency, age and sex. Data analyzed with the next considerations: pathological pattern, tumor grade and final diagnosis. Tumors were categorized according to histological grading using grading system. All cases of urothelial (transitional) carcinomas were further classified histologically according to WHO (2004) /ISUP classification.

Statistical analysis: The entire data were evaluated statistically by using the SPSS statistical package version 21 (Chi-square test). A P-value of less than 0.05 was considered as statistically significant. Microsoft Word and SPSS have been applied to make tables, graphs, pie diagrams, etc.

The histological and epidemiological data so received were evaluated. A comparison with other similar studies was done.

RESULTS

A total of 39 patients were included in the study. For all patients, the median age was 63 years old with a range of (41-86 years). The mean age of the patients was 64.5 ± 10.4 years. Mean age of the patients was calculated as 63.7 ± 10.6 (41-86) in males and 69.8 ± 8.1 (60-80) in females ($p=0.22$). Males represented (87.18%) of the patients (34 cases) while; (21.8%) were female (5 cases) as shown in (Figure 1). There was a higher male predominance with a male to female ratio of 6.8:1. Figure 2 shows the age-wise distribution of the cases. Most of the cases were in the 6th and 7th decade of life in the age group 61-80 years that had a higher prevalence followed by 40-60 years, and 81-100 years. The least number of cases were seen in the extremes of age groups. The most common pathological types of urinary bladder carcinoma found was Invasive Urothelial Carcinoma TCC (48.72%) followed by noninvasive Urothelial Carcinoma TCC (46.15%), and Squamous Cell Carcinoma SCC in (5.13%) of the patients (Figure 3). Out of 19 invasive urothelial carcinomas, 18 had muscle invasion and 1 had invasion up to lamina propria. The non-squamous cell carcinoma to squamous cell carcinoma ratio was 18.5 (Table 1). One case of SCC on top of Schistosomiasis. As shown in Table 2, By analyzing the distribution of bladder tumor cases according to the age groups, we observed that the incidence of bladder cancer increased with the patient age, with commonest age group of tumor presentation was in 61-80 years. Fifty-one point two percent (51.2%) of tumors were of grade III, while grade II found in (43.5%) of them, grade I and IV were representing 2.5% of all cases as shown in (figure 4). So, high grade tumors in our study cases (51.4%) were more in occurrence compared with the low-grade tumors (48.6%) as seen in (Table 3). No significant difference was found between the sexes in terms of WHO tumor grade ($P=0.77$).

Low grade papillary urothelial cancers, featured papillary architecture that composed of central fibrovascular core and multiple crowded layers of transitional epithelial cells having enlarged, irregular and hyperchromatic nuclei with prominent nucleoli. There is no evidence of urinary bladder smooth muscle bundles infiltration. High grade urothelial cancers, showed edematous and congested lamina propria that shows mixed inflammatory cells infiltration and malignant transitional epithelial cells infiltration that arranged in solid sheets and clusters and show degenerative changes along with papillary configurations. The malignant cells show enlarged, irregular and hyperchromatic nuclei with prominent nucleoli. The malignant transitional epithelial cells extend to infiltrate

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the urinary bladder smooth muscle bundles (Figure 5 & 6). Our study revealed a significant association between the age and tumor grade. This result was statistically significant ($P=0.017$).

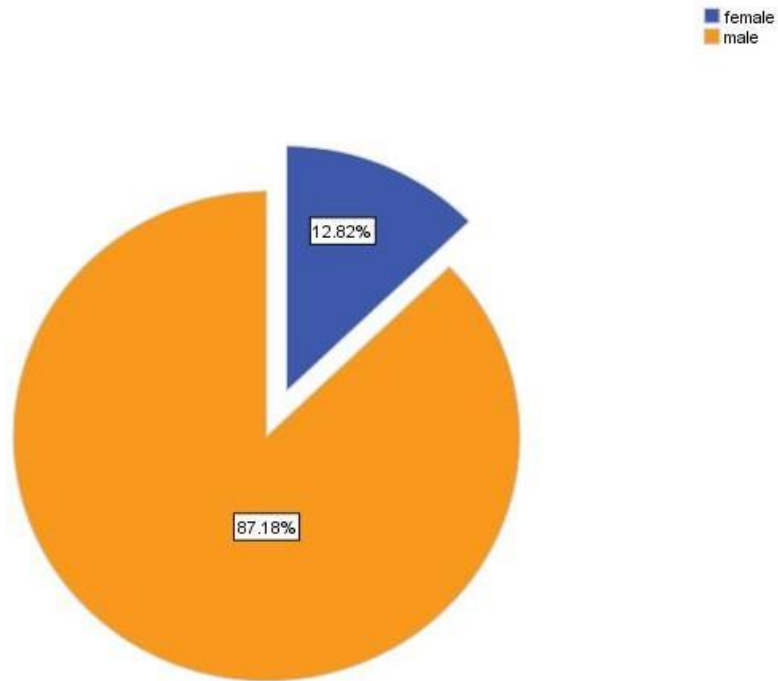


Figure 1. Sex Distribution Among All Patients

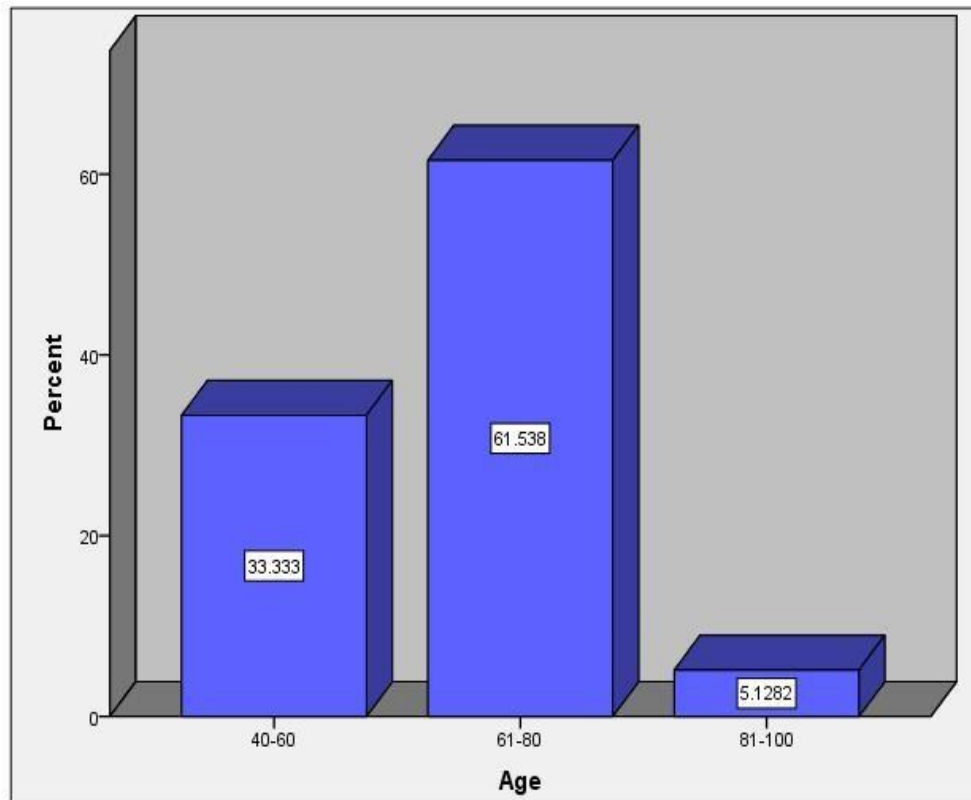


Figure 2. Age Distribution in 39 Patients with Primary Bladder Carcinoma

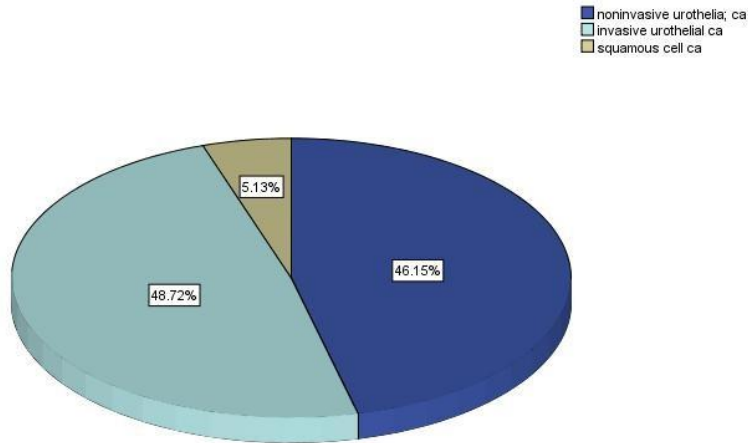


Figure 3. Frequency of Various Histological Cell Types in 39 Patients with Primary Bladder Carcinoma

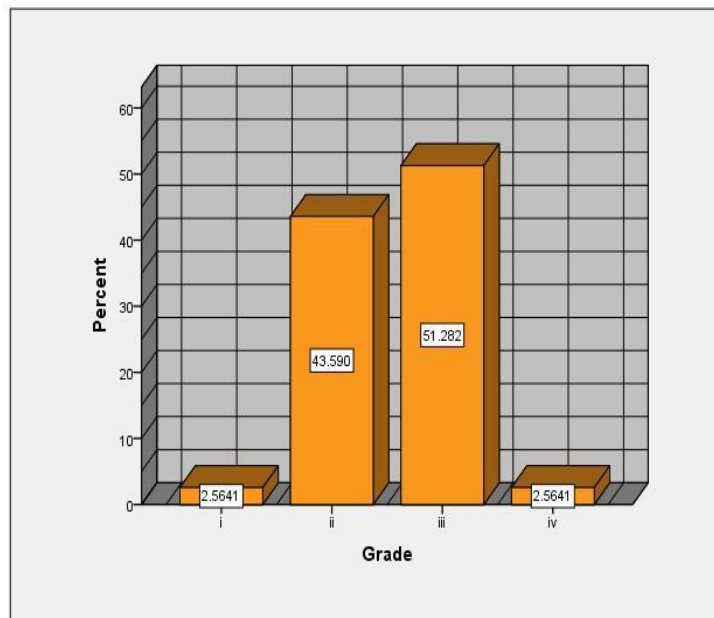


Figure 4. Histological Grading in 39 Patients with Primary Bladder Carcinoma

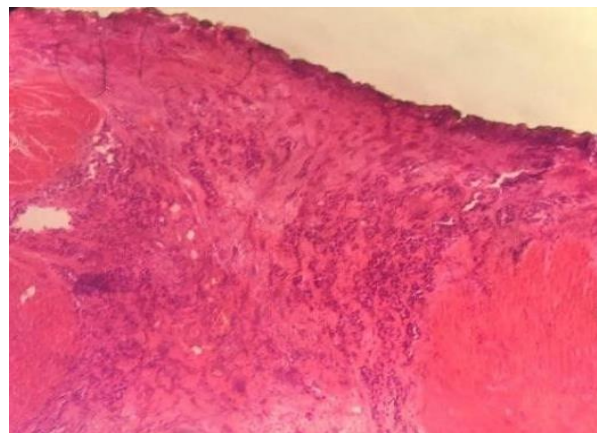


Figure 5. Photomicrograph showing High grade urothelial cancers, showing invasion into the muscular tissue (HE stain, X100)

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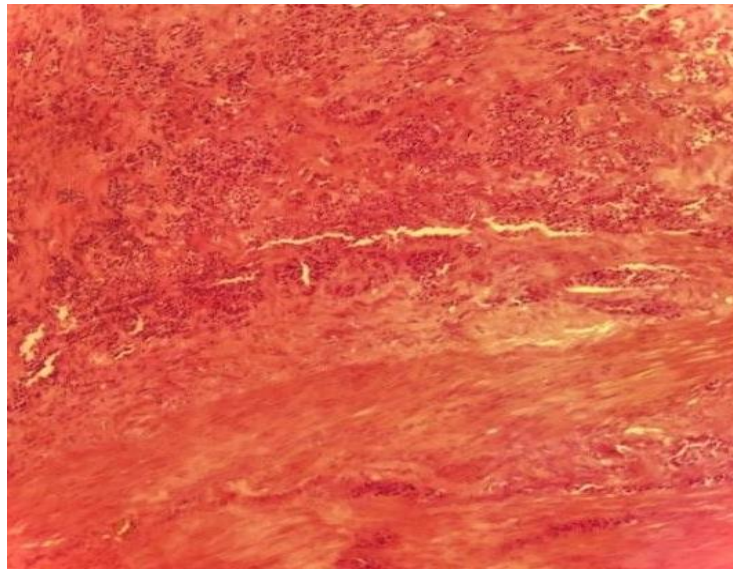


Figure 6. Photomicrograph showing High grade urothelial cancers, malignant transitional epithelial cells infiltration that arranged in solid sheets and clusters (HE stain, X100).

Table 1. Distribution of Urinary Bladder Cancers According To The Patients' Age

Age	Diagnosis			Total
	Noninvasiveurothelial Ca	Invasive urothelial Ca	Squamous cell Ca	
40-60	6	6	1	13
61-80	10	13	1	24
81-100	2	0	0	2
Total	18	19	2	39

$\chi^2 = 2.8$ P-value= 0.59

Table 2. Histopathological Diagnosis

Tumor	Frequency	Percent (%)
Nonsquamous Ca	37	94.9
Squamous cell Ca	2	5.1
Total	39	100.0

Table 3. WHO-Histological Grading of Transitional Cell Cancers

Tumor Grade	Frequency	Percent (%)
Low grade	18	48.6
High grade	19	51.4
Total	37	100.0

DISCUSSION

At present, cancer is a major health problem worldwide, both due to its ever-growing incidence and to the very high medical and social costs. Urinary bladder cancer is the 7th most frequent cancer form in men and the 17th most frequent cancer form in women, all over the world (Ştefanescu et al, 2018). Several studies showed that males are more frequently diagnosed compared to females and the incidence rate of the disease increase with age. However, there are also a few other studies that tell the opposite. In this study, one of our primary objectives was to assess the patients with urinary bladder tumors in terms of age and sex aspect. UCB incidence show difference between the sexes. We saw a significantly increased diagnosis rate in male patients, most bladder cancers (87.1%) were

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recorded in males, this is in agreement with other study (Paudel *et al.*, 2021) with male to female ratio was 4.67. The possible causes for that difference are thought to be different exposure levels to environmental carcinogens, genetic differences, differences in hormonal balance, anatomical differences, social life differences (Türk *et al.*, 2017), where smoking always related to men in our society. This study found that the median age at diagnosis for urinary bladder cancer, was 63 which is in agreement with Egyptian study (Nagy *et al.*, 2018) with median age 60. Most cases were recorded in the age group between 61 and 80 years old (24 patients, representing about 61.5%); which were comparable with other studies (Paudel *et al.*, 2021). It is documented that the immune system plays an important part in the onset and development of cancer. After the age of 60 years old, the number and functions of T lymphocytes present a significant drop, being one of the characteristics of the aging immune system. Another mechanism that connects aging with cancer is the oxidative stress, a process by which the production of reactive oxygen species and free radicals may cause alterations of the DNA and of various proteins associated with aging and malignity (Ştefanescu *et al.*, 2018). After the age of 80 years old the incidence of bladder tumors decreased, but this decrease was due to the fact that the individuals over 80 years old represent a lower percent of the general population, as there is an increased mortality in this segment due to other conditions. As already known, a vast majority of tumors of the urinary bladder are of epithelial origin, which arises from urothelium, a transitional type epithelium that lines the bladder. Approximately 90% of malignant tumors are transitional cell carcinomas. The remaining 10% comprises all other types of carcinomas (Paudel *et al.*, 2021). In this study too, transitional cell carcinoma is the most common bladder tumor (94.8%), while squamous cell carcinoma constitutes (5.1%) of 39 bladder tumors seen over a multi-year period. These figures are similar to the published results by (Atallah *et al.*, 1997), and in contrast with (Honoré *et al.*, 2021) who documented SCC as the most frequent histological type (58.2%) followed by TCC in (26.0%) of cases. Unlike TCC, the main risk factors for SCC are not environmental exposures, but exposure to infectious agents. The main cause of SCC in developing countries is *Schistosoma haematobium* (Nagy *et al.*, 2018), however Schistosomiasis is not endemic in our country, consequently SCC does not appear frequent in the present study. Since almost the cases of squamous cell carcinoma are muscle-infiltrative at the time of diagnosis, the importance of early detection is obvious. Emphasis should be placed on the need for medical education programs aiming at early diagnosis of the disease by general practitioners and primary care medical personnel. If we are able to detect localized early stages, we might be able to improve the outcome of patients.

In our study, high-grade urothelial carcinoma was seen in 51.4% of cases and low-grade urothelial carcinoma was seen in 48.6%. This correlates with the study conducted by (Kumar & Yelikar, 2012). in which high-grade urothelial carcinoma comprised 53.5% compared to low-grade urothelial carcinoma which comprised 42.8%. In contrast, (Matalka *et al.*, 2008) found 60% of cases were low-grade urothelial carcinoma and only 40% were of high-grade urothelial carcinoma. Hence in our study, many of the cases were of high grade, may be because of the late presentation of the patient.

CONCLUSION

Urinary bladder biopsy is one of the most common biopsies in urology practice. All neoplastic lesions in the present study were of epithelial origin (transitional cell carcinoma and squamous cell carcinoma). transitional cell carcinoma formed the bulk of the cases (94.9%), majority of which showed muscle invasion (48.72%), high grade lesions being the commonest with detrusor muscle invasion. Muscle invasion are the most important determinants of prognosis and treatment for bladder cancer. The age of presentation of TCC in Libya is similar to that in the west, but a higher male-to-female ratio was observed. Cystoscopic studies and biopsies help in early detection of bladder neoplasms and they form the mainstay of the diagnosis and follow up.

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Level of Tourist Satisfaction in the Local Beaches of Calbayog City



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ABSTRACT: Beach Tourism is one of the staple sectors in the industry of tourism. Domestic and International tourists invest time and money to experience different coastal activities for pleasure and excitement. Tourism reshapes as societal trends changes in a consistent manner. Thus, it affects consumer behavior and satisfaction. Tourist satisfaction is paramount to the success of any business.

This study is conducted to determine the level of tourist satisfaction on local beaches of Calbayog City in selected aspects, i.e., Accommodation, Climate, Safety, Scenery, and Water Quality. The respondents were the tourists and beach operators in Calbayog City. The study utilized the descriptive-assessment method of research to incarcerate tourists' satisfaction fully.

In the processing of data, this study utilized frequency and percentage distribution to describe the profile of the respondents, mean and standard deviation, chisquare test, while one-way analysis of variance to assess the results of the study.

The results of the study revealed that there was no significant difference between the profile of the respondents to the perceived level of tourist satisfaction on the local beaches of Calbayog City. Thus, the study failed to reject the null hypothesis. The study also revealed a significant relationship between the profile of the respondents to the perceived level of tourist satisfaction on the local beaches of Calbayog City. Thus, the study rejects the null hypothesis. The researchers proposed an improvement plan that will develop and promote the potential of the local beaches in Calbayog City.

KEYWORDS: tourist satisfaction, beach tourism

INTRODUCTION

The travel, hospitality, and tourism sector belong to the world's most powerful industries, and they are constantly innovating to deliver improved services. Beach tourism has consistently ranked first in terms of attractiveness and demand worldwide. Tourism is an umbrella term for the diverse industries that promote tourist hotspots.

The growing popularity of beaches imprints a distinct impression in the tourism industry, thus accountable for the tourist arrival surge. Tourists' interest was piqued by different activities that beaches can offer leisure activities such as diving, surfing, snorkeling, island-hopping, kayaking, and more. Beach tourism provides for a significant portion of the overall national income in many nations that offer "sun, sea, and sand" (3S) tourism (Zielinski & Botero, 2020). Domestic and international visitors spend their time and money on their journey at their option. The service supplier compensates tourists by constantly devising development measures and current trends. Tourism trends have shifted considerably throughout the years. The irregularity and constant changes in the demand in the tourism industry result from disruption within the economy- locally and internationally, instability within geopolitical situations, technological advancement, sociocultural dilemmas, etc. (Pratap, 2021).

Tourist satisfaction, transportation, lodging facilities, safety and well-being, and affordability may influence the beach's natural beauty (Roy et al., 2017). The beach amenities and the pleasure of the whole experience provide vital information for achieving tourist satisfaction. The enjoyment of the whole event is also essential. The visitor's cognitive and symbolic perception of their surroundings is also important. Increasing traveler satisfaction might contribute to a thriving business (Mariano et al., 2014).

Beach tourism in Kuta soared high after tourists from across the globe discovered its beauty. Nowadays, it is considered the Mecca of Bali, Indonesia. The spike in the number of visitors pivoted the development and opportunities of Kuta Beach. Hence, it paved the way for establishing many accommodation services, restaurants, different entertainment shows, and cultural

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diversification. Balinese handicrafts and Culture were promoted as well. The success of Kuta beach manifests the potential of the beaches tourism industry to contribute to the growth of the economy (Indonesia Tourism, 2019).

The Philippine archipelago, often known as Asia's Beach Capital, comprises 7,107 islands and atolls extending 1,851 km north to south and 1,107 east to west (Economist Intelligence Unit, 2007). Tourists will enjoy the Philippines' magnificent crystal blue tropical waters. Long white sand beaches and a varied marine life studded the archipelago. Philippines showcases picturesque beaches such as White beach of Boracay, White Island of Camaguin, Matukad Island of Camaroon, Siargao, Kalanggaman Island, Calaguas of Camarines Norte, Nacpan and Calitang Beach of El Nido, Panglao, Albay, Biri Island of Northern Samar, and many more.

In addition, from 2015 to 2019, the Philippines' tourism slogan, "It is More Fun in the Philippines," considerably increased the number of international tourists. There were 5.4 million visitors in 2015, with a peak of 8.9 million international tourists in 2019. By 2019, employment in the tourist industry is expected to increase from 4.99 million to 5.4 million Filipinos. In the first half of 2019, the tourist industry earned more than 245 billion pesos from international visitors alone.

Consequently, the GDP of the Philippines increased by around 25% in 2019. The World Trade Organization recognizes tourism's contribution to the world economy. The Philippines gets many awards at the 27th World Travel Awards, including World's Leading Beach Dive Destination, World's Leading Tourist Attraction (Intramuros), World's Leading Dive Resort (Amanpulo), and other honors.

The Tourism Act (2009), R.A. 9593, states that the industry of tourism serves a significant role in the economic condition of the Philippines. Also, it is mentioned that the sector of tourism is a national issue that plays a critical part in sustaining the country's economy. Furthermore, this will assist in inculcating in the minds of all Filipinos a sense of national pride.

The Department of Tourism (DOT) completed the National Tourism Development Plan (NTDP), which envisions a highly competitive and environmentally sustainable tourism industry. The Visayas region had also been the most prominent tourist destination in the whole country. The region showcases: the Boracay Island in Caticlan, Panglao Island in Bohol, and other white sand beaches in Cebu province and other places in Negros provinces. Dive sites could also be found in Visayan Sea as tourists would hop around different islands. In Western Visayas, Calbayog City is one of the cities in Region VIII known as the home of majestic waterfalls and picturesque beaches that are a perfect hot spot for domestic and international tourists. The city is notable for its abundance of natural resources and beautiful landmarks. The city's potential to cater to tourists positively remarks for more opportunities to the locality. Natural attractions undergo development to support the increasing popularity and demand. The attractions offered by the city are the clean and wide beaches, unexplored caves, waterfalls, and hot springs (City of Calbayog City, 2017).

As seen by the increasing number of firms going into tourism and hospitality, the tourism industry continues to thrive, expanding businesses in Calbayog City. In the rapidly increasing tourism business, determining the degree of visitor satisfaction in local beaches in Calbayog City is critical. The city is on the brink of improving its economy, as evidenced by the influx of tourists these previous years and the increase of business establishments and other developmental manifestations such as the growing numbers of transport vehicles. The Philippine News Agency (2016) stated that more than 3,000 local and foreign tourists arrive annually.

Moreover, Calbayog City still requires a series of development to become one of the top-notch destinations for tourists in the Visayan Region, particularly in Region 8. This study aims to develop strategies which will likely identify, develop, and promote the potential of the local beaches of Calbayog City. Thus, enabling the establishment of a commercial tourism economic zone. Furthermore, the findings of this study will be beneficial for the local government in extending the support to the local communities where the beach was located.

METHODOLOGY

The descriptive-assessment method of research was used to assess the variables related to the study. The respondents of the study were divided into two groups: beach operators and tourists. The tourists were chosen from the five local beaches of Calbayog City- Bagacay Beach, Malajog Beach, Mondejares Beach, Naga Beach, and Villa Marcelina Beach. The Beach Operators include the workers and the business owner.

The researchers conducted an actual visit and survey where the scope of the study and its respondents is located.

This study utilized the universal sampling for beach operators and random sampling for the beach tourists. The researchers used is a researchers-developed survey questionnaire, considering the profile of the respondents and the identified variables of the study.

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The data gathered from the survey questionnaire were tabled, tabulated, analyzed, and interpreted using following statistical tools were employed. Frequency counts (f) and percentage (%) were employed to determine the profile of the respondents in terms of their civil status, age, highest educational attainment, and monthly income. Mean and standard deviation were utilized to find out tourists' level of satisfaction in local beaches found in Calbayog City in terms of Accommodation, Climate, Safety, Scenery, and Water Quality. Chi-square test were used to determine the significant relationship between the profile of tourists on the level of tourist satisfaction in local beaches of Calbayog City in terms of the variables. One-way analysis of variance for the significant difference of the perception of the respondents on the level of tourist satisfaction in local beaches of Calbayog City in terms of the variables.

RESULTS AND DISCUSSIONS

Table 3 describes the frequency and percentage distribution of the profile of the respondents. It includes civil status, age (in years), highest educational attainment, and monthly income.

Table 3. Frequency and Percentage Distribution on the Profile of the Respondents of the Study

Variables	Frequency	Percentage
CIVIL STATUS	591 56	91.10
Single	2	8.60
Married	649	0.30
Widow		100.00
AGE (in years)		
15 – 20	123	19.00
21 – 25	406	62.60
26 – 30	73	11.20
31 – 35	25	3.90
36 – 40	12	1.80
41 – 45	4	0.60
46 – 50	1	0.20
50 and above	5	0.80
TOTALS	649	100.00
HIGHEST EDUCATIONAL ATTAINMENT	4	
Elementary Level	180	0.60
High School Level	418	27.70
Bachelor Degree	3	64.40
With Master's Unit	17 2	0.50
With Master's Degree	25	2.60
Doctorate Degree	649	0.30
Others		3.90
TOTALS		100.00
MONTHLY INCOME (in pesos)	459	
5000 and below	73	70.70
– 10,000	37	11.20
10, 001 – 15,000	31	5.70
15,001 – 20,000	49	4.80
20,001 and above	649	7.60
TOTALS		100.00

Civil Status

As shown on the table, the civil status of the respondents were as follows: Single (591 or 91.10%); Married (56 or 8.60%); and Widow (2 or 0.30%). Solo travelers can strive to maintain an existing social network or feed their curiosity while seeking out new social relationships (Laesser et al., 2009). Thus, most of the respondents are single, which implies that it is common for tourists to travel and spend their leisure time alone or without a romantic company.

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Status of the Local Beaches in Calbayog City

The succeeding tables present the mean and standard deviations on the tourists' satisfaction level on local beaches of Calbayog City were Accommodation, Climate, Safety, Scenery, and Water Quality. Table 4 shows the mean and standard deviation on the perceived satisfaction level of respondents on the local beaches of Calbayog City in terms of Accommodation.

Table 4. Mean and Standard Deviation on the Level of Tourist Satisfaction in terms of Accommodation

Statements	Beach Operators			Tourists			Overall		
	Mean	Desc	SD	Mean	Desc	SD	Mean	Desc	SD
The tourists are accommodated well in the beach.	4.10	VS	1.02 1	3.8 9	VS	0.888	3.9 2	VS	0.906
The beach offers a variety of accommodation services that suits the different demands of the visiting tourists.	4.14	VS	0.88 4	3.8 1	VS	0.890	3.8 5	VS	0.895
The beach follows safety protocols provided by the Inter Agency Task Force (IATF) in accommodating the tourists.	4.04	VS	1.09 4	3.8 7	VS	1.062	3.8 9	VS	1.066
The staffs are welcoming to the guests.	4.10	VS	0.96 8	3.9 0	VS	0.931	3.9 2	VS	0.937
The beach can accommodate different types of people and even a person with disability.	4.12	VS	0.91 7	4.0 2	VS	0.871	4.0 3	VS	0.876
The tourist can enjoy well the beach and relax during their stay.	4.18	VS	0.89 9	4.1 5	VS	0.927	4.1 6	VS	0.923
The beach has a wide range of services that fits to differentiated budget of the tourists.	4.08	VS	0.92 9	3.4 6	S	1.132	3.5 3	VS	1.127
There are complimentary services and freebies offered to the tourist.	3.81	VS	1.10 1	3.4 7	S	1.073	3.5 1	VS	1.081
The beach has toilets, shower areas, and changing room dedicated to the tourists.	4.06	VS	0.96 4	3.7 4	VS	1.046	3.7 8	VS	1.0 41
OVERALL	4.07	VS	0.83 0	3.8 1	VS	0.742	3.8 4	VS	0.757

Legend:

4.51 – 5.00	(E)	Excellent
3.51 – 4.50	(VS)	Very Satisfactory
2.51 – 3.50	(S)	Satisfactory
1.51 – 2.50	(M)	Moderately Satisfactory
1.00 – 1.50	(U)	Unsatisfactory

Accommodation

The respondents rated their satisfaction level on the accommodation on the local beaches of Calbayog City as "Very Satisfactory" as shown by the weighted mean of 4.15 for one condition and this was "The tourist can enjoy well the beach and relax during their stay" while the other conditions were all rated as

"Very Satisfactory". The overall mean of 3.81 with a standard deviation of 0.742 had the same "satisfactory" description. This means that the tourists were generally contented with the accommodation offered by local beaches of Calbayog City. On the other hand, the beach operators gave a "Very Satisfactory" rating on the accommodation provided by the local beaches of Calbayog

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City. The overall rating is 4.07 with a standard deviation of 0.830. This indicated that even the beach operators which includes the employees working in the local beaches were satisfied with the services they provide.

The combined perception of the tourists and beach operators on the condition

“The tourist can enjoy well the beach and relax during their stay” obtained a weighted mean of 4.16 with a description of “Very Satisfactory”. The rest of the conditions received a “Very Satisfactory” rating. The overall weighted mean for the accommodation is 3.84 with the standard deviation of 0.757 is rated “Very Satisfactory”.

According to Tola, Abebe, Gebremariam, & Jikamo (2017), an industry providing services should consider the importance of completeness of facilities because they need to accommodate the clients at optimum level. Satisfaction is the primary motivator of the tourists to return and avail of the service they provide.

In line to the statements of Tola, Gebremariam, & Jikamo, Accommodation is one of the crucial factors in beach tourism. The availability of facilities is prioritized by the service providers to maintain the loyalty of beachgoers.

Table 5. Means and Standard Deviations on Perceived Level of Tourist Satisfaction in Local Beaches of Calbayog City in terms of Climate

Statements	Beach Operators			Tourists			Overall		
	Mean	Desc	SD	Mean	Desc	SD	Mean	Desc	SD
The beach can still properly operate in any climate conditions.	3.78	VS	1.008	3.55	VS	1.032	3.58	VS	1.031
The beach provides necessary facilities in preparation to any climate conditions.	3.86	VS	0.884	3.66	VS	0.987	3.69	VS	0.976
Any changes in climate does not affect the overall experience in enjoying the beach.	3.60	VS	0.907	3.46	S	1.077	3.48	S	1.058
The climate in the beach is ideal for enjoyment of the tourist.	3.73	VS	1.034	3.80	VS	1.031	3.79	VS	1.031
The seasonal climate of the beach attracts tourists.	3.87	VS	1.018	3.83	VS	0.997	3.84	VS	0.998
The staffs of the beach assist the tourist during an unseasonal storm.	3.81	VS	0.932	3.65	VS	1.005	3.67	VS	0.997
The beach offers various activities that fits on the seasonal climatic condition.	3.69	VS	0.921	3.51	VS	1.086	3.53	VS	1.068
The beach provides advisories as to what is the current climate condition for the tourist to prepare and have a best experience.	3.88	VS	0.959	3.76	VS	0.998	3.78	VS	0.993
Parasols and cottages are available if the tourists need a shed if the climatic condition is really hot or it is rainy.	3.97	VS	1.000	3.91	VS	0.991	3.92	VS	0.991
The beach offers equipment to	3.83	VS	0.938	3.69	VS	0.997	3.70	VS	0.990

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compliment the climate condition of the beach.									
OVERALL	3.80	VS	0.796	3.68	VS	0.821	3.70	VS	0.819

Legend:

4.51 – 5.00(E)	Excellent
3.51 – 4.50(VS)	Very Satisfactory
2.51 – 3.50(S)	Satisfactory
1.51 – 2.50(M)	Moderately Satisfactory
1.00 – 1.50(U)	Unsatisfactory

Climate

Table 5 shows the mean and standard deviation on the perceived satisfaction level of respondents on the local beaches of Calbayog City in terms of Climate. The respondents rated their satisfaction level on the Accommodation on the local beaches of Calbayog City as “Very Satisfactory” as shown by the weighted mean of 3.68 for one condition and this was “Parasols and cottages are available if the tourists need a shed if the climatic condition is really hot or it is rainy” while the other conditions were all rated as “Very Satisfactory”. The overall mean of 3.80 with a standard deviation of 0.821 had the same “Very Satisfactory” description. This means that the tourists were generally contented with the climate that can be experienced during their visit in the local beaches of Calbayog City. On the other hand, the beach operators gave a “Very Satisfactory” rating on the climate provided by the local beaches of Calbayog City. The overall rating is 3.70 with a standard deviation of 0.819. The results show beach operators were satisfied on the local beaches in terms of climate.

The combined perception of the tourists and beach operators on the condition “Parasols and cottages are available if the tourists need a shed if the climatic condition is really hot or it is rainy” obtained a weighted mean of 3.92 with a description of “Very Satisfactory”. The rest of the conditions received a “Very Satisfactory” rating aside from one condition “Any changes in climate does not affect the overall experience in enjoying the beach” that received a “Satisfactory” rating.

The weather significantly impacts tourism since it determines visitors' activities (Becken, 2010; Becken & Wilson, 2013). The temperature and weather influence which tourist activities are accessible, influencing the duration and quality of specific leisure seasons (Scott et al., 2008; Ruddy and Scott, 2010; Hower, 2015). The weather may impact visitors' expenditures (Wilkins et al., 2017), duration of stay (Hambira, 2011; Goh, 2012), and overall pleased with their vacation (Rahman et al., 2018). Although it may seem straightforward, the interrelationships between climate and tourism are numerous and complicated (Scott and Lemieux, 2010).

Weather is one of the deciding factors of the tourists whenever they visit beaches because any changes within the atmospheric conditions may encourage or discourage tourists' activity. Though it is complicated to specifically determine the current pattern in weather, this aspect must be taken into a thoughtful consideration to stabilize the flow of visitors in the local beaches.

Table 6. Means and Standard Deviations on Perceived Level of Tourist Satisfaction in Local Beaches of Calbayog City in terms of Safety

Statements	Beach Operators			Tourists			Overall		
	Me an	Des c	SD	Me an	Des c	SD	Me an	Des c	SD
The beach is safe to tourists from any water-related dangers (e.g., Drowning, Rip Currents, Tsunami, etc.)	3.82	VS	1.022	3.66	VS	1.057	3.68	VS	1.054
The beach practices safety precautions guided by the IATF to protect the tourists from the COVID-19.	3.87	VS	0.937	3.83	VS	1.071	3.83	VS	1.055
The beach has an experienced and trained lifeguard that watches over the tourists to secure their safety.	3.87	VS	0.951	3.70	VS	1.068	3.72	VS	1.056

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The beach has lifebuoys (Salbabida) that can be accessed in times of emergency.	3.9 7	VS	1.0 38	3.9 1	VS	1.0 25	3.9 2	VS	1.0 26
The beach has a patrolling security personnel that maintains the peace and order.	3.9 9	VS	0.9 66	3.6 8	VS	1.0 37	3.7 2	VS	1.0 33
The beach has a 24/7 operating CCTV Cameras.	3.7 3	VS	1.0 47	3.3 4	S	1.2 20	3.3 9	S	1.2 07
The beach is situated in a safe location.	3.9 1	VS	0.9 20	3.7 8	VS	0.9 74	3.8 0	VS	0.9 68
The beach has vehicles used in times of an emergency such as: Ambulance, Police Car, etc.	3.7 7	VS	1.0 87	3.2 8	S	1.2 24	3.3 4	S	1.2 18
The beach has a Clinic that tourists can visit when they get sick during their stay.	3.5 2	VS	1.1 77	3.1 8	S	1.2 09	3.2 2	S	1.2 09
The beach is free from any of the following that might put the life of a tourist at stake: Dangerous rock formation, Uneveled sand floor, quick sands, etc.	3.7 8	VS	0.8 68	3.6 5	VS	0.9 88	3.6 6	VS	0.9 75
OVERALL	3.8 2	VS	0.8 14	3.6 0	VS	0.8 76	3.6 3	VS	0.8 72

Legend:

4.51 – 5.00	(E)	Excellent
3.51 – 4.50	(VS)	Very Satisfactory
2.51 – 3.50	(S)	Satisfactory
1.51 – 2.50	(M)	Moderately Satisfactory
1.00 – 1.50	(U)	Unsatisfactory

Safety

Table 6 shows the mean and standard deviation on the perceived satisfaction level of respondents on the local beaches of Calbayog City in terms of safety. It is reflected in the table that the condition, “The beach has lifebuoys (Salbabida) that can be accessed in times of emergency” received a “Very Satisfactory” of 3.91 with the SD of 1.025 based on the perception of the tourists. On the other hand, the rating of the beach operators in the condition “The beach has a patrolling security personnel that maintains the peace and order” earned a “Very Satisfactory” rating of 3.99 with the SD of 0.966. The overall ratings of the respondents are “Very Satisfactory” as indicated by the mean of 3.63 with the SD of 0.872.

As indicated in the results, majority of the condition received a “Very Satisfactory” rating while the other remaining had been rated as “Satisfactory”. This implies that the local beaches in Calbayog City promotes the well-being of the tourists as well as of those working in the beach premises. The conditions were inclined in the current dilemma of our country in the aspect of health due to the COVID-19 virus that propelled everyone’s lives in to an abrupt paradigm shift. The respondents were able to identify the safety measurements imposed for their safe-keeping during their visitation in the local beaches of Calbayog City.

Tourist safety perception and tourism image perception both have a considerable beneficial influence on loyalty, according to Li et al. (2019), and tourist safety perception and tourism image perception both have a full mediation effect between unfavorable public opinion and tourist loyalty. Tourists' perceptions of safety influence their motivation to travel, according to Yang and Xie (2018). Micro safety perception influences micro travel intention. Safety and security are vital points to emphasize in establishing a tourist attraction or destination. Tourism flourishes in safe and secured locations. Any sign or chances of danger is deterring particularly to the visitors who’s well-being is paramount than any fragment of pleasure they may receive.

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Scenery.

Table 7 presents the means and standard deviations on the perceived satisfaction level of tourists as on local beaches of Calbayog City terms of scenery. All the conditions were rated “Very Satisfactory” by the tourists as indicated by the average mean of 3.96 with the standard deviation of 0.800. In addition to what has been stated, the average rating of the beach operators with all the conditions was “Very Satisfaction” as indicated by the mean of 4.08 with the standard deviation of 0.902. The overall rating of the respondents was 3.83 with the standard deviation of 0.813.

Table 7. Means and Standard Deviations on Perceived Level of Tourist Satisfaction in Local Beaches of Calbayog City in terms of Scenery

Statements	Beach Operators			Tourists			Overall		
	Mean	Desc	SD	Mean	Desc	SD	Mean	Desc	SD
The beach has good scenery that is worth of posting in the social media platforms.	4.26	VS	0.992	4.08	VS	0.908	4.10	VS	0.920
The beach’s overall appearance is pleasing to the eyes.	4.06	VS	1.043	4.02	VS	0.910	4.03	VS	0.926
The beach has pictorial sites like an archway, garden, sandbar, etc.	4.16	VS	1.014	3.90	VS	0.966	3.93	VS	0.974
The beach offers aesthetically beautiful facilities.	4.06	VS	0.964	3.90	VS	0.935	3.92	VS	0.940
The beach is an ideal place to relax and destress.	4.03	VS	1.088	4.12	VS	0.927	4.11	VS	0.947
The beach is ideal for different festivities and occasions like birthday, wedding, and etc.	4.18	VS	0.983	4.06	VS	0.954	4.08	VS	0.958
The beach has an abundant amount of plant and tress	4.10	VS	0.968	3.97	VS	0.904	3.98	VS	0.912
that increases its appeal to the tourist.									
The beach offers other attractions like park, mangrove forest, garden, etc.	3.94	VS	1.030	3.75	VS	1.006	3.77	VS	1.010
The beach offers activities that emphasize its beauty.	3.94	VS	1.017	3.83	VS	0.997	3.85	VS	0.999
OVERALL	4.08	VS	0.902	3.96	VS	0.800	3.97	VS	0.813

Legend:

4.51 – 5.00	(E)	Excellent
3.51 – 4.50	(VS)	Very Satisfactory
2.51 – 3.50	(S)	Satisfactory
1.51 – 2.50	(M)	Moderately Satisfactory
1.00 – 1.50	(U)	Unsatisfactory

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The data implies that the scenery is one of the huge factors that contributes to the overall performance of local beaches in Calbayog City. This also implies that beach operators were on-hands to develop and maintain the aesthetic features and the natural beauty of the beach to provide the best experiences to the tourists.

The relevance of scenic drive tourism and its capacity to boost tourist revenues for regional tourism sites is shown in this research. The great majority of self-drive travelers in both Canada and the United States take scenic drives when traveling, and scenic drives accounted for 52 percent of the choice to visit a certain region. Scenic drives are significant in influencing tourism visitation and the flow of visitors to a place as a tourism product (Hennessey et al., 2008).

Scenery sat atop on the priorities of tourists because aesthetic features of the beach is enthralling; the more beauty it upholds, the better reputation it has. It is a recognizable factor that truly determines whether a tourist destination is satisfactory or not.

Water Quality

Table 8 shows the mean and standard deviation on the perceived satisfaction level of respondents on the local beaches of Calbayog City in terms of Water Quality. The last aspect considered on the perceived satisfaction level of tourists on Calbayog City's local beaches. All the conditions were all rated by the tourists as "Very Satisfactory" indicated by an average mean of 3.82 with the standard deviation of 0.829. While the average rating of beach operators with the same aspect was also "Very Satisfactory" indicated by the mean of 3.96 with standard deviation of 0.799. The overall mean rating of the respondents was "Very Satisfactory" as indicated by the mean score of 3.83 with the standard deviation 0.826.

This suggests that the water quality of the beach plays a significant role in the increasing tourists in the local beaches of Calbayog City. The observed diversity of marine wildlife and the crystal blue waters found in beach. This further tells that Calbayog City industry in beach tourism. As such, respondents have acknowledged that water quality contributes to the development and increasing popularity of the beach tourist spots of Calbayog city; Stabilizing the economic growth of the local community.

Table 8. Means and Standard Deviations on Perceived Level of Tourist Satisfaction in Local Beaches of Calbayog City in terms of Water Quality

Statements	Beach Operators			Tourists			Overall		
	Mean	Desc	SD	Mean	Desc	SD	Mean	Desc	SD
The water is clean and free from any impurities such as (Garbage, Human waste, dead animals or plants, etc.).	3.95	VS	0.930	3.90	VS	0.970	3.90	VS	0.965
The water in the beach is refreshing.	4.04	VS	0.979	3.74	VS	1.071	3.78	VS	1.064
The beach operator ensures that the beach is operating well.	3.99	VS	0.851	3.97	VS	0.981	3.97	VS	0.966
The beach promotes the well-being of the environment by encouraging the tourists to pick-up their trash and disposes it properly.	4.01	VS	0.881	3.83	VS	0.973	3.85	VS	0.964
The tourist was satisfied with the morphological and physical aspects (water temperature and beach length are the parameters) of the beach.	3.95	VS	0.916	3.87	VS	0.993	3.88	VS	0.984
The beach has crystal-clear water.	4.00	VS	0.973	3.82	VS	0.971	3.84	VS	0.972
There is a sewage system nearby which helps to protect the water quality in the beach.	3.79	VS	0.922	3.75	VS	1.054	3.75	VS	1.039

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The cleanliness of the beach is well maintained by the caretakers or owners.	3.94	VS	0.908	3.67	VS	1.031	3.70	VS	1.020
The beach is regularly cleaned.	4.00	VS	0.903	3.82	VS	0.952	3.84	VS	0.947
OVERALL	3.96	VS	0.799	3.82	VS	0.829	3.83	VS	0.826

Legend:

4.51 – 5.00	(E)	Excellent
3.51 – 4.50	(VS)	Very Satisfactory
2.51 – 3.50	(S)	Satisfactory
1.51 – 2.50	(M)	Moderately Satisfactory
1.00 – 1.50	(U)	Unsatisfactory

As indicated, Table 9 is the summary of the mean and standard deviation on perceived level of tourist satisfaction in local beaches found in Calbayog City. The five aspects are presented- Accommodation, Climate, Safety, Scenery, and Water Quality. It can be gleaned that the study was described as “Very Satisfactory” in all aspects. This “Very Satisfactory” rating was indicated by the overall mean of 3.77 with a standard deviation of 0.756.

Many marine species rely on coastal water for survival. It also supports significant economic activities such as tourism, seaside leisure, fishing, and property values. The essay claims that poor water quality has actual and substantial consequences for the ecosystem and human well-being. In beach tourist hotspots like Hawai'i, it might jeopardize an industry worth billions of dollars to the global economy (University of Hawaii News, 2017).

In relation to the literature, water quality is significant to the satisfaction of the tourist. It is relevant in a sense that it is conceived as a major determiner in the capability of beaches in catering tourism. Toxic and contaminated waters jeopardize not just the health of the beach-goers but the industry of tourism as well.

Table 9. Summary Table of the Means and Standard Deviations on Perceived Level of Tourist Satisfaction in Local Beaches of Calbayog City.

Indicators	Beach Operators			Tourists			Overall		
	Mean	Desc	SD	Mean	Desc	SD	Mean	Desc	SD
Accommodation	4.07	VS	0.830	3.81	VS	0.742	3.84	VS	0.757
Climate	3.80	VS	0.796	3.68	VS	0.821	3.70	VS	0.819
Safety	3.82	VS	0.814	3.60	VS	0.876	3.63	VS	0.872
Scenery	4.08	VS	0.902	3.96	VS	0.800	3.97	VS	0.813
Water Quality	3.96	VS	0.799	3.82	VS	0.829	3.83	VS	0.826
OVERALL	3.95	VS	0.763	3.77	VS	0.756	3.79	VS	0.758

Legend:

4.51 – 5.00	(E)	Excellent
3.51 – 4.50	(VS)	Very Satisfactory
2.51 – 3.50	(S)	Satisfactory
1.51 – 2.50	(M)	Moderately Satisfactory
1.00 – 1.50	(U)	Unsatisfactory

The same level of satisfaction was noted by Beach Operators. The overall mean of their response was 3.95 with a standard deviation of 0.763 which was described as “Very Satisfactory”.

Tourist satisfaction is the lifeline of tourism. The level of tourist satisfaction determines the quality of tourist destinations and likely to predict the trend in the market. Hence, increases the likelihood of creating profitable tourism.

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Difference on the Perception of Respondents on the Level of Tourist Satisfaction in Local Beaches of Calbayog City

Table 10 shows the test of significant difference on the perception on level of tourist satisfaction in the local beaches of Calbayog City. The conditions were Accommodation, Climate, Safety, Scenery, and Water Quality. T-Test was used to treat the data.

Table 10. Test of Significant Difference on the Perception of the Respondents on Level of Tourist Satisfaction in Local Beaches of Calbayog City

Conditions	Mean Difference	t-value	df	p-value
Accommodation	0.258**	2.828	647	0.005
Climate	0.099ns	1.203	647	0.230
Safety	0.222*	2.103	647	0.036
Scenery	0.122ns	1.234	647	0.218
Water Quality	0.100ns	1.452	647	0.147
OVERALL	0.173ns	1.883	647	0.060

Legend:

ns – Difference is not significant at 0.05 level (p-value > 0.05)

* – Difference is significant at 0.05 level (p-value < 0.05)

** – Difference is highly significant at 0.05 level (p-value < 0.01)

Statistical analysis revealed that there is a high significant difference on the perception of the respondents on level of tourist satisfaction in local beaches of Calbayog City in terms of Accommodation. A significant difference was also noted in terms of Safety which resulted to an overall perception of a t-value which is 2.103 which was significant. Three conditions that are Climate, Scenery, and Water Quality revealed that there is no significant difference. The highly significance was shown by the p-value that is lesser than 0.01 level of significance while the significant difference was indicated by the p-value that was lesser at 0.05 level of significance.

The null hypothesis on the significant difference between the perceived level of tourist satisfaction in local beaches of Calbayog City was failed to be rejected. This implies in general that, tourists and beach operators, have dissimilar level of satisfaction as regard to the level of tourist satisfaction in local beaches of Calbayog City. Since all areas have obtained differentiated significance- highly significant, significant, and no significant, it could imply that the tourists have same perception from beach operators. These results can be attributed to the fact that as far as the tourists were concerned, they were keen into looking at the services and features offered by the local beaches of Calbayog City and so they were objective in their ratings.

On the other hand, beach operators, arrived into a similar perception with the tourists because they have somewhat experience on the firsthand the services offered by the beach before they apply for their jobs. In addition, there were some factors that tourists had scrutinized in assessing their level of satisfaction in the local beaches of Calbayog City. For an instance, some may be an eco-friendly tourist who promotes sustainability of the environment while on the part of the beach operators, they were more into how to maintain the operations smoothly and to generate more income. The aforementioned and other underlying factors had influenced the two groups of respondents on their perception which resulted to varied results of ratings to the level of satisfaction in the local beaches of Calbayog City.

Detailed research can be implemented in order to gather enough information about tourist destinations for the purpose of developing their quality attributes and creating recognizable brands (Atabeb, 2019). It is paramount to arrive in a correct conclusion in the study to prove its credibility and accuracy.

Researches redefined the tourist satisfaction throughout the course of years. Determining the perception of the tourist in tourist sports is significant in tracing back the demands that could help sustain and further develop the tourism.

Relationship between the Profile of the Respondents and the Level of Tourist Satisfaction in Local beaches of Calbayog City

Table 11 shows the relationship between the perceived level of tourist satisfaction in local beaches of Calbayog City and their profile in terms of civil status and age. It means that civil status and age is one of the factors in determining the level of tourist satisfaction.

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It can be gleaned from the table that civil status and age was highly significant to the perceived level of tourist satisfaction in local beaches of Calbayog City. Thus, the null hypothesis which states that there is no significant relationship between the profile of the respondents and the level of tourist satisfaction in local beaches of Calbayog City was rejected.

This provides an implication that tourists who were single and have no family yet would frequently visit local beaches, especially those who are in legal age that have jobs already. These people explore the tourist spots while they still have no family of their own to de-stress or enjoy. On the other hand, it was also associated with the level of tourist satisfaction which would imply that even those who belong at the low-income bracket manages to spend time in beach. This could be a valid result considering that Filipinos loves to enjoy beach particularly on summer where the heat wave is insufferable.

Table 11. Test of Correlation between the Perceived Level of Tourist Satisfaction in Local Beaches of Calbayog City and their Profile in terms of Civil Status and Age

Conditions	Civil Status					Age				
	x ²	df	Con.Coeff	Int	p-value	x ²	df	Con. Coef	Int	p-value
Accommodation	88.11*	64	0.35	L	0.03	847.62**	224	0.75	H	0.00
Climate	111.57**	70	0.38	L	0.00	591.12**	245	0.69	MR	0.00
Safety	132.48**	74	0.41	MR	0.00	983.36**	259	0.78	H	0.00
Scenery	92.48**	56	0.35	L	0.00	452.46**	196	0.64	MR	0.00
Water Quality	87.493*	62	0.35	L	0.02	512.03**	217	0.66	MR	0.00
OVERALL	668.92**	458	0.71	H	0.00	2233.35**	1603	0.88	H	0.00

Legend:

** – Correlation is highly significant at 0.05 level (p-value < 0.01)

* – Correlation is significant at 0.05 level (p-value < 0.05)

	1.00	P	Perfect Relationship
	±0.91 to ±0.99	VH	Very High
Relationship	±0.71 to ±0.90	H	High
Relationship	±0.41 to ±0.70	MR	
Marked/Moderate Relationship	±0.21 to ±0.40	L	Low
Relationship	0.00 to ±0.20	N	Negligible Relationship

Because visitors' periods may accurately forecast leisure demand, tourism stakeholders consider age a critical demographic characteristic (Kara & Mkwizu, Kezia Herman, 2020). An individual's desire for leisure and environment exploration is said to be favorably influenced by age (Ma et al., 2018). One aspect that influences vacation selections is marital status (Kattiyapornpong & Miller, 2008).

Profile of the tourists enables the beach operators in forecasting a trend and the demand in the tourism industry. Age and Marital Status of the tourists heavily influences their activity in tourists' destinations. A person's mobility and civil conditions affects the overall experience, decision-making, and satisfaction in a certain destination.

Table 12 presents the test of correlation on the perceived level of tourist satisfaction in local beaches of Calbayog City and their profile in terms of highest educational attainment and monthly income.

It can be gleaned from the table that Highest educational attainment and socioeconomic status were significantly related to the level of tourist satisfaction in local beaches of Calbayog City. This was shown by having a p-value that was less than 0.05 level of significance. Thus, the study rejects the null hypothesis.

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Table 12. Test of Correlation between the Perceived Level of Tourist Satisfaction in Local Beaches of Calbayog City and their Profile in terms of Highest Educational Attainment and Monthly Income

Conditions	Highest Educational Attainment					Monthly Income				
	x ²	df	Con. Coef	Int	pvalue	x ²	df	Con. Coef	Int	p-value
Accommodation	302.16**	192	0.56	MR	0.00	186.47**	128	0.47	MR	0.00
Climate	326.61**	210	0.58	MR	0.00	245.16**	140	0.52	MR	0.00
Safety	346.40**	222	0.59	MR	0.00	295.32**	148	0.56	MR	0.00
Scenery	291.63**	168	0.56	MR	0.00	168.67**	112	0.45	MR	0.00
Water Quality	346.54**	186	0.59	MR	0.00	200.37**	124	0.49	MR	0.00
OVERALL	1521.29**	1374	0.84	H	0.00	1167.79**	916	0.80	H	0.00

Legend:

** – Correlation is highly significant at 0.05 level (p-value < 0.01)

* – Correlation is significant at 0.05 level (p-value < 0.05)

	1.00	P	Perfect Relationship
	±0.91 to ±0.99	VH	Very High Relationship
	±0.71 to ±0.90	H	High Relationship
	±0.41 to ±0.70	MR	Marked/Moderate
Relationship	±0.21 to ±0.40	L	Low Relationship
	0.00 to ±0.20	N	Negligible Relationship

This imply that highest education attainment and monthly income were variables that were associated in affecting the level of tourist satisfaction in local beaches. To elaborate, people with good monthly income frequented local beaches of Calbayog City. In the same manner, majority of the tourists have good educational background. Thus, contributes primarily to the decision of the tourists to visit and enjoy the pristine waters of the local beaches in Calbayog City.

Income elasticity of tourist demand-based macroeconomic statistics, temporal data series, and panel data are often used to investigate the relationship between income and tourism demand. Furthermore, consumer studies have recently investigated the link between income and tourist expenditure Rudez, Helena (2018). According to previous research, inhabitants' level of education is the most significant single factor influencing their attitudes toward the tourism sector. Education can help community people improve their communication skills and raise their understanding of tourism-related concerns (Stojković et al., 2020). According to Papastathopoulos et al. (2019), differences in tourist development views depend on education level.

The income and the level of education is significant factor that affects the attitude of the tourists towards tourism. Consumers' activity reflects on their capability to purchase a service or product and their conception about it.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of the study, the researchers draw the following conclusions:

1. Tourists who have no significant ones or relationships have time to spend on leisure, e.g., beach, travel, etc. It is probably because people without romantic relationships can do more and develop their personal development.
2. The majority of the tourists were in their 20's, early adulthood stage, which prompts them to experience different adventures and excitement.
3. The formal education background of tourists plays an insignificant role in their decision to visit local beaches.
4. Regardless of socio-economic status, tourists would visit the beaches if they felt the need to go.
5. The increasing number of tourists in Calbayog City is a good determiner that the local beaches were sustained and developed further to meet visitors' changing trends and demands.
6. Local beaches in Calbayog City, as indicated by the data, have met the benchmarks of positive beach tourism.
7. The combination and existence of accommodation, climate, safety, scenery, and water quality is effective in satisfying the tourists.
8. Despite their varying civil status, age, highest educational attainment, and monthly income, tourists enjoy the local beaches.

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RECOMMENDATIONS

To attain a more responsive and effective implementation of beach tourism in Calbayog City, the following recommendations were advanced:

1. The local government should promote sustainability in beach tourism to preserve the natural beauty and protect the wildlife in the body of water.
2. Local beach owners or caretakers must require maintenance fees to keep the cleanliness and order in the premises. Also, to finance the needs of the beach.
3. Beach owners or caretakers must coordinate with the local government to formulate developmental plans for beautification, restoration, and new facilities in their corresponding property.
4. Beach Operators may work alongside the City Tourism Office in promulgating job opportunities to the local community.
5. Beach operators should communicate to different organizations and local governments to bridge their concerns regarding environmental issues.
6. Beach Operators can tap local content creators to boost tourism in Calbayog City.
7. Beach Operators may conduct workshops, seminars, and activities for their employees to nourish their skills and be efficient different jobs.
8. Beach Operators can integrate updated technological tools and systems in their operation to provide a better experience and ensure the tourists' well-being while staying on the premises.
9. Local beaches can develop a strategy that will identify, develop, and promote the potentials of the local beaches in Calbayog City.

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Determinants Influencing on the Working Motivation of Doctors in Public Hospitals in Hanoi



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ABSTRACT: This research was undertaken to determine the factors affecting the working motivation of doctors in public hospitals in Hanoi. The author conducted a survey and collected 212 valid responses. This research employed quantitative analysis techniques such as Cronbach Alpha analysis, regression analysis. The research results showed that seven factors were identified (in descending order of importance), including Working environment, Relationship with superiors, Relationship with colleagues, Recognition, Income and benefits, Training and promotion and Job characteristics. The results of this study provide public hospitals managers with insights and tools that they can use to build and improve working motivation of doctors. Some recommendations are made to improving the working motivation of doctors.

KEYWORDS: factors, working motivation, doctors, public hospitals, human resource management

JEL CODES: M12, M54, J01

1. INTRODUCTION

Improving people's health and quality of life is always the top goal of the Party. In Resolution No. 20/NQ-TW in 2017 of the 6th Conference, 12th Central Committee, our Party has clearly stated that Health sciences play a pivotal role in protecting, caring for and improving people's health.

In daily work, especially in the context that Health sciences have just experienced the Covid-19 pandemic, doctors of hospitals in general and hospitals of Hanoi in particular have been making every effort as well as suffering from a lot of pressure at work. Therefore, the concern and sharing of the society is very important. The question is how to motivate medical staff to work to both ensure health care for the people, while preventing and repelling all diseases and especially improving the quality of services of hospitals.

In the hospital, doctors contribute to improving the quality of medical services and play a role in the development of other resources. The hospital must have a team of doctors who work effectively, seriously, and responsibly to the profession to be able to achieve the criteria for evaluating hospital quality. Having said that, they must first be motivated with their current work.

In recent years, Hanoi's public hospitals have always attached great importance to health care, examination and treatment for patients. However, public hospitals are currently facing stiff competition with non-public medical facilities in attracting high-quality medical staff to work. Due to infrastructure conditions and a large number of patients coming for medical examination and treatment, the service quality of public hospitals is limited compared to private hospitals in the same area. In addition, current public hospitals also face difficulties in terms of autonomy.

In order to improve service quality, improving work motivation for doctors is the most decisive intrinsic factor for each public hospital in Hanoi. Therefore, studying the factors affecting the work motivation of doctors in public hospitals in Hanoi is necessary and meaningful.

2. LITERATURE REVIEW AND HYPOTHESIS

2.1. Working environment

Working environment is one of the important factors affecting employees in organizations. If organizations cannot provide a better work environment, dissatisfaction will arise from employees (Herzberg & Mausner, 1959). Working environment includes: Vehicles, physical conditions, etc. If an employee wants to perform the assigned job well, that employee must have the required expertise and meet the physical conditions. The more completes and modern the facilities, the higher the labor productivity

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(Maslow, 1943). According to Kovach (1987), the better the working environment, the better the motivation of employees. Wong et al (1999) also argue that the working environment is ranked as the most important factor in motivating these employees. According to Tan and Waheed (2011), the better the working environment, the more impact on employee motivation. Barzoki et al (2012) concluded that working conditions are the most important factor affecting motivation. According to Sell & Clear (2011), groups of employees working in hazardous environments have lower motivation than those working in safe conditions, even though they receive higher wages. Research by Doan Tan Sang (2016), Pham Thi Huong (2022) shows that working environment factors positively affect employee's work motivation.

So, we proposed H1 hypothesis:

H1: Working environment has a positive influence on working motivation of doctors in public hospitals in Hanoi

2.2. Relationship with superiors

The superior is the person who directly supervises and manages the subordinate staff. The relationship with superiors is shown through respect, care, help of superiors with subordinates, and gentleness, fairness in treatment of employees. Many scientists confirm that the relationship with superiors has a profound relationship to employee loyalty, engagement and motivation (Chew, 2004).

According to Tran Van Huynh (2016), the relationship with superiors is a motivating factor for work motivation. Therefore, employees will be more motivated to work when there is support from their superiors and feel satisfied with their work because of a good relationship with their superiors. The leadership style of superiors shows a high level of empowerment for employees, giving employees the opportunity to be creative, take initiative and make decisions, which will help employees see more meaning in their work, thereby increasing their intrinsic motivation.

According to Huynh Van Dang (2018), the support from superiors includes: attitude, interest, words, gestures, actions... that they show to their officers. They understand and empathize with each situation, problems and difficulties faced by subordinates. Leaders who are empathetic and sharing, will build trust with employees by understanding any situation that employees face. Pham Thi Huong (2022) affirmed that the relationship with superiors has a positive influence on the working motivation of employees in transport and warehousing enterprises in Binh Dinh.

Therefore, the attention of superiors has a great influence on employee motivation. If employees feel well treated, receive the attention, support, sympathy and appreciation of their superiors, they will strive hard for their work and want to contribute more to the organization.

H2: Relationship with superiors has a positive influence on working motivation of doctors in public hospitals in Hanoi

2.3. Relationship with colleagues

Boeve's research (2007) has shown the most important role of co-worker factors on work motivation.

McClelland's theory of motivation (1985) encourages employees to participate in organizational activities, to build relationships with colleagues, enlist the encouragement and support of colleagues to perform increasingly difficult work with the participation of many people from many different fields.

According to Tran Van Huynh (2016), the relationship with colleagues is also a motivating factor for civil servants to work. Civil servants will feel excited and work more effectively when they have friendly, respectful and good-listening superiors; have comfortable, pleasant colleagues; ready to help each other.

According to Huynh Van Dang (2018), the support from colleagues is the willingness to help each other and coordinate with each other to complete the assigned work well. Besides, they can sympathize and share things with each other, not just a relationship at work. In other words, employees will feel more motivated to work when they have a good relationship with colleagues.

Pham Thi Huong (2022) affirmed that the relationship with colleagues has a positive influence on the working motivation of employees in transport and warehousing enterprises in Binh Dinh.

Therefore, the proposed research hypothesis is:

H3: Relationship with colleagues has a positive influence on working motivation of doctors in public hospitals in Hanoi

2.4. Recognition

Recognition is one of the top wishes of employees, if recognized, employees will be more enthusiastic and have a more effective work ethic. This allows them to enhance their self-assessment and their ability to contribute to the organization. Acknowledge employee milestones with formal rewards, appreciation (verbally) for coming up with new and creative ideas, scheduling regular team building activities, team building, and more. Therefore, all managers should appreciate it immediately after the employee deserves it (Safiullah, 2015).

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According to research by Kovach (1987), being fully recognized at work has a positive effect on employee's work motivation. Teck-Hong & Waheed (2011) showed that the factors that have the greatest impact on motivation are working conditions and recognition. Research by Doan Tan Sang (2016) also concludes that, if the company implements the recognition policy well, the employee's work motivation will increase. The study of Tan and Waheed (2011) also confirmed that recognition is a factor that has a positive impact on the work motivation of sales staff in Malaysia.

H4: Recognition has a positive influence on working motivation of doctors in public hospitals in Hanoi

2.5. Income and benefits

Employees' income is the sum of the amounts they receive as a result of their participation in the business process of the enterprise. Employees' income and benefits include salary, bonus, other allowances and income of the same nature as salary. Income is always a practical and sensitive issue in policies related to people. Salary is always the most important motivation to stimulate people to work enthusiastically and positively. The better the salary and benefits, the better the employee's morale will be stimulated, giving them a feeling of being cared for and safe when working at the organization without having to worry about any other benefits (Kovach, 1987). According to Wong et al. (1999), high salary is the most important factor in motivating employees to work. Tan and Waheed (2011) argue that income is a worthy reward for employees' contributions and has a positive impact on employee motivation. The factors of salary, bonus and welfare have a positive impact on employee's work motivation (Hossain & Hossain, 2012). Income and benefit is one of the factors ranked first in influencing work motivation as Artz (2008), Barzoki et al (2012). Pham Thi Huong (2022) affirmed that the employee's income has a positive influence on the working motivation of employees in transport and warehousing enterprises in Binh Dinh.

H5: Income and benefits have a positive influence on working motivation of doctors in public hospitals in Hanoi

2.6. Training and promotion

Training is the process of acquiring the skills necessary to perform a particular job. Promotion is the move from a position to a higher position in the organization.

Employees with training and promotion opportunities will be more motivated to work than others. Employees will be more satisfied and motivated when their training and promotion needs are met (Chiang et al., 2008).

In the context of rapidly changing environment, human resource training and development become one of the important factors for the existence and development of the organization. Organizations should combine motivation through training with other forms. Doing that well can stimulate the satisfaction of needs in all aspects for employees.

According to Huynh Van Dang (2018), any individual wants to make progress in their career. The policy on promotion is meaningful in personal improvement, increasing work motivation for individual employees, and at the same time is the basis for attracting and retaining good people to come and work with the organization. Creating promotion opportunities for employees helps them affirm and express themselves, realize new opportunities for career development and be more attached to the organization, have a sense of striving and make more efforts in their duty performance. Pham Thi Huong (2022) affirmed that training and promotion have a positive influence on the working motivation of employees in transport and warehousing enterprises in Binh Dinh.

H6: Training and promotion have a positive influence on working motivation of doctors in public hospitals in Hanoi

2.7. Job characteristics

Cedefop (2012) argue that the nature of work has an impact on employee motivation. Specifically, the more interesting, attractive and challenging the job is, the more motivated employees will be to explore, learn, and improve their knowledge skills to complete the job in the best way. Employee work motivation is related to job diversity.

According to Hackman & Oldham (1976), if the work model is properly designed, it will create motivation from within employees, create general satisfaction and work efficiency. Besides, the job must use many different skills, create interesting and challenging, in addition, employees need to have some decision-making power. An employee who is competent when given difficult tasks with more challenges and responsibilities often tries his best to overcome and prove himself. Teck-Hong & Waheed (2011) demonstrated the influence of work itself on employee motivation.

In the study of Huynh Van Dang (2018), it is also clear that clearly defining job characteristics for each individual employee is extremely important, because when there are clear goals and job characteristics, employees will have motivation and purpose to strive, actively seek to achieve that goal. Pham Thi Huong (2022) affirmed that job characteristics have a positive influence on the working motivation of employees in transport and warehousing enterprises in Binh Dinh.

H7: Job characteristics has a positive influence on working motivation of doctors in public hospitals in Hanoi

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3. METHODOLOGY

3.1. Choice of method and sample selection

We design mixed method both quantitative and qualitative to explain the impacts of determinants on the working motivation of doctors in public hospitals in Hanoi.

To begin with qualitative method, we look at previous studies and conducted interview to identify seven determinants that affect the working motivation of doctors in public hospitals in Hanoi. However, since their studies were based on the foreign experience, we try to propose an enhanced framework by synthesizing their insights, adjust, add observation variables to the questionnaires and apply it to the context of public hospitals in Hanoi.

Then, we use quantitative component included the use of questionnaires as inputs for EFA analysis and regression model to investigate the impacts of each variable on the working motivation of doctors in public hospitals in Hanoi.

The selective sampling is participants to interviews and survey. The selection was based on the number of observation variables in which participants were involved in their daily working in public hospitals. Therefore, in our sample, 100% participants are doctors in public hospitals in Hanoi. The fact of doctor's knowledge and skills ensured the survey results more reliable.

We conducted a questionnaire survey of 29 observation variables with a 5 - point Likert scale. Independent variables are measured from 1 "without effect" to 5 "strongly".

3.2. Research model

From the above analysis, inheriting the results of previous studies, we design a research model:

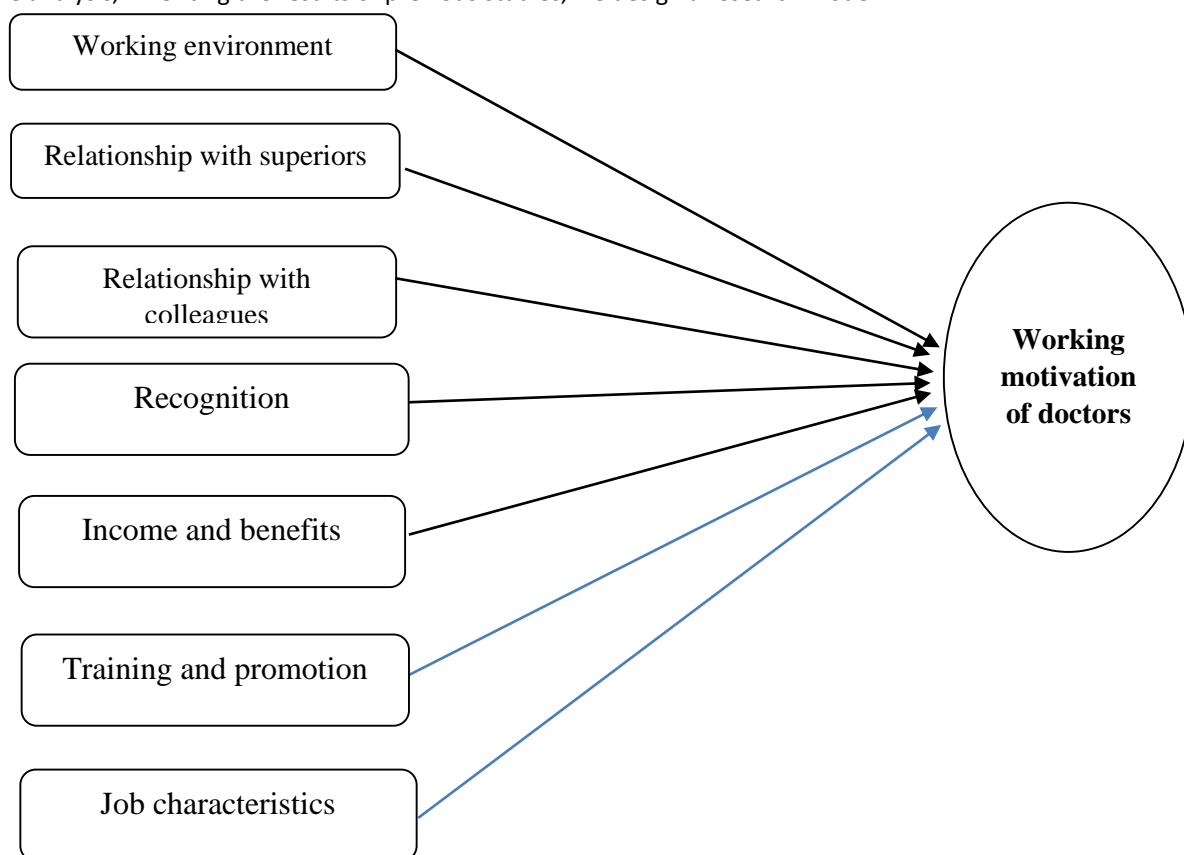


Figure 1. Research model

Dependent variable: Working motivation of doctors (DL), including 3 items (Do & Ha, 2023).

Independent variables: There are 7 independent variables.

4. RESEARCH RESULTS

4.1. Cronbach's Alpha

By using scale analysis, it can eliminate inconsonant variables and reduce errors in the research model. Therefore, only variables which have total correlation coefficients (Corrected Item – Total Correlation) greater than 0.3 and Cronbach's Alpha coefficients equal or greater than 0.6 are accepted (Hoang & Nguyen, 2008, Hair et al., 2010). By analyzing Cronbach's Alpha analysis of determinants have an influence on the working motivation of doctors in public hospitals in Hanoi (7 determinants with 29 observed

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variables), the result is presented in Table 1. The result shows that, all Cronbach's Alpha coefficients of population are above 0.6; all Corrected Item – Total Correlation of observed variables are above 0.3. Thus, all variables of research model are suitable for next analyses (Hair et al., 2010).

Table 1. Results of analysis of Determinants Confidence of Scales in the Model

Determinants	n	Cronbach's Alpha	Corrected Item-Total Correlation
Working environment (MT)	4	0.811	0.557
Relationship with superiors (LD)	6	0.845	0.513
Relationship with colleagues (DN)	4	0.821	0.557
Recognition (CN)	3	0.801	0.534
Income and benefits (TN)	3	0.816	0.615
Training and promotion (DT)	4	0.814	0.376
Job characteristics (CV)	5	0.834	0.535

4.2. Exploratory Factor Analysis

Exploratory Factor Analysis (EFA) was conducted through Component Analysis and Varimax and the results has yield 29 attributes of independent variable.

The results of factor analysis in Table 2 show that $0.5 < KMO = 0.724 < 1$. Bartlett's testimony shows sig. = $0.000 < 0.05$, which means variables in the whole are interrelated.

After implementing the rotation matrix, 7 determinants with factor load factor are greater than 0.5; Eigenvalues are greater than 1 and the variance explained is 66.545%. These statistics demonstrate that research data analysis for factor discovery is appropriate. Through the quality assurance of the scale and the test of the EFA model, we have identified 7 determinants influencing the working motivation of doctors in public hospitals in Hanoi (Hair et al., 2010).

Table 2. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.724
Bartlett's Test of Sphericity	Approx. Chi-Square	3,514.121
	Df	435
	Sig.	0.000

4.3. Regression Model Analysis

Based on adjusted model after the exploratory factor analysis, we use a multiple regression model as follows:

$$DL = \alpha + \beta_1TN + \beta_2MT + \beta_3DT + \beta_1CV + \beta_2LD + \beta_3CN + \beta_3DN$$

Table 3. Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.970 ^a	.941	.939	.07401

a. Predictors (Constant): TN, MT, DT, CV, LD, CN, DN

b. Dependent Variable: DL

Table 4. Anova^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	16.768	7	2.395	437.299	.000 ^b
Residual	1.046	191	.005		
Total	17.814	198			

a. Dependent Variable: DL

b. Predictors: (Constant): TN, MT, DT, CV, LD, CN, DN

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Table 5. Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-.027	.075		-.367	.714		
MT	.152	.007	.374	21.016	.000	.973	1.028
LD	.147	.009	.316	17.182	.000	.907	1.103
DN	.136	.008	.331	16.802	.000	.792	1.263
CN	.151	.008	.350	18.635	.000	.873	1.146
DT	.126	.009	.275	14.230	.000	.826	1.211
CV	.158	.011	.254	14.204	.000	.962	1.040
TN	.119	.010	.224	11.453	.000	.806	1.240

a. Dependent Variable: DL

Results of Table 3, 4, 5 show that:

Multicollinearity testing: all variance inflation factor (VIF) of independent variables are under 2, so multicollinearity of model is low (Hoang & Chu, 2008; Hair et al., 2010). Therefore, this regression model does not have any violation of the CLRM basic assumption.

ANOVA testing result: Level of significant (Sig.) = 0.000 implies that multiple regression model is suitable with data.

Coefficient of R^2 (R Square) = 0.941, which means 94.1% of the total variation in the working motivation of doctors in public hospitals in Hanoi will be explained by the regression model (Hair et al., 2010).

Research model result indicates that all independent variables TN, MT, DT, CV, LD, CN, DN are significant (because Sig. < 0.05) to the working motivation of doctors in public hospitals in Hanoi (Hair et al., 2010).

Determinants have influences on the working motivation of doctors in public hospitals in Hanoi are presented in the following standardized regression model:

$$DL = 0.374MT + 0.316LD + 0.331DN + 0.350CN + 0.275DT + 0.254CV + 0.224TN$$

5. DISCUSSIONS AND IMPLICATIONS

The working environment is the factor that has the strongest impact on the motivation of doctors with the coefficient being $\beta = 0.374$, which is consistent with reality, because Health sciences have a toxic and dangerous working environment... However, hospital administrators have been creating a friendly and united working environment, providing equipment and machinery for medical examination and treatment, creating a comfortable working environment to promote employees in general and doctors in particular to be associated with hospitals. Therefore, the better the doctor's working environment, the more motivated they are to work. However, at district and commune medical examination and treatment facilities, there is a shortage of personnel (especially specialist doctors), and medical examination and treatment equipment is no longer as effective as it was originally as well as doctors' expectations. Therefore, medical examination and treatment has not met the needs of customers.

Recognition is the second most influential factor on the motivation of doctors with the coefficient $\beta = 0.350$. In fact, medical administrators always pay attention to and recognize the achievements of doctors, creating a bond between doctors and hospitals. If employees are praised and appreciated, the motivation to work is higher. At hospitals that have established regulations and a grading scale for task completion, all staff can easily score them. Every month, conducting evaluation and emulation of work results, administrators base on the scoreboard to have appropriate reward policy, record the achievements of individuals striving to achieve. However, the evaluation based on the scale is only qualitative, not accurately and fairly evaluated in the departments, so it is not really satisfied with the doctors.

The third strongest factor affecting the motivation of doctors to work is the relationship with colleagues with the coefficient $\beta = 0.331$. This shows that doctors work with a spirit of solidarity, friendliness, support in their work, helping colleagues to work more comfortably and achieve higher efficiency. Doctors always share experiences such as medical consultation to provide a good treatment for the patient, exchange in the use of appropriate drugs for the patient, etc., as well as new initiatives to provide treatment for the patient. Once a doctor has a good relationship with colleagues, it helps them to be motivated to work better. However, there are still new doctors who have not yet integrated with the team and are not familiar with the new environment, so hospital administrators should take measures to connect new doctors with their colleagues.

Next, the fourth strongest factor affecting employee motivation is the relationship with superiors with the coefficient $\beta = 0.316$. In fact, hospital leaders always recognize the contributions of staff, encourage staff to improve their professional qualifications.

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When employees have difficulties in their profession, leaders always share experiences, guide and motivate employees to complete their tasks well. However, in some hospitals, there is still a situation where the leadership does not trust the staff, such as: in the duty team, the doctor wants to transfer the patient to the upper level, according to the regulations, it is necessary to arrange a meeting time to diagnose under the direction of the superior before transferring to the hospital, while the patient is in an emergency condition.

Training and promotion is the fifth strongest factor affecting doctors' work motivation with the coefficient $\beta = 0.275$. In fact, in some hospitals, doctors have not been able to improve their professional qualifications suitable for each job position, but also hold many functions. Regular doctors are still lacking in health facilities, especially at the district and commune levels due to the lack of appropriate remuneration policies. In addition, district and commune hospitals have not been able to attract qualified professionals. Some doctors have qualifications have not been arranged in accordance with their specialties, such as doctors with regular university degrees who are assigned to work in the laboratory, subclinical or social work departments, etc. due to lack of staff.

Job characteristics are the sixth strongest factor to work motivation of doctors with the coefficient $\beta = 0.254$; This is in line with reality. In public hospitals, doctors with different professional qualifications will have different tasks. Interdepartmental feedback is always updated frequently so that doctors are kept closely informed about the patients to make suitable arrangements and transfers of patients among departments. If the workload is rotated reasonably, it will help doctors enjoy their jobs more, thereby motivating them to work more effectively. However, as each department has its own nature, it'll be difficult when manpower support is required, for example, Casualty Department may need Outpatient Department's staff to support but they may be unaware of Casualty Department's procedures, and so do the staff of the other departments.

Moreover, in the process of diving tasks for subordinates, managers need to exchange and consult with them. Managers need to regularly monitor the performance of employees in their official duties and make adjustments when necessary to show employees the significance of their contributions to the development of the agency or organization.

The doctor rated the job characteristics factor as not high. Therefore, to motivate doctors to work, administrators need:

- (i), Hospital administrators should evaluate the capacity and qualifications of doctors to assign tasks in a scientific and reasonable manner to each job position. When a doctor is assigned a task suitable to his or her ability, he will work enthusiastically and strive to complete the task more effectively.
- (ii), Developing specific goals for each doctor in association with the collective goals, the hospital administrator should make a specific plan in each phase so that all staff and doctors jointly develop and implement. For example, there is month when medical staff need to register to donate blood, they should build a program to celebrate Vietnam Doctors' Day (February 27), organize exchange activities such as sports, music...
- (iii), Hospital administrators should have a plan to rotate personnel between departments to help doctors grasp the work of other departments, convenient for work arrangement, especially specialists who need to arrange work in many departments to learn professional experience, grasp the patient's situation for better treatment of the disease.

Finally, income and benefits are the factors that have the least impact on the motivation of doctors to work with the coefficient $\beta = 0.224$. In fact, doctors always consider this an important factor, but the policy on salary and benefits in public hospitals is not really good, has not changed towards increasing much. The salary of doctors at public hospitals is made according to the general salary coefficient regulations of the state. Therefore, the salary and income that the doctor receives is not commensurate with the doctor's role, responsibilities as well as the level of contribution and dedication of the doctor in the work.

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The Inner Voices of the Changing Times: The Journey of the Mangyan Elders in Governance Practices



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ABSTRACT: Organizational success depends on the quality of its leadership. Furthermore, context-specific leadership theories are essential in recognizing the potential of indigenous traditions and practices in interpreting leadership practices in a local context. To understand context-specific leadership theories, we need to study indigenous leadership. This study about Mangyan leadership adds to the conversation about indigenous leadership by highlighting the elders' situations and indigenous leadership practices. Mangyan elders are grounded in experience and represent specific contexts, inherent values, beliefs, and circumstances. The study revealed three highlights: 1.) The Hagura Mangyan communities have their political structure composed of the indigenous elders as a fundamental component. 2.) Hybrid government-indigenous leadership and governance create tensions and conflicts with indigenous leadership practices. 3.) As the customary law practices of the communities are slowly eroding, the elder leadership is also weakening due to the imposition of the government's political system.

KEYWORDS: Indigenous leadership, elders, governance, context-specific leadership, Hagura Mangyan

INTRODUCTION

Significantly, the literature affirms that the success of any organization depends mainly on the quality of its leadership. However, most of the studies conducted about leadership primarily used different theories. These theories are also developed and validated through the lens of unfamiliar perspectives. Hence, if these theories are applied to guiding leaders, such studies would either be irrelevant or help solve the wrong problem (Von Glinow & Teagarden, 2009). It is, therefore, relevant to recognize and begin to accommodate one's indigenous traditions and practices to see their potential in predicting and interpreting leadership practices in a local context.

If we want to understand leadership in various contexts and the phenomenon of context-specific leadership theories (Leung, 2012), we must first study indigenous leadership. Studying "local leadership phenomena" is an ongoing interpretation of meaning produced by individuals engaged in the local leadership process (Zhang et al., 2012, p.1072). Many factors, when studying leadership phenomena, are to be considered. These elements include the historical background of how a leader matures in the leadership process, the social structure of a specific context, and the value systems and behavioral models that impact the administration. As these factors are contextually unique, it requires understanding the indigenous leadership approach. Indigenous leadership demonstrates knowledge of indigenous paradigms, such as prevailing value orientations, and facilitates the intergenerational transmission of indigenous culture through language, ceremony, and oral histories and stories (Young, 2006).

Further, the author mentioned that the indigenous elders were a valuable source of this indigenous knowledge as they provide intergenerational leadership through the sharing of their teachings, oral histories, and experiences. To non-indigenous people, "elder" may be understood simply as a noun implying a title. However, from the indigenous lens, this word is more than just a person of greater age. In their native languages, it is a verb characterizing the role of someone in the community. Elders are regarded traditionally as indicators of good leadership. They serve as cultural guides and active participants in community governance and decision-making. They are also aware of and responsive to community needs without regard for ego or power-driven motives.

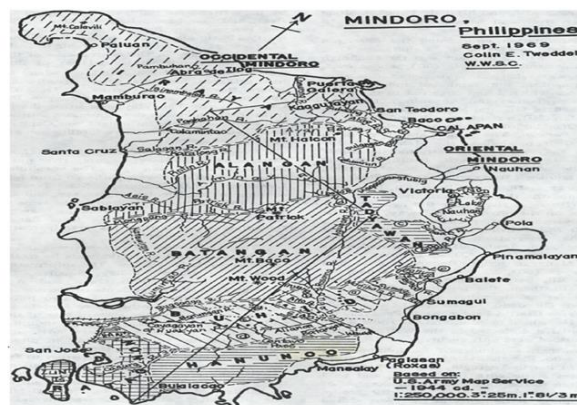
Currently, the roles of the indigenous elders are challenged by internal and external forces in the changing world. As the UN Special Rapporteur on the Rights of Indigenous Peoples, Tauli-Corpuz (2020) confirmed that Indigenous Peoples continue to face

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a high level of "discrimination, racism, economic, and social disadvantages" worldwide. In her earlier report, she also mentioned that access to justice and keeping their legal systems running are two of the main worries of IPs worldwide.

However, the purpose of elders is still crucial in pursuing the indigenous people's struggle for self-determination. Indigenous peoples' right to self-determination is a fundamental right based on international law principles. The law includes provisions that ensure natives' rights in their respective countries. Not only their culture and traditions but the law also ensures their freedom to participate in decision-making about their concern about land and territory rights, improving social and economic conditions, and maintaining and developing their traditional knowledge.

A needs assessment was conducted on the two Mangyan communities in Occidental Mindoro. The assessment was part of the Far Eastern University's Community Extension Service Project in collaboration with the Divine Word College of San Jose (DWCSJ), a co-educational academic institution run by missionaries from the Society of the Divine Word. The indigenous peoples of Mindoro, Philippines, are known as Mangyans. The etymology of the word "Mangyan" is still unclear even today. Barbian (1977) assumes that the word is a combination of the prefix "mang," which means "one from a certain place," and the root word "yan," which means "that place," interpreting "Mangyan" as "the people from that place." Generally, they called themselves Mangyan to distinguish themselves from the lowland settlers and invaders. The first to show the denomination and tribal distribution of the natives was Conklin's map in 1942 (Twedell, 1970). He designated the names of the Mangyan tribes and presented them in the anthropological world when he studied and recorded the different languages of the natives. Twedell, on the other hand, published his article on the Identity and Distribution of the Mangyan Tribes in Mindoro in 1970 and included a map depicting the actual distribution of the seven Mangyan tribes, including the Iraya, Alangan, Tadyawan, Buhid, Batangan, Hanunuo, and Ratagnon. It specifically identified the boundaries of the tribal territories. The editors of the Ethnographic Map of the Philippines accepted his map of the Mangyan tribal distribution in Mindoro. Finally, in 1974, it was published by the National Museum.



The needs assessment was conducted among the Ratagnon Mangyan and Hanunuo Mangyan communities. This assessment is part of the five-year partnership for community extension services for both institutions. Both institutions envision the institutionalization of independent Mangyan schools and districts that validate the Mangyan history, knowledge, language, and culture and strengthen their competencies to navigate the complexities of the contemporary world. The assessment involved dialogue with the community and its indigenous leaders and elders. As an observation, the Mangyan elders' leaders showed wisdom in their words and actions. They discussed the power dynamics in their community, specifically focusing on issues surrounding their ancestral domain claims. The elders' activities and speaking styles were critical in fostering community and social cohesion. This observation piqued the researchers' interest in deepening our understanding of Mangyan elders' roles in shaping their indigenous governance.

"Indigenous Elders," as defined by the Council on Aboriginal Initiatives (2012), are considered exceptionally wise and recognized because of their wisdom and ability to know the appropriate solution in a particular situation. Community members also highly regard them because they guide the people with sound judgment. Indigenous elders in the indigenous community are expected to maintain the culture and pass down traditional cultural knowledge (Carter, 2011). Indigenous people in the community assume that their elders have "authentic" knowledge of their past cultures, have high regard for them, and follow what their elders have taught them. They are known as "elders" because of their age and experience, and they make up most of the village's decision-makers. The Mangyan tribes considered their elders supreme rulers (Javier, 1987).

Surprisingly, researchers pay little attention to indigenous elders' influence on indigenous community governance practices. Less reliable data on indigenous elders and their political practice contributions is available. The Council on Aboriginal Initiatives (2012) study revealed insufficient critical scholarly papers and materials for discussing the indigenous elders' discourse. Buendia, Mendoza, & Sambeli (2006) also observed the shortage of literature that deals with the elders and their roles in indigenous

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governance in the Philippines, even if it is notable worldwide that the indigenous communities' political system has survived the 21st century. The available data also assume that their culture inhabits the indigenous knowledge of the elders. Furthermore, the culture and their approach to community leadership are linked. Literature highly recommends exploring indigenous governance from the perspective of indigenous knowledge and its relevance to the existing state political system for a better understanding of their relationship and disassociation.

This paper would like to investigate the value and relevance of the Mangyan Indigenous Elders in sustaining the traditional political system despite the changing times and situations in their governance practice due to the imposition of the state system. Therefore, this paper will examine the experiences of the Mangyan Indigenous Elders in governance practice and their perceived relevance to the present political system of the tribe. As researchers, we believe this documentation will provide the Mangyan communities with accessible information on leadership and governance practices inherited from their ancestors. These testimonials will pave the way for preserving their customs and traditions in governance without formal codification. According to the Asia Indigenous Peoples' Pact (AIPP, 2007), the risk of a formal codification is the promotion of uniform modes that do not fit different socio-cultural contexts, which the traditional system can generally accommodate. Furthermore, this research intends to be published in a reputable academic journal to increase its value, as the knowledge we will impart will be a permanent and searchable document.

Statement of the Problem

This qualitative study examines the governance practices of the Mangyan Indigenous Elders and their perceived relevance to the present political system of the tribe. Specifically, the researchers would like to elicit answers to the following questions:

1. What is the typical structure of leadership among the Hagura tribes? How does the community in the leadership structure regard its indigenous elders?
2. How do the Hagura elders fit into integrating the state into their traditional political system?
3. How does state integration affect the role of Indigenous elders in their traditional political system?

RELATED LITERATURE

The literature review looks at information about indigenous elders, how they fit into the traditional political structure in their local communities, and what roles they play. The discussion will also focus on the different views about government mandates and their consequences for the governance practices of the indigenous elders. Identifying some topic analysis, findings, and evaluation would add intensity and context to the study.

Indigenous Knowledge As A Tool For Indigenous Leadership Structure

People living in the past are immersed in their surroundings. That is why they can effectively commune and manage their environment. This knowledge of their environment is typically particular and detailed. As the literature describes, "indigenous knowledge" is the traditional knowledge of indigenous and local communities that has developed over centuries and transferred from generation to generation in working and life situations. People's indigenous knowledge is unique because it entails their interpretation of their culture, communities, language, and even their genealogy-land relationship. Indigenous knowledge represents the local and culturally specific knowledge of a dynamic people, adapting over time and place (Battiste, 2005). Battiste and Henderson (2000, in Hare, 2011) reinforce the description of indigenous knowledge as a "complete knowledge system with its epistemology, philosophy, and scientific and logical validity." Indigenous scholars contend that to represent indigenous communities' self-determined goals adequately, researchers should respect this unique knowledge (Young, 2006).

Archibald (2005) affirms indigenous knowledge as empowering, decolonizing, contextual, ethical, and favorable to the indigenous community's standard protocol and cultural practices. The secure contextual and cultural connections make indigenous knowledge an essential part of indigenous people's lives, providing the necessary means for survival (Magni, 2017). This indigenous knowledge is crucial for indigenous cultures' sustainability and maintenance. On a similar note, Wolfram, Spiller & Voyageur (2016) argue that common and culturally relevant forms of leadership matter most for Indigenous peoples. Their indigenous leaders are developed within a community context of affection, affiliation, and education. They learned to practice traditional governance by living independently with their respective clans or groups.

The basic principle of indigenous leadership and governance is to sustain their way of life by communing with their land and natural resources. Their knowledge revolves around ecological principles, recognizing the environmental systems' relationship and interrelatedness in supporting and sustaining their existence. Even the scientific community recognizes indigenous governance mechanisms constituting preservation and viable development. Indigenous knowledge is still a big part of how

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indigenous people run their governments, and the rules are based on their sound and time-tested ways of doing things (Carling et al., 2004).

In the Philippines, according to Tauli-Corpuz (2019), it was concluded that to say that indigenous knowledge is rapidly diminishing because of conversion and modernization has something to prove further through research and the mass of literature. She strongly argued that the Philippine indigenous knowledge systems about health, natural resource management, agriculture and forestry, governance, and conflict resolution, among others, are alive and persisting among Indigenous peoples. This argument is a validation that the recognition of this indigenous knowledge, especially around indigenous leadership, is significant in understanding how they sustain the existence of their indigenous territories. More so, Buendia et al. (2006), in their analysis of the indigenous governance practices in the Philippines, concluded that "peoples' culture is one of the defining features of IP governance and development" (p. 2). The study gave credence to one's culture, which regulates people's conception of how and why they live for themselves and others in a place where they belong. Indigenous knowledge is deeply rooted in indigenous culture and protocols for maintaining a reciprocal relationship in the community.

The collaborative work of the Cordillera Peoples Alliance (CPA) and the Asia Indigenous Peoples Pact (AIPP) in 2012 identified the basic principles of indigenous governance, which describe traditional democratic leadership and governance. These are sovereignty and self-rule; collective identity, collective rights, and collective leadership; self-determination; harmony and interaction with nature; international solidarity among indigenous peoples; linkage with more extensive social and political movements; sustainability; spirituality; and dignity. For this indigenous knowledge to be passed down and maintained by the generations to come, Hare (2011) assumes that the indigenous elders have a great responsibility to ensure the preservation and transmission of culture. Couture (1991, pp.181-200) describes indigenous elders as historians, philosophers, and teachers of indigenous traditions and heritage. They also teach the next generations of their community how to make meaning of history, connect it to the present situation, and indicate safe directions to pursue so that their history can be sustained and advanced.

The Indigenous Elders and Their Concept of Governance

The noun "elder" may mean "old ones" or a senior citizen who must earn respect due to old age. They may not have acquired any unique role as an older adult. Literature and studies about indigenous leadership affirmed that indigenous peoples treated their elders as a rigid body because of their combined expertise and wisdom (Young, 2006). To be an indigenous elder is something that one must earn. It happens through the affirmation of the members of a community. They acquired the status based on the trust given to them by the people because they demonstrated lifelong exemplary behavior and service in the community. They have developed the ability to guide considerable talent over time. They used this talent as a necessity for the basic survival of the community—in healing, leading, and teaching (Young, 2006). Harris (1991), an anthropologist at the University of Florida, concludes that in the history of our ancestors, the chieftains had no formal authority or power. However, they had the gifted ability to persuade.

The Cordillera Peoples Alliance (CPA) and the Asia Indigenous Peoples Pact (AIPP, 2012) declared that the elders of the community serve as the primary source of authority among the many indigenous peoples. In many indigenous communities, they are recognized by the people as both traditional and new leaders. This statement is an acknowledgement of their community's influence. The document identified their essential responsibility in a community:

- Provide continuity or connection from the past, present, and future through the community's collective memory.
- Practice, enforce, and transmit customary laws.
- Hold, protect, and teach indigenous knowledge developed through generations.
- Dispense justice to maintain harmony in society.
- Oversee the sustainable management of natural resources.
- Resolve conflicts among the members of the community.
- Lead in defense of land, territory, resources, and people from outside incursions.
- Guide the spiritual and cultural lives of the people.
- Build solidarity within and outside the community.

As traditional leaders, people anticipated they would influence and guide the present generation to practice their indigenous way of life, help sustain peace and order among members, and support maintaining the balance of the environment around them. In the Cordillera regions in Mindanao, for instance, they regard their Indigenous Elders as the council of aged men who prove their leadership in Practice. For them, an elder must not only have wisdom and fair judgment but also embody with them the customs and traditions of the past, set an example, and be someone to rely on in times of crisis. In the same way, the study by Buendia et al. (2006) among the Gaddangs, Ibanags, and Ivatans of Nueva Vizcaya shows how the elders were revered

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and had significant influence even on the local leaders of each community. Meager records of these tribes also proved that the tribal councils involved indigenous elders assigned to be of authority in the community.

The same study mentioned that on selected indigenous peoples' governance systems in the Philippines, the result was striking in how the roles of indigenous elders in different regions were always a vital part of their governance. The Ibaloy regard their elders as the village's wise men. The community likewise acknowledges their decisions as law. The Bontoks of Cordillera treated their council of elders as the core of village decision-makers. The authority, power, and legitimacy of the Tingguians rest squarely on the shoulders of their council of elders. They have established guidelines, laws, and protocols to preserve and guard their natural resources. The elder of the Teduray people takes on the role of leader. This person must be able to persuade and influence others, be an excellent speaker, and have knowledge of customary law.

In the same way, the *datus* or elders of other indigenous tribes, such as the *Datus* in B'laan communities, were the most distinctive and respected members of the tribe because of their ability to articulate tribal values and serve as mediators when disagreements arose. The *fulong* in B'laan communities served the same function. Besides, the chief and a council of elders share their power in the Tigbao Subanen tribe. The people strictly follow their words. The Maranao ethnic group, although headed by a Sultan, has also had its council of elders assist him with his tasks.

In like manner, the study of Eder (2013) about the Batak indigenous group in Central Luzon witnessed how elders or older males with qualified personalities surfaced as their leaders. Even the Mindanao indigenous communities have the same reverence for their elders, and their roles are very prominent. In the same study by Buendia et al., (2006), the authors cited the description of Maceda (1975) about the Mamanua group. It was mentioned that these particular indigenous community members chose their ancestors to serve as chieftains. Because of their superior intelligence and the significant decisions they made during consultations, the members admired and respected the chieftains. The Manuvu tribe had the same general impression regarding the situation. Although the *datu*, as the head of the population, is the commander-in-chief, the council of elders, known for their intelligence, integrity, and prudence, still assists him. The Mandayas in Davao del Norte have an older adult respected and obeyed by the village people. They also acted as advisers to the people and were followed for necessary decisions in the community. They also acted as judges, mediators, and facilitators of meetings and gatherings. Being in the highest position, the elders can decide the form of punishment appropriate for a crime committed by the members. In Davao Oriental, a Bagani consulted a council of elders on matters like reviewing petitions from commoners about taking revenge against another outside their territory through *pangayaw* (warfare). They were also requested to hear, mediate, and resolve intra-domain disputes like theft, adultery, and violence.

Young (2006), in his personal experience with the indigenous peoples, recognized that indigenous knowledge highly regards the perspective of elders as they provide valuable cultural information required for understanding and promoting decisive indigenous leadership. In addition to this recognition, the author also perceived social teachings from the indigenous elders as a valuable supplement to developing indigenous leadership literature and insight into positive indigenous identity and leadership practices. Then, understanding the elders' original values, ethics, and methods creates a pedagogy that can bring about change and success for the community and its people.

As a result, it seems reasonable to argue that it is critical to recognize Indigenous Elders as leaders from the past and present. They are responsible for passing on this indigenous knowledge to sustain it for future generations. The knowledge they got from generations before them is the basis for recognizing their selfless work to keep their unique system culture alive.

State System and Its Effect on Indigenous System Of Governance

From the account of Harris (1991), people from prehistoric times lived in small, nomadic hunting-and-gathering groups before settling down into villages without someone predominantly leading them. They survived as bands by being generous to one another, which resulted in the idea of reciprocal exchange. Quoting anthropologist Richard Gould "Reciprocity is a small society's bank," the author further explained the idea of reciprocal exchange wherein community members do not have expectations of how much or when they expect in return for the things they give. Nature is all public property. What they get from nature is shared equally, and giving is generous. No one is above or in control of natural resources during the reign of reciprocal exchange and egalitarian rulers.

Given this backdrop, Walsh (2016) remarked that despite the indigenous peoples' immense cultural and linguistic diversity, they were able to develop their ways of life in much the same way. The author further noted in her article that, as revealed by studies, indigenous peoples are "the most effective managers and protectors of their territories," which they view as "a partner, a provider, and a living being." This declaration is a clear manifestation that an intimate connection with their lands and natural resources is the bottom line of their identity. Indigenous leadership and governance have been demonstrated. In the Philippines, Domingo (2004) argued, as a result of his study, that indigenous leadership structures and practices effectively governed the daily lives of indigenous peoples for centuries.

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Indigenous peoples have experienced parallel stories of colonialism and assimilation, according to Battiste & Barman (1995). The story of our past makes it known that the same fate happened to most indigenous people's communities as they were the victims of colonization by Western developed nations. Colonizers imposed state laws and policies that exempted them from their specific cultural traditions, customary laws, and ceremonial cycles. Eventually, according to Daes (2008), in most cases, they became 'minorities' due to state expansion. It impeded their political destiny and implied that the lack of "control" was part of being indigenous (Corntassel, 2003, p.87).

Philippine history acknowledged that the first Filipinos lived independently according to their tribes or clans. The natives had their concepts and practices of land use and ownership, which is collectivism. Triandis (2001) stated that people are interdependent within their kin groups in a collectivist culture. They prioritize the goals of their ingroups. "People shape their behavior primarily based on ingroup norms and behave communally." This culture shows how people maintain harmony in group relationships and interdependence. They also followed their traditional governance, cultures, and sociopolitics, centered on their attachment to their land. Over time, they have developed their political structure to maintain a mutual and harmonious inter-community relationship. Due to the marginalization brought by the invasion, they ultimately divided their customary practices. Those who resisted being under the influence of the Spanish system retreated to the hinterlands, while others chose armed resistance. Because the Spanish government never contacted them for religious conversion, they became unassimilated and later tagged as the country's minorities or indigenous peoples. The Regalian Doctrine's imposition worsens the situation, which technically put all the archipelago's lands in the Spanish ruler's ownership during that time. The situation commenced with the denial of ownership and the customary land use of the natives. This rule was sustained when the Spanish regime took over the land's rule.

To add insult to injury, the United States of America even reinforced a national law requiring the registration of land. In contrast, the declaration was made that unregistered lands belong to the government. The American government used these public lands for mining. It made them available for homesteaders and foreign multi-corporations to operate businesses while leaving indigenous refugees in their ancestral domains. This legal concept was carried over after the Philippines gained independence. The post-colonial government passed more laws within this legal framework, further robbing indigenous peoples of their land and resources. The consequences of colonization eroded indigenous peoples' various ways of life, especially indigenous governance since the state system undermined it. This scenario supports the report of the UN Special Rapporteur, Tauli_Corpus (2018), to the UN General Assembly about indigenous peoples' governance systems. It was stated in the report that the Philippine "indigenous culture continues to decline rapidly because of laws, policies, and programs that tend to strengthen the Regalian doctrine and integrate indigenous peoples into the majority society." (p.50).

Corntassel (2003) cited the report of Erica Irene-Daes, former chairperson and special rapporteur of the WGIP, pointing out that self-determination is the central tenet for indigenous peoples everywhere in the world today's primary symbol of their movements. They demand to address it squarely and insist that it is not negotiable. This statement relates to one of the significant challenges facing the indigenous elders and community in the Philippines. In the Philippines, recognition of the right to self-determination under the Indigenous Peoples Right Act (IPRA) is negated by the constitutional provision underscoring that indigenous cultural communities' rights are subject to national policies and development (Tauli-Corpus, 2018). The primary obligation of the IPRA is to protect and promote their cultural integrity, their right to own and develop ancestral lands and domains, and their right to free and prior informed consent (FPIC). The FPIC is a protection for indigenous communities. The government, multinational corporations, or any dominant entities must seek FPIC from the concerned indigenous peoples and communities before doing activities that may directly or indirectly affect their territories and everyday functions. However, implementing FPIC has been manipulated, and recognizing ancestral land and domains has been problematic. The situation resulted in conflicts and gross land rights violations (Studies on Indigenous Peoples in Cambodia, Indonesia, Vietnam, the Philippines, Malaysia, and Lao PDR, 2015).

Many changes have happened in the lives of the indigenous peoples, both in their communities and outside their domain. However, the roles of elders are still alive and given importance. In Cordillera, for instance, Solang (2010), in his message on the Tribal Filipino Week Elders and Youth Exchange, mentioned that activist elders and youth have been at the forefront of essential programs and campaigns of the progressive and militant Cordillera people's movement. The author highlighted the role of elders and youth in upholding original socio-political structures. He also mentioned that the leadership of elders brings survival and solidarity to the tribe due to their integrity. They also achieved genuine national democracy without expecting any reward in return.

It is, however, a reality that the responsibilities shouldered by indigenous elders are challenging tasks. They cannot avoid facing internal and external problems and challenges as they perform these roles. Biangalen-Magata et al., (2020) of the Tebtebba

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Foundation found that the indigenous people of the Philippines face several external challenges, even though there are laws and programs meant to protect and promote their indigenous knowledge systems and practices.

1. Land and territorial loss: The large-scale mining, putting up of mega-dams, and expansion of mono-crop plantations are significant reasons for displacement from their ancestral lands that weaken their resource management system.
2. Conflicting Policies and Programs: Even though the IPRA law has been in effect for over 20 years, it must provide legal security for recognizing their lands and territories. One example mentioned that hampers indigenous peoples is the Revised Forestry Code (PD 705). The Maternal, Newborn, and Child Health and Nutrition (MNCHN) program is another that invalidates their traditional knowledge. Although the intention is good, the strategies, according to the report, are not sensitive and appropriate to the context of the indigenous communities.
3. Imposition of "new" inappropriate programs and technology: The modern farming methods promoted to indigenous communities do not correspond to the communities' backward planting methods. Modern agriculture hampers the soil, water, and crops, while traditional care for the soil promotes agro-biodiversity.
4. Armed Conflict and Militarization: When people are caught between warring factions, it significantly affects and disrupts their daily lives due to curfews. It restricts their movements to look for food and work. It can also cause them to be displaced.

Some politicians are also easy to lose control of because they are opportunists or use their position to get better chances for themselves. Unfortunately, outside forces like the state, corporate forces, the military, and dominant groups disregard and undermine the authority of indigenous elders and governance (Cordillera Peoples Alliance and Asia Indigenous Peoples Pact, 2012). It made it hard for them to follow their customary laws, work as an indigenous institution, and use the indigenous knowledge they had had since the beginning of time.

Under this pressure of the imposition of government laws and policies infused into their traditional system, several issues to resolve further are likely to arise. External factors continue to violate their human rights: the government does not fully recognize indigenous elders, governance systems, and customary laws; indigenous institutions and processes have declined; and distorted the indigenous history. Not to mention the challenges on how the indigenous people's land security and survival are threatened more seriously due to globalization as it opens the few remaining areas of subsistence and shared control. Mindanao and Luzon, to estimate, still experience this history of social neglect, economic and cultural marginalization, and land deprivation as more settlers take over open areas.

The Mangyan Traditional Political System

There is a general assumption in the available literature that there are no clear, rigid political structures for the natives of Mindoro. However, Miyamoto (1988) observes that even if the Mangyan tribes manifested an unclear political system, they nonetheless bestowed reverence and respect on their elders. This instance proved the claim of Helbling and Schult (2004) that, for the Mangyan communities, the indigenous elders played a crucial role in their lives, especially in arbitrating between conflicts. These community elders are looked up to for being knowledgeable in their customary laws and leading the ritual performance of their habitual celebrations. They are also the primary point of contact for resolving problems and conflicts among the people. Domingo (2004), in his study, mentioned that leadership varies among the different Mangyan tribes. However, he also noticed the manifestation of the elders or a group of elders assuming leadership roles. The *kuyay* (older adults) among the Alangan tribe consider keeping peace and order in the community. They also functioned as the caretakers of the seeds for planting. They acted as priests for agricultural rituals and protectors against the social, political, and economic advantages of the Christians living in the lowland (Kikuchi, 1984). They also have the *puon*, an overall elder leader whose primary role is establishing social and economic reciprocity and a security system within the *gado* or local community (Domingo, 2004).

Kikuchi's (1984) study of the Batangan tribe discovered that, customarily, the oldest man in the community becomes their *da:naama*, or the caretaker of the settlement. The bases for choosing a chieftain were age, a pleasant personality, intelligence, and financial sufficiency, expecting him to bear the debts of his community members if they could not pay them. The author referred to the *da:naama*'s family as a "caretaker-centered kin group" because the Batangan tribe is entrusted to his family from generation to generation.

Although the Buhid group of Mangyans has the *fangayatan*, who is considered the household leader, the elders' roles, commonly called *gurangons*, are still prominent. They give the community moral leadership and a point of reference for its members. He acts as the arbiter in disputes and the magico-legal expert since they believe he has access to supernatural help (Javier, 1987).

The Hanunuo group, the most studied group of Mangyans, has no institutionalized or formal sociopolitical leader in this local community (Miyamoto, 1988). They solved conflicts among their family members. However, careful observation reveals that they seek out elders to ask their opinions if the problem can no longer be negotiated at the family level. Elders govern this group by

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advising and acting as judges when conflict arises. They are also trusted to provide punishments for the offenders. During rituals for the start of rice planting, the eldest person in the group, who could be male or female, spearheads the rites and is considered the magico-religious leader of the group. A council composed of the former members of the same neighboring settlements or rancherias takes responsibility for settling disputes (Lopez, 1976; Domingo, 2004).

There was no formal judicial and political system with complex structures among the Mangyans, as was common among all the highland groups in the Philippines (Miyamoto, 1988). However, the Mangyans show a keen interest in traditional litigation as a form of legal action when they commit an offense against their customary law or when conflict among members occurs. Miyamoto's observations show that this kind of activity is one of the things that keep their community alive. This law, known as *batas* to the Mangyan people, differs from how most conflicts are settled traditionally. *Batas* is a Tagalog word that means "manner," "moral," and "convention" and is related to social behavior or a norm. Contrarily, *batas* for Mangyans connotes "border" or "limit." The Mangyans' *batas* are their *ugali* (about personal habits or practices) and are related to social behavior, norms, or customs. The victim generally consults an elder who is well-versed in Mangyan law. The elder usually advises the victim to talk privately with the offender in pursuit of reconciliation. The elder becomes the consultant when asked by both parties. If both parties agree to reconciliation, then a resolution of the conflict is achieved. However, when the damage to the victim is deemed irreconcilable, the elder would advise the victim to escalate the matter to a judge or legal authority under the Mangyan Law.

From the information, it can be concluded that Mangyans maintain peace and order in their communities because they are peaceful, loving people. Wrongdoings can be settled peacefully among the community members with the help of their elders. Reconciliation is always the end goal of every discussion. Elders are generally knowledgeable of the Mangyan law. Due to their vast experiences, elders first solve conflicts within the community. Moreover, it can only be moved up to the legal authorities when the issue is difficult to settle. It is noticeable that the Mangyans honor and respect their elders' roles as advisers.

Also, from the account mentioned above, the conclusion is that indigenous elders are concerned about the future generations of the community's younger members. Thus, they involved themselves and took responsibility for influencing indigenous governance consciously. They are crucial in pursuing the indigenous people's struggle for self-determination, correcting backward anti-people ideas and agendas, and linking with the broader national struggle for freedom and democracy and the international movement for equality and solidarity (Solang, 2010). The only thing that this evidence demonstrates is that the local leaders still respect and have an impact on the elders.

It is essential to observe that the spirit of leadership among indigenous leaders can only ultimately progress by supporting the indigenous elders in the community. They show their self-determination and wisdom in their words and actions. Their sense of making a verdict and building relationships inside and outside the community is why they are always part of the decision-making process. The elders' indigenous knowledge is crucial in ensuring the continuity of indigenous culture as a virtual channel that enables indigenous communities to adapt to recent societal changes (Montillo-Burton, 2008).

CONCEPTUAL FRAMEWORK

This research will draw upon the tradition of indigenous wholistic theory, as the main goal is to bring out the voice of the indigenous elders and allow their narratives to speak for themselves. This method is the most relevant theory to consider when working with the indigenous knowledge of elders in a community. It reflects their worldviews connected to their mind, body, heart, and spirit. These four aspects are the very heart of this theory, which will help us with the analysis for understanding the leadership experiences of indigenous elders. Carey (2011) defined *indigenous knowledge* as a "natural science" that describes their way of thinking through a "culturally mediated lens based on participation with nature." Therefore, this interaction with the natural world provided a tool to make the research inclusive rather than an exclusive process (Carey, 2011). Through consciousness, Indigenous wholistic theory seeks connection, relationship, and balance (Laura & Heaney, 1990). This study would like to focus on enhancing indigenous knowledge as a tool in the present political system. Reflecting on the indigenous knowledge of leadership will help the present system acknowledge and accept that this group of people, as an integral part of society, has the right to self-determination, will enhance their cultural knowledge, and could be self-sustaining communities.

Using this theoretical framework will give this study an advantage and an opportunity to make sense of the elders' experiences in aboriginal society. Also, Battiste (2005) thought that an indigenous knowledge framework "creates a new balanced center and a fresh vantage point" when looking at the leadership experiences of indigenous elders rooted in showing how time-tested knowledge is used. UNESCO (Magni, 2017) believed that separating indigenous knowledge from its sociocultural context would render it meaningless and dangerous, potentially leading to misleading interpretations and misusing this knowledge. Guided by the framework, the result of this research can be used to guide the present system. Further practice lenses can be

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developed through a holistic evaluation to fill the gaps. They may apply at all levels in all aspects of leadership in a community, organization, or institution.

This framework is whole, ecological, cyclical, and relational (Absolon, 2010). The elder's life represents his being and exemplifies his mutual interconnections with each one in his surroundings: family, community, society, the environment, and the world. This framework proposes to acknowledge established indigenous knowledge and its anti-pioneering knowledge. Scholars writing about indigenous leadership, like Simpson & Turner (2008) and Fraser & Kenny (2012), argue that the best way to defeat the effects of colonization and oppression experienced by the indigenous community is by restoring and intensifying its traditional values and principles. Stories revealed an interconnection to understand the interrelationships between culture, context, and indigenous knowledge, according to the vast literature on indigenous peoples. Bishop (1996), an Indigenous researcher, emphasizes the importance of taking ownership of research on Indigenous peoples' cultural and sociological roots. He further claims that indigenizing the narratives will "correct the stereotyping and mythologizing of the native" (p. 528). As storytellers, indigenous peoples can give an accurate and honest account of their communities (Wolfgramm, Spiller, & Voyaguer, 2016).

As non-indigenous researchers trying to understand how indigenous people live and work, this framework will help us learn more about the real leadership experiences of Mangyan indigenous elders through the lens of indigenous knowledge. This research would also like to demonstrate how the indigenous knowledge of elders provides relevance and a reciprocal relationship to the present system of our government. Their contributions would empower their participation in local governance, and their assistance would be a factor in attaining mutual respect, peace, and cooperation to attain inclusive growth. Give due recognition to the elders' role in preserving indigenous knowledge and proving that their wisdom as leaders promotes flexibility and relevance over time.

If considered, it will help create an indigenous learning theory valid for leadership in the Philippine context.

RESEARCH METHODS

The goal of a qualitative research design for this study is to use an ethnography study method. This methodology is viewed as a tool that provides culturally appropriate, essential features to aid in the development of data collection. As Gephart (2004) argues, a qualitative method can provide complete, detailed descriptions of actual actions in real-life contexts that recover and preserve the actual meanings that actors ascribe to these actions and settings (p. 455). It also allows for the exploration of phenomena and interactions in order to reach findings that include thoughts, feelings, and beliefs (Corbin & Strauss, 2015).

Besides, Creswell (2007) suggests that a qualitative study makes the participants more receptive and comfortable with the investigative process since it allows them to speak according to their available knowledge based on their experiences and oral histories. Similarly, he notes that in qualitative research, the researcher constructs a multifaceted and comprehensive picture, performs word analysis, reports in-depth accounts from informants, and conducts the research in a natural environment. In the interest of revealing the indigenous knowledge of the indigenous elders, they will be comfortable interacting with the investigative process because the answers are based on their lived experiences, history, and cultural knowledge. Furthermore, Smith (1999) suggests that using the qualitative research methodology to collect information provides a model of responsible research by respecting appropriate cultural conduct in a domestic setting. It is possible to facilitate relevant research that addresses change and benefits among indigenous communities.

An overarching method of ethnography will also be employed in the study. Fetterman (1998) defines *ethnography* as "the art and science of describing a group or culture." It is a standard method used in cultural anthropology that involves direct observation of the culture of others by living among the individuals in a specific community or setting to record lived experiences from the real world (Denzin, 1997). For ethnographic design, participants' perspectives and interpretations allow clear voices to be heard (Watson-Gegeo, 1988). This procedure makes way for a more inclusive process. As the ethnographic design requires immersion in the community, it is a better opportunity for us to interact with the participants and establish a relationship that will guide the researchers in appropriate data collection.

Participants of the Study

The subject of this research is the three Mangyan tribes in the southern part of Mindoro. They called themselves the members of HAGURA, which stands for the tribes of Hanunuo, Gubatnon, and Rataganon. They are living in the vicinity of Magsaysay, San Jose, in Occidental Mindoro. This group was organized by the council of elders and formally recognized by the local government on July 15, 2021. The consolidation of the three Mangyan groups aims to:

1. Strengthen the interrelationship among the tribes.
2. Protect their ancestral domain.
3. Relive and keep hold of their traditional culture.
4. The government has recognized the need for improvement in their situation.

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5. Maintain a peaceful community among the members of the three groups.

The tribes elected an elder council to represent them and advise them on how to protect and fight for their rights in protecting their indigenous lands.

The Hanunuo word signifies all pagan mountain people. Conklin (1949) also referred to them as "tawu" (the Tagalog equivalent of "tao"), the Hanunuo word for man, person, and human being. The municipalities of Mansalay, Bulalacao, and some parts of San Jose, the capital of Occidental Mindoro, govern their territory. Many accounts of the Hanunuo tribe have been written, besides those of the other Mangyan tribes. They also have their form of writing, called the Surat Mangyan. This syllabic writing system is still being taught to the young Hanunuos to preserve it.

Most of the Ratagnons live in Magsaysay, Occidental Mindoro. They occupy the southernmost tip of the island province, close to the coast facing the Sulu Sea. Like the Bangon Mangyan, the Ratagnons have a unique language similar to the Cuyunon dialect spoken by the people who live on Cuyo Island in the northern part of Palawan. They also wear accessories made of beads and copper wire.

On the other hand, there needs to be more literature to account for the Gubatnon group. They are not included in the original Mangyan tribes (Iraya, Alangan, Batangan, Tadyawan, Buhid, Tao Buid, Hanunoo, and Ratagnon). They live south of the Philippines' island of Mindoro, just west of the Hanunoo Mangyan. They live in tiny villages of thatched huts in the island's interior, and a few live near towns and earn a living by making charcoal from wood. However, a few pieces of literature conclude that they came from the Hanunuo clan and are the bravest among the groups of Mangyans.

These three particular tribes are situated in the different Magsaysay, San Jose barangays in Occidental Mindoro. These groups of Indigenous people are a partner community in the community extension services of the two universities, the Divine Word College of San Jose (DWCSJ) and the Far Eastern University (FEU). The participants will comprise the indigenous community elders who are members of the Hagura organization. The identified community elders who become participants in the study are:

1. Sitio Emok, Bgy. Purnaga, Magsaysay,
2. Sitio Magarang, Bgy. Paclolo, Magsaysay
3. Sitio Malutok, Bgy. Paclolo, Magsaysay
4. Sitio Emok, Bgy. Purnaga, Magsaysay
5. Sitio Bamban, Bgy. Nicolas, Magsaysay
6. Sitio Canabang, Paclolo, Magsaysay,

The elders will be the critical informants, as they will provide specialist knowledge and have the expertise to identify the pieces of information needed in the research. They were specifically chosen to provide generalized knowledge to strengthen and support the study's claims.

Instruments Used

This study sought to generate insight from the participants' shared indigenous knowledge about their experiences as they participated in the governance practices in the community. We will focus mainly on ethnographic research's three data-gathering techniques: interviews, participant observation, and focus group discussion. A semi-structured interview to get the participants' insights will guide the data-gathering strategies. Semi-structured interviews will allow the participants to explain their answers, give examples, and describe their experiences better. The interview will emphasize the research intent of understanding how people construct meaning to produce order in their everyday lives rather than a record of what they do (Fontana & Frey, 2000). We will employ an open-ended interviewing technique, observations, field notes, anecdotal records, and document analysis as the data collection procedure to gain insight and understanding of this study. The on-site interviewing conversations will be tape-recorded with the participants' permission.

The focus group discussion will also utilize discussion focused on a particular topic. As a qualitative research method, the objective of the FGD is not to quantify but to track down all possible responses. Thus, participants in the FGD will help validate their responses. Participant observation is essential in the study for systematically recording participants' daily lives in the community. This way, cultural patterns in the area will be documented through direct observation.

Data Collection Procedure /Field Work Technique

To get the information they needed for this study, the researchers used ethnographic methods and traditional ways of gathering data, including:

1. File the requirements with the National Commission on Indigenous Peoples (NCIP) NCR.
2. After the application is accepted, we will work with the NCIP Provincial Office in San Jose, Oriental Mindoro, to ensure the process goes smoothly.

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3. Meet the staff of NCIP Occidental Mindoro for the pre-IKSP conference and orientation of the proposed study, requirements for the validation process, and agreement on the cost of the process.
4. Visit the sites to ask permission from the elders to conduct the research.
5. Prepare the research instruments needed for the study: (a) semi-structured questions; (b) interview schedules; (c) the FGD guide; (d) the field notes guide; (e) a list of documents to be reviewed and analyzed;
6. Seek the help of an expert who has lived among and written extensively about indigenous peoples, notably the Mangyan tribes, to validate the guide questions.
7. Conduct field work and collect the needed data and information.
8. Transcribe the data and field notes.

RESULTS AND DISCUSSION

The common name for these tribes was Mangyan, although they comprised eight sub-groups that differed enormously in language and culture. The distinction between tribes was defined by studies based on their speech and cultural demeanor. Unlike the other groups of Mangyan, which live in very remote mountains and valleys, the HAGURA (Hanunuo, Gubatnon, and Ratagnon) communities of Occidental Mindoro inhabit a dwelling not so far from the lowland population and have constant contact with people to trade and get a proper education. These groups live in different sitios near Magsaysay, around the municipality of San Jose Occidental, Mindoro.

Customary Structure of Leadership

The figure below best describes the Hagura structure of leadership when asked to draw their political design. The indigenous peoples give much more regard to their leadership framework than the government's authority. There is a strong manifestation that self-governance is a deeply seated part of their communal lives and is perceived by the elders of the Hanunuo, Gurangon, and Ratagnon Mangyan tribes. They describe how their indigenous political structure differs from the government-introduced concept of a governance hierarchy.

Miyamoto (1988) stated that there was no formal socio-political leader in the Hanunuo Mangyan community and that people were of the same social rank. However, this study showed that the Mangyans had local group elders whom they all respected and considered leaders. History written among them solidified the culture of visiting their community elders when the conflict between individuals became out of their hands to solve. They sought the opinion of their elders and followed their wisdom. The Hagura communities follow a similar tradition in carrying out this action.

As observed, the younger generation of hagura elders knows their age, but the older ones do not know how old they are. It is a typical reality among the more senior members of the tribes, as they do not customarily count their ages. The hagura elders were notable for their age's nonconformity regarding eldership. Florencio Liboro, a Hanunuo elder, is the youngest at forty (40) and is considered a wise older adult in the community. Manuel Yawid, known as Bapa Yawid, is the oldest of the elders and is seventy-three (73) years old. The equivalent term for an elder in the tribes' local language is Gurangon. Becoming an elder is not gender-specific in the Mangyan culture, but notably, most of the elders in the community are men.

Although there is no written evidence in the hierarchy of their political structure, to the Mangyan tribes, their gurangons are their communities' highest leaders or heads. Buendia et al. (2006) say that the unclear way the Mangyan tribes run their government showed through their respect and loyalty to their elders.

The Mangyan political structure can describe as "traditional." The Cordillera Peoples' Alliance (2012) describes traditional or self-governance as "operating in the traditional structures of consensus-based decision-making through kin-based social organizations and networks linked at varying levels, generalized reciprocity in goods and services for mutual support and cooperation, and persisting practices and rituals that sustain harmony and ethnic identity." The Hagura Mangyan has high regard for its form of leadership. It manifested itself when they illustrated the structure of their political hierarchy. Sitio leaders are composed of Mangyan leaders. Sitio leaders make decisions based on the consensus of the Hagura elders. The sitio leaders and elders of the three communities are indigenous members of their tribes.

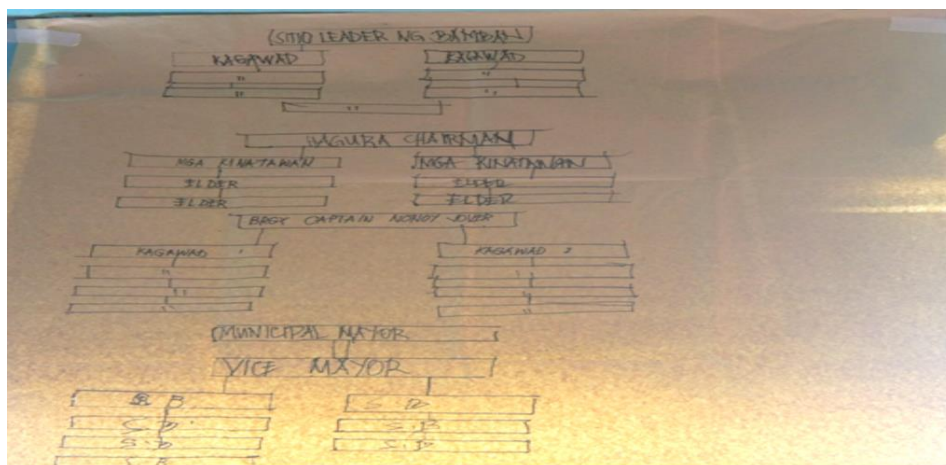


Figure 1. Political Structure of the Hagura Mangyan Leadership

Also, the three communities show how indigenous people highly value their elders, and they even have an influence on their local leaders. Leadership among the Mangyan people only sometimes implies being part of a political clan or hierarchy. Anyone can be a leader by establishing trust and confidence in the people. Almost all the hagura elders in the study became sitio leaders before being chosen as gurangons. Their leadership and service are not confined only to their clan and the general community. Their track record shows that the neighborhood respected and trusted their leadership. Tatay Artemio, Florencio Liboro, Tony Ignacio, and Toknoy Rivera served two consecutive terms (three years per term). While the oldest gurangons (in age) must clearly remember when they started to become heads in their respective places. As an example, Paeng Maravilla began in 1994 as a sitio leader. However, earlier than that, he was once a barangay tanod. Aside from being an elder for ten years, he was also the leader of the farmers' group in the barangay for several years until today. Manuel Yawid had been the very first sitio leader of the Mangyan community. His reign ended in the early 1980s, and he became an active leader of different organizations for a more significant cause for their tribe. One was the leader of Samahang Pantribu sa Kanlurang Mindoro (SAPAKAMI).

Meanwhile, Ernesto Ayagan never became a sitio leader but had very long years of experience as a sitio kagawad for nine years. He also became a barangay tanod for nine years. Distinct from the rest, Ed Liwagan from the Gubatnon tribe had no experience being a sitio leader. Choosing him as a gurangon was historical. He gained the people's trust after volunteering to be a community organizer in rebuilding their small community following a conflict between professional settlers and military personnel in their area in 1995. For eighteen years, he was the legal office's representative of the indigenous peoples in the Philippines.

The hagura communities still practice the indigenous political culture grounded on kinship and affinity as part of their political ideology. For example, Manuel Orosa Jr. portrayed his father, Manuel Orosa Sr., as an elder due to his father's advanced age and illness. Similarly, Aparito Pugoso was also replaced by his brother-in-law. Ed Liwagan had the same faith when the former gurangon of their tribe asked him to replace the old, sickly elder. Also, Florencio Liboro Jr. stepped in when his father, Florencio Liboro, Sr., a contemporary of Manuel Orosa Sr., became sickly and passed away in 2020. This scheme is the usual process by which their tribes choose a replacement for the position. It has been a long-time practice in the communities.

The communities' reliance on the respondents as leaders was also reflected in their endorsement of them to become their municipality's representatives. The Indigenous Peoples Mandatory Representative per municipality (IPMR) is a program under the IPRA law. Almost half of the respondents became "konsehal ng bayan" or the IPMR after serving as sitio leaders. The IPMR, under NCIP Administrative Order No. 1, series of 2009, stated guidelines for selecting indigenous representatives. The natives of the specific territory of any provinces, cities, municipalities, and barangays are given the right to participate in the selection process for IPMR through their customary laws. Maintaining peace and order in their community is one of the IPMRs' mandated duties and responsibilities. The IPMR status needs to be defined in the blueprint of the indigenous political structure. It implies that they are under the jurisdiction of their local government.

"Bilang IPMR, pag may pinagawa ang barangay sa mga sitio...pag pinaikot ka, iikutin mo yun. Pag may mga problema ang sitio sa barangay, lalapit sa iyo, ikaw ang...magsasabi dun sa barangay" ("As an IPMR, the barangay designates tasks for us to follow. If the sitios of the barangay encounter problems, people will approach you about their concerns, and you have to report it to the barangay").

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"Bilang IPMR, nakikipag-ugnayan din kami sa National Commission on Indigenous Peoples (NCIP) na nasa San Jose para sa kapakinabangan ng mga proyektong dinadala dito sa amin" ("As an IPMR, we also interact with the National Commission on Indigenous Peoples in San Jose for the benefit of the projects it brings to us").

IPMR representatives, based on the law, are members of the Local Legislative Council and policy-making bodies. The representatives directly report to the barangay, local government, and NCIP. Ideally, the state has given the IPMR to the indigenous peoples for full participation and decision-making in matters they feel will affect their activities and the right to practice their indigenous leadership. In reality, respondents revealed that their duty is bound only to the particular case or concern of the community, as determined by the local government through their respective barangays. As representatives of the sitio, IPMRs are part of the barangay operation. On the other hand, the elders' scope of concern is their specific community. If the affairs of barangays need the wisdom of the council of elders, they are invited to meet and come up with resolutions.

The hagura elders' political experience is limited to what the local government has asked them to do in their communities. According to Buendia et al. (2006), this scenario is supported by several pieces of literature about the Mangyan leadership exhibiting powerlessness due to an unclear form of the political system. Furthermore, indigenous peoples only entrust their faith to their elders when making community decisions.

The Tasks of Elders in The Changing Indigenous Political Structure

For the hagura communities, the guidance of their community elders is a significant factor in sustaining order in their society. It can be noted that because of their experience as IPMRs, it became an important consideration for the communities to honor them in the highest leadership position as community elders. As gurangons, they have more responsibilities because the natives look to them for advice and trust them to solve problems in the community. This responsibility is only distinct to the elders of the community. This obligation was separate from their job as IMPRs, where the government used them as community leaders.

Becoming arbitrators and giving solutions to internal and external conflicts is one of the distinct tasks of the hagura elders. Mild cases in the communities of the three tribes are first settled among themselves by the concerned parties. If they disagree, they will bring the problem to the sitio leaders. Part of the mandate of the sitio leaders is to conciliate the conflict between the members. When the conflict becomes unmanageable, they refer the discord to the attention of the gurangons. Moreover, it is worth noting that the duties of the gurangons are not restricted only to their own community's issues. They are also getting invitations to settle disputes among neighboring indigenous communities.

During the discussion, the elders mentioned holding regular meetings as a part of their leadership tradition. They usually meet at the "Bahay Tirigsunan" to discuss community concerns and issues. Regular meetings are essential to them because they become updated on the affairs of the three tribes and can exchange wisdom and share reflections, experiences, and views on resolving conflicts that affect their livelihood and communal affairs.

The primary concern the elders of the three communities administer is the dispute over the presence of the damuong (Tagalog people) in their territorial domain. Respondents generally call the Tagalog people and other settlers "damuong" or "tiga-baba" to separate them or to distinguish their identity from theirs. Gurangon Tony Ignacio lamented how these strangers are always part of dealing with problems in their community. "Nakapaloob palagi sa usaping lupain ang mga tagalog. Hindi naman namin sila pinapaalis. Pero sila ay nasa loob ng lupaing ninuno" ("The damuongs are always tied up with our struggle to the ancestral land. We do not ask them to leave, but they are inside our ancestral domain"). Paeng Maravilla added, "ang aming lupain ay pinasok na ng mga tiga-baba" ("The lowlanders already invade our land").

Since the beginning of time, the Mangyan tribes and the lowlanders of Mindoro have been at odds. It was an enduring effect of how Mangyan people were discriminated against and victimized by the damuong through unfair labor contracts, ulterior debts, and successfully displacing them from their native lands. Damuongs are their offenders these days, according to the Mangyan elders.

Nevertheless, unlike their ancestors' retreat and flee behavior in solving conflicts with the Tagalogs. Even Visayans, the present-day Mangyan communities, through the wisdom of their elders, have learned how to confront their complicated relationship with the lowlanders bravely. "Kailangang malaman at igalang ang side ng bawat isa," Gurangon Tony emphasized. "Dapat may pag-uusap" ("It is important to respect each other. There should be a dialogue"). "The Indigenous Peoples Rights Act (IPRA) protects and empowers us as indigenous peoples." "Kaya hindi dapat mawalan ng lupain ang mga katutubo" ("Part of the mandate of IPRA is to protect and take care of our ancestral domain. We do not want to lose our lands"), Gurangon Toknoy added.

In the old days, elders could not meddle in disputes between their people and the lowlanders about land claims. The reason must be more knowledge of asserting their rights to their ancestral land. However, the indigenous peoples' rights declaration came to life with growing international concern about protecting this vulnerable sector of society in recent years. The 1987 constitution established indigenous communities' rights to their ancestral lands in the Philippines. The passage of IPRA

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legislation and the establishment of NCIP cemented the use of legal and policy instruments to protect intellectual property rights to ancestral domains.

Sadly, the reality is that many of the indigenous peoples, including their community leaders, still need to gain adequate knowledge about their rights as stated in the state laws. The study revealed that they need help expressing and explaining terms referring to laws, ordinances, and some political terms relating to indigenous rights. Some switched terms into their native language to express what they meant. Ed Liwagan, among the hagura elders, had the most extensive political experience due to his long experience as an indigenous representative in the legal office. He professed that some indigenous leaders must learn their duty and function in the indigenous political system. Some elders need to understand what the IPRA law states fully. "Kaya dapat, bigyan pa ng malay o kamalayan ang ibang mga leader namin, para ibig sabihin, alam nila ang gawain nila pagdating sa komunidad" ("It is critical that indigenous elders be properly educated so that we know what to do in the community"). Likewise, Aparito Pugoso suggested strengthening the knowledge of the communities about the IPRA law and implementing it accordingly. They pointed out that there are specific laws to follow, including the guide on defending their ancestral land from outsiders such as the damuongs. Chapter 8 of the IPRA law outlines guiding principles for identifying and delineating IP ancestral domains.

In general, the respondents acknowledged that their experience as sitio leaders and IPMRs helped them understand the concept of land and territories, which are vital to their collective identity. Even though they tried to settle land disputes, especially with outsiders, their own people turned against them. "Minsan, kaming mga gurangon ay napapagbintangan din ng mga tiga "taas" (tribe) na asset ng mga tiga "baba" (damuong) pagdating sa pag-uusap tungkol sa lupa" ("Some members of our communities even accused us of helping the lowlanders when it comes to land disputes"), Gurangon Ed lamented. For the elders, fighting over ancestral land is a collective responsibility, not just a personal conflict. For Bapa Mauel Yawid. "Ito ay lupain na minana namin sa aming ninuno. Sa samahan iyan. Kaya dapat buong pamayanan ang magresolba" ("This land was a gift from our ancestors. This belongs to us. It must be resolved by the community"). The tribes' experience has shown that even if the dispute with the Tagalogs is settled in the barangay, the "Christians" (Tagalogs) will commit the same offense. The community never gets discouraged from filing complaints against them. "Hindi kami titigil. Para magkaroon ng parusa iyong mga tiga-baba". ("We will not cease to pursue our rights. The lowlanders must face the consequence").

Notably, the land dispute is not only a controversy between them and the damuongs. This dispute is also of legitimate interest within the hagura communities. To the hagura elders, this issue is crucial because of their attachment to their ancestral lands, and it is part of their long-time struggle for self-determination. Kinship feuds over their properties are common among them. The most pronounced internal issues are the selling and pawning of land by the members of the communities. However, this controversy is not unique to the Mangyan communities. Some other IPs in the country have a similar condition. For instance, in Mindanao, the Mansaka tribe sold their lands for a low price (Buendia et al., 2006).

In 2010, the hagura communities, under the late president Benigno Aquino Jr., were awarded the certificate of the ancestral domain title (CADT) through the mutual assistance of the National Commission on Indigenous Peoples and the Franciscan Missionaries of Mary, who processed the claims (Doyo, 2021). The IPRA Law (<http://ncipcar.ph/images/pdfs/IPRA.pdf>, n.d.) defines the ancestral domain as "a title formally recognizing the rights of possession and ownership of ICCs/IPs over their ancestral domains identified and delineated under this law" (p. 3).

This was correlated with the narratives of the respondents about the portions of land that were distributed to the communities. It was on December 15, 2010, when the late president Benigno Aquino Jr. awarded the Certificate of Ancestral Domain Title (CADT) to the communities of Hanunuo, Gubatnon and Ratagnon. However, certain policies are attached to the allocation of land. Ed Liwagan recounted, "May mga polisiyang nakapaloob sa lupa. Sa loob ng isa o dalawang taon ay dapat makultiba mo ito. Kung hindi, ang binigyan ng lupa ay mawawalan ng karapatan dito at paalisin. Wala na siyang babalikang lupa. Ibibigay ito sa ibang nangangailangan dahil di pinaunlad ng naunang pinagbigyan" ("There were policies attached to the awarding of lands. It must have been in production for one or two years. If not, then the right to that piece of land is transferred to another person because the previous owner did not cultivate the land"). "Ang nagiging usapin sa tribo ay naiibenta at naisangla ang lupa," Tony Ignacio added. "Kaya bawat assembly ay ipinapaliwanag na bawal o hindi ito puwede" ("The issue with the tribes is that members sell or pawn their lands. We always explain during assemblies that those are prohibited by the IPRA law").

Another common problem the elders resolve in their respective communities is a family dispute. As unresolved cases arise between families, family disputes cause disorder, resulting in a reluctance to cooperate with the people involved in the community. In this kind of conflict, giving solutions is one of the major tasks of the hagura elders. Creating agreements on what is and is not an acceptable pattern of behavior among members of the opposing parties is part of how they interact with others. These norms are part of their devised law system, also known as their customary laws. According to the definition of IPRA, "customary law" is "a body of written and unwritten rules, usages, customs, and practices that have been traditionally and continually recognized, accepted, and observed by respective ICCs and IPs" (p. 3).

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The Mangyan customary law is integrated and manifested in the hagura value and belief system. Manifested among the hagura elders is their appreciation of their traditional oral customary laws. As much as possible, they would like to maintain peace and harmony when dealing with conflicts among family members and clans. They typically investigate problems based on the previously created context. The elders allow the aggressor to choose where the trial will be held. They often asked the accused, "ayos ng tribo o ayos ng baba?" (Tribe settlement or barangay settlement?). "Ayos ng tribo" means the community's elders will meddle and determine the proper resolution to the dispute. If the accused chooses "Ayos ng baba," the case will be filed with the office of the sitio leader to process the disagreement.

The discussion revealed that elders have different approaches to settling problems. Based on the experience of Gurangon Paeng Maravilla, a Hanunuo elder, if families are involved in the conflict, they may want to avoid seeing each other eye-to-eye. He will personally visit the two ailing parties separately and explore the veracity of the disagreement. He will advise them to meet with him to discuss the problem. He assures both sides that he will initiate the discussion to resolve the dispute. Primarily, both parties will write a letter stating their concerns before a confrontation is set. Generally, this approach is the elders' most common strategy for solving community conflicts.

Aparito Pugoso of the Ratagnon tribe used an unconventional method to solve problems in his community. According to him, five members are in the council of elders in their settlement. He was chosen as the chief elder. When there is a conflict among the community members, He assigns the four elders to be the "attorneys" or defenders of the ailing parties. They will present evidence to support each side's position. "Tinitingnan, tinitimbang ko ang katwiran ng magkabilang panig base sa pahayag ng kani-kanilang tagapagtanggol" ("I make sure to see all sides and weigh the gravity of the offense based on their defenders' narratives"), he explained.

Although elders differ in their techniques to settle misunderstandings, the community still has confidence in their elders' judgment abilities to serve as mediators. A mediator in the Mangyan customary tradition does not equate to being a "judge" or "prosecutor" who gives a verdict based on his judgment. Being a mediator as part of their customary law allows the elders to guide the opposing parties to discuss the problem until they agree to settle it. As Ed Liwagan stressed, "Wala po tayong pinapanigan, kundi tumitingin po tayo sa kanilang katwiran" ("We are not in favor of or against anyone. We only examine their arguments"). They called this the "hatol ng tribo." The elders agreed that they should listen to the stories of both sides before coming to a decision. Their judgment served as the decision of the whole community.

In settling disputes, the three communities shared the same beliefs and values, which, according to them, were part of the customary law created by their forefathers. The communities have identified a meeting place they called "Bahay-tirigsunan" to hold the hearings of the civil cases brought to their attention. Oral negotiations are the only way for the Mangyan communities to resolve misunderstandings. Elders mediate to come to a compromise, which is one of Mangyan society's principal values.

Every offense has a corresponding resolution. Commonly, elders can settle disputes by suggesting ways to compromise, which both parties will discuss and acknowledge. Part of the negotiation is reasonable compensation for the offended party. "Pinagdedesisyunan naming mga gurangon kung kakayanin ba ng nagkasala ang kanyang kaparusahan" ("as elders, we decide whether the offenders will be capable of the punishment"), Tony Ignacio pronounced as part of their decision-making.

The hagura elders emphasized that what they asked of the offenders was not punishment, but rather a request for the transgressors to complete as a sign of repentance and to reach an amicable settlement. The compensation depends on the weight of the offense committed. It is also based on how many people are offended or victimized by the perpetrators. Florencio Liboro illustrated how settlement works in the community. "Kung ano ang mapagkasunduan ng halaga ng pagkakasala. Halimbawa, sabihin naming limampung kilong bigas at limampung kilong baboy para sa halaga ng pagkakasala. Pagkakasunduan ito ng dalawang panig." "Kung ilang katutubo ang kinakaharap ng nagkasala, paghahati-hati nila ito bilang kabayaran sa kanila" ("Whatever will be decided as payment for the offense. For example, it could be 50 kilos of meat or 50 kilos of rice. Both sides will have to agree about it. Anyone involved in the case will be given a fair share"), Tony Ignacio added.

Assume that, like the slaughtering of an animal, the proposed settlement is unsuccessful during the first meeting of the two ailing parties. In that case, the elders will schedule a second session for resolution. They will request the presence of the other hagura elders, seeking help to sort out the conflict. If the rivals do not compromise, the last recourse is to bring the dispute to the sitio leader. Even if the case is brought to the attention of the local barangay leaders, it is an experience they are still requested to join and hear the exchange of arguments. They are also asked to propose practical advice to settle the differences between the rivals. The hagura elders must strengthen peace and harmony in their communities and establish a civil relationship with the damuongs living in their ancestral domain.

As time passed, the elders admitted that they had decreasing influence over the community regarding economic and political decision-making rooted in their customary ideology. They observed that the members gradually undermined their active participation in the political affairs of the community. Unlike the Mandaya indigenous peoples in Davao, where the government

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system has little effect on their customary practices (Domingo, 2004), the state-dominated system significantly affects the indigenous leadership of the Mangyan elders. Artemio Inano, for instance, noticed that in Sitio Bamban, people no longer rely on elders' wisdom in managing conflicts. "Kung ano ang napagdesisyunan ng mga sitio lider, yun na lang. Hindi na dinadaan sa mga gurangon" ("Whatever is decided by the sitio leaders, so be it. They will not consult the elders anymore"). He further disclosed that their voice was outnumbered even in decision-making by the local leaders in the sitio. This situation made him decide to lay low from his position as gurangon of Sitio Bamban.

Literature established that Mangyan elders had both internal and external influence in the past. It is multifaceted. They were the most trustworthy to listen, mediate, and settle disputes in the community and with the neighboring tribes. Even though most hagura elders believed that their values and traditional knowledge were gradually becoming obsolete in modern times, they were not alone. When asked if they are still consulted about sitio matters, Ernesto Ayagan quickly responded, "Bihira na. Kasi may nanunungkulan din sa sitio. Pag di nila kaya (ang problema), pumupunta sila dun. Andito lang ako. Puwede ring magtanong kung kailangan" ("This is extremely uncommon because there are also sitio leaders. If the members cannot settle their own disputes, they will go to the sitio leaders. I am just here. They can approach me anytime").

State Imposition and Its Effect on The Elders' Leadership in The Community

Formal versus the traditional system of leadership

Surprisingly, the Hagura elders have a favorable view of applying state law to their traditional system of governance. Integrating the hagura council of elders into the organizational structure of their respective barangay local government unit is a development. They see this progress as a way for community elders to showcase their wisdom and practice their indigenous knowledge in leadership rather than as a way to compete with state law. The national government's plan also considered their pride in their native culture and the freedom to follow their laws.

The hagura elders demonstrated their acceptance of the government's authority over their indigenous governance practices. They acknowledged the convergence of the formal system of governance with their indigenous system because it promotes harmonious relationships among indigenous peoples and the lowlanders living together in the community. The council of elders and the sitio officials work together to help settle conflicts peacefully. This picture keeps cases from worsening and sending more people to the municipal office.

The hagura elders respect the authority of the barangay leaders and the sitio leaders. They are amenable and accept the reality that they also need the support of formal leaders. Their duty and responsibility as community elders in the present condition are more systematic, as they are under what is stated in the IPRA law. "Ang pagkilos namin bilang gurangon ay naaayon sa batas IPRA," Tony Ignacio said. "Hangga't walang isinasangguni sa amin ay ayaw naming pakialaman ang kanilang karapatang-sibil sa pamayanan" ("We act in accordance with the IPRA laws. Until members of the community approach us to ask for our help, we do not interfere with their civil rights").

However, like the other IPs in the country, the hagura elders did not deny that the Mangyan communities are also experiencing conflicts between implementing their customary law and state law. For one, there is no fixed tenure of leadership in indigenous governance. Hagura elders are only replaced if they voluntarily retire due to old age, sickness, or personal or family matters that could interfere with their service to the community. This Practice is contrary to the state system of governance, where the sitio leaders (composed of Mangyan leaders) are replaced after their term of office and can only still serve if the people approve of electing them to rule over the community.

Also revealed in the interview is how the assimilation of the formal leadership structure affected the local kin system and paved the way for a conflict in indigenous political culture. Traditionally, the members of the community are the ones who choose their leaders. However, recently, the barangay chairman appointed the new sitio leader among the Hanunuo group in Sitio Canabang, Barangay Paololo, without consultation with the elders or the members. The barangay chairs of the barangays where the hagura communities live are all non-indigenous. However, the sitio leaders among the indigenous communities are also IPs. It was acceptable in their culture.

In a strange twist, the person who took over was not a member of the leader's family or related to them by blood. As narrated by Gurangon Tony Ignacio, the people elected the former leader. "Dapat ay nagbotohan dahil tradisyon iyon sa amin na kami ang mamimili ng aming pinuno" ("There should be an election because that is part of our tradition"), he exclaimed. This instance of meddling by the barangay captain is a manifestation of the powerful dynamism of the formal leaders rather than the elected indigenous representatives of the sitio. It is also an indication that some local government politics, in one way or another, challenge the traditional political system of the Hagura communities. The IPRA clearly states that the government recognizes the inherent right of IPs to self-governance (Chapter IV, Section 13) and actualizes matters relating to their internal and local affairs. Interference in their political affairs is a blatant indication that, despite remaining in place, their traditional leadership structure is gradually deteriorating due to these circumstances.

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Participation and Decision-Making

The hagura elders commonly adhere to inclusive, participatory, and consensus decision-making on meeting conflict resolutions. However, because of modern-day conflicts, particularly with outsiders, the elders only have limited knowledge of how to compromise the issues. Hence, traditional legal systems can no longer deal with and resolve internal conflicts. As a result, the elders have only one option, to let the community members choose where they want to seek assistance. Most members chose to settle the conflict through the barangay. This situation also caused conflict with their customary laws, which are no longer used. Moreover, the elders feared that the young generation of indigenous leaders would soon forget their traditional judiciary system. "Kaya po madalang na ang nag-papaayos ng problema sa tribo dahil may kabigatan din po ang parusa. Laging may katapat na kabayaran ang nagawang pagkakamali. Kung sa baba, pasensya lang. Sorry lang. Kamayan lang. Huwag na lang uulitin" ("There is little settlement in the tribe due to the harsh punishment. There is always compensation for every mistake committed. Unlike when bringing the case to the sitio leaders, shaking hands and apologizing is enough, with the promise not to do it again").

Furthermore, the elders agreed that their community has a distinct method of resolving disputes that differs from the application of modern judicial laws. To them, the customary system of law is a gift that they inherited from their great ancestors, enabling them to exercise their wisdom to rule and govern. Gurangon Florencio argued, "Yung sa tradisyunal, walang pwedeng magsinungaling. Eh, sa batas natin ngayon, kung walang testigos, pwede ako magsinungaling. Ay pano yung totoo? Talo pa rin sya. Para sa aming mga gurangon, mas maganda kasi hindi ka pwede magsinungaling. Hindi mo na kailangan yung tulong ng iba kasi. Ay sa batas natin ngayon, kahit ako magsinungaling basta ako'y may testigos, pwede kong patunayan kahit yung hindi totoo" ("According to our traditional laws, you cannot change the truth. In our judicial system now, you can easily tell a lie, especially if you have no witness. We would like our customary laws because you do not need the help of others because you are telling the truth. Unlike under the rule of law, where you can be acquitted even if you are lying, provided that you have witnesses to defend you").

The gurangons further hoped they could still preserve their customary laws because, according to them, this is the core of their identity as a group. To them, customary laws and their continued Practice of them in their settlement are vital elements in the preservation of their indigenous knowledge and their existence. They assumed that as elders of their respective communities, it was their great responsibility to ensure that it was handed down to the next generation of elders.

Unregulated Forest Resource Utilization

The elders agreed with the state laws concerning the protection of natural resources. However, while its primary goal is to guard and preserve the earth's resources, it also raised concern for IPs. Hagura elders indicated an adverse reaction to the Department of Energy and Natural Resources (DENR) implementing rules and regulations. Executive Order Number 277, Section 68 requires legal documents or licenses on the cutting, gathering, and collecting of timber or other forest products. ("Executive Order No. 277, S. 1987 | GOVPH," 1987). They are dependent on their lands. To the Mangyan elders, they nurtured the land and the forest for generations because it reflects their existence. While the agency must implement the law, they asked the government to give them leniency over this matter since they considered the forest their traditional living space. Centuries ago, they used logs for housing, firewood, and other personal uses. "We only get what we need. We also follow the DENR mandate to plant and replace our cut trees. Still, we are getting arrested and punished."

They were also aware of strangers exploiting their forest and other natural resources. "We are the true defender of nature." Gurangon Totong exclaimed. They agree that they ensure that they have indigenous forest management, which was transferred to them by their forefathers. They guarantee to protect their territories by planting trees to maintain a growing natural forest protection.

Additionally, shifting cultivation is still evident among Hagura Indigenous peoples. Due to restrictive state policies, the most common traditional livelihood practice has come under increasing pressure from the Hagura leaders. Many years ago, the government devised policies and laws to eliminate shifting cultivation, deeming it inefficient and harmful to the ecosystem. They were concerned that continuing their traditional way of life would force them to cultivate the available land intensively, limiting their output. According to the government, shifting cultivation contributes to forest degradation, damages water sources, and causes the earth's rising temperature. However, no concrete evidence or at least a very minimal effect is shown among recent studies about traditional land cultivation.

Younger gurangons, on the other hand, demonstrated a welcoming concept of modern land cultivation. For instance, Gurangon Ed concluded that the Gubatnon community was already acculturated to modernized farming. Through the Department of Agriculture, the government supports them with different equipment for better farming. However, Gurangon Florencio of the Hanunuo tribe disputed this idea, asserting that swidden farming is a traditional sacred practice part of the Mangyan indigenous peoples' culture. Bapa Yawid, the oldest among the elders, supported that "kaingin" (slash and burn) was a foundation for the adaptive system of their past generation.

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The Hagura elders further unanimously agreed that the IPRA law respects and acknowledges their customary laws as well as their rights as indigenous people. But even with the existence of the law, they still believed that the law did not guarantee legal security for the recognition of their lands and territories. According to Gurangon Artemio, "Nakapaloob naman po ito sa IPRA. Sana ang DENR ay igalang nila ang aming kulturang paghahanap-buhay, kagaya ng pagkakaingin, dahil iyon po ay kulturang katutubo. At pag binago nila ang batas, at tuluyang ipinagbawal ang pagkakaingin at pagputol ng mga puno, ay apektado naman po ang aming hanap-buhay" ("This is stated in the IPRA law. We hope the DENR will respect our farming system because this is part of our culture. If they change the law and eventually prohibit us from cutting down trees, it will have an impact on our subsistence").

The results of the interviews with the hagura Mangyan elders strongly imply that the indigenous governance system is not manipulated by one institution of authority in the community. The role of leaders, like the indigenous elders, is vital in working together to safeguard the interest of the majority. Finally, this study obtained evidence of the extensive roles of the indigenous elders in their respective communities because of their wisdom, philosophy on life, cultural knowledge, ceremonies, and gifts that they have acquired and nurtured over time.

CONCLUSIONS

The result of the study strongly implies that Mangyan leadership, as testified by the three of its subtribes, most often resides with the community elders because of their time-tested indigenous knowledge and experience with customary laws. The concept of the elder is complex and inseparably linked to critical issues such as leadership, knowledge, and history in the Mangyan communities. Mangyan indigenous people associate elder leadership with family ties, history, strength, experiences, and the survival of their race. "Elder" is a politically volatile concept that includes implicit and explicit ideas about authority, power, authenticity, and political correctness. It is a highly contested construct that advocates the relevance of the indigenous elders.

Highlighted in the study are the three key findings. First, the Hagura Mangyan communities have their political structure. It is not a formal leadership system, as claimed by previous studies, but it has the fundamental components of their respected elders. Even with the interference of government governance, they assert and maintain their traditional leadership structure. This assertion affirms that their long-established leadership system is vital to the indigenous communities' efforts to preserve and maintain indigenous knowledge for the generations after them. This revelation only confirms that their exclusive leadership practices and customary legal systems are distinct from the Mangyan leadership's.

In recent years, communities have adopted the barangay system as a political unit, resulting in a deranged and confused indigenous political structure. However, the result of the study proved the stance of the Mangyan communities, asserting their position as being on top of the political structure, prioritizing their indigenous form of governance and leadership. It is with no doubt that even though indigenous communities nowadays live within the government systems with formalized leadership structures, the Mangyan social and cultural everyday living is still under the influence of their traditional leadership practice.

Second, the hybrid government-indigenous leadership and governance could be more problematic for the Mangyan communities, creating tensions and conflicts with the indigenous leadership practices. The finding expedites this idea that the Mangyan customary law practices are gradually collapsing from the perspective of the indigenous elders. The Mangyan tribes have good laws, and those who answered the survey repeatedly said they wanted to return to those traditions.

The elders acknowledged that the formal government law recognizes their customary laws and legal systems because it is stated in the IPRA law as proof of their protection. However, it can still be inferred from the discussion that the indigenous leadership experiences denial of their customary rights, dissatisfaction with the implementation of the laws, and policy neglect of the state policies. Integrating the government's political system into the traditional political system of the Mangyan communities brings political marginalization. This kind of system highlights the marginalization of indigenous elders rather than intensifying it.

Discovery of an intriguing limitation of this study during the interaction with the respondents is the possibility of the Mangyan indigenous elders' need for knowledge and complete understanding of the laws containing constitutional safeguards in protecting their customary rights and traditions. Even though the research cannot fully prove this "lacking" component in the indigenous leadership of the Mangyan elders because there was insufficient information, it seems like it would be suitable for future research to look into this.

Given this observation, this study suggests a potential intervention of government service agencies, especially the National Commission on Indigenous Peoples and other related agencies, to increase the knowledge capacity of the Mangyan elders and leaders about the IPRA law in a manner that will suit their level of understanding. Arming the council of elders with knowledge will give them the confidence to speak on behalf of the members and make informed decisions. They can also help the government make important decisions, like creating and carrying out laws.

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Lastly, as the customary law practices of the hagura communities are slowly eroding, the elder leadership is also weakening due to the imposition of the government's political system. Indigenous elders believe customary law practices are suitable methods to resolve intercommunity conflicts while maintaining respect and harmonious relationships among the members. So, knowing how the Philippine Constitution recognizes and protects the Mangyan customary legal system, such as their rights over territories and natural resources, is crucial.

In conclusion, the result of the study demonstrated that the government's imposition of decisions on their indigenous homelands and territories without their consent has a demoralizing effect on their political, social, and cultural integrity as leaders. Moreover, with the hybrid political structure, disputes within the communities regarding family and personal matters increasingly refer to the barangay arbitration system rather than seeking the advice of the indigenous elders. Therefore, indigenous elders perceived that their customary law systems were already obsolete and irrelevant to the present time. To the researchers, this condition of negligence toward the wisdom and knowledge of the Mangyan indigenous elders will eventually lead to the impartiality of the community members to their customary law practices.

It is, therefore, imperative to maintain and support indigenous elders' leadership skills to inspire budding indigenous leaders in the communities. The state's negligence in promoting security to the indigenous political power may result in political isolation. Moreover, the lack of political participation among the indigenous elders may make them withdraw and be indifferent to the government system, resulting in more complicated conflicts.

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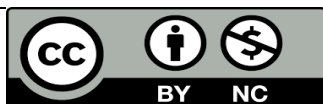
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Educational Leadership Management Practices: A Perspective to Educational Transformation



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ABSTRACT: The paper investigates the educational leadership management practices as a perspective to educational transformation.

The descriptive correlation research design is utilized in the study to quantify and measure the profile of the respondents, contribution of effective style educational leadership management and practices, and educational transformation perspective of the educational management practices of the respondents. Likewise, purposive quota sampling employs in the study to define the criteria for the sample size. The study comprised fifty (50) respondents only.

Results show that the contribution of effective style educational leadership management and practices of the respondents involves democratic leaders where they yield with a high morale environment to generate and motivate creative solutions of effective leadership style in school organization, show that instructional leadership involves on planning practice, coordination, evaluation, and teaching improvement learning, show that authoritative leaders ensure that the systems are in order, and quick in the decision process and control the organization, show that coaching leadership involves behavior, attitude, work performance, evaluation, process of the work, and the policies in the school organization, and show that transformational leaderships is an essential element in the organization to be imposed for good, better, and best because all employees in the school organization are determinant for the process. Hence, educational transformation perspective of the educational management practices of the respondents explores career, advocacy, and policy in pursuing equity in education, contributes to the school system in the organization, reveals significant effect on positive and negative effects of the transformational leadership process, maintains school culture and identity for the diverse and challenging condition strength of school organization and setting, and supports the innovation of learning in the school organization and supports advanced flexible learning technology.

KEYWORDS: Educational leadership management practices, educational transformation, democratic leadership style instructional leadership style, authoritative leadership style, coaching leadership style, transformational leadership style, educational equity, educator motivation morale improvement, student experiences, strengthening school culture, and innovation skills in leadership

INTRODUCTION

Educational management and practices especially in the educational leadership setting are concepts in understanding the central. educational organization or institutions. It organizes the educational management and practices to analyze functions and responsibilities for the system. The system of carrying responsibility on kind, state and in action, (Mallillin, & Mallillin, 2019). The educational leadership influences the act of goals in the educational setting. It necessitates goals for the achievement action in delegation of leading influences and responsibility in the area of educational management. Educational management and leadership is responsibly carrying the practice and influences. They play a prominent role in the educational organization and or institutions. The concept of educational leadership and practices organizes and understands the function and their values. It

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analyzes and entails educational leadership management in caring for the function and responsibility of the education system and participation. It carries the type of responsibility to provide necessary action in educational management and leadership, (Mallillin, 2021). Educational management and leadership influences the act of educational setting to attain the action and goals. It provides the responsibility that influences leadership and management. Educational leadership and management undertakes ideally and responsibly the practice that carries and entails necessary function in the educational system. Educational responsibility comes from an important notion in the organization that analyzes the prominent school system. Educational management and educational leadership are the concepts and foundations of the organization to emerge and clarity to describe academics and practitioners. Educational leadership and management favors the description of the school system and development. It distinguishes the leadership and management in the educational organization, (Shaturaev, and Bekimbetova, 2021). Educational leadership and management practices draw the knowledge and explore the concept, relevant issues, and contemporary policy in the system. It addresses the empirical leadership and management improvement educational organization. It presents implications and evidence in the concerned challenges and leadership preparation, learning, development and management, (Harris, and Jones, 2021, pp. 41-53).

Indeed, various activities of educational leadership management practices provide educational transformation and perspective. It defines activities of various roles interpretation and application in a given parameter. It describes the educational leadership management practices that involve effectiveness of creation to people resources and goals (Mallillin, 2017). It implements the functions in controlling, organizing, planning, and leading. Planning in educational leadership management practice is a step in heading the highly specialized in terms of department goals in the organization. Organizing in the educational leadership management practice defines the work and distributes resources plan workforce. Leading in the activities of educational leadership management practice is an interpersonal level among employees in the organization that is connected to communication tasks, inspiring, motivating, and encouraging high levels of leadership. Controlling is the final activity of educational leadership management that carries the result of the goals to be accomplished in the organization. The activities of educational management broadens the knowledge and diverse tradition as to crucial functions and practices through the policies being implemented in the educational organization (Mallillin, et al., 2022). Activities provide the process and methods in educational leadership management and practice. It identifies time and change in the educational organization through leadership and management. It analyzes the systematic trends in educational leadership and management practice in exploring processes. It balances the theory and concept of educational leadership and management on the empirical flow in educational organization. It contributes to various activities and success in educational leadership and management practice gaps, trends, and time. It provides areas of activities in creating the power of educational leadership management practice and power dynamics, (McGinity, Heffernan, & Courtney, 2022). Activities in educational leadership and management practice explores the curriculum school implementation and outlines strategies and leadership skills devised for school based activities. The utilization of school based leadership and practical approaches provide effective implementation in educational leadership. It leads and envisions the management of school implementation. It provides various activities and successful concept perspective implementation of educational management practices, (Buleshkaj, & Koren, 2022, pp. 259-275).

Subsequently, effective style in educational leadership and management practices are the best strategies in leadership. The appropriate style depends on the culture of diverse people in the organization and educational setting where it requires leadership management. It requires leadership skills regardless of the status in the educational organization, team leaders, teacher leaders, and instructional leaders to benefit them. The position requires skills in leadership but the style process depends on the culture and situation. Style of leadership in education is different where the principal or supervisor has the voice and commanding power. This is true because of their influence that is immense in the school culture and climate (Mallillin, 2022, pp. 99-121). Good leaders train and empower to be effective. Whatever the style of leadership, the ultimate goal and order is the same as a school leader. It provides help for students and teachers to reform and achieve their abilities to the fullest. It is an outcome desired in the leadership education management and position practice. Educational leadership creates a significant role in the positive school system and culture. It influences the achievement of student learning. It is the leadership approach and style in the school system that turns to the success of school organization. The style of leadership is considered effective when the models are being developed for implementation. It is the success of effective leadership style in the educational organization. It describes the success of leadership effective styles in school model and practice. It is an approach system to depict and adopt the continuous cycle of school process and management. It transforms an effective process in management organization. The transformation to effective leadership processes the action to be made in school organization that engages leadership input and school outcome. It loops with influences of effective style in leadership systems on educational institutions, (Gurr, et al., 2022). In addition, an effective leadership style is necessary in creating an environment school organization. This provides access to students with quality education and competency. Effective leadership style in school viewed increasingly the

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far key reaching transformation of education. It provides educational leadership for effective teaching and support learning strategies across transformation industry learning in educational organization. This will keep pace in injecting new thinking school systems and practices. Effective leadership style innovates the complexity level profile of leadership. It indicates perspective transformation of effective leadership styles, (Da'as, 2022, pp. 1-18).

STATEMENT OF THE PROBLEM

1. How may the profile of the respondents be described in terms of
 - 1.1 age,
 - 1.1 gender,
 - 1.2 marital status,
 - 1.3 highest educational attainment,
 - 1.4 current position, and
 - 1.5 number of years in teaching?
2. What is the contribution of effective style educational leadership management and practices of the respondents in the area of
 - 2.1 democratic leadership style,
 - 2.2 instructional leadership style,
 - 2.3 authoritative leadership style,
 - 2.4 coaching leadership style, and
 - 2.5 transformational leadership style?
3. What is the educational transformation perspective of the educational management practices of the respondents in terms of
 - 3.1 educational equity,
 - 3.2 educator motivation morale improvement,
 - 3.3 student experiences,
 - 3.4 strengthening school culture,
 - 3.5 innovation skills in leadership?
- 4 Is there a significant correlation between the profile of the respondents and the contribution of effective style educational leadership management and practices among the respondents?
- 5 Is there a significant correlation between the profile of the respondents and the educational transformation perspective of the educational management practices among the respondents?
- 6 Is there significant correlation between the contribution of effective style educational leadership management and practices and the educational transformation perspective of the educational management practices among the respondents?

Hypothesis

1. There is no significant correlation between the profile of the respondents and the contribution of effective style educational leadership management and practices among the respondents.
2. There is no significant correlation between the profile of the respondents and the educational transformation perspective of the educational management practices among the respondents.
3. There is no significant correlation between the contribution of effective style educational leadership management and practices and the educational transformation perspective of the educational management practices among the respondents.

RESEARCH DESIGN

The researcher utilized the Correlational Research Design in order to assess the educational management leadership management practices towards a prospective educational transformation. It correlates the profile of the respondents and the style of effective educational leadership management and practices of the respondents in the area of democratic leadership style, instructional leadership style, authoritative leadership style, coaching leadership style, and transformational leadership style to include correlation on the educational transformation perspective of the educational management practices of the

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respondents in terms of educational equity, educator motivation morale improvement, student experiences, strengthening school culture, and innovation. It translates correlations and significant implications of the profile, style of effective leadership, and leadership transformation. It correlates interpretable knowledge and background. It improves individual conscientiousness in the accuracy of educational leadership management and practices, (Möttus, 2021).

Population, Samples, And Sampling Techniques

The respondents of the study are the selected educational leaders in the various educational institutions like the Department of Education (DepEd), Commission on Higher Education (CHED), and Technical Educational Skills Development Authority (TESDA). They are directors, assistant directors, managers, assistant managers, deans, principals, coordinators, head, and administrators. They are currently connected or working in various educational institutions. The study comprised fifty (50) respondents only.

The research utilized the purposive and quota sampling techniques. Purposive sampling is subjective sampling in identifying the sample size in the study for the set criteria on the selected educational leadership and management practice for transformation in the school organization. It is selective based on the criteria defined in the selecting the sample size, and judgmental identifies by the researcher. It is a non-probability sampling where the research used judgment in selecting members to be a part of the study. The survey sampling requires the methods and prior knowledge in the approach of the eligible platform of the study. Purposive sampling accesses the subset of the participants in the particular profile. It provides purposive sampling in antecedent and analysis of the impact on educational leadership, (Lubis, et al., 2021, pp. 41-57).

Pilot Testing Reliability

After the validation, a reliability testing or pilot testing were made. The purpose of the pilot study was to try out research questions, methodology, and research instruments, (Norizan, Ismail, & Hamzah, 2021, pp. 400-409). The validated questionnaire was tried out in a different school in another district with the same category of respondents projected in the actual study for pilot testing of the instrument for clarity, feasibility, and its reliability established using Cronbach Alpha version 28. The questionnaire was sent via google form.

The internal consistency of the instrument was identified using the measurement of Cronbach's alpha coefficient. An alpha within the range of 0.70-0.95 was accepted as satisfactory for internal consistency. The results of the Cronbach's Alpha α were 0.849617262 which the pilot testing was highly acceptable in the study. This has proven that the questionnaire utilized in the pilot testing of study was reliable, (Amirrudin, Nasution, & Supahar, 2021, pp. 223-230).

RESULT AND DISCUSSION

1. On the Profile of The Respondents

Table 1. Profile of the Respondents

Profile	Frequency	Percentage	Ranking
A. Age:			
● 25 years and below	5	10	4
● 26-30 years	7	14	4
● 31-35 years	8	16	3
● 36-40 years	9	18	2
● 41 years and above	21	42	1
B. Gender:			
● male	34	68	1
● female	16	32	2
C. Marital Status:			
● single	10	20	2
● married	33	66	1
● widow/er	2	4	4
● single parent	5	10	3
D. Highest Educational Attainment:			
● With MA units	8	16	4
● MA Graduate	12	24	3
● With Doctoral units	13	26	2
● Doctorate Graduate	17	34	1
E. Current Position in School:			
● Head/Master Teacher	8	16	3.5

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<ul style="list-style-type: none"> ● Assistant Principal/Principal ● Assistant Professor/Professor ● Administrator/Heads/Deans/Director 	19	38	1
	15	30	2
	8	16	3.5
F. Number of Years in Service:			
<ul style="list-style-type: none"> ● 5 years and below ● 6-10 years ● 11-15 years ● 16-20 years ● 21 years and above 	1	2	5
	8	16	3.5
	8	16	3.5
	13	26	2
	20	40	1

Table 1 presents the frequency and percentage distribution on the profile of the respondents.

It shows that most of the respondents belong to the age bracket 41 years and above, with a frequency of 21 or 42% among the respondents where they are matured enough and have experiences in educational leadership and transformation in the school setting. Most of the respondents are male with a frequency of 34 or 68% among the respondents in which most of the educational leaders are men where they have the strong will and determination to manage the school to the best they can as compared to female respondents. They have the guts to lead the school. It shows also that the married employees got a frequency of 33 or 66% among the respondents. Though they are married still they can carry their responsibility to manage the school setting because it is part of their job. It shows also that those educational leaders have educational attainment of doctoral degree with a frequency of 17 or 34% among the respondents. This is a part of the qualification when you will be promoted to have a higher degree in leading the educational system. Most of the current position in the educational leadership practices is Assistant Principal or Principal, with a frequency of 19 or 38% among the respondents. This means that they have the capacity to lead due to their experience as leader in the school. Number of years in service shows that 21 years and above, with a frequency of 20 or 40% among the respondents which means due to their tenure in the services, the more they have developed the skills in educational leadership among them, (Plotner, & Walters, 2022, pp. 290-300).

2. On the contribution of effective style educational leadership management and practices of the respondents in the area of democratic leadership style, instructional leadership style, authoritative leadership style, coaching leadership style, and transformational leadership style.

Table 2. Contribution of Effective Style in Educational Leadership Management and Practices in the Area of Democratic Leadership Style Among the Respondents

Indicators	WM	I	R
1. The decision making in democratic leadership strategy is heavily influenced in the implementation of leadership style in the school.	4.10	A	2
2. The democratic leadership style implements the range and wide outcome to participate in the school system.	3.98	A	5
3. It motivates in promoting and assessing the school affairs and innovation creativity.	4.04	A	4
4. It tends to focus on the process of democratic leadership free flow of thoughts and quality that leads to offer control and guidance.	3.18	MA	6
5. Democratic leaders yield with a high morale environment to generate and motivate creative solutions of effective leadership style in school organization.	4.34	SA	1
6. It provides opportunities for a leader to develop job satisfaction, a sense of personal growth to encourage team building and collaboration.	4.08	A	3
Average Weighted Mean	3.95	A	
Standard Deviation	0.398		

Table 2 presents the weighted mean and the corresponding interpretation on the contribution of effective style in educational leadership management and practices in the area of democratic leadership style among the respondents.

As glimpsed in the table, rank 1 is "Democratic leaders yield with a high morale environment to generate and motivate creative solutions of effective leadership style in school organization", with a weighted mean of 4.34 or Strongly Agree which means that this kind of leader exercises freedom as long as they will contribute to the success of the organization. Freedom is given due to professionalism sake where respondents know what is the positive and negative effect of their own action. People in the school are given proper freedom where they can learn from it. They are guided by a principal as a professional in the field

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of education. Rank 2 is "The decision making in democratic leadership strategy is heavily influenced in the implementation of leadership style in the school", with a weighted mean of 4.10 or Agree which democratic leadership influences the leadership function and style in the school setting. The democratic leadership provides people in the school system to learn their own duty and responsibility. This is their strategy because they know the result of being democratic leadership in the educational management practices. Rank 3 is "It provides opportunities for a leader to develop job satisfaction, a sense of personal growth to encourage team building and collaboration", with a weighted mean of 4.08 or Agree which means the colleagues are given freedom and sense of responsibility to develop their job satisfaction in their performance where they can learn from their own action. The least in rank is "It tends to focus on the process of democratic leadership free flow of thoughts and quality that leads to offer control and guidance", with a weighted mean of 3.18 or Moderately Agree which means that the focus of democratic leadership demonstrates to control educational leadership in the school system where proper guidance, (Assey, Malingumu, & Babygeya, 2022) stressed that effective style of leadership management and practices in the area of democratic leadership implements perception of school development. The overall average weighted mean is 3.95 (SD=0.398) or Agree on the contribution of effective style in educational leadership management and practices in the area of democratic leadership style among the respondents.

Table 3. Contribution of Effective Style in Educational Leadership Management and Practices in the Area of Instructional Leadership Style Among the Respondents

Indicators	WM	I	R
1. It explores instructional leadership perception of a novice teacher that influences the management team intended for teachers in school.	4.14	A	2.5
2. It displays teachers with a tendency to exercise their leadership in school instruction, support, trust, and clear instruction system and organization.	4.10	A	4
3. Instructional leaders are expected to focus on management of school in student learning and improvement.	4.14	A	2.5
4. It employs a leadership model to communicate regarding the related goals and achievement of students.	3.10	MA	6
5. It provides a positive effect that strengthens the instructional leadership school culture and organization.	4.06	A	5
6. It involves instructional leadership in planning practice, coordination, evaluation, and teaching improvement learning.	4.26	SA	1
Average Weighted Mean	3.96	A	
Standard Deviation	0.427		

Table 3 presents the weighted mean and the corresponding interpretation on the contribution of effective style in educational leadership management and practices in the area of instructional leadership style among the respondents.

As gleaned in the table, rank 1 is "It involves instructional leadership in planning practice, coordination, evaluation, and teaching improvement learning", with a weighted mean of 4.26 or Strongly Agree which means that instructional leadership involves the function in proper teaching improvement because that is needed in the school setting. This can help to produce quality education through constant practice and reminders as based in the vision and mission of the educational system. Rank 2 is shared by the two indicators which are "It explores instructional leadership perception of a novice teacher that influences the management team intended for teachers in school", and "Instructional leaders are expected to focus on management of school in student learning and improvement", with a weighted mean of 4.14 or Agree which means instructional leadership can influence the team members of the school to work toward the goals of the educational system where proper management and practices must be fully enforced which is needed and is expected among educational leadership where it improves the school system in producing quality graduates to be competent in the educational system and improvement process. Rank 3 is "It displays teachers with a tendency to exercise their leadership in school instruction, support, trust, and clear instruction system and organization", with a weighted mean of 4.10 or Agree. This emphasizes that proper instruction will lead to better performance not only for the teachers but to the school system as well. There is a need to provide clear instruction and they will provide the output. Clear dissemination and clear instruction is important to be practiced among the educational leadership for proper implementation. They will see the perfect examples and they will follow you. The least in rank is "It employs a leadership model to communicate regarding the related goals and achievement of students", with a weighted mean of 3.10 or Moderately Agree, (Lazcano, Guerrero, & Volante, 2022, pp. 1-19) influences the leader and retention in school instructional leadership. It

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represents the instructional leader in solving various issues in the school system and level. Instructional leaders are expected to focus on management of school in student learning and improvement. The overall average weighted mean is 3.96 (SD=0.427) or Agree on the contribution of effective style in educational leadership management and practices in the area of instructional leadership style among the respondents.

Table 4. Contribution of Effective Style in Educational Leadership Management and Practices in the Area of Authoritative Leadership Style Among the Respondents

Indicators	WM	I	R
1. It defines the purpose of authoritative leadership in the school organization.	3.82	A	5
2. It identifies the assessment of the weakness and strength of authoritative leadership role and function in the school system.	4.02	A	2
3. It provides parameters regarding the accountabilities and boundaries of authoritative leadership style.	2.82	MA	6
4. It determines the organizational goals and parameters to address standards in moving to a better educational system in school.	3.98	A	3.5
5. It helps to ensure the system is in order, and quick in the decision process and controls the system.	4.04	A	1
6. It determines the leadership role especially in the authoritative function to enhance performance of school employees and organization.	3.98	A	3.5
Average Weighted Mean	3.78	A	
Standard Deviation	0.475		

Table 4 presents the weighted mean and the corresponding interpretation on the contribution of effective style in educational leadership management and practices in the area of authoritative leadership style among the respondents.

As noted in the table, rank 1 is “It helps to ensure the system is in order, and quick in the decision process and controls the system”, with a weighted mean of 4.01 or Agree which means that educational leadership and management practices control the system. Authoritative power means implementing the right process of leadership so that people in the team will follow. Decisions made must be based on the principles of leadership where the system will be put in order. This means that members in the team will respect and follow. Rank 2 is “It identifies the assessment of the weakness and strength of authoritative leadership role and function in the school system”, with a weighted mean of 4.02 or Agree. This means that being authoritative means to assess the system, know the situation, know the positive and negative impact of the work where proper leadership is done according to the function and needed in the educational system. You know how to assess the situation in the school system. Rank 3 is shared by the two indicators which are “It determines the organizational goals and parameters to address standards in moving to a better educational system in school”, and “It determines the leadership role especially in the authoritative function to enhance performance of school employees and organization”, with a weighted mean of 3.98 or Agree. Being an authoritative would mean knowing the situation and parameters of the educational system where you know how to determine the process of educational leadership management and practices. It also determines the function as authoritative leadership pertains to the function of the process to improve the quality system as to the goal of an educational leadership which aligns to the mission and vision of the school system and transformation. The least in rank is “It provides parameters regarding the accountabilities and boundaries of authoritative leadership style”, with a weighted mean of 2.82 or Moderately Agree. This means that being an authoritative leader must know your limitations and boundaries so that you will not go against the principles of leadership. Luedi, (2022) stressed the authoritative leadership defines infinite complex leadership in a tremendous paradox of comprehensive capture. It provides dimension on caught practitioner leadership and management. The overall average weighted mean is 3.78 (SD=4.75) or Agree on the contribution of effective style in educational leadership management and practices in the area of authoritative leadership style among the respondents.

Table 5. Contribution of Effective Style in Educational Leadership Management and Practices in the Area of Coaching Leadership Style Among the Respondents

Indicators	WM	1	R
1. It influences and explores the mechanism of coaching leadership among colleagues to gain work sensitivity.	2.52	D	5
2. It indicates the standard feelings, reflections, benefits of various work and effectiveness.	3.00	MA	3.5

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3. It describes aspects of perceived emotional experienced positivity of employees in the school system.	3.00	MA	3.5
4. Coaching styles provide self-esteem and self-belonging for employees in the level of needs.	2.22	D	6
5. It provides positive behavior leadership to influence facilitation and inspiration of employees, work guidance, behavior, attitude, and feelings.	3.32	MA	2
6. Coaching involves behavior, attitude, work performance, evaluation, process of the work, and the policies in the school organization.	3.34	MA	1
Average Weighted Mean	2.90	MA	
Standard Deviation	0.447		

Table 5 presents the weighted mean and the corresponding interpretation on the contribution of effective style in educational leadership management and practices in the area of coaching leadership style among the respondents.

It shows in the table that rank 1 is “Coaching involves behavior, attitude, work performance, evaluation, process of the work, and the policies in the school organization”, with a weighted mean of 3.34 or Moderately Agree. This emphasizes that coaching must go with basic knowledge of behavior and attitude of the respondents so that you know as a leader where to guide in the process of work performance. This includes policies of the organization that they need to follow, evaluation process, attitude and behavior. Rank 2 is “It provides positive behavior leadership to influence facilitation and inspiration of employees, work guidance, behavior, attitude, and feelings”, with a weighted mean of 3.32 or Moderately Agree. This emphasizes that coaching involves positive change where people will be influenced by the inspiration, they see at you as a leader where coaching is needed through perfect examples on positive behavior and guidance. It goes to say that coaching is teaching by example and your influence as a leader will change from good to better, and better to best. Rank 3 is shared by the two indicators which are “It indicates the standard feelings, reflections, benefits of various work and effectiveness”, and “It describes aspects of perceived emotional experienced positivity of employees in the school system”, with weighted mean of 3.00 or Moderately Agree which means that coaching goal is to let people follow what you say for the improvement and betterment of the educational system. Members of the team are looking for your perfect example. They have big expectations on your guiding principles. They will see the biggest responsibility in your hands. Coaching is based on the needs of the school system where people will comply through your techniques in leading them. The least in rank is “Coaching styles provide self-esteem and self-belonging for employees in the level of needs”, with a weighted mean of 2.22 or Disagree. This means that coaching is necessary among the members of the group to uplift their morale and educational system as one team in the organization. Coaching leadership style as cited by (Wang, et al., 2022) influences the mechanism in leadership effectiveness on behavior and work. It influences and explores the mechanism of coaching leadership among colleagues to gain work sensitivity. The overall average weighted mean is 2.90 (SD=0.447) or Moderately Agree on the contribution of effective style in educational leadership management and practices in the area of coaching leadership style among the respondents

Table 6. Contribution of Effective Style in Educational Leadership Management and Practices in the Area of Transformational Leadership Style Among the Respondents

Indicators	WM	I	R
1. It provides quality education in the organization of school through implementation of transformation needed for the improved process of school.	4.02	A	2
2. The transformation performance is measured by the quality system on knowledge, skills, attitude, and behavior.	3.90	A	3.5
3. Transformation is an essential element in the organization to be imposed for good, better, and best because all employees in the school organization are determinant for the process.	4.12	A	1
4. Transformational leadership style provides positive direction in the organizational goals and achievement.	3.58	A	6
5. It determines the style of transformational leadership effect in the work performance of employees in school and work discipline.	3.64	A	5
6. Transformational leadership directs, controls, motivates, and influences subordinates to complete the work output efficiently and effectively.	3.90	A	3.5
Average Weighted Mean	3.86	A	
Standard Deviation	0.211	A	

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Table 6 presents the weighted mean and the corresponding interpretation on the contribution of effective style in educational leadership management and practices in the area of transformational leadership style among the respondents.

As acknowledged in the table, rank 1 is “Transformation is an essential element in the organization to be imposed for good, better, and best because all employees in the school organization are determinant for the process”, with a weighted mean of 4.12 or Agree. This means the transformation in school is a continuous process based on the trends of the educational system. This is to equip the school system with the trend of technology in the advanced transformation for the best in the educational system. Rank 2 is “It provides quality education in the organization of school through implementation of transformation needed for the improved process of school”, with a weighted mean of 4.02 or Agree. This is the reason why educational leadership is needed to find solutions for the transformation and change of the system from good, better, and best. Rank 3 is shared by the two indicators which are “The transformation performance is measured by the quality system on knowledge, skills, attitude, and behavior”, and “Transformational leadership directs, controls, motivates, and influences subordinates to complete the work output efficiently and effectively”, with a weighted mean of 3.90 or Agree. This means that educational leadership has the potential to control and lead the school system based on knowledge and professional development in the organization. The leader must be knowledgeable and know how to transform the system. This involves the function and responsibilities of a good leader in the area of planning, organizing, directing, controlling, and leading. The least in rank is “Transformational leadership style provides positive direction in the organizational goals and achievement”, with a weighted mean of 3.58 or Agree. This means that educational leadership has planned in the improvement process of the school system to direct the organization in a positive and better output in the achievement of the goals of the educational system. Transformational leadership style as discussed by (Muliati, et al., 2022, pp. 158-166) on competency and self-efficacy. It analyzes the transformational leadership on self-efficacy and competency of school employees. The overall average weighted mean is 3.86 (SD=0.211) or Agree on the contribution of effective style in educational leadership management and practices in the area of transformational leadership style among the respondents.

3. On the educational transformation perspective of the educational management practices of the respondents in terms of educational equity, educator motivation, morale improvement, student experiences, strengthening school culture, innovation skills in leadership

Table 7. Educational Transformation Perspective of Educational Management Practices of the Respondents in Terms of Educational Equity

Indicators	WM	I	R
1. It structures the policy of school and practices through equity leadership.	4.12	A	3
2. It collaborates essentially on the equity issues and potentials, and proactive ways to engage from various challenges in educational equity.	4.04	A	4
3. It promotes culture inclusive engagement that draws the assets of families, staff, and students.	3.70	A	5
4. It addresses the procedures and policy issues for the resources, allocation and student engagement.	3.14	MA	6
5. It provides educational equity status on the performance of individual school organizations.	4.14	A	2
6. It explores career, advocacy, and policy in pursuing equity in education.	4.20	SA	1
Average Weighted Mean	3.89	A	
Standard Deviation	0.408		

Table 7 presents the weighted mean and the corresponding interpretation on the educational transformation perspective of educational management practices of the respondents in terms of educational equity.

As shown in the table, rank 1 is “It explores career, advocacy, and policy in pursuing equity in education”, with a weighted mean of 4.20 or Strongly Agree. This means that goal of the educational transformation is to expand in pursuing the equity of education to be competent in the world of learning and teaching process. This means that the school system will equip with necessary knowledge on professional development of the respondents in the objectives of educational transformation. This is needed on the skills of being an educational leader in the various educational institutions. Rank 2 is “It provides educational equity status on the performance of individual school organizations”, with a weighted mean of 4.14 or Agree. The goals and objectives of the educational leadership is to look at the possibility of leadership transformation in the output and performance of the school organization and system. This includes quality graduates, competency of teachers, and other

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performance needed in the educational system through proper facilities, teachers development program and training. Rank 3 is “It structures the policy of school and practices through equity leadership”, with a weighted mean of 4.12 or Agree. This means that transformation is needed through proper implementation of the structure and organization for competency of works and the likes. The structure or organization must work hand in hand in the implementation of proper transformation for teachers, students, and school system as well. The goal is to achieve better performance and better output to the fullest in the school system and organization. The least in rank is “It addresses the procedures and policy issues for the resources, allocation and student engagement”, with a weighted mean of 3.14 or Moderately Agree. This means that educational transformation and leadership must engage with the improvement process on the issues of school organization in terms of facilities, system, policies, and procedures to align with competency of the educational system. Educational equity in the transformation and perspective as cited by (Wen, Yang, & Zhao, 2022, pp. 75-87) engages and promotes educational equity in the status and performance of the school organization. The overall average weighted mean is 3.89 (SD=0.408) or Agree on the educational transformation perspective of educational management practices of the respondents in terms of educational equity.

Table 8. Educational Transformation Perspective of Educational Management Practices of the Respondents in Terms of Educator Motivation Morale and Improvement

Indicators	WM	I	R
1. It analyses the method and effect of motivation and morale improvement in the educational system and process.	2.84	MA	6
2. It provides a level of education, moral and improvement work discipline in learning interest and positive effect.	4.00	A	3
3. It encourages the school organization and advantage for the utilization of position, in the major component of education morale and improvement.	3.96	A	4
4. It contributes to the school system in the organization which is a valuable and important backbone in the process.	4.23	SA	1
5. It measures the quality of the improved motivation and knowledge in the educational system.	4.20	SA	2
6. It motivates the school leadership and commitment in the critical role among educators or teachers academic performance and sustainable improvement.	3.86	A	5
Average Weighted Mean	3.83	A	
Standard Deviation	0.510		

Table 8 presents the weighted mean and the corresponding interpretation on the educational transformation perspective of educational management practices of the respondents in terms of educator motivation, morale and improvement.

As revealed in the table, it shows that rank 1 is “It contributes to the school system in the organization which is a valuable and important backbone in the process”, with a weighted mean of 4.23 or Strongly Agree. This means that educational transformation and perspective should improve the output of the process in the school organization and system which is very valuable in the educational system. Rank 2 is “It measures the quality of the improved motivation and knowledge in the educational system”, with a weighted mean of 4.20 or Strongly Agree. This means that transformation in the educational system can be identified in the output and performance of both students and teachers’ performance in the school organization. This means that educational leadership management practices must implement the best for proper transformation. The contribution of every individual will be the pride of the school organization because it has been observed in the output and performance of the school system as a whole. Producing a quality educational system is based on the implementation and how it works for the school organization. Quality of education is the target of the school system and target of the school leadership management and practices. Rank 3 is “It provides a level of education, moral and improvement work discipline in learning interest and positive effect”, with a weighted mean of 4.00 or Agree. This means that transformation of leadership perspective in the educational morale and motivation of a leader's goals is to improve the system from the best through proper discipline, perseverance where it resulted to positive effect in the educational leadership and transformation perspective. The least in rank is “It analyses the method and effect of motivation and morale improvement in the educational system and process”, with a weighted mean of 2.84 or Moderately Agree. This emphasizes that transformation in educational leadership and perspective has a vision in the analysis of the quality education under his leadership. This can be done through motivation so that members of the team will be inspired to work towards the goals of the educational transformational system and perspectives among the respondents. Educator motivation morale improvement has been emphasized by (van der Vyver, & Geduld, (2022) explores the factors on

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leadership influences and motivational factors in sustainable improvement of school. The overall average weighted mean is 3.83 (SD=0.510) or Agree on the educational transformation perspective of educational management practices of the respondents in terms of educator motivation, morale and improvement.

Table 9. Educational Transformation Perspective of Educational Management Practices of the Respondents in Terms of Student Experiences

Indicators	WM	I	R
1. It explores and influences and mechanisms of transformational leadership context.	2.52	D	4.5
2. It analyzes the structure and effect on competency of transformational leadership among them.	2.36	D	6
3. It discovers the interaction and results from the organizational structure in the school system and factors.	2.52	D	4.5
4. It predicts relationships on social and emotional positivity of transformational leadership competency from teachers, students, and the environment process school organization.	2.76	MA	2
5. It establishes the mutual trust atmosphere, and encourages the interest of the subordinates of school organization benefits.	2.58	D	3
6. It reveals the significant effect on positive and negative effects of the transformational leadership process.	3.20	MA	1
Average Weighted Mean	2.66	MA	
Standard Deviation	0.293		

Table 9 presents the weighted mean and the corresponding interpretation on the educational transformation perspective of educational management practices of the respondents in terms of student experiences.

As shown in the table, rank 1 is "It reveals the significant effect on positive and negative effects of the transformational leadership process", with a weighted mean of 3.20 or Moderately Agree. This means that transformational leadership has a big role to play in the performance process of students based on the respondents' experiences, especially on the positive and negative effects to the lives of the learners. Rank 2 is "It predicts relationships on social and emotional positivity of transformational leadership competency from teachers, students, and the environment process school organization", with a weighted mean of 2.76 or Moderately Agree. This means that due to the leadership transformation and perspectives students have experienced on emotional and social aspects and positivity effect from their teachers where they need to be a good influencer among them. Students are looking for their teachers as the best examples among them. They wanted to have a better environment where the learning process must be observed to the fullest. The environment must be conducive for learning. Rank 3 is "It establishes the mutual trust atmosphere, and encourages the interest of the subordinates of school organization benefits", with a weighted mean of 2.58 or Disagree. This means that students disagree on a mutual trust atmosphere rather than conducive for learning. Students need to be motivated and need to be encouraged for a better learning atmosphere which is needed in the transformation of leadership and perspectives among them. School leaders should know that students are the center of learning where they need to be motivated, to be molded, and to be shaped according to their needs as future citizens in the universe. This must be the goal of the educational transformation leadership and perspectives among them. The least in rank is "It analyzes the structure and effect on competency of transformational leadership among them" with a weighted mean of 2.36 or Disagree. This means that there is a need to analyze the effect of transformational leadership and perspectives because the learners are being affected when there is chaos in the school organization. Student experiences on leadership and perception as cited by (Philip, & Gavrilova Aguilar, 2022, pp. 86-98) explored the advanced transformation in the educational system. It is an advanced transformation that revitalized the school organization in the relationship and process among school educators. The students are being affected. The overall average weighted mean is 2.66 (SD=0.296) or Moderately Agree on the educational transformation perspective of educational management practices of the respondents in terms of student experiences.

Table 10. Educational Transformation Perspective of Educational Management Practices of the Respondents in Terms of Strengthening School Culture

Indicators	WM	I	R
1. It reveals and focuses on leadership perspective in school organization and strength through school program and identity.	3.92	A	4
2. It implements several factors and characters in school education.	3.28	MA	6

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3.	It models the strength and value identity for students and school organization.	3.72	A	5
4.	It drives individual global culture for rebranding the images of school organization.	4.12	A	2
5.	It emerges in the school culture and strengthens the modern situation in the school organization.	4.08	A	3
6.	It maintains school culture and identity for the diverse and challenging condition strength of school organization and setting.	4.20	SA	1
Average Weighted Mean		3.89	A	
Standard Deviation		0.342		

Table 10 presents the weighted mean and the corresponding interpretation on the educational transformation perspective of educational management practices of the respondents in terms of strengthening school culture.

As glanced in the table, it shows that rank 1 is "It maintains school culture and identity for the diverse and challenging condition strength of school organization and setting", with a weighted mean of 4.20 or Agree. This means that school culture must be observed by the educational leaders. The positive culture must be retained and must be maintained, however, negative school culture must be improved for a better process of the school system. This must be encouraged to provide a positive outlook in the school setting and perspective in the transformational leadership as part of the goals in the educational system. Rank 2 is "It drives individual global culture for rebranding the images of school organization", with a weighted mean of 4.12 or Agree. There is a need to rebrand the school system and organization when it is needed as part of the educational transformation and perspectives. Rebranding means improvement of the process in the educational setting. It is the global culture to rebrand for progress and improvement for good, better, and best. Rank 3 is "It emerges in the school culture and strengthens the modern situation in the school organization", with a weighted mean of 4.08 or Agree. This means that a transformational perspective in leadership is equipped with a modern style of leadership with the latest trend of leadership based on advanced technology. This is one way of equipping the quality of education to be competent among the educational system in the globe. School culture must be improved also as to the quality of high technology in terms of camaraderie among colleagues, professional development in addition to the facilities in the school system. The least in rank is "It implements several factors and characters in school education", with a weighted mean of 3.28 or Moderately Agree. This means that transformational leadership and perspectives in the school culture must be given consideration in the various factors in the school system and organization. This better addresses the school culture in the educational organization. Strengthening school culture as stressed by (Rizaq, 2022, pp. 96-104) strengthens the perspective of a leader and identity. Strengthening the culture of the school organization can be identified through the role of education and utilization (Mallillin, et al., 2020). It reveals and focuses on leadership perspective in school organization and strength through school program and identity. The overall average weighted mean is 3.89 (SD=0.342) or Agree on the educational transformation perspective of educational management practices of the respondents in terms of strengthening school culture.

Table 11. Educational Transformation Perspective of Educational Management Practices of the Respondents in Terms of Innovation Skills and Leadership

Indicators		WM	I	R
1.	Innovation fills the gap for management change to produce quality education in the school organization.	3.58	A	4
2.	It mediates the innovation in educational technology transformation of the academic process and digital transformation guides and strategic thinking.	4.00	A	3
3.	It provides details underlying the success and components of innovation in the school organization and transformation.	4.16	A	2
4.	It examines the innovation transformation, and good practices in the school organization resulting in illustrative generalization.	3.50	A	5
5.	It supports the innovation of learning in the school organization and supports advanced flexible learning technology.	4.22	SA	1
6.	It is a strategic requirement for the fulfillment of the educational system and process aligned to the mission, and vision of school towards innovation and transformation of knowledge.	3.32	MA	6
Average Weighted Mean		3.80	A	
Standard Deviation		0.371		

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Table 11 presents the weighted mean and the corresponding interpretation on the educational transformation perspective of educational management practices of the respondents in terms of innovation skills and leadership. As noted in the table, rank 1 is “It supports the innovation of learning in the school organization and supports advanced flexible learning technology”, with a weighted mean of 4.22 or Agree. This means that transformational leadership perspectives also explore the innovation process in the educational system. The innovation process equips the school system to upgrade the latest trend in the educational system in terms of quality education as to technology of teaching, professional development of teachers, and facilities. Rank 2 is “It provides details underlying the success and components of innovation in the school organization and transformation”, with a weighted mean of 4.16 or Agree. This means that the educational system is always looking for innovation in the transformational perspectives in leadership to be competent and equip with quality education in the school system and organization. These are the techniques and quality skills of a good leader. Rank 3 is “It mediates the innovation in educational technology transformation of the academic process and digital transformation guides and strategic thinking”, with a weighted mean of 4.00 or Agree. This means that the educational system will lead to better transformation when innovation in the quality of education is being implemented. This must be the initiative of an educational leader to goal on academic success with the help of the teachers and students. Teachers need to be upgraded in their skills through undergoing professional development process and implementation. The least in rank is “It is a strategic requirement for the fulfillment of the educational system and process aligned to the mission, and vision of school towards innovation and transformation of knowledge”, with a weighted mean of 3.32 or Moderately Agree. This means the innovation must be connected with the goals of the school organization to be of best quality in the educational system (Mallillin, et al., 2023, pp. 41-52). This can transform the educational setting and perspective of the school system and organization. Innovation in the educational system as cited by (Lubis, et al., 2022, pp. 526-524) stressed the curriculum understanding transformation towards innovation process. It stresses that educational innovation in the school system understands the change and process and setting for an improved system. the overall average weighted mean is 3.80 (SD=0.371) or Agree on the educational transformation perspective of educational management practices of the respondents in terms of innovation skills and leadership.

4. On the test of significant correlation between the profile of the respondents and the contribution of effective style educational leadership management and practices among the respondents

Table 12. Test of Significant Correlation Between the Profile of the Respondents and the Contribution of Effective Style Educational Leadership Management and Practices among the Respondents

Variables	Computed r values	Relationships *significant *not significant	Hypotheses *accepted *rejected
A. Age:			
● democratic leadership style	0.0003058	not significant	accepted
● instructional leadership style	0.0003054	not significant	accepted
● authoritative leadership style	0.0003128	not significant	accepted
● coaching leadership style	0.0003568	not significant	accepted
● transformational leadership style	0.0003094	not significant	accepted
B. Gender:			
● democratic leadership style	0.0002822	not significant	accepted
● instructional leadership style	0.0002818	not significant	accepted
● authoritative leadership style	0.0002887	not significant	accepted
● coaching leadership style	0.0003293	not significant	accepted
● transformational leadership style	0.0002856	not significant	accepted
C. Marital Status:			
● democratic leadership style	0.0003364	not significant	accepted
● instructional leadership style	0.0003360	not significant	accepted
● authoritative leadership style	0.0003442	not significant	accepted
● coaching leadership style	0.0003926	not significant	accepted
● transformational leadership style	0.0003405	not significant	accepted
D. Highest Educational Attainment:			
● democratic leadership style	0.0003017	not significant	accepted
● instructional leadership style	0.0003013	not significant	accepted
● authoritative leadership style	0.0003087	not significant	accepted
● coaching leadership style	0.0003520	not significant	accepted

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<ul style="list-style-type: none"> ● transformational leadership style 	0.0003053	not significant	accepted
E. Current Position:			
<ul style="list-style-type: none"> ● democratic leadership style 	0.0003153	not significant	accepted
<ul style="list-style-type: none"> ● instructional leadership style 	0.0003149	not significant	accepted
<ul style="list-style-type: none"> ● authoritative leadership style 	0.0003226	not significant	accepted
<ul style="list-style-type: none"> ● coaching leadership style 	0.0003680	not significant	accepted
<ul style="list-style-type: none"> ● transformational leadership style 	0.0003191	not significant	accepted
F. No. of Years in Service:			
<ul style="list-style-type: none"> ● democratic leadership style 	0.0002985	not significant	accepted
<ul style="list-style-type: none"> ● instructional leadership style 	0.0002982	not significant	accepted
<ul style="list-style-type: none"> ● authoritative leadership style 	0.0003054	not significant	accepted
<ul style="list-style-type: none"> ● coaching leadership style 	0.0003484	not significant	accepted
<ul style="list-style-type: none"> ● transformational leadership style 	0.0003021	not significant	accepted
Significant at 0.05, one tailed test, df of 50 with critical r value of 0.273243			

Table 12 presents the test of significant correlation between the profile of the respondents and the contribution of effective style educational leadership management and practices among the respondents.

It shows that all the computed r values are lower than the critical r value of 0.273243, one-tailed test, with df of 50 at 0.05 level of significance. Therefore, it is safe to say that there is no significant correlation between the profile of the respondents and the contribution of effective style educational leadership management and practices among the respondents.

5. On the test of significant correlation between the profile of the respondents and the educational transformation perspective of the educational management practices among the respondents

Table 13. Test of Significant Correlation Between the Profile of the Respondents and the Educational Transformation Perspective of the Educational Management Practices Among the Respondents

Variables	Computed r values	Relationships *significant *not significant	Hypotheses *accepted *rejected
A. Age:			
<ul style="list-style-type: none"> ● educational equity 	0.0003082	not significant	accepted
<ul style="list-style-type: none"> ● educator motivation morale improvement 	0.0003105	not significant	accepted
<ul style="list-style-type: none"> ● student experiences 	0.0003728	not significant	accepted
<ul style="list-style-type: none"> ● strengthening school culture 	0.0003084	not significant	accepted
<ul style="list-style-type: none"> ● innovation skills in leadership 	0.0003120	not significant	accepted
B. Gender:			
<ul style="list-style-type: none"> ● educational equity 	0.0002845	not significant	accepted
<ul style="list-style-type: none"> ● educator motivation morale improvement 	0.0002866	not significant	accepted
<ul style="list-style-type: none"> ● student experiences 	0.0003440	not significant	accepted
<ul style="list-style-type: none"> ● strengthening school culture 	0.0002846	not significant	accepted
<ul style="list-style-type: none"> ● innovation skills in leadership 	0.0002880	not significant	accepted
C. Marital Status:			
<ul style="list-style-type: none"> ● educational equity 	0.0003391	not significant	accepted
<ul style="list-style-type: none"> ● educator motivation morale improvement 	0.0003416	not significant	accepted
<ul style="list-style-type: none"> ● student experiences 	0.0004101	not significant	accepted
<ul style="list-style-type: none"> ● strengthening school culture 	0.0003393	not significant	accepted
<ul style="list-style-type: none"> ● innovation skills in leadership 	0.0003433	not significant	accepted
D. Highest Educational Attainment:			
<ul style="list-style-type: none"> ● educational equity 	0.0003041	not significant	accepted
<ul style="list-style-type: none"> ● educator motivation morale improvement 	0.0003064	not significant	accepted
<ul style="list-style-type: none"> ● student experiences 	0.0003678	not significant	accepted
<ul style="list-style-type: none"> ● strengthening school culture 	0.0003043	not significant	accepted
<ul style="list-style-type: none"> ● innovation skills in leadership 	0.0003079	not significant	accepted

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E. Current Position:			
● educational equity	0.0003179	not significant	accepted
● educator motivation morale improvement	0.0003202	not significant	accepted
● student experiences	0.0003844	not significant	accepted
● strengthening school culture	0.0003180	not significant	accepted
● innovation skills in leadership	0.0003218	not significant	accepted
F. No. of Years in Service:			
● educational equity	0.0003010	not significant	accepted
● educator motivation morale improvement	0.0003032	not significant	accepted
● student experiences	0.0003640	not significant	accepted
● strengthening school culture	0.0003011	not significant	accepted
● innovation skills in leadership	0.0003046	not significant	accepted
Significant at 0.05, one tailed test, df of 50 with critical r value of 0.273243			

Table 13 presents the test of significant correlation between the profile of the respondents and the educational transformation perspective of the educational management practices among the respondents.

It shows that all computed r values are lower than the critical r value of 0.273243, one-tailed test, with df of 50 at 0.05 level of significance. Therefore, it reveals that there is no significant correlation between the profile of the respondents and the educational transformation perspective of the educational management practices among the respondents.

6. On the test of significant correlation between the contribution of effective style educational leadership management and practices and the educational transformation perspective of the educational management practices among the respondents

Table 14. Test of Significant Correlation Between the Contribution of Effective Style Educational Leadership Management and Practices and the Educational Transformation Perspective of the Educational Management Practices Among the Respondents

Variables	Computed r values	Relationships *significant *not significant	Hypotheses *accepted *rejected
A. Democratic Leadership Style:			
● educational equity	0.0001214	not significant	accepted
● educator motivation morale improvement	0.0001223	not significant	accepted
● student experiences	0.0001468	not significant	accepted
● strengthening school culture	0.0001215	not significant	accepted
● innovation skills in leadership	0.0001229	not significant	accepted
B. Instructional Leadership Style:			
● educational equity	0.0001212	not significant	accepted
● educator motivation morale improvement	0.0001221	not significant	accepted
● student experiences	0.0001466	not significant	accepted
● strengthening school culture	0.0001213	not significant	accepted
● innovation skills in leadership	0.0001227	not significant	accepted
C. Authoritative Leadership Style:			
● educational equity	0.0001242	not significant	accepted
● educator motivation morale improvement	0.0001251	not significant	accepted
● student experiences	0.0001502	not significant	accepted
● strengthening school culture	0.0001243	not significant	accepted
● innovation skills in leadership	0.0001257	not significant	accepted

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D. Coaching Leadership Style:			
● educational equity	0.0001416	not significant	accepted
● educator motivation morale improvement	0.0001427	not significant	accepted
● student experiences	0.0001713	not significant	accepted
● strengthening school culture	0.0001417	not significant	accepted
● innovation skills in leadership	0.0001434	not significant	accepted
E. Transformational Leadership Style:			
● educational equity	0.0001228	not significant	accepted
● educator motivation morale improvement	0.0001237	not significant	accepted
● student experiences	0.0001486	not significant	accepted
● strengthening school culture	0.0001229	not significant	accepted
● innovation skills in leadership	0.0001243	not significant	accepted
Significant at 0.05, one tailed test, df of 50 with critical r value of 0.273243			

Table 14 presents the test of significant correlation between the contribution of effective style educational leadership management and practices and the educational transformation perspective of the educational management practices among the respondents.

It reveals that all computed r values are lower than the critical r value of 0.273243, one-tailed test, with df of 50 at 0.05 level of significance. Therefore, it is safe to say that there is no significant correlation between the contribution of effective style educational leadership management and practices and the educational transformation perspective of the educational management practices among the respondents.

CONCLUSION

It shows that majority of the respondents belong to the age bracket of 41 years and above where most of them are male and are married. They also obtained their Doctoral degree which is needed in the educational leadership where most of them are Principals and are in the service of 21 years and above.

It shows that the contribution of effective style educational leadership management and practices of the respondents involves democratic leaders where they yield with a high morale environment to generate and motivate creative solutions of effective leadership style in school organization. They are also involved in instructional leadership such as planning practice, coordination, evaluation, and teaching improvement learning. They are also authoritative leaders to ensure that the systems are in order, and quick in the decision process and control the organization. It shows coaching leadership involves behavior, attitude, work performance, evaluation, process of the work, and the policies in the school organization, and it shows that transformational leaderships is an essential element in the organization to be imposed for good, better, and best because all employees in the school organization are determinant for the process.

It shows that educational transformation perspective of the educational management practices of the respondents explores career, advocacy, and policy in pursuing equity in education, contributes to the school system in the organization which is a valuable and important backbone in the process, reveals the significant effect on positive and negative effects of the transformational leadership process, maintains school culture and identity for the diverse and challenging condition strength of school organization and setting, and supports the innovation of learning in the school organization and supports advanced flexible learning technology.

It shows that there is no significant correlation between the profile of the respondents and the contribution of effective style educational leadership management and practices among the respondents.

It shows that there is no significant correlation between the profile of the respondents and the educational transformation perspective of the educational management practices among the respondents.

It shows that there is no significant correlation between the contribution of effective style educational leadership management and practices and the educational transformation perspective of the educational management practices among the respondents.

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Revisiting Extension Programs: The Key to Sustainability

Helen T. Asio, Ph.D.¹, Ma. Cristina Lalaine M. Nerona, Ph.D.²



ABSTRACT: The Isabela State University has the mandate to provide effective education and training of the needed manpower resources through its four major functions: research, extension and production. It has been a part of its Core Values to have a consistent engagement with the public by mobilizing all available human resources in all its programs to cater the needs of its clientele.

Hence, the proponents came up with this study, revisiting the Extension Programs of the campus for the past 6 years, from 2014-2019, to better understand its existing situation which will be the basis in planning and formulating measures and strategies to come up with a more responsive extension programs.

The proponents performed the Descriptive- Quantitative Research, documentary analysis and interview. The result of the study shows that among the implemented projects, most of them fall under the project category, LGU Capability Building with 28 or 49.09%; College of Education has the highest number of involvement with 25 or 43.86%; Instructor position are the major proponents, with 43 or 48.31%; LGU is the major partner agency with 12 or 37.48%; majority of the projects last for weeks with 25 or 43.86%; Internal fund is the major source of fund with 54 or 94.74%; Students are the major participants under internal beneficiaries with 9 or 64.28%; As to External Beneficiaries, majority of the attendees are from different group of people with 19 or 47.5%; Majority of the projects are started and completed, 40 or 70.17%; and along Sustainability, majority are not sustained with 54 or 94.73%. The result implies that there is a strong partnership between the extension unit of the university and the LGU where it belongs, and the extension programs are responsive to the needs of various clientele.

KEYWORDS: EXTENSION, REVISITING, CAPABILITY BUILDING

INTRODUCTION

Higher education institutions are mandated to render extension service hand in hand with instruction, research and production. This is in recognition of the vital role colleges and universities play in the development of communities, especially the underserved and the depressed.

The Isabela State University has the mandate to provide effective education and training of the needed manpower resources in the arts, agriculture and natural sciences as well as in the technological and professional fields. As a known university in the region, it has been a part of its Core Values the Public Engagement which requires a consistent engagement with the public by mobilizing expertise and services available in all its programs in answer to the needs of the community.

The long-term goal of the university is to sustain its active role in the realization of socio-economic development that enhances the quality of life of the people. To sustain this role, the University Extension Services shall package and disseminate appropriate technologies generated through research to increase productivity and income geared towards the improvement of the quality of life of the partner communities and interested clientele.

However, it has been observed in some campuses like ISUI that there are few extension projects that are sustained. Instead of continuing the projects that have been introduced and implemented in its adopted barangays, most of these extension activities have been discontinued or suspended for unknown reasons.

Hence, the proponents came up with this research study to revisit the extension programs of the campus covering six-year periods to better understand possible root causes of sudden discontinuity of some extension projects and later on, to come up with a concept on how to sustain all the extension programs given to the community, particularly to its adopted barangays.

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RELATED LITERATURE

A phenomenological definition of community development work would focus primary attention on the community-building behavior of individuals and community institutions, which it would lead to normative theories about the local conditions necessary to foster resident engagement and skill-building and the collective action required of community institutions (Dorius, 2011). The successful implementation of stakeholder engagement in the governance of sustainable community development is likely to depend on a comprehensible understanding and appreciation of power in corporate-community interaction. The companies must be clear about their own and stakeholders' rationale for participation, facilitate the creation of appropriate participatory structures, and processes that contribute to process, and thereby to sustainable communities (Muthuri, et al. (2012).

Glickman and Servon (2003) presented five components of capacity – resource, organizational, networking, programmatic, and political – enabled us to approach the issue of Community Development Corporations capacity systematically and to show real differences between the three categories of Community Development Corporations in some critical areas.

Muthuri et. al. (2012) emphasized current community development approaches in mining companies and attempted to facilitate more dialogue and conceptual exchange between traditional community development practitioners and those in the corporate sector as a strategy to strengthen corporate contribution to community development. Owen and Kemp's article (2012) cited in Muthuri et. al. (2012) draws on the revised potential benefits of Asset-Based Community Development (ABCD) model to both local communities and mining companies, and engages critically with the possible pitfalls that can confront the implementation of the ABCD model; two different forms of capital (resource capital tangible and intangible, institutional capital – relationship between firm strategy and sustainable community development) with competitive differentiation through sustainable community development; possibility of addressing agendas of sustainable community development through innovative and inclusive business models that create benefits for all concerned stakeholders; and the respective roles and impacts of the NGO's and companies in these different forms of partnerships for community involvement and their impact and potential. They conclude that companies ought to think of innovative forms of governance in their local contexts.

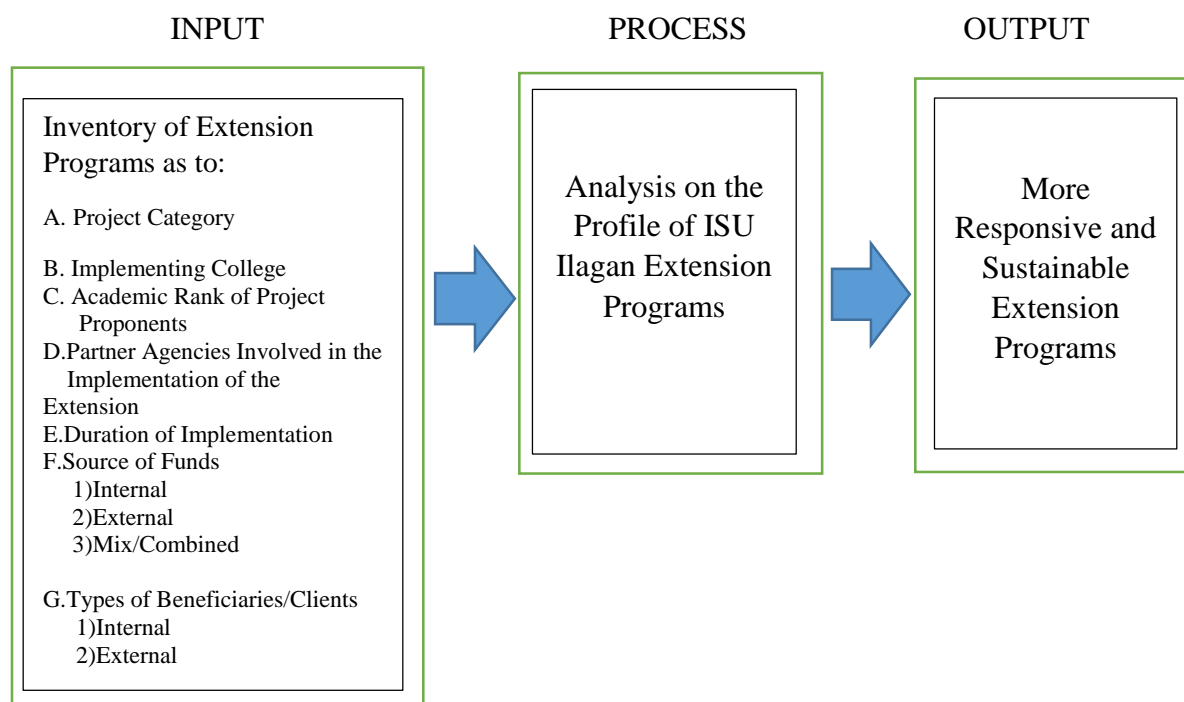
Impact Assessment

Measuring Impacts on Community Institutions have the following behavioral objectives: bringing people together; making decisions with dignity: changing attitudes; setting common goals; building self-confidence; achieving economic self-sufficiency. Moreover, Community Development Corporations practitioner empowerment themes includes the following : bringing people together; communicating with dignity and respect; changing attitudes and overcoming barriers; recognizing common goals and creating a vision; building individual self-confidence; and achieving economic self- sufficiency (Dorius, 2011).

Impact Assessment Edwards (2012) observed the potential impacts of growth and development on communities throughout Wisconsin. Growth has been viewed as healthy and desirable for communities. However, communities are increasingly aware that growth may also be accompanied by costs. In addition, development decisions are too often made without a sufficient understanding of the consequences of those decisions on overall community well-being. Since changes induced by growth in a community are not always positive, carefully planned development is necessary for ensuring that growth is consistent with the long-range goals of the community.

Bornstein, (2010) emphasized that impact assessment provides a framework for addressing community development. It is designed to assist local planners and decision-makers in understanding, ahead of time, what types of impacts a particular development may have on a community. It allows time for avoidance or mitigation of any adverse effects of a proposed development Most frequently, Social Impact Assessment is undertaken when a specific project is planned and anticipated for a specific community; more so, if used as part of a strategic planning process or in project design. In the Peace and Conflict Impact Assessment (PCIA) it can, in theory, inform decision-makers as to which interventions are successful and may be used to monitor the effects of ongoing projects and, again in theory, can help development agencies verify that their activities are not negatively affecting development (Canan and Hennessy, 1985). It can also be applied to individual projects where this is appropriate (Edwards, 2012).

Revisiting Extension Programs: The Key to Sustainability



The present study is guided with this research paradigm using IPO Model (Input, Process, Output). It has an input: Inventory of Extension Programs as to: Project Category, Implementing College, Academic Rank of the Proponent, Partner Agencies Involved in the Extension, Duration of Implementation, Source of Fund, Types of Beneficiaries and Status of the Project. After knowing the present status of the extension projects, the proponent could be given information as to the weaknesses of the extension program in the campus which will be the subject for enhancement through strategic planning to come up with a more responsive extension programs of the campus.

Statement of the Problem

This research aimed to conduct an inventory on the Extension Programs of ISU Ilagan for the past six (6) years. Specifically, it sought to answer the following questions:

1. What is the Profile of the Extension Programs of ISU in the past six (6) years in terms of:
 - a. Project Category
 - b. Implementing College
 - c. Academic Rank of Project Proponents
 - d. Partner Agencies Involved
 - e. Duration of Implementation
 - f. Source of Funds
 - 1) Internal
 - 2) External
 - 3) Mix/Combined
 - g. Types of Beneficiaries/Clients
 - 1) Internal
 - 2) External

2. What is the status of the project in terms of number of years of their existence

Scope and Delimitation

This research dealt with the inventory of the extension programs of Isabela State University, City of Ilagan campus as to Profile: Project Category, Implementing College, Academic Rank of Project Proponents, partner agencies, duration of implementation, Source of funds, Types of Beneficiaries.

This study also looked into the the status of the project as to the number of years of their existence.

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Significance of the Study

The present study would be beneficial to the following:

To the administration and head of the campus' extension Unit, this study serves as a checklist as to its accomplishments relative to community service. With the result of the study, it would also serve as an eye opener to determine the strengths and weaknesses of the extension programs of the campus.

To the proponents of the extension project, since the study shows the extension projects implemented for the past 6 years in the campus, they will be given hints on what possible areas/ project category need to be revived, with various clients and more partner agencies that are beneficial to the Implementing college and to the community they serve. To the students and staff involved and planning to be involved, they will be guided on how they could contribute to the extension programs of the campus.

METHODOLOGY

Research Design

The proponents made use of the Descriptive-Quantitative Research.

Data Gathering Procedure

In order to gather the data needed in the study, the proponents utilized interview and documentary analysis.

The study made use of a primary research since the collection and selection of data was based on the documents available at the Extension Office. Moreover, some of the proponents of the study are the implementers of the programs being studied, that had been hands-on in each program for the past years. As to data gathering, it was through documentary analysis, interviews and direct observation.

Statistical Treatment

In order to analyze the result, frequency count and percentage was used.

RESULTS AND DISCUSSION

1. What is the Profile of the Extension Programs of ISU in the past six (6) years in terms of:

a. Project Category

Table 1. Category of Extension Projects

Project Category										
Year	1 (Adopt-a-Barangay)		2 (Community Outreach)		3 (LGU Capability Building)		4 (Gender & Development)		Total	
	f	%	f	%	f	%	f	%	f	%
2014	4	7.01	-	-	1	1.75	-	-	5	8.77
2015	5	8.77	-	-	2	3.50	-	-	7	12.28
2016	5	8.77	2	3.50	6	10.52	-	-	13	22.80
2017	1	1.75	1	1.75	3	5.26	1	1.75	6	10.52
2018	5	8.77	-	-	5	8.77	-	-	10	17.54
2019	2	3.51	2	3.50	11	19.29	2	3.50	16	28.07
Total	22	38.58	5	8.75	28	49.09	3	5.25	57	100

As shown, out of 57 extension projects implemented from 2014-2019, most of them 28 or 49.09% are under the category, *LGU Capability Building*; while the least, the *Gender and Development* with 3 or 5.25%. Moreover, the bulk of LGU Capability Building training is given in 2019 with 16 or 28.07%.

B. Implementing College

Table 2. Implementing College

Year	1 (COED/CITE)		(CEAT)		3(CON and SOM)		5 (ADMIN)		Total	
	f	%	f	%	f	%	f	%	f	%
2014	4	7.02	1	1.75	-	-	-	-	5	8.77
2015	5	8.77	2	3.50	-	-	-	-	7	12.28
2016	5	8.77	2	3.50	4	7.02	1	1.75	12	21.05
2017	3	5.26	-	-	2	3.50	1	1.75	6	10.53

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2018	4	7.02	5	8.77	-		2	3.50	11	19.29
2019	4	7.02	4	7.02	2	3.50	6	10.52	16	28.07
Total	25	43.86	14	24.54	8	14.02	10	17.52	57	100

As observed from the table above, out of 57 programs, majority 25 or 43.86% are initiated by the College of Education; while the least, 8 or 14.81% are from College of Nursing and School of Midwifery.

It is shown in the table that 10 or 17.52% of all the programs are collaborative projects of different colleges and offices in the campus.

As to the implementing college, most of the projects are organized or initiated by the College of Education with 25 or 43.86% while the College of Nursing and School of Midwifery has the least number of projects implemented with 8 or 14.02%.

C. Academic Rank of the Project Proponent

Table 3. Academic Rank of the Project Proponent

Project Proponent Rank										
Year	1 (Instructor)		2 (Assistant Prof.)		3 (Associate Professor)		4 (Professor)		Total	
	f	%	f	%	f	%	f	%	f	%
2014	1	1.12	1	1.12	3	3.37	-	-	5	5.62
2015	1	1.12	1	1.12	6	6.74	-	-	8	8.98
2016	10	11.23	6	6.74	2	2.25	-	-	18	20.22
2017	1	1.12	2	2.25	3	3.37	-	-	6	6.74
2018	11	12.35	5	5.62	3	3.37	1	1.12	20	22.47
2019	19	21.35	5	5.62	7	7.86	1	1.12	32	35.95
TOTAL	43	48.31	20	22.47	24	26.96	2	2.24	89	100

As to the Academic Rank of the extension project proponent, out of 89 faculty project proponents, most of them, 43 or 48.31% are under academic rank of Instructor; while the least, they come from academic rank of professor with 2 or 2.24%.

The present result is a clear evidence that the policy on Individual Performance Commitment Review which requires the percentage of the four mandates of the university, particularly on Extension, is not strictly implemented in the campus since there is an interchanged of expected output in terms of extension. Extension implementers come from "Instructor" academic rank whose work should be more on teaching have more extension outputs than "professor" academic rank whose work should be more on research and extension.

Based on the result, in 2019 has the most number of project proponent with 32 or 3.95% while in 2014 has the least number of proponent with 5 or 5.62%. As observed from the table, the number of extension project implementers are getting higher every year except in 2017 with 6 or 6.74%.

d. Partner Agencies of ISU Ilagan in the Implementation of the Extension Project for 6 years

Table 4. Partner Agencies of ISU Ilagan in the Implementation of the Extension Project from the Year, 2014-2019

Year	1		2		3		Total	
	LGU		Nat'l Gov't		Industries & SME			
	f	%	f	%	f	%	f	%
2014	1	3.12	-	-	2	6.25	3	9.37
2015	1	3.12	1	3.12	2	6.25	4	12.5
2016	1	3.12	1	3.12	2	6.25	4	12.5
2017	1	3.12	2	6.25	1	3.12	4	12.5
2018	4	12.5	3	9.37	1	3.12	8	25
2019	4	12.5	4	12.5	1	3.12	9	28.12
Total	12	37.48	11	34.36	9	28.11	32	100

As to the partner agency of the campus in the implementation of the project, out of 32 partner agencies from 2014-2019, most of them 12 or 37.48 come from LGU while the least, 9 or 28.11% come from Industries/ SME. The table also shows that in 2019 has the highest number 9 or 28.12% partner agency.

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e. Duration of Implementation

Table 6. Duration of Implementation

Year	1		2		3		4		Total	
	Days		Weeks		Months		Year			
	f	%	f	%	f	%	f	%	f	%
2014	4	7.02	1	1.75	-	-	-	-	5	8.77
2015	1	1.75	5	8.77	1	1.75	-	-	7	12.28
2016	4	7.02	6	10.52	3	5.26	-	-	13	22.81
2017	-	-	4	7.02	2	3.51	-	-	6	10.53
2018	-	-	3	5.26	7	12.28	-	-	10	17.54
2019	8	100	6	10.52	2	3.51	-	-	16	28.07
Total	17	29.82	25	43.86	15	26.32	-	-	57	100

As shown, out of 57 programs, most of them, 25 or 43.86% existed within two weeks. There is no recorded projects that exist within a year or more than a year. This is an indication that most of the extension projects in Ilagan Campus are short term projects.

f. Source of Funds

Table 7. Source of Funds

Year	Internal		External		Total	
	f	%	f	%	f	%
2014	5	8.77	-	-	5	8.77
2015	7	12.81	-	-	7	12.81
2016	12	21.05	1	1.75	13	22.80
2017	6	10.52			6	10.52
2018	10	17.54	-		10	17.54
2019	14	24.56	2	3.51	16	24.56
Total	54	94.74	3	5.26	57	100

As to the sources of fund utilized in the implementation of extension projects the table shows that out of 57 projects, most of the projects 54 or 94.74% are financed solely by the internal or campus' extension fund. Only 3 or 5.55% are supported by the external agencies.

The result implies that the campus, particularly the project implementers do not exert effort in finding funding agencies that could assist in the implementation of their projects. This may be the effects of having few linkages of the campus

g. Types of Beneficiaries

1) Types of Internal Beneficiaries

Table 8. Types of Internal Beneficiaries/Participants

Internal Beneficiaries										
Year	1		2		3		4		Total	
	Students		Faculty		Staff		Mixed Faculty & Staff			
	f	%	f	%	f	%	f	%	f	%
2014	-	-	-	-	-	-	-	-	-	-
2015	-	-	1	7.14	-	-	-	-	1	7.14
2016	1	7.14	-	-	-	-	-	-	1	7.14
2017	3	21.42	-	-	-	-	-	-	3	21.42
2018	-	-	-	-	-	-	-	-	-	-
2019	5	35.71	2	20	-	-	2	20	9	64.28
Total	9	64.28	3	21.42	-	-	2	20	14	100

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Among the 14 extension projects implemented within the campus, most of them 9 or 64.28% have student-beneficiaries. There are three or 21.42% with faculty-beneficiaries. There is no recorded extension projects having staff-beneficiaries except to the two or 20% projects given to both faculty and staff beneficiaries.

2) Types of External Beneficiaries

Table 9. Types of External Beneficiaries/ Participants

External Beneficiaries																
Year	1		2		3		4		5		6		7		Total	
	Children		OSY		Male Adult		Female Adult		Mixed Gender		General		Brgy. Officials/ Gov't Officials			
	f	%	f	%	f	%	f	%	f	%	f	%	f	%		
2014	-		-		1	2.5	-	-	4	10	-		-		5	12.5
2015	1	2.5	-		1	2.5	2	5	-	-	1	2.5	1	2.5	6	15
2016	-		-		-		3	7.5	1	2.5	7	17.5	-		11	27.5
2017	-		-		-		-	-	1	2.5	6	15	-		7	17.5
2018	-		1	2.5	1	2.5	-	-	-	-	4	10	-		6	15
2019	-		1	2.5	-		-	-	1	2.5	1	2.5	2	5	5	12.5
Total	1	2.5	2	5	3	7.5	5	12.5	7	17.5	19	47.5	3	7.5	40	100

Among the 40 projects implemented by the campus, most of them 19 or 47.5 % have general or combination of different sexes and age's beneficiaries. The least, one or 2.5% with children-beneficiaries.

The result indicates that the extension programs of the campus do not give equal benefits to possible clients such as children, Out of School Youth, Barangay Officials and others.

h. Status of the Project

Table 10. Status of Projects

YEAR	1 (Proposed but not started)		2 (Started but not finished)		3 (Started and Completed)		Total	
	f	%	f	%	f	%		
2014	2	3.51	-	-	3	5.26	5	8.77
2015	-	-	-	-	7	12.28	7	12.28
2016	5	8.77	-	-	8	14.03	13	22.80
2017	4	7.01	-	-	2	3.51	6	10.52
2018	4	7.01	2	3.51	4	7.01	10	17.54
2019	-	-	-	-	16	28.07	16	28.07
TOTAL	15	26.03	2	3.51	40	70.17	57	100

As to the status of the projects implemented by the extension unit, out of 57 projects, most of them, 40 or 70.17% started and completed; 15 or 26.03 proposed but not started; and 2 or 3.51 started but not finished.

The result implies that the project implementers follow their planned activities and finished as scheduled

i. Sustainability of the Project

Table 11. Extension Projects that Continued/ Sustained

Sustainability of the Project (@ 57)				
Years	Sustained		Not Sustained	
2014	f	%	f	%
to	3	5.26	54	94.73
2019				

As to the number of sustained project, out of 57, most of them, 54 or 94.93% started and finished but not sustained. There are only 3 or 5.26% projects which continued up to present or sustained.

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This implies that most of the extension projects of the campus are short term programs. Moreover, every year there new projects are introduced. It implies that the stage, monitoring and impact assessment of the conducted projects have not implemented in the campus except to the three projects.

FINDINGS AND CONCLUSION

1. Most (28 or 49.09%) of the extension projects implemented by the extension unit of ISU Ilagan are under the category, *LGU Capability Building* ; while the least, the *Gender and Development* with 3 or 5.25%. Moreover, the bulk of LGU Capability Building training is given in 2019 with 16 or 28.07%.
2. As to Implementing College, most of the projects 25 or 43.86% are initiated by the *College of Education*; while the least, 8 or 14.81% are from *College of Nursing and School of Midwifery*.
- 3.As to the academic rank of the extension project proponent, out of 89 faculty- project proponents, most of them, 43 or 48.31% are under the academic rank of *Instructor*; while the least, they come from academic rank of *professor* with 2 or 2.24%.
- 4.As to the partner agency of the campus in the implementation of the project, out of 32 partner agencies from 2014-2019, most of them 12 or 37.48 come from *LGU* while the least, 9 or 28.11% come from *Industries/ SME*. The table also shows that in 2019 has the highest number 9 or 28.12% partner agency.
- 5.As to duration of implementation duration of the project, out of 57 programs, most of them 25 or 43.86% existed within *two weeks*. There is no recorded projects that exist within a year or more than a year.
- 6.As to the sources of fund utilized in the implementation of extension projects, most of the projects 54 or 94.74% are financed solely by the *internal* or campus' extension fund. Only 3 or 5.55% are supported by the external agencies.
- 7.Among the 14 extension projects implemented within the campus, most of them, 9 or 64.28% with *student-beneficiaries*. There is no recorded extension projects given to the staff-beneficiaries only except to the two or 20% projects given to both faculty-beneficiaries and staff-beneficiaries.
- 8.Among the 40 projects implemented by the campus, most of them, 19 or 47.5 % have the *general* or combination of different sexes and ages beneficiaries. The least, one or 2.5% with children-beneficiaries.
- 9.As to the status of the projects implemented by the extension unit, out of 57 projects, 40 or 70.17% *started and completed*.
- 10.As to the number of sustained project, out of 57, 54 or 94.93 are *not sustained*. There are only 3 or 5.26% that completed and sustained.

RECOMMENDATIONS

Based on the findings and conclusions, the following are recommended:

1. The extension unit should strengthen the conduct of needs analysis in the community participated by different types of target beneficiaries in order to come up with a proposal that could benefit various types of clientele.
2. Every college, including its faculty and students, is encouraged to be involved in the extension activities of the campus to make community feel the essence of the campus' existence.
3. Strict monitoring of every faculty IPCR Form should be done per program to encourage more faculty to do extension activities, specially those at the associate professors and up.
4. The different colleges, other office particularly the external Linkage of the campus should assist the extension unit in finding more partner agencies including funding agencies, in the implementation of extension activities.
5. Project implementation, monitoring and evaluation is encouraged to be done in order to see the impact of the extension program given by the extension unit of the campus to the community or clients in order to improve the services given to the community and to be more responsive to their needs.

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Development and Sensorial Evaluation of Cookies from Selected Root Crops Flour



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ABSTRACT: The research focused on the development and sensorial evaluation of cookies using local root crops flour like cassava flour, potato flour, sweet potato flour and yam flour which are in the area widely available. This product development research included two major phases: (1) development of root crops flour, (2) making cookies with root crops flour as main ingredients. The evaluators consisted of children, adolescents, adults and experts. Results of the study revealed that on sample 1, described by the respondents as "highly acceptable" from cassava flour, sweet potato flour and yam flour. In contrast, the evaluators found the potato flour-based cookies to be "moderately acceptable." While sample 2 and 3, all cookies described by the respondents "highly acceptable". On the general acceptability of the different sample of root crops flour among varied age groups, the cassava cookies were on top followed by sweet potato cookies and yam cookies. The least was the potato cookies which was the grand mean of 4.55 though it was rated "highly accepted". But as evaluated by the evaluators, in the overall acceptability, significant difference is evident of cookies made with root crop flour in the four (four) criteria: appearance, aroma, taste, and texture. Moreover, more baked products should be made to determine the acceptability of root crops flour as main ingredients. Finally, research of this kind may be conducted to enrich the finding of the study.

KEYWORDS: Cassava flour, cookies, potato flour, sensorial evaluation, sweet potato flour, yam flour

INTRODUCTION

Cookies, often known as biscuits, are a common food that are eaten all over the world. In fact, in the majority of the world's regions, it is the greatest category of snack foods. Due to their abundance in fat, protein, and carbohydrates, cookies not only give you energy but are also a wonderful source of minerals. A common variety of cookie is the butter cookie. These cookies are made with butter, flour, and sugar. They classify into the "crisp cookie" due to their distinct texture, which is mainly due to the high butter and sugar content. Additionally, butter cookies, which are among the most basic varieties of cookies due to their lack of flavoring, are sometimes flavored with vanilla extract, desiccated coconut and chocolate or cocoa powder. Wheat flour is the primary ingredient of cookies. Given the high price, geographic scarcity, and high demand for wheat flour, efforts have been made to provide a locally available alternative source of wheat flour, which is the flour from root crops (cassava, potato, sweet potato and yam).

On the other hand, local climate conditions in tropical nations like the Philippines are unsuitable for productive wheat farming. The Philippines has therefore been totally dependent on imported wheat for its baking needs. The cost of importing wheat is high for importing nations. Since natural disasters sometimes wipe out wheat crops and because many farmers are starting to switch from cultivating wheat to "more lucrative" root crops that may be used to make flour, there is a pressing need to produce a suitable substitute for wheat. Flour having superior nutritional qualities to wheat would be widely desired in the search for a wheat alternative, especially in underdeveloped nations where malnutrition is common.

Cassava is the most important root crop and a substantial source of energy in tropical regions. It has a high calorific content related to most costly root crops. (Okigbo, 1980).

¹Potato on the other hand, it is the fourth-ranked significant food crop in the world (*Solanum tuberosum* L.) and is a staple diet for about half the world's population. It is essentially low in calories and a powerful antioxidant as well.

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Additionally, sweet potato (*Ipomoea batatas* (L.)) is one of the most important and underutilized root crops in the entire world. It is frequently referred to as poverty relief crops, food security crops, or subsistence crops. They are a vital supply of starch and other essential carbohydrates for humans, as well as a major source of protein for many cultures throughout the world (Srivastava et al., 2012).

Lastly, yam (*Discorea rotundata*) the majority of the yam plant is a tuber, which is turned into flour and used to make paste. Its chemical makeup, which includes alkaloids of saponin and sapogenin, is what accounts for its medical use as a cardiac stimulant (IITA, 2009). Yam often have a lower glycemic index than foods like potato products provide a more sustained form of energy and greater defense against diabetes and obesity. They additionally guard the body against heart disease and osteoporosis (Davidson, 1999).

The investigation was therefore carried out against this context. With root crop flour as a replacement for wheat flour, cookie products are intended to be developed. Hopefully, this will lessen our over reliance on wheat and the expensive cost of importing wheat. It will promote the consumption of inexpensive, locally available root crops that offer a variety of nutritional and health benefits. Furthermore, it would encourage people to cultivate root crops like yam, sweet potato, cassava, and potatoes.

METHODS

The finished products were subjected to sensory evaluation. One hundred twenty (120) evaluators among varied age group were purposely selected and properly oriented on what and how to evaluate the products using the score card depicting the sample code. Residents of barangay Malalam in Ilagan City, Isabela, first-year students majoring in Food and Service Management (FSM), Food Technology Teachers Isabela State University, Ilagan campus, and selected bakeries of City of Ilagan are among the people involved in the evaluation.

A score sheet that used a qualitative analytic method to evaluate the cookie products for data collection tool. Using a five-point Likert scale, responses were gathered regarding the degree to which the cookie products made from the various root crops (cassava, potato, sweet potato, and yam) were acceptable in terms of outcome appearance, crunchy texture, smell and taste. The results are summarized below:

Numerical Rating	Descriptive Rating
4.50-5.0	Highly Acceptable
3.50-4.49	Moderately Acceptable
2.50-3.49	Acceptable
1.50-2.49	Slightly Acceptable
1.00-1.49	Not Acceptable

PRODUCT DEVELOPMENT

A. Preparation of Root Crops Flour

1. Wash the major ingredients, peel and re - wash the tubers (cassava).



2. Place the peeled in a basin of clean water. Slice the tubers and arrange them on drying trays in a uniform thickness.



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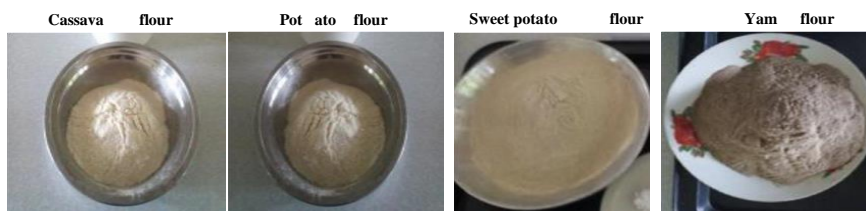
3. Place the drying trays direct to the sunlight. Continue drying the tuber slices until they snap cleanly and crisply. Allow the tuber slices to cool.



4. Grind the dried tuber slices into flour then sift to remove the coarse particles.



5. Store in clean, dry, airtight container.



B. Preparation of Cookie Products from the different Root Crops Flour

Ingredients:

- 2 cups root crops flour (cassava, potato, sweet potato and yam)
- 1 bar butter
- 1 cup. Sugar
- 1 whole egg
- 1 teaspoon cream of tartar
- 1 teaspoon vanilla

Procedure:

1. Cream shortening and together until smooth consistency.



2. Put whole egg, cream well.

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3. Sift together the dry ingredients (flour, cream of tartar, and baking soda) into the mixture.



4. Mix well, adding the vanilla with the last few stirs.



5. Press from the cookie press onto ungreased cookie sheet.



6. Bake at 370°F in a preheated oven until Fifteen (15) minutes until golden brown.



Cassava cookies



Potato cookies



Sweet potato cookies



Yam cookies

RESULTS

Table 1. Cookies with two (2) cups of Cassava Flour

Age Group	Mean	Qualitative Description
Children	4.78	Highly Accepted
Adolescents	4.88	Highly Accepted
Experts	4.50	Highly Accepted
Adults	4.93	Highly Accepted
Mean	4.77	Highly Accepted

It is shown above with two cups of cassava flour in cookies was appreciated by evaluators in different age groups. The overall mean of 4.77 indicates that all age groups thought the cookies to be highly acceptable or very satisfactory. This can be attributable to the cookies' excellent flavor. The expert group, on the other hand, was the least accepting because they thought the texture of the cookies made them break easily.

Table 2. Cookies with 2 ½ cups of Cassava Flour

Age Group	Mean	Qualitative Description
Children	4.75	Highly Accepted
Adolescents	4.83	Highly Accepted
Experts	4.51	Highly Accepted
Adults	4.88	Highly Accepted
Mean	4.74	Highly Accepted

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In shown above, all age groups gave a rating of "highly accepted" in the level of acceptability of cookies with 2 ½ cups of cassava flour as indicated by the total mean of 4.74. The group of adults rated the cassava cookies with the highest mean of 4.88 while the group of experts rated the cassava cookies 4.51 which is the lowest mean. But, rated highly acceptable it implies that the evaluators accept very much the cookies using 2 ½ cups of cassava flour.

Table 3. Cookies with three (3) Cups of Cassava Flour

Age Group	Mean	Qualitative Description
Children	4.83	Highly Accepted
Adolescents	4.80	Highly Accepted
Experts	4.68	Highly Accepted
Adults	4.81	Highly Accepted
Mean	4.78	Highly Accepted

Table 3 indicates that all age groups of raters gave the cookies made with three cups of cassava flour the same acceptance rating of outstanding. Out of the four age groups, the adult group awarded the cookies the highest mean rating (4.81), though. The lowest rating from the experts, a mean of 4.68, was given to the cookies. However, a rating of highly satisfactory denotes that the group of reviewers found the cookies made with 3 cups of cassava flour to be very delicious. It gives the overall mean of 4.78.

Table 4. Cookies with two (2) cups of Potato

Age Group	Mean	Qualitative Description
Children	4.60	Highly Accepted
Adolescents	4.36	Moderately Accepted
Experts	4.26	Moderately Accepted
Adults	4.76	Highly Accepted
Mean	4.49	Moderately Accepted

Acceptability level of cookies made with two cups of potato flour. The overall evaluation was "moderately satisfactory," with ratings of "very accepted" coming from two age groups (children and adults) and "moderately accepted" (4.49) from the other two (adolescents and experts).

Table 5. Cookies with 2 ½ Cups of Potato Flour

Age Group	Mean	Qualitative Description
Children	4.76	Highly Accepted
Adolescents	4.65	Highly Accepted
Experts	4.26	Moderately Accepted
Adults	4.69	Highly Accepted
Mean	4.59	Highly Accepted

The three of the age groups of evaluators namely, children, adolescents, and adults rated the cookies with 2 ½ cups of potato flour "highly acceptable" while experts rated it "moderately acceptable". It is evident from the table that among the groups of evaluators, only the experts found the cookies using 3 cups of flour "moderately acceptable".

Generally, the product was rated highly acceptable. It is implied that the group of children with the highest mean of 4.76 found the cookies delicious. However, the group of experts gave the lowest mean (4.26) because the cookies using 2 ½ cups of potato flour has unpleasant flavour. With a grand mean of 4.59, the overall rating was "very acceptable".

Table 6. Cookies with three Cups of Potato Flour

Age Group	Mean	Qualitative Description
Children	4.63	Highly Accepted
Adolescents	4.57	Highly Accepted
Experts	4.47	Moderately accepted
Adults	4.67	Highly Accepted
Mean	4.58	Highly Accepted

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It shows on table 6 that three (3) age groups, namely children, adolescents, and adults rated cookies with three cups of potato flour "highly acceptable". Meanwhile, the group of experts gave a rating of "moderately acceptable". This indicates that the evaluated potato cookie was highly accepted by the group of adults with the mean of 4.67. It implies that the group of adults accept very much the finished products. However, the group of experts rated the potato cookies moderately acceptable which is the lowest mean of 4.47. This means that the finished products did not catch the eyes, smell, taste and gentle touch of the respondents. With a grand mean of 4.58, the overall rating for the sample was "very acceptable."

Table 7. Cookies with two (2) Cups of Sweet Potato Flour

Age Group	Mean	Qualitative Description
Children	4.71	Highly Accepted
Adolescents	4.67	Highly Accepted
Experts	4.45	Moderately Accepted
Adults	4.80	Highly Accepted
Mean	4.66	Highly Accepted

It shown on table that cookies with two cups of sweet potato flour were found "highly acceptable" by the evaluators from the age groups of children, adolescents and adults while the cookies were rated "moderately acceptable" by experts.

It is revealed that the four age groups, adults rated the cookies with the highest mean of 4.80 because they found the cookies very pleasing and very palatable. However, the group of experts obtained the lowest mean of 4.45 because the cookies are tough in texture. The grand mean for the overall rating was 4.66, which is considered to be "very acceptable."

Table 8. Cookies with 2 ½ Cups of Sweet Potato Flour

Age Group	Mean	Qualitative Description
Children	4.80	Highly Accepted
Adolescents	4.59	Highly Accepted
Experts	4.37	Moderately accepted
Adults	4.77	Highly Accepted
Mean	4.63	Highly Accepted

It is evident on the table that the three age groups, namely children, adolescents, and adults approved of cookies with 2 ½ cups of sweet potato flour, having rated it "highly acceptable" while the group of experts "moderately acceptable". It implies that the group of experts found the evaluated cookies just below ordinary compared to the other group of evaluators probably because they found the texture of the cookies tough and not crumbly. However, with a mean score of 4.63, it was still considered to be "very satisfactory".

Table 9. Cookies with 3 Cups of sweet Potato Flour

Age Group	Mean	Qualitative Description
Children	4.59	Highly Accepted
Adolescents	4.54	Highly Accepted
Experts	4.27	Moderately accepted
Adults	4.66	Highly Accepted
Mean	4.51	Highly Accepted

Revealed on the table were three age groups, namely children, adolescents, and adults found cookies with 3 cups of sweet potato flour "highly acceptable" while the group of experts rated it "moderately acceptable". It implies that the three groups of evaluators namely, children, adolescents and adults liked very much the cookies while the group of experts somehow accepted it because of its texture which was tough. The sample obtained as "highly accepted" with grand mean of 4.51.

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Table 10. Cookies with two (2) Cups of Yam Flour

Age Group	Mean	Qualitative Description
Children	4.74	Highly Accepted
Adolescents	4.70	Highly Accepted
Experts	4.41	Moderately accepted
Adults	4.81	Highly Accepted
Mean	4.66	Highly Accepted

Cookies made with two cups of yam flour were rated "very acceptable" by the age groups of children, adolescents, and adults and "moderately acceptable" by the group of experts, as can be seen on the table. It signifies that the expert group gave the cookies a slightly below average rating because they thought the cookies were slightly bitter, however the groups of children, adolescents, and adults found the cookies to be acceptable. This sample's grand mean of 4.66 was "very satisfactory."

Table 11. Cookies with 2 ½ Cups of Yam Flour

Age Group	Mean	Qualitative Description
Children	4.75	Highly Accepted
Adolescents	4.67	Highly Accepted
Experts	4.36	Moderately accepted
Adults	4.75	Highly Accepted
Mean	4.63	Highly Accepted

In table 11 indicates that while the experts' group gave the cookies with 2 ½ cups of yam flour a "moderately acceptable" rating, the age groups of children, adolescents, and adults gave them a "very satisfactory" rating. It is indicated that the groups of children, adolescents, and adults found the cookies as delicately crisp.

On the contrary, the group of experts rated the cookies below average because they found the cookies bitter. With a grand mean of 4.63, having the sample is evaluated as "very satisfactory".

Table 12. Cookies with 3 Cups of Yam Flour Sample 3

Age Group	Mean	Qualitative Description
Children	4.69	Highly Accepted
Adolescents	4.63	Highly Accepted
Experts	4.35	Moderately accepted
Adults	4.73	Highly Accepted
Mean	4.60	Highly Accepted

It shown above the rating of "very acceptable" was given by evaluators from the age groups of children, adolescents, and adults for the cookies made using three cups of yam flour. Meanwhile, experts group rated it "Moderately acceptable".

It is implied that the groups of children, adolescents, and adults found the cookies easily cut but not crumbly or tough. The group of experts rated the cookies just below average because they found the cookies bitter as compared to the first two recipes of yam cookies. The grand mean of 4.66 made the sample attain an evaluation remark of "highly acceptable".

A. Analysis of the Difference of Level of General Acceptability of Cookies Across Different Age Groups

Table 13. Multiple Comparisons of Sample 1

Age Group	Age Group	Mean Difference	Sig.	Remark
Children	Adolescents	-.10833	.738	NS
	Experts	.27500	.052	NS
	Adults	-.15000	.495	NS
Adolescents	Children	.10833	.738	NS
	Experts	.38333*	.003	**

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	Adults	-.04167	.979	NS
Experts	Children	-.27500	.052	NS
	Adolescents	-.38333*	.003	**
	Adults	-.42500*	.001	**
Adults	Children	.15000	.495	NS
	Adolescents	.04167	.979	NS
	Experts	.42500*	.001	**
Legend: NS = Not Significant alpha = .05 * = Significant ** = Highly Significant				

As shown in the table above, the difference between following pairs of age groups is “highly significant”: 1) adolescents and food experts; and 2) adults and food experts. This means that the cookies with two cups of cassava flour are more highly acceptable to both the adolescents (M=4.88) and the adults (M=4.93), than to the experts (M=4.50).

Table 14. Multiple Comparisons of Sample 2

Age Group	Age Group	Mean Difference	Sig.	Remark
Children	Adolescents	-.07500	.893	NS
	Experts	.24167	.107	NS
	Adults	-.12500	.639	NS
Adolescents	Children	.07500	.893	NS
	Experts	.31667*	.017	*
	Adults	-.05000	.96 5	NS
Experts	Children	-.24167	.10 7	NS
	Adolescents	-.31667*	.017	*
	Adults	-.36667*	.004	**
Adults	Children	.12500	.639	NS
	Adolescents	.05000	.96 5	NS
	Experts	.36667*	.004	**
Legend: NS = Not Significant alpha = .05 * = Significant ** = Highly Significant				

In Table 14 above, a highly significant difference was observed between adults and experts, and there is a considerable difference in the level of acceptability between teenagers and experts. This means that the cookies with 2 ½ cups of cassava flour are more acceptable to adults (M=4.88) and adolescents (M=4.83) than to experts (M=4.51).

Table 15. Multiple Comparisons of Sample 1

Age Group	Age Group	Mean Difference	Sig.	Remark
Children	Adolescents	.24	.366	NS
	Experts	.34	.103	NS
	Adults	-.16	.710	NS
Adolescents	Children	-.24	.366	NS
	Experts	.10	.907	NS
	Adults	-.40*	.040	*
Experts	Children	-.34	.103	NS
	Adolescents	-.10	.907	NS
	Adults	-.50*	.006	**

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Adults	Children	.158	.710	NS
	Adolescents	.40*	.040	*
	Experts	.50*	.006	**
*. At the 0.05 level, the mean difference is significant.				

Table 15 above indicates a highly significant difference between adults and experts and a significant difference in the level of acceptability between adolescents and adults. This indicates that the cookies with two cups of potato flour are more acceptable to adults (M=4.76) and adolescents (M=4.36) than to experts (M=4.26). This means thus that adults and adolescents like the cookies with two cups of potato flour than the experts.

Table 16. Multiple Comparisons of Sample 2

Age Group	Age Group	Mean Difference	Sig.	Remark
Children	Adolescents	.11	.79	NS
	Experts	.50*	.00	**
	Adults	.07	.94	NS
Adolescents	Children	-.11	.79	NS
	Experts	.39*	.00	**
	Adults	-.04	.98	NS
Experts	Children	-.50*	.00	**
	Adolescents	-.39*	.00	**
	Adults	-.43*	.00	**
Adults	Children	-.07	.94	NS
	Adolescents	.04	.98	NS
	Experts	.43*	.00	**
*. At the 0.05 level, the mean difference is significant.				

The level of acceptability differs significantly between these age groups when they are paired with experts:

(1) children and experts; (2) adolescents and experts; and (3) adults and experts (see Table 18 above). This means that the cookies with 2 ½ cups of potato flour are more acceptable to children (M=4.76), adults (M=4.69) and adolescents (M=4.65) than to experts (M=4.26).

Table 17. Multiple Comparisons of Sample 1

Age Group	Age Group	Mean Difference	Sig.	Remark
Children	Adolescents	.04	.985	NS
	Experts	.26	.138	NS
	Adults	-.09	.868	NS
Adolescents	Children	-.04	.985	NS
	Experts	.22	.269	NS
	Adults	-.133	.678	NS
Experts	Children	-.26	.138	NS
	Adolescents	-.22	.269	NS
	Adults	-.35*	.020	*
Adults	Children	.09	.868	NS
	Adolescents	.13333	.678	NS
	Experts	.35000*	.020	*
*. The 0.05 level of significance for the mean difference.				

The level of acceptability between group of experts and adults differs significantly, as seen in Table17 above. It reveals highly significant difference in the level of acceptability between these pairs of age groups: (1) children and experts, and (2) adults and experts. This means that the cookies with 2 ½ cups of sweet potato flour are more acceptable to both children (M=4.80) and adults (M=4.77) than to experts (M=4.37).

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Table 18. Multiple Comparisons of Sample 2

Age Group	Age Group	Mean Difference	Sig.	Remark
Children	Adolesce	.21	.093	NS
	Experts	.43*	.000	**
	Adults	.03	.982	NS
Adolescents	Children	-.21	.093	NS
	Experts	.23	.060	NS
	Adults	-.18	.204	NS
Experts	Children	-.43*	.000	**
	Adolescents	-.23	.060	NS
	Adults	-.40*	.000	**
Adults	Children	-.03	.982	NS
	Adolescent s	.18	.204	NS
	Experts	.40*	.000	**

*. The 0.05 level of significance for the mean difference.

Table 18 above indicates a significantly significant difference between these age group: (1) children and experts, and (2) adults and experts in terms of acceptability. This means that the cookies with 2.5 cups of sweet potato flour are more acceptable to both children (M=4.80) and adults (M=4.77) than to experts (M=4.37).

Table 19 Multiple Comparisons of Sample 3

Age Group	Age Group	Mean Difference	Sig.	Remark
Children	Adolescents	.05	.967	NS
	Experts	.33*	.017	*
	Adults	-.07	.927	NS
Adolescents	Children	-.05	.967	NS
	Experts	.28	.060	NS
	Adults	-.12	.705	NS
Experts	Children	-.33*	.017	*
	Adolescents	-.28	.060	NS
	Adults	-.39*	.003	**
Adults	Children	.07	.927	NS
	Adolescents	.12	.705	NS
	Experts	.39*	.003	**

*. The 0.05 level of significance for the mean difference.

Children and experts' levels of acceptance differ significantly from one another, as seen in Table 19 above, whereas adults and experts' levels of acceptability differ significantly from one another.

This would mean that the cookies with 3 cups of sweet potato flour are more acceptable to adults (M=4.66) and children (M=4.59) than to experts (M=4.27). Adults and children like the cookies more than the experts.

Table 20. Multiple Comparisons of Sample 1

Age Group	Age Group	Mean Differenc e	Sig.	Remark
Children	Adolescents	.04	.990	NS
	Experts	.33	.069	NS
	Adults	-.067	.960	NS
Adolescents	Children	-.042	.990	NS
	Experts	.29	.139	NS
	Adults	-.11	.852	NS
Experts	Children	-.33	.069	NS
	Adolescents	-.29	.139	NS

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	Adults	-.40*	.019	*
Adults	Children	.07	.960	NS
	Adolescents	.11	.852	NS
	Experts	.40*	.019	*
*. The 0.05 level of significance for the mean difference.				

The level of acceptability between adults and experts differs significantly, as seen in Table 20 above. This would imply that adults (M=4.81) would find the two cups of yam flour in the cookies to be more appealing than experts (M=4.41).

Table 21. Multiple Comparisons of Sample 2

Age Group	Age Group	Mean Difference	Sig.	Remark
Children	Adolescents	.08333	.838	NS
	Experts	.39167*	.001	**
	Adults	.00000	1.000	NS
Adolescents	Children	-.08333	.838	NS
	Experts	.30833*	.013	*
	Adults	-.08333	.838	NS
Experts	Children	-.39167*	.001	**
	Adolescents	-.30833*	.013	*
	Adults	-.39167*	.001	**
Adults	Children	.00000	1.000	NS
	Adolescents	.08333	.838	NS
	Experts	.39167*	.001	**
*. The 0.05 level of significance for the mean difference.				

Table 21 above shows a highly significant between adolescents and experts and a highly significant difference between children and experts and adults and experts. This would indicate that the cookies with 2 ½ cups of yam flour are more acceptable both to adults and children (M=4.75) and adolescents (M=4.67) than to experts (M=4.36).

Table 22. Multiple Comparisons of Sample 3

Age Group	Age Group	Mean Difference	Sig.	Remark
Children	Adolescents	.06	.931	NS
	Experts	.34*	.003	**
	Adults	-.04	.973	NS
Adolescents	Children	-.06	.931	NS
	Experts	.28*	.022	*
	Adults	-.10	.732	NS
Experts	Children	-.34*	.003	**
	Adolescents	-.28*	.022	*
	Adults	-.38*	.001	**
Adults	Children	.04	.973	NS
	Adolescents	.10	.732	NS
	Experts	.38*	.001	**

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*. The 0.05 level of significance for the mean difference.

Legend:

Note: ** = Highly Significant;

NS = Not Significant

* = Significant;

Table 22 above reveals significant difference among adolescents and experts and a high significant difference between children and experts and adults and experts. This denotes that the cookies with three cups of yam flour are more acceptable to adults (M=4.73), children (M=4.69) and adolescents (4.63) than to experts (M=4.35).

Shelf – life of the cookies in normal temperature.

After having produced root crops flour and cookie products, the following were observed:

A. The following were observed in the preparation of cookie flour using root crops:

The cookie flour namely: cassava flour, potato flour, sweet potato flour and yam flour put in an air tight container. The same observation was made regarding the cookie flour after one month of storage as it was during the first week. Particularly noticeable was the presence of weevils in the flour after six months.

B. The following were observed in the preparation of cookies using the different root crops flour at normal temperature:

1. After baking, the cookies using the different root crops flour has a delicious taste, delightful aroma and perfect size and texture.
2. But in the five days, the cookie products are slightly delicious. Its aroma decreases. Also, its appearance is slightly appealing, and the texture is not crumbly.
3. In the seventh day there is sign of spoilage and molds are seen on top of the cookie products. The crispness of the cookie products decreases. Therefore, the shelf – life of cookies products using the different root crops flour lasted for five (5) to seven (7) days in normal temperature.

CONCLUSION AND FUTURE WORKS

Based on the study's findings, it can be concluded that all four local root crops—cassava, potato, sweet potato, and yam—are very suitable for use as an ingredient of cookie products. The color, texture, aroma, and taste of cookie products made using cassava flour, potato flour, sweet potato flour, and yam flour varied greatly from one another. The color of the cookies made with yam and cassava flour is superior to that of the cookies made with potato and sweet potato flour. Similar to how sweet potato flour and potato flour have different textures, to cassava and yam flour. Additionally, the taste of cookies made with cassava flour was distinct from that of the three other local root crops. It is possible to enhance or improve the quality of cookie products by using flour made from locally grown root crops.

Such studies could be used to determine how to make cookies using sweet potato flour more tender and to minimize the bitterness of those made with yam flour. To determine the best and most appropriate packaging for the root crops flour and the cookies made with it, more research may be done. It was recommended that you consume the cookie items made with root crops flour not later than five days in order to get the best taste, aroma, appearance, and texture.

ETHICAL CONSIDERATIONS

To ensure that the researchers perform their duties effectively. The research was conducted with consideration for all parties concerned, including the participants and anyone else who might be interested.

The research methodology had an impact on the measures that were taken, which were carried out in accordance with the policies and guidelines of the university where the panelist was involved.

ACKNOWLEDGEMENT

The long-awaited moment has finally manifested after so many years of sacrifices, struggles, and hopes. With the blessings and guidance of our God, the researcher is now enjoying the results of her labor. The researcher wants to thank everyone who helped make these worthwhile experiences successful.

I want to sincerely thank my panelists and my family for helping me accomplish my humble goal with their unwavering support.

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Research Culture of Faculty in Higher Education Institution



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ABSTRACT: The purpose of this study was to determine the research culture among faculty members of Isabela State University which was also the population of this research. Total Enumeration sampling was used to determine the respondents among the different programs. A five-point Likert Scale was used and the instruments was validated by experienced professors in the field. As to the profile, majority of the respondents are from the college of education with the age bracket of 26 to 30, female, permanent faculty and has been in the service for 5 years and below. Accordingly, most of them are instructor with master's degree and doctoral units, and equivalent teaching units of above 24. The study also shows that 61.31% of the respondents presented their paper for the last five years in the international, national and local conferences and categorize as technical, technological, social and educational. Faculty rarely involve in research work and activities. The perceived level of competence in research writing for faculty is good based on the overall mean. The level of involvement of faculty researchers and its profile particularly in educational status and highest educational attainment has significant relationship using Chi Square as the statistical tool. As to the significant relationship of faculty involvement in research and extent of Organization Support to faculty researchers shows significant relationship this means that the Administration should fully support any research activities of faculty members.

KEYWORDS: Research Work, Quantitative, Perception, Social Research, Implementation.

INTRODUCTION

Research is essential to life, we could not enjoy things at the present without research. Life becomes better and pleasurable because of research. Life becomes easier, works become faster, new products, technologies are introduced, things keep changing because of research. Along this development, we cannot deny that the primary role of research is to enable man to have a better life (Ariola, 2006). Research becomes so important in human development and it plays an important role in each every human being. (Zarah Weiss 2019) mention the importance of research like building knowledge and facilitating learning. It is a process of collecting and analyzing information about problem on hand in order to gain understanding of a certain problem.

Thus, research is everyone's business. But in academic context, research is not that simple. Research becomes academic term that attach to the meaning of education. Research is to carefully analyze the problem or to do the detailed study of the specific problem by the use of scientific method. University role has dramatically changed, and now these institutions as great contributor to public knowledge, a machine that would speed up economy, and as a frontier of knowledge in the scientific and technological sphere. Now universities and colleges and colleges conveys their missions in line with these roles (Geiger, 1986). Creamer (1998) has noted that faculty's involvement in research activities and publishing can be taken as index of institutional status. An increase in research publication has become a guarantee for prestige and an important factor for institutional ranking (Olsen, 1994). Faculties' annual research production is not only used as criteria for teacher's promotion but also lifts university's reputation and rank.

The Philippine Commission on Higher Education mandates the interplay of the three functions of an institution (CHED, 2009). It includes instruction, research, and community extension. Pursuant to CHED Therefore, the role of the faculty members in the Higher Educations (HEI) includes teaching, generating, and disseminating knowledge through journal publication and community extension programs (Salazar, 2007). Through the accreditation process leveling of the university/ college is rated higher based by on the standards of the accreditation bodies which are higher than those set the commission of Higher Education (CHED) and other appropriate agencies like Professional Regulation Commission (PRC). Research plays an important role in university/college accreditation. Fairweather (2002) emphasized that most faculty members are expected to be productive in research, teaching, and service.

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Sansone and Harackiewicz (2000) stated Maslow and Herzberg's motivational theory as the basis of the study. According to this theory, when an individual do not fulfill their perceived need, they would look for alternatives way to satisfy the needs. The social environment can impinge such needs and or development to the social facilitation of learning. Teachers may have some individual needs that need to be met to motivate them to conduct research.

Faculty encountered these challenges such as lack of funding, limited resources found in the library, inadequate time, and lack of organizational support. Institutions, may it be public or private institutions are increasingly concerned in gathering feedback mechanisms regarding the delivery of their services to their clients. One of the most notable entities that are largely interested in accumulating responses from their clients is universities. The size and multifaceted nature of universities today all for quick and productive technique for delivery of quality education that includes research capability engagement of faculty set forth by their vision and mission. That's why in this context the researchers came out of this study.

OBJECTIVE

This research work aims to determine the research culture among faculty of Isabela State Campus.

Specifically, it sought to answer the following questions:

1. What is the Profile of the respondents in terms of:
 - A.
 - 1.1 Age
 - 1.2 Sex
 - 1.3 Employment Status
 - 1.4 Number of Years of Teaching
 - 1.5 Academic Rank
 - 1.6 Highest Educational Attainment
 - 1.7 Teaching Load
 - 1.8 College/Program
 - B.
 - 1.1 Number of research completed/accomplished.
 - 1.2 Type of research conducted/completed.
 - 1.3 Number of research outputs presented in conferences.
 - 1.4 Number of research outputs copyrighted.
 - 1.5 Number of research outputs patented.
2. What is the level of faculty involvement in research?
3. Is there a significant relationship between the level of faculty involvement in research and their profile?
4. What is the extent of organizational support to faculty researchers provided by the administration?
5. What is the respondents' perceived level of competency in research writing, particularly in terms of writing the following parts:
 - a. Title
 - b. Abstract
 - c. Introduction
 - d. Statement of the problem
 - e. RRL
 - f. Significance of the Study
 - g. Data Gathering Instrument
 - h. Data Gathering Method
 - i. Statistical Treatment
 - j. Presentation of Data/Discussion
 - k. Writing a Summary, Conclusion and Recommendation
6. Is there is a significant relationship between the faculty involvement in research and the extent of organizational support to faculty researchers provided by the administration?

SIGNIFICANCE OF THE STUDY

The result of the study would provide information and could be a help to the following.

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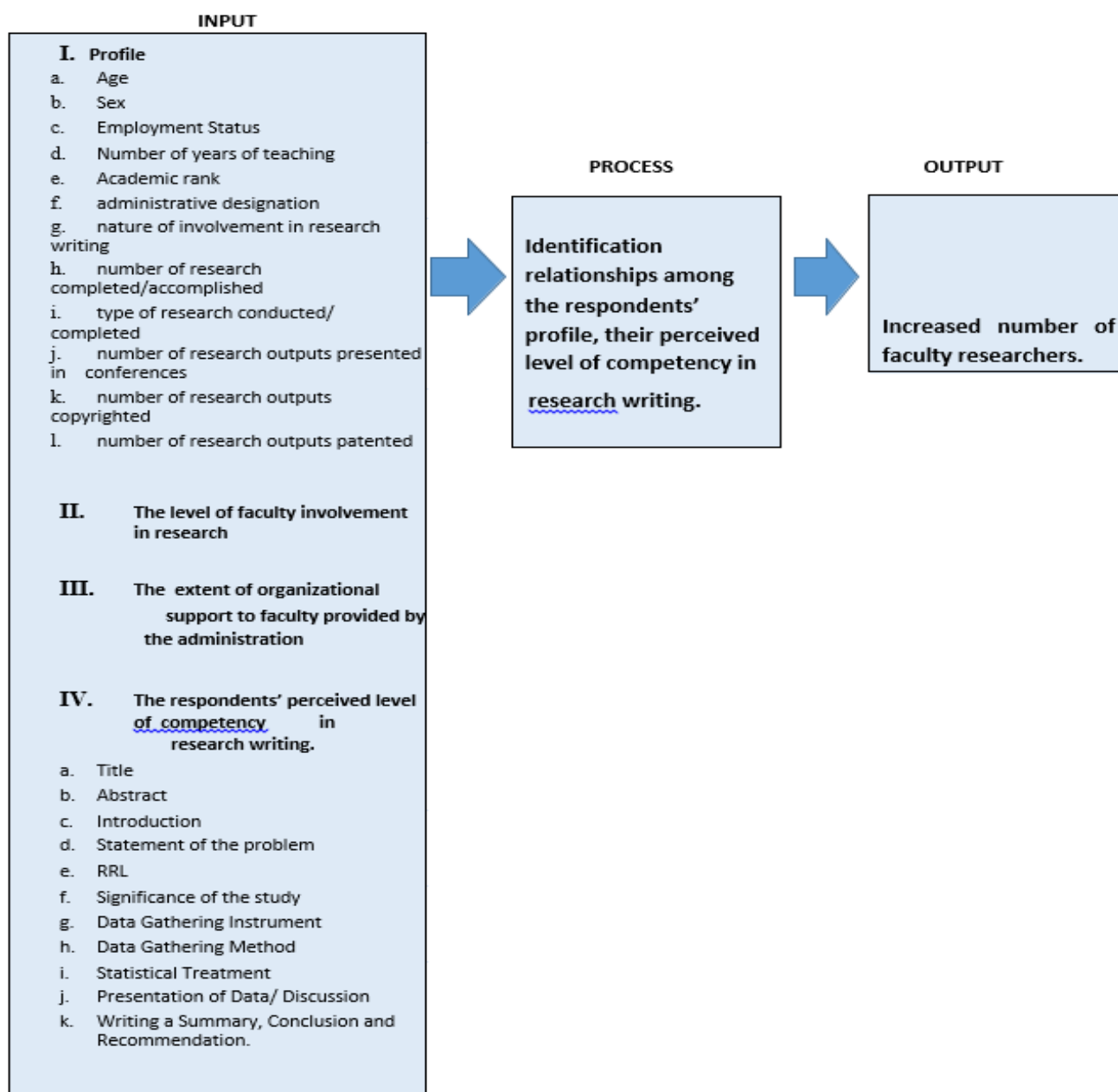
School Administrators. The knowledge, attitude, issues, problems of faculty engage in research would be an avenue for school administrators to look and review some school policies and guidelines that would further support and help teachers improve their research capabilities. Faculty. The findings of the research would help faculty members of Higher Education Institutions as to what indicator or variables understudy would affect their skills in doing research. This will also provide them insights and would guide them improve their knowledge in the conduct of research.

Future Research. The present study could be used as a possible reference by future researches who are interested of conducting research. This study would give them an idea on considering possible important factors that would affect and enhance their research capabilities.

SCOPE AND DELIMITATION

The study aimed to determine the research culture among faculty members of Isabela State University Ilagan Campus. Total enumeration was used to identify respondents which are the faculty members of Isabela State University Ilagan Campus. A self-made-validated questionnaire formulated by the researchers was the main gathering tool in the study. The study was conducted from March to August 2022.

CONCEPTUAL FRAMEWORK



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RESEARCH METHODOLOGY

To carry out this study, the researchers made use of the Descriptive Research Design using Quantitative -Qualitative correlational research aided by an inquiry to the determine research culture of faculty- respondents. The Nature of descriptive research is to describe what is found in the data collected through questionnaire and statistical treatment. It also used to describe profiles, frequency distribution, describe characteristics of people, situation, and relationship variable. To gather the needed data from the respondents, a self-made validated questionnaire was used.

The population of this study was composed of 55 Faculty members of Isabela State University Ilagan Campus. Total enumeration was used as the sampling design of this study. In the process of gathering the data, the researcher sent letter to the Campus Executive Officer, requesting permission to the conduct the study.

As to the statistical treatment of data, frequency and percentage were used to describe the profile of the respondents. Mean was used to interpret the perceived level of competency in research writing. Simple correlational analysis was used to determine the relationship between the respondents' perceived level of competency in research and their profile and other set of variables.

RESULTS AND DISCUSSION

1. PROFILE OF THE RESPONDENTS

Table 1.1 Frequency and Percentage Distribution of the Respondents According to Age, Gender and Employment Status.

Age	Frequency	Percent
20-25	4	7.27
26-30	14	25.45
31-35	7	12.72
36-40	5	9.09
41-45	14	25.45
46-50	5	9.3
51-55	3	5.6
Total	3	5.6
Gender		
Female	55	100.0
Male		
Total	30	55.6
Employment Status		
CoS	24	44.4
Temporary	8	14.54
	4	7.27
Permanent	42	78.18
Total	54	100.0

Table 1.1 It can be gleaned from the table that out of 54 respondents it shows that majority are with the age bracket of 26-30 and 41-45 or 25.45%, while there are only 3.7% or 2 with an age of 51 -55. Mostly are female, 55.6% or 30 and 44.4% or 25 are male. The employment status of the respondents consists of 77.8% or 42 permanent and 7.4% or 4 are temporary. This implies that most of the respondents are young female with permanent status.

Table 1.2 Frequency and Percentage Distribution Respondents According to the Number of Years in Teaching, Academic rank, and Educational Qualification.

Number of Years in Teaching	Frequency	Percent
5 years and below:	19	34.54
6-10 years	17	30.9
11-15 years	4	7.27
16-20 years	9	16.36
21-25 years	3	5.45

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26-30 years	2	3.63
31 years above	1	1.81
Total	55	100.0
Academic Rank		
Instructor	38	69.09
Assistant Professor	9	16.7
Associate Professor	8	14.8
Professor	0	0
Total	55	100.
Educational Qualification		
Bachelor's Degree with Masters Units	8	14.54
Master's Unit	6	29.09
Master's Degree with Doctorate Units	32	58.18
Doctorate Degree	9	16.36
Total	55	100.0

Table 1.2 shows that most of the respondents of the study, 35.2% or 19 of them are considered new in the teaching field. And majority of them, 69.09% or 37 are instructors with 58.18% holds master's degree with doctorate units. Most of the respondent are instructors and are master's degree holder with doctorate units.

Table 1.3 Frequency Distributions of Respondents According to Number of Faculty Teaching Units, and Number of Respondents According to Program

Number of Faculty Teaching Units	Frequency	Percent
9-12 Units	5	7.4
13-16 Units	3	5.6
17-20 Units	1	1.9
21-24	19	35.0
More than 24 Units	27	50.0
Total	55	100.00
Number of Respondents According to College		
Education	26	47.27
Engineering and Technology	22	40.0
Midwifery	3	5.45
Nursing	4	7.27
Total	55	100.0

In relation to the number of teaching units the table shows that, majority of the respondents 50% or 27 have more than 24 units above the maximum required load. Most of the respondents 47.27 % or 26 are from the College of Education 22 or 40.0 % from the Engineering program. There are only 3 or 5.45% of the respondent from the Information Technology program.

Table 1.4 Frequency and Percentage Distribution of the Number of Research Presented for the last five year in International, National and Local Conferences.

Number of Research Paper Presented for the last five years	Frequency	Percentage
0	21	38.69

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1	16	29.6	
2	6	11.11	
3	5	9.3	
4	1	1.9	
5	3	5.6	
6	0	0	
7	0	0	
8	1	1.9	
9	0	0	
10	1	1.9	
Total	54	100.0	
Number of Research Paper Presented in International Conference for the last five years		Frequency	Percentage
0	33	62.3	
1-2	16	30.2	
3-4	3	5.7	
5-6	1	1.9	
7-Above	0	0	
Total	53	100.0	
Number of Research Presented in National Conference for the last five years		Frequency	Percentage
0	37	69.8	
1-2	14	26.4	
3-4	2	3.8	
5-6	0	0	
7-Above	0	0	
Total	53	100.0	

Number of Research Presented in Local Conference for the last five years	Frequency	Percentage
0	26	49.1
1-2	19	35.0
3-4	8	15.1
5-6	1	1.9
7-Above	0	0
Total	53	100.0

The table shows that out of 55 respondents 21 or 38.69 % did not present a research paper for the last 5 years. However there is 1 or 1.9 % of the faculty presented 4 papers . As to the number of research paper presented in various conferences., 19 or 35.2% of the faculty respondents presented internationally with 1 to 2 papers, 3 or 5.7% presented with 3to 4 papers . The table also indicates that 14 or 26% presented 1 to 2 paper in a national conference, 37 or 69.8% are inactive Likewise, the table presented that 19 or 35.0% are active in research presentation with 1 or 2 papers in a local conferences , 8 or 15.1 of the respondents also presented 3 to 4 papers for the last five years.

Table 1.5 Frequency and Percentage Distribution of the Number of Research Completed for the Last Five years. Categorize as to Technical/Technological, Social Research and Higher Education.

Number of Research Completed for the last five years	Frequency	Percentage
0	27	49
1-2	19	35.2
3-4	5	9.3
5-6	2	3.7

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7-Above	1	1.9
Total	54	100.0
Number of Higher Education Research for the last five years	Frequency	Percentage
0	35	66
1-2	14	26.4
3-4	4	7.5
5-6	0	0
7-Above	0	0
Total	53	100
Number of Technical/Technological Research Completed for the last five years	Frequency	Percentage
0	44	83
1-2	7	13.2
3-4	1	1.9
5-6	2	3.8
7-Above	0	0
Total	53	100
Number of Technological Research Completed for the last five years	Frequency	Percentage
0	47	88.7
1-2	5	9.4
3-4	0	0
5-6	2	3.8
7-Above	0	0
Total	53	100
Number of Social Research Completed for the last five years	Frequency	Percentage
0	38	71.7
1-2	14	26.4
3-4	2	3.8
5-6	0	0
7-Above	0	0
Total	53	100

In the above table the data shows that for the last 5 years, 19 or 35.25 of the respondents completed 1 to 2 research paper. As to the type of research 14 or 26.4 completed technical research, 5 or 9.45 did technological research. The table also shows that, 14 or 26.4% of the respondent completed higher education research and also 14 or 26.4% on Social Research. Generally, most paper that was completed for the last 5 years is a social research paper as can be seen in the table.

Table 1.6 Frequency and Percentage Distribution of the Number of Research Published Citation Index (ACI), Web Science, CHED Accreditation, Scopus and Elsevier, ISI, International Peer Review Journal, National Journal and Local Journal.

Number of Research Published in ASEAN Citation Index (ACI), Web Science, CHED Accreditation, Scopus and Elsevier and ISI	Frequency	Percentage
0	38	70.4
1-2	14	25.92
3-4	0	0
5-6	2	3.7
7-Above	0	0
Total	54	100.0
Number of Research Published other International Peer Review Journal	Frequency	Percentage
0	40	75.5
1-2	9	17
3-4	2	3.8
5-6	1	1.9

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7-Above	1	1.9
Total	53	100.0
Number of Research Published in National Journal	Frequency	Percentage
0	51	92.7
1-2	4	7.3
3-4	0	0
5-6	0	0
7-Above	0	0
Total	55	100

Number of Research Published Local Journal	Frequency	Percentage
0	47	88.7
1-2	6	11.3
3-4	0	0
5-6	0	0
7-Above	0	0
Total	53	100.

As gleaned in the table regarding the number of research publish, the table shows that 14 or 25.92% were able to publish their research with 1 or 2 papers in ASEAN Citation Index (ACI), Web Science, CHED Accreditation, Scopus and Elsevier and ISI. Two respondents published 5 to 6 papers while others never publish. The table also shows that 9 or 17% of the respondents published in other refereed journals, 51 or 92.7% did not published their research in other refereed journals. As to national journals 4 or 7.3% of the respondents published with 1 to 2 papers, the others none. For the local journals only 6 or 11.3% respondents published their paper with 1 or 2 papers, 47 or 88.7% did not publish their papers.

Table 1.7 Frequency and Percentage Distribution of the Number of Research Copyrighted, Registered as Patents and Utility Model Registered for the Last five Years.

Number of Research outputs Copyrighted for the last five years	Frequency	Percentage
0	38	71
1	10	18.6
2	1	1.9
3	5	9.3
Total	54	100.0

Number of Research outputs Patented/Utility Model	Frequency	Percentage
0	49	90.6
1	3	5.6
2	1	1.9
3	1	1.9
Total	54	100.0

As seen in the table. 1.5 or 9.3 % with 3 papers copyrighted, 38 or 71% never applied for copyright. With regards to paper applied for patents and utility model, 1 or 1.9 of the respondents' received patents and utility model certificates with 3 papers applied. It can be noted that very few from the faculty conducts technical, technological research that can be applied for patents and utility design.

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2. Level of Faculty Involvement in Research Work

Table 2. Level of Involvement of Faculty in Research Work

Level of Faculty involvement in Research	Mean	Description
1. I am assigned thesis advising on graduate/undergraduate students.	3.33	Sometimes
2. I participated in research proposal making in our institute	3.26	Sometimes
3. I applied the research finding to my classroom instruction	3.04	Sometimes
4. I applied the research findings in the community	1.27	Never
5. I presented the result research to academic media channels	2.28	Rarely
6. I published my researches in International referred journal	2.11	Rarely
7. I attend seminars, training regarding research	2.90	Sometimes
8. I assisted the Editorial Board in the production of the research journal	1.46	Never
Weighted Mean	2.58	Rarely

Table 2 indicates the respondent level of involvement in research activities. There were 2 items with a mean of 1.27 and 1.46 were respondents identified as “Never” assisted the Editorial Board in the production of the research journal and applied the research findings in the community. On the other hand faculty “Rarely” presented research findings in academic media channels and published studies in international refereed journal with a mean of 2.28 and 2.11 respectively. Other items like faculty are assigned as thesis adviser, participated in research proposal making and applying research finding to classroom instruction are “Sometimes” involving themselves in this type of research activities. Overall mean shows that faculty members rarely involve themselves in research activities.

3. Significant Relationship between the Level of Faculty Involvement in Research and Profile of the Respondents.

Table 3. Significant Relationship Between the Level of Involvement in Researches of the Respondents when grouped according to Their Profile

Profile	Probability	Decision	Remarks
Age	.620	Accept Ho	There is No Significant Relationship
Sex	.195	Accept Ho	There is No Significant Relationship
Employment Status	.023	Reject Ho	There is Significant Relationship
Number of Years in Teaching	.822	Accept Ho	There is No Significant Relationship
Academic Rank	.540	Accept Ho	There is No Significant Relationship
Highest Educational Attainment	.003	Reject Ho	There is Significant Relationship
Teaching Load	.471	Accept Ho	There is No Significant Relationship
Institute/Program	.282	Accept Ho	There is No Significant Relationship

Table 3 shows the significant relationship between the level of involvement in researches by respondents when grouped according to their profile using **Chi-square C - test** at 0.05 level of significance.

As revealed in the table, the probability values for the profile age, sex, number of years in teaching, academic rank, teaching load and institute/program were greater than 0.05. The null hypothesis was accepted. There is no significant relationship between the level of involvement in researches by respondents for the last five years when grouped according to their profile age, sex, number of years in teaching, academic rank, teaching load and program they are involve. For their employment status and highest educational attainment, the probability values were less than 0.05. The null hypothesis was rejected. There is significant relationship between the level of involvement in researches for the last five years by respondents when grouped according to their profile employment status and highest educational attainment.

Results indicate that level of involvement in researches by the respondents for the last five years is not affected by their age, sex, number of years in teaching, academic rank, teaching load and program; however, it is significantly affected by their employment status and highest educational attainment.

4. The Extent of Organizational Support to Faculty Researcher Provided by the Administration?

Table 4. Extent of Organizational Support to Faculty Researcher Provided by The Administration

The Extent of Organizational Support of Faculty Research Provided by the Administration	Mean	Description
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1. The Administration provided travel allowance for faculty attending seminar or training related to research.	3.85	Very Good
2. The school administrator gave incentives for the Inhouse Review presenter	3.28	Good
3. Incentive was awarded to faculty - the faculty who won as best presenter during in-house review	3.56	Very Good
4. The school administration provided free access to faculty searching information Communication Technology media literacy facilities such as e-journal, online bibliography and interpret result	3.11	Good
5. The school administration provided free statistical services such as SPSS and other software that would help the researchers in quantifying and interpret results.	2.57	Poor
6. The administration provided software such as plagiarism detector and grammar and grammar check for checking the originality of works and grammar for the research works.	2.46	Poor
7. The administration prioritize for the payments of reimbursement used in research work	2.50	Poor
8. The administration encourage mentoring among faculty in the conduct of research.	3.15	Good
Weighted Mean	3.06	Good

The extent of support provided by the administration to faculty researcher as gleaned on the table shows "Very Good" descriptive rating to incentives for best presenter during inhouse review and they provide travel allowance for faculty attending seminar or training related to research. The Administration also provide free access to faculty searching information communication technology media facilities such as e-journal, on-line bibliography with a "Good" rating. As to software such as plagiarism detector, Grammarly checker to correct the originality of work, free statistical services or SPSS software for immediate quantifying and to interpret research finding have a descriptive interpretation as "Poor". Overall, the extent of support provided by the administrator with a weighted mean of 3.06 is "Good".

5. The Perceived Level of Competence in Research Writing?

Table 5. Perceived Level of Competence in Research Writing

Faculty Perceived Level of Competence in Research Writing.	Mean	Description
1. Formulating the research title	3.61	Very Good
2 Writing the introduction	3.70	Very Good
3. Formulating Statement of the Problem	3.67	Very Good
4 Writing significance of the study	3.63	Very Good
5. Defining terms	3.85	Very Good
6. Identifying/ Selection of Related Literature and Studies	3.76	Very Good
7. Formulating hypothesis	3.72	Very Good
8. Developing research tools and instruments	3.63	Very Good
9 Writing and discussing the results of study	3.67	Very Good
10. Making conceptual framework 11 Adopting the correct methodology	3.56	Very Good
11 Adopting the correct methodology	3.67	Very Good
12 Presenting and Analyzing data	3.70	Very Good
13. Writing of Summary of Findings	3.74	Very Good
14 Making Conclusion and Recommendation	3.81	Very Good
15. Writing Bibliography	3.78	Very Good
16. Writing the Abstract	3.70	Very Good
Weighted Mean	3.70	Very Good

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The table provides data as to the faculty perceived level of competence in research writing. It can be seen that almost all indicators has a descriptive rating of "Very Good" with a weighted mean of 3.70. Items like defining terms shows a mean of 3.85 and making conclusion and recommendation with a mean of 3.81. These implies that the perceived level of competence of faculty is "Very Good" or with a weighted mean of 3.70

6. The Significant Relationship Between the Level of Involvement of Faculty in Research and Extent of Organizational Support to Faculty Researcher Provided by the Administration

Table 6. Significant Relationship between the Level of Involvement of Faculty in Research and Extent of Organizational Support to Faculty Researcher Provided by The Administration

Group	Probability	Decision	Remarks
Relationship between the Level of Involvement of Faculty in Research and Extent of Organizational Support to Faculty Researcher Provided by The Administration	.000	Reject Ho	There is Significant Relationship

Table 6 shows the significant relationship between The Extent of Organizational Support to Faculty Research and Level of Involvement Faculty on Research Writing using **Pearson's Coefficient of Correlation r – test** at 0.05 level of significance.

As revealed in the table, the probability value was less than 0.05. The null hypothesis was rejected. There is significant relationship between the Extent of Organizational Support to faculty researcher provided by the Administration and their Level of Involvement in Research Writing. This indicates that the Extent of Organizational Support of Faculty Research and Level of Involvement in Research affects each other.

CONCLUSION

Faculty members are free to do research, they choose the topics, the problem, and methodology, the people to work with, the times, and so forth. Although there is an institutional policy for faculty to assess their research annually, it seems that their only concern is the quantity, a way to show that the institution is doing research. Research is perceived as an additional workload, as more work to be done, there was very little evidence of a genuine interest in knowledge, in learning, in advancing in looking at research as something that can be useful in their lives and the community. Though it shows from the findings that the faculty members have a high perceived level of competence in writing research and the administration support faculty researchers, the research culture of the faculty of Isabela State University with respect to relevant activities, research productiveness, research capability including underlying tasks like publication and patenting shows not too significant. The results show rarely for faculty to involve themselves in research work. There is an attitude of passiveness in the conduct of doing research as well as in the presentation of output to conferences. There is little cultivation of mentoring, coaching to neophyte researchers. The extent of support given by the administration is very important to faculty involvement in research. This makes the research culture competitive and individualistic.

RECOMMENDATIONS

Based on the findings presented and the conclusions given some recommendations are provided:

1. It is recommended that teaching personnel particularly those with the rank of assistant professors and instructors be provided with a series of research workshops, training , symposia to enhance their research capability
2. The administration could also provide series of training on how to publish in a reputable, refereed international journal.
3. Conduct trainings on patenting for technical and technological research to all faculty researcher not only for a few.
4. Encourage highly competent researcher to conduct mentoring and coaching especially to new faculty members of the university.
5. Conduct a similar study that focuses on other variables not covered in this study such as personal behavior, factors that hinder them to conduct, publish and to patent their research output.

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English Proficiency and Academic Performance of College Students



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ABSTRACT: The present study aims to identify the relationship of the Level of English Language Proficiency along Stress/Intonation, Verbal Abilities, Correct Usage, Reading Comprehension, Spelling and Punctuation, Identifying Error and Logical Organization and their Academic Performance of the 251 college students. Moreover, it aims to determine if there is a significant difference of the respondents' Level of English Proficiency when they are grouped according to their profile: course, age, sex and dialect spoken.

The result reveals that in terms of profile course, there is no significant difference in stress and logical organization. However, in Verbal Abilities, Reading Comprehension, Correct Usage, Identifying Errors and Spelling and Punctuation, there is a significant difference. As to profile age, there is no significant difference in Stress/Intonation, Verbal Abilities, Correct Usage, Spelling and Punctuation, Logical Organization. But in Reading Comprehension and Identifying Errors, there is a significant difference. Respondents aging 18 are better than the rest in Reading comprehension and Identifying Errors. Along profile sex, there is significant difference. Female are better than male in Reading Comprehension, Correct Usage and Identifying Errors. In terms of profile Dialect Spoken, there is no significant difference in English Proficiency Level of the respondents. As to the Academic Performance of the respondents, they are within the average level with 176 or 70.1%.

The result reveals that there is significant relationship between the respondents' Level of English Proficiency and their Level of Academic Performance.

KEYWORDS: English Proficiency, Academic Performance, English Language

INTRODUCTION

English language is one of the most dominating languages of the world which having its impact on every field work. As the world's lingua franca, it is the most-used language of the internet, accounting for more than half of all websites. For many people, learning English is a way to get access to a broader range of information, connections, and opportunities.

English as a foreign language in many countries, it becomes a compulsory subject taught in formal school from the lowest level to university level. Even though English is a foreign language, teaching English as a language in school to university must be congruent with the function of language itself that whatever language, a language is means of communication that is not only used in written form only, but also oral performance communicatively and contextually.

The Philippines is recognized globally as one of the largest English-speaking nations with majority of its population having at least some degree of fluency in the language. English has always been one of the official languages of the Philippines and is spoken by more than 14 million Filipinos. It is the language of commerce and law, as well as the primary medium of instruction in education.

Filipinos learn English in school as not just an ordinary requisite subject, but with a curriculum that is highly applicable to the Filipinos' daily lives. Most of the private schools in the Philippines offer Language and Reading subjects, speech classes, English aptitude exams, oratorical exams, and essay-writing activities. Not to mention, regular film-showing activities that exposed Filipinos not just to the proper use of the language, but also to slang, and the way native speakers speak it. And beyond the classroom, Filipinos are constantly exposed and are able to experience using the language firsthand, in real, actual situations.

However, in a recent round table discussion organized by the British Council, key stakeholders from the government, academe, private, and non-government sectors agreed that the country needs to step up its efforts in improving the teaching and learning of English, developing it as a vital skill of the workforce. This is an initiative that could potentially strengthen the Philippines' distinct advantage in this part of the world, particularly with the upcoming ASEAN economic integration.

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De Leon (1999) is convinced that measures must be taken to promote English in all levels of education because he believes that English is not a hindrance to becoming nationalistic rather the key to Filipinos' success in life, here and abroad.

It is generally conceived that intelligence is more closely and consistently related to all kinds of academic performance than any other variables yet identified. It is known, however, that academic performance can vary even among individuals of similar intelligence or similar ability for that matter. Scholastic aptitude and intelligence are necessary for academic success, but above these, success is dependent upon some non-intellectual factors.

Philippine Education has made some changes. One of the defining changes in the Philippine education system in the past decade is the adoption of the K-12 policy, which mandates the addition of two years in the traditional 10-year pre-university program. One of the salient features of the K-12 program provides senior high school graduates (grades 11 and 12) the option to choose a track aligned with their interest and competence.

Since this subject is still new in the Higher Education, availability of textbook or Instructional Material in teaching the subject is one of the problems at the moment. The proponents believe that authentic materials are preferred to teach the language of the target profession.

Many studies have been made in order to find out the factors that may affect the academic performance of the students. However, there is a very limited studies as to the significant relationship of English Proficiency Level of the students and their academic performance.

Hence, this research aims to conduct a survey on the level of English Proficiency of the graduates of k12 curriculum who are also the incoming freshman of the university and try to find out if it has something to do with their Academic Performance in English. The result of the study will be the basis in designing syllabus and formulating module in teaching GEC 4: Purposive Communication subject in order to enhance the English Competence of the graduates of Higher Education Institutions in the Philippines, specifically, the Isabela State University.

REVIEW OF RELATED LITERATURE

The trend towards globalization and interconnectedness demands not only improving communication technology, but also, at a personal level, such as the ability to communicate with the rest of the world. Hence, the teaching of the English language especially in countries where English is not the mother tongue, is an urgently needed preparation for life in the next century.

Peficiano (1998) in her keynote speech during the Second Joint Congress of the Council of the Department Chairpersons of English and College English Teachers' Associations said that "almost all the leading futurists agree that we face a world with a less defined physical borders with even less barriers to moving and exchanging ideas".

Relevant to the functions of language is the focus given to the teaching of English in most parts of the world as Sinha and Sadorna, (1991) pointed. The teaching of English is a worldwide activity. In countries where educational leaders realize that English has become a necessity for international survival, English as a second language/foreign language are offered.

Today, there is a spirited debate over the rapid deterioration of the English Language as used by the Filipino students. Some columnists in the daily newspapers suggest that something must be done to reverse the trend of the "poorer and poorer use of English". Indeed, English today is still alive but most teachers observed that even after graduation in College, many of the students could not even express themselves fluently in English. An evidence that our English today is seriously ill (Seroy, 1982).

Seroy also said that students who have difficulties on how to communicate a given concept in English possess a monumental problem so much so that what he wanted to say must often be subordinated by what he can say.

Meanwhile, Soriano (1986) found out that 12 years after the policy of Bilingual Education was implemented in Department Order No. 9/s 1973 and 10 years after its implementation in the schools, the problem of developing the Filipinos' competence in both English and Filipino is still the subject of so much controversy. It is just a clear indication that while Filipino had been gaining headway, English has been lagging behind. The consensus is that, English language as used by the Filipinos has deteriorated, comparison are often made between the kind of English used in the past and that what is employed today. This deterioration is manifested in several ways such as: incorrect grammar, the inability to use English in connected discourse or the lack of fluency in the language, poor reading comprehension skills and lack of interest in reading, and poor disorganized writing.

Measures and strengthening are timely due to the growing awareness of the low proficiency in English of Filipinos as proven by the results of Test in English as Foreign language (TOEFEL) between July 2000 and June 2001 where Filipino examinees obtained 45.7 percent and a study made by Cervantes which showed that graduate students of nursing and education had mediocre English proficiency (Pinoy's English Proficiency ranked low worldwide, 2002).

While there is no doubt that great difference in levels of possible achievement in any given learning field do exist between individuals, it must be admitted that there is yet nothing but very crude instruments for measuring the individual's capacity and level of achievement in any given field. By the use of objective measuring devices, such as controlled observation and recording,

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through the maintenance and utilization of cumulative recording supplemented by needed administrative reorganization, it is entirely possible to develop sufficient high degree of understanding of the maturation level of each student so that the adjustment of the learning situation to these students is a distinct possibility. In short, modern educators need to become more and more conscious of the need for careful evaluation both of individual learner's progress and of the total situation (Beaumont and Macomber, 1989).

RELATED STUDIES

A number of studies have been carried out to identify and analyse the numerous factors that affect students' academic performance in various centres of learning. Their findings identify Attitude of the learners, Shortage of Resources, Parental Involvement, are the causes of poor performance of learners in ESL (Nkandi, 2015); students' attitudes towards bilingual education affect the learner's level of proficiency towards the language (RAHMAN, 2016).

Reyes' study also revealed that the parents' socio-economic status is significantly related to the pupils' academic achievements.

Alparo (1982) stated that the student factor which contributed to the failure of English language learning included the rampant use of the dialect in the campus, socioeconomic status, educational attainment of parents, negative attitude towards English, lack of interest in the subject, poor English grammar foundation, and unreadiness or college English subjects. The teacher factors which contributed to the poor English proficiency level of students were poor methods of instruction, lack of interest towards teaching, lack of curriculum preparation and teacher's inefficiency and ineffectiveness. The other factors that contributed to the difficulty were the lack of audio-lingual facilities and minimum utilization of library.

Agullo (1985) looked into the "English Performance of Freshman College Students in Relation to their Study Habits within the School Year 1984-1985 at the Philippine Normal College (PNC), Agusan Campus, Prosperidad, Agusan Del Sur". Based on the findings, the researcher arrived at the following conclusions: the English performance of students were only average, students with very good and good ratings, possess very good study habits, study habits of students as to parent factor showed no correlation at all and no correlation existed for study habits as to the teacher factor and study habits, as to community factor.

Abon (1998) looked into the English proficiency level of freshman students as related to some variables. In this study, Abon used the Normative Survey Method and documentary analysis. Using sixty freshman students to answer a questionnaire with 100 item test in grammar, idioms, sentence construction and vocabulary, she highlighted the following: College freshmen's performance in the English Proficiency Test is average because majority got average scores in the four categories considered: availability of reading materials at home helped in improving their communication skills; the type of high school graduated from, educational attainment of parents, socio-economic status of the family, frequency of use of the English language in communication with parents, siblings, schoolmates, classmates, sex, and civil status do not have bearing in their English proficiency.

Carag (1997) studied the level of grammar proficiency of College Freshmen of St. Louis College of Tuguegarao, and he found out that majority (77.92%) of the students failed in the communicative written language test. She also discovered that the students' grades in English 1-A is significantly related to their English Grammar Proficiency. The students' grammar proficiency is not significantly affected by the high school they graduated from, and the language spoken at home. Based on the findings, he concluded that the reading habits, course enrolled in, reading interest and reading materials at home influenced the students' grammar proficiency in English while the high school graduated from, and the language spoken at home have no bearing to the English grammar proficiency of the students.

Rayos (1984) in her study on the language skills in English utilized the Diagnostic Test in English as the main instrument, which was prepared by the South Asian Ministry of Education Regional Language Center in Singapore. After subjecting the data to descriptive and inferential analysis, she concluded that of the four language skills included in the test, i.e., vocabulary, organization, reading comprehension and grammar, the reading comprehension is the easiest, vocabulary, next; grammar, third; while organization is the most difficult.

Reyes (1988) pointed out the significant factors affecting the difficulties of English language or communication arts of the Grade VI pupils of Bataan. His findings are the following:

- a.) Lack of vocabulary understanding
- b.) Lack of reading comprehension
- c.) Inability to write correct words.
- d.) Inability to pronounce the words correctly.

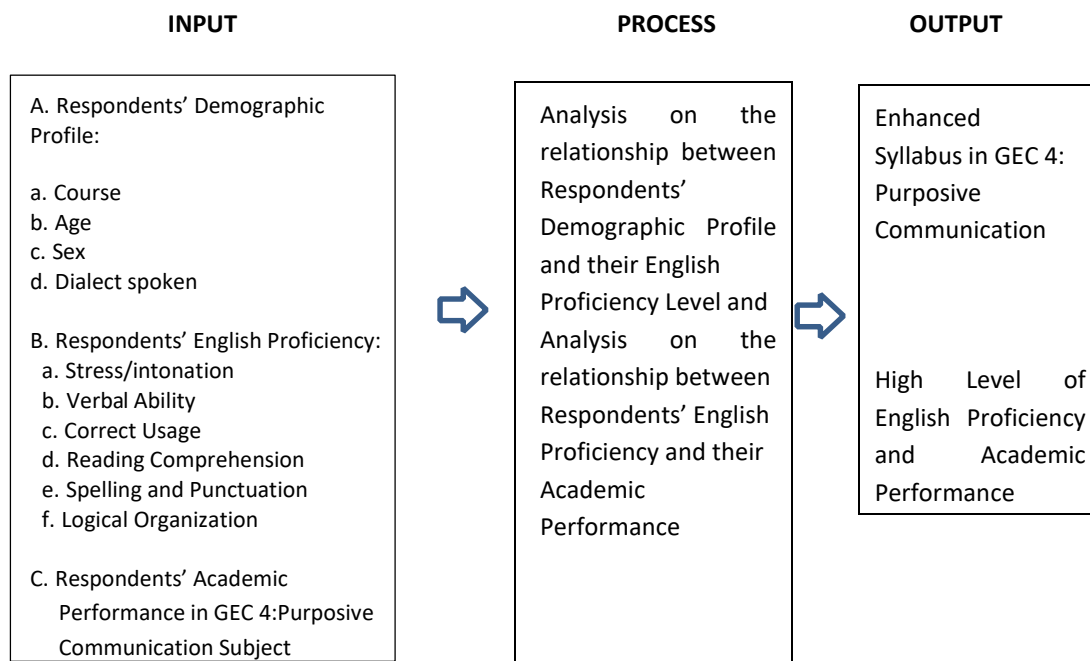
Darbin (1990) in her study, concluded the pupil-respondents have poor comprehension of words and are weak in detecting coherence in sentences. She recommended that English teachers should acquire the habit of checking pupils' error in

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pronunciation, choice of words, articles, prepositions and other components of language instruction not only during English class but also in other classes.

The above studies have similarities to the present study because their focus was on determining the various factors that affecting the English Proficiency of the respondents. Moreover, they also studied the relationship of English Proficiency of the respondents with their Academic Performance. However, they failed to identify as to what aspect of English Proficiency that have direct relationship with the respondents; profile such as course, age, sex and dialect spoken which is the main focus of the present study.

RESEARCH PARADIGM



STATEMENT OF THE PROBLEM

The present study aimed to investigate the English Proficiency level of the freshman students who are graduates of K-12 curriculum as a tool in the development of Instructional Material in teaching Purposive Communication.

Specifically, it aimed to answer the following questions:

1. What is the demographic profile of the respondents in terms of:
 - a. course
 - b. age
 - c. sex
 - d. dialect spoken?
2. What is the English Proficiency Level of the respondents in terms of: Stress/Intonation, Verbal Abilities, Reading Comprehension, Correct Usage, Identifying Error, Spelling and Punctuation and Logical Organization?
3. Is there a significant difference in the English Proficiency Level of the respondents in terms of: Stress/Intonation, Verbal Abilities, Reading Comprehension, Correct Usage, Identifying Error, Spelling and Punctuation and Logical Organization when they are grouped according to profile?
4. What is the level of Academic Performance of the Respondents?
5. Is there a significant relationship between the Level of Academic Performance and Level of English Proficiency of the respondents?

NULL HYPOTHESES:

1. There is no significant difference in the Level of English Proficiency of the respondents when they are grouped according to their profile.

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2. There is no significant relationship between the Level of English Proficiency and the Academic Performance of the respondents.

SIGNIFICANCE OF THE STUDY

English is one of the international languages. Being the language used for socioeconomic mobility and for educational and professional advancement, it is considered as the windows to the world. Hence it should be preserved, and it should be strengthened. The ill effect of the lack of knowledge of English must, therefore, be looked into.

With the result of the study, the students could find essential feedback and information on their weaknesses and strengths in the use of English language. They may be able to find ways in order to improve their weaknesses and enhance their strengths. The results could also guide the teachers in determining the students' level of English Proficiency. Being well knowledgeable on student English competence, particularly on their weaknesses, teachers could then device approaches and strategies on how to integrate learning content with the students' current deficiencies. Moreover, this study could also be beneficial to parents for the upcoming grade levels since results will guide them in choosing the opportunities and interventions that should be provided to their children so as to enhance their language proficiency and academic performance.

Furthermore, insights may also be provided to textbook writers in coming up with books and other relevant materials that could address the deterioration of English competence of students.

In addition, the result could be used as eye-opener to the administration to revisit their school policies and programs, consequently, formulate a more responsive and learner-centered policies and programs. The curriculum planners to come up with effective measures, policies that can respond to the needs of students, teachers and the entire educational system especially in the enhancement of the English competence of students.

METHODOLOGY

Research Design

This study made use of the descriptive method using quantitative approach.

Respondents of the Study

The respondents of the present study are the 251 freshman students enrolled during the 1st semester, S.Y 2018-19 at Isabela State University-Ilagan, Philippines They were enrolled in the four programs: Bachelor of Secondary Education (BSE), Bachelor of Technological and Livelihood Education (BTLED), Bachelor of Technical Vocational Teacher Education (BTVTED) and BS Industrial Technology (BS Ind. Tech) broken down as follows:

Course	Population
Bachelor of Secondary Education	86
Bachelor of Technical Livelihood Education	44
Bachelor of Technical Vocational Teacher Education	37
Bachelor of Science in Industrial Technology	84
TOTAL	251

Research Instrument

In getting the English Proficiency Level of the respondents, a questionnaire prescribed by CHED (English Proficiency Test), was utilized by the researchers. It contained 100 items broken down as follows:

Type of Test	No. of Items
I. Stress/Intonation	10
II. Verbal Ability	10
III. Reading Comprehension	20
IV. Correct Usage	20
V. Identifying Errors	20
VI. Spelling and Punctuation	10
VII. Logical Organization	10
Total	100

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Aside from the questionnaire, the researchers also utilized the respondents' grade in GEC 4: Purposive Communication subject to determine their Academic Performance.

Data Gathering Procedure

The researchers administered English Proficiency Test with the students enrolled in GEC 4: Purposive Communication Subjects. The result of the test was the basis in to determining the respondents' Level of English Proficiency. At the end of the semester, the researchers took the grades of the respondents in their GEC 4: Purposive Communication subject which was used to determine the Level of Academic Performance of the respondents. To ensure the accuracy of the data, the grading sheets submitted to the registrar office were also used.

Statistical Treatment of the Study

1. To determine the Level of the English Proficiency and Academic Performance of the respondents, ranking and frequency counts was used.

The English Proficiency Level of the respondents was interpreted using the scale below:

Score	Descriptive Rating
68-100	High
34-67	Average
0-33	Low

As to the academic performance in GEC 4 Purposive Communication Subject, the scale below was used:

Score	Descriptive Rating
1.0-1.75	High
2.0-2.5	Average
2.75	Low

2. To determine the significant difference of English Proficiency Level of the Respondents as to Stress/ Intonation, Verbal Abilities, Reading Comprehension, Correct Usage, Identifying Error, Spelling and Punctuation and Logical Organization when the respondents are grouped according to their profile, Analysis of Variance (ANOVA) was used.

3. To determine the relationship between the English Proficiency Level and Academic Performance of the respondents, Pearson's r was performed.

RESULT AND DISCUSSION

1. What is the demographic profile of the respondents in terms of: course, age, sex and dialect spoken?

Table 1: Distribution of the Respondents According to Course

Courses	Frequency	Percent
BSE	86	34.3
BTLED	44	17.5
BTVTED	37	14.7
BS IND TECH	84	33.5
Total	251	100.0

As shown in Table 1, there is a total of 251 respondents. Most of them are coming from the Bachelor of Secondary Education, 86 or 34.3%; Bachelor of Science in Industrial Education, 84 or 33.5%; Bachelor of Technological and Livelihood Education, 44 or 17.5%; and Bachelor of Technical Vocational Teacher Education, 37 or 14.7%.

Table 2: Distribution of the Respondents According to Age

Age	Frequency	Percent
17	8	3.2
18	136	54.2
19	92	36.7

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20	11	4.4
21	4	1.6
Total	251	100.0

As to the age of the respondents, most of them are aging 18, with 136 or 54.2% while the least, aging 21, with 4 or 1.6% respondents. The result shows that the respondents are on the expected age for their level. It implies that they started their elementary at the age of 7 which is the required age.

Table 3: Distribution of the Respondents According to Sex

Sex	Frequency	Percent
Male	85	33.9
Female	166	66.1
Total	251	100.0

Table 3 shows that the respondents are dominated by females, with 166 or 66.1%. This supports the statement of the Commission on Higher Education (CHED) Chairperson Patricia Licuanan in the *Philippine Inquirer*, (2012):

“The difference between female and male graduates was even greater in previous years: 56.8 percent female graduates against 43.2 percent male graduates in 2006 and 61 percent female graduates against 39 percent male graduates in 2001”

The result also conforms with the findings of the PSA(2008) that:

“Seven out of ten **females** six years old and over completed at least elementary education. This figure is higher compared to that for **males** (65.1%)” ...

“On the other hand, 38.7 percent of population six years old and over completed at least high school education. This figure is higher among females compared to males (41.1% vs. 36.4%)”.

Table 4: Distribution of the Respondents According to Dialect

Dialect	Frequency	Percent
Ilocano	133	53.0
Ibanag	79	31.5
Tagalog	36	14.3
Paranan	3	1.2
Total	251	100.0

As to the dialect spoken by the respondents, most of them are Ilocano with 133 or 53%; followed by Ibanag with 79 or 31.5%. There are 36 or 14.3% Tagalog and 3 or 1.2% Paranan. The data reveals the reality that Ilocano dominated not only in the City of Ilagan but also in Northern Luzon as described in the *Ethnic Groups Philippines*, (2008):

“Ilocanos make up the 3rd largest ethnolinguistic group in the Philippines. Large populations are found in Ilocos Norte, Ilocos Sur, Cagayan, Abra, La Union, Nueva Vizcaya, Pangasinan, Tarlac, and Benguet. There is, in fact, a diaspora of Ilocanos; they are found all over the country, as far south as Mindanao. The language has become the lingua franca of Northern Luzon”.

2. What is the English Proficiency Level of the respondents in terms of: Stress/Intonation, Verbal Abilities, Reading Comprehension, Correct Usage, Identifying Error, Spelling and Punctuation and Logical Organization?

Table 5. English Proficiency Level of the Respondents in Terms of Stress/Intonation

Stress/Intonation	Frequency	Percent
0 - 3 (Low)	5	2.0
4 - 7 (Average)	139	55.4
8 - 10 (High)	107	42.6
Total	251	100.0

It shows that in terms of Stress/Intonation, most of the respondents are rated average with 139 or 55.4%

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Table 6. English Proficiency Level of the Respondents in Terms of Verbal Ability

Verbal Abilities	Frequency	Percent
0 - 3 (Low)	29	11.6
4 - 7 (Average)	201	80.1
8 - 10 (High)	21	8.4
Total	251	100.0

As to Verbal Ability, most of the respondents have an average proficiency level with 201 or 80.1%

Table 7. English Proficiency Level of the Respondents in Terms of Reading Comprehension

Reading Comprehension	Frequency	Percent
0 - 8 (Low)	135	53.8
9 - 14 (Average)	116	46.2
Total	251	100.0

Along Reading Comprehension, the level of proficiency of most respondents is low with 135 or 53.8%. No one among the respondents gets a high level of proficiency. The result concurs the findings of Magbanua, (2016) under her study, "The English Proficiency of College Students. In terms of reading comprehension, the result of her study show that out of 305 respondents, 77 (25%) was satisfactory; 58 (19%) was unsatisfactory; 56(18%) was conditional; 46(15%) failed; 28(9%) was very satisfactory and passed; 7(3%) was good and 5(2%) was very good. Data implies that the English proficiency of the students in terms of reading comprehension was satisfactory. Similar to her findings, none among the respondents got the rating of outstanding.

Table 8. English Proficiency Level of the Respondents in Terms of Correct Usage

Correct Usage	Frequency	Percent
0 - 8 (Low)	98	39.0
9 - 14 (Average)	136	54.2
15 - 20 (High)	17	6.8
Total	251	100.0

As to correct usage, most of the respondents are within average proficiency level with 36 or 54.2%.

Table 9. English Proficiency Level of the Respondents in Terms of Identifying Errors

Identifying Errors	Frequency	Percent
0 - 8 (Low)	195	77.7
9 - 14 (Average)	55	21.9
15 - 20 (High)	1	.4
Total	251	100.0

In terms of Identifying Errors, most of the respondents are within low proficiency level with 195 or 77.7%. There is only one or .4% who is within high level.

Table 10. English Proficiency Level of the Respondents in Terms of Spelling and Punctuation

Spelling and Punctuation	Frequency	Percent
0 - 3 (Low)	64	25.5
4 - 7 (Average)	158	62.9
8 - 10 (High)	29	11.6
Total	251	100.0

As to Spelling and punctuation, most of the respondents are within the average level. This contradicts the result of the study of Magbanua (2016), when she studied the English proficiency of 305 respondents in terms of spelling, it was found that out of 305

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respondents, 77 (25%) failed in spelling; 39(13%) was conditional; 37(12%) was satisfactory; 32 (10%) was good; 31(10%) was very satisfactory; 26(9%) was very good; 13(4%) was outstanding and only 1(1%) was highly outstanding. The result shows that freshmen college students are not proficient in English in terms of **spelling**.

Table 11. English Proficiency Level of the Respondents in Terms of Logical Organization

Logical Organization	Frequency	Percent
0 - 3 (Low)	250	99.6
4 - 7 (Average)	1	0.4
8 - 10 (High)	0	0.0
Total	251	100.0

In terms of Logical Organization, almost all of the respondents are within low level with 250 or 99.6%. There is only one or .4% within average level. No one gets a high level.

The result of the present study conforms with the findings of Rayos (1984) in her study on the language skills in English utilized the Diagnostic Test in English as the main instrument which was prepared by the South Asian Ministry of Education Regional Language Center in Singapore. After subjecting the data to descriptive and inferential analysis, she concluded that of the four language skills included in the test, i.e., vocabulary, organization, reading comprehension and grammar, the reading comprehension is the easiest, vocabulary, next; grammar, third; while **organization** is the most difficult.

Table 12. English Proficiency Level of the Respondents

English Frequency Level	Frequency	Percent
68 – 100 (High)	0	0.0
34 - 67 (Average)	193	76.9
0 - 33 (Low)	58	23.1
Total	251	100.0

As shown in Table 11, the overall English Proficiency level of the respondents is within average with 193 or 76.9%. None among the respondents gets a high level.

Table 13: Summary of the English Proficiency Level of the Respondents

Components of English Proficiency Level		Frequency	Percentage
Stress/ Intonation	low	5	2.0
	average	139	55.4
	high	107	42.6
Verbal Ability	low	29	11.6
	average	201	80.1
	high	21	8.4
Reading Comprehension	low	135	53.8
	average	116	46.2
Correct Usage	low	98	39
	average	136	54.2
	high	17	6.8
Identifying Errors	low	195	77.7
	average	55	21.9
	high	1	0.4
Spelling and Punctuation	low	64	25.5
	average	158	62.9
	high	29	11.6
Logical Organization	low	250	99.6
	average	1	0.4

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Table 12 shows the Summary of the English Proficiency Level of the respondents. Out of 251 respondents, most of the respondents are rated **Average** on the following: Stress /Intonation 139 or 55.4%; Verbal Ability, 201 or 80.1%; Correct Usage, 136 or 54.2%; and Spelling and Punctuation, 158 or 99.6%.

However, on the areas such as Reading Comprehension, Identifying Errors and Logical Organization, most of them are rated **Low** with 135 or 53.8%, 195 or 77.7%; and 250 or 99.6% respectively.

The result of the present study concurs the study of Abon's (1998). Her study revealed that the most difficult part encountered by the students in the test given to them was on "Logical Organization". Moreover, Darbin (1990) in her study, concluded the pupil-respondents have poor comprehension of words and are weak in detecting coherence in sentences.

Table 14. The English Proficiency Level of the Respondents

English Frequency Level	Frequency	Percent
68 – 100 (High)	0	0.0
34 - 67 (Average)	193	76.9
0 - 33 (Low)	58	23.1
Total	251	100.0

As shown in Table 14, the English Proficiency Level of the respondents is average with 193 or 76.9%. The result of this study confirms the finding of Rabacca and Lasaten (2016) on their study titled, "English Language Proficiency and Academic Performance of Philippine Science High School Students". The result of their study indicates that the students have average English language proficiency level. This further implies that the students have typical skills in grammar, vocabulary and reading comprehension. Thus, the students have to be exposed to more reading and writing activities to further enhance their English language proficiency level.

3. Is there a significant difference in the English Proficiency Level of the respondents in terms of: Stress/Intonation, Verbal Abilities, Reading Comprehension, Correct Usage, Identifying Error, Spelling and Punctuation and Logical Organization when they are grouped according to profile?

Table 15. Significant Difference in the English Proficiency Level of the Respondents when Grouped According to Their Courses ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.	Remarks
Stress/Intonation * Courses	Between Groups (Combined)		.674	3	.225	.795	.498	Not Significant
	Within Groups		69.875	247	.283			
	Total		70.550	250				
Verbal Abilities * Courses	Between Groups (Combined)		2.504	3	.835	4.364	.005	Significant
	Within Groups		47.241	247	.191			
	Total		49.745	250				
Reading Comprehension * Courses	Between Groups (Combined)		10.412	3	3.471	16.493	.000	Significant
	Within Groups		51.978	247	.210			
	Total		62.390	250				
Correct Usage * Courses	Between Groups (Combined)		20.154	3	6.718	24.152	.000	Significant
	Within Groups		68.706	247	.278			
	Total		88.861	250				
Identifying Errors * Courses	Between Groups (Combined)		2.290	3	.763	4.308	.006	Significant
	Within Groups		43.766	247	.177			
	Total		46.056	250				
Spelling and Punctuation * Courses	Between Groups (Combined)		5.864	3	1.955	5.870	.001	Significant
	Within Groups		82.255	247	.333			
	Total		88.119	250				

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Courses	Total		88.120	250				
Logical Organization * Courses	Between Groups (Combined)		.008	3	.003	.637	.592	Not Significant
	Within Groups		.988	247	.004			
	Total		.996	250				

Table shows the significant difference in the in the English Proficiency Level of the respondents in terms of Stress/Intonation, Verbal Abilities, Reading Comprehension, Correct Usage, Identifying Error, Spelling and Punctuation, and, Logical Organization when they are grouped according to their profile courses using ANOVA F – test at 0.05 level of significance.

The table presents that the computed significance F values of Stress/Intonation, and Logical Organization when group according to their courses; were greater than the critical level of significance of 0.05 ($F > .05$) resulted to the acceptance of the null hypothesis (H_0). **There is no significant difference** in Stress/Intonation and Logical Organization when grouped according to their profile courses. For the Verbal Abilities, Reading Comprehension, Correct Usage, Identifying Error, and Spelling and Punctuation; the computed significance F values were less than the critical level of significance of 0.05 ($F < .05$), the null hypothesis (H_0) is rejected. **There is significant difference** in the Verbal Abilities, Reading Comprehension, Correct Usage, Identifying Error, and, Spelling and Punctuation when grouped according to their profile courses.

Results reveal that courses of the respondents do not influence their English Proficiency Level along Stress/Intonation and Logical Organization. However, along Verbal Abilities, Reading Comprehension, Correct Usage, Identifying Error, and, Spelling and Punctuation; their courses showed significant role to it; wherein those who are BTVTED respondents were better in Verbal Abilities, BSE students are in Reading Comprehension and Correct Usage, BTLED students in Identifying Errors, and BS Industrial Technology students are in Spelling and Punctuation.

Table 16. Significant Difference in the English Proficiency Level of the Respondents when Grouped According to Their Age ANOVA Table

			Sum of Squares	df	Mean Square	F	Sig.	Remarks
Stress/Intonation * Age	Between Groups (Combined)		1.076	4	.269	.952	.434	Not Significant
	Within Groups		69.474	246	.282			
	Total		70.550	250				
Verbal Abilities * Age	Between Groups (Combined)		1.353	4	.338	1.719	.146	Not Significant
	Within Groups		48.392	246	.197			
	Total		49.745	250				
Reading Comprehension * Age	Between Groups (Combined)		3.446	4	.862	3.595	.007	Significant
	Within Groups		58.944	246	.240			
	Total		62.390	250				
Correct Usage * Age	Between Groups (Combined)		2.638	4	.659	1.881	.114	Not Significant
	Within Groups		86.223	246	.350			
	Total		88.861	250				
Identifying Errors * Age	Between Groups (Combined)		1.953	4	.488	2.723	.030	Significant
	Within Groups		44.103	246	.179			
	Total		46.056	250				
Spelling and Punctuation * Age	Between Groups (Combined)		.494	4	.123	.346	.846	Not Significant
	Within Groups		87.626	246	.356			
	Total		88.120	250				
Logical Organization * Age	Between Groups (Combined)		.003	4	.001	.209	.933	Not Significant
	Within Groups		.993	246	.004			
	Total		.996	250				

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Presented in the table above is the significant difference in the in the English Proficiency Level of the respondents in terms of Stress/Intonation, Verbal Abilities, Reading Comprehension, Correct Usage, Identifying Error, Spelling and Punctuation and Logical Organization when they are grouped according to their profile age using ANOVA F – test at 0.05 level of significance.

As presented the computed significance F values of Stress/Intonation, Verbal Abilities, Correct Usage, Spelling and Punctuation and Logical Organization when group according to their age; were greater than the critical level of significance of 0.05 ($F > .05$) resulted to the acceptance of the null hypothesis (H_0). **There is no significant difference** in Stress/Intonation, Verbal Abilities, Correct Usage, Spelling and Punctuation, and Logical Organization when grouped according to their profile age.

For the Reading Comprehension and Identifying Error, the computed significance F values were less than the critical level of significance of 0.05 ($F < .05$), the null hypothesis (H_0) is rejected. **There is significant difference** in the Reading Comprehension and Correct Usage when grouped according to their profile age.

Results reveal that age of the respondents do not influence their English Proficiency Level along Stress/Intonation, Verbal Abilities, Correct Usage, Spelling and Punctuation, and Logical Organization. However, along Reading Comprehension and Identifying Error; their ages showed **significant** role to it; wherein those who are 18 years old are better than the rest of the students.

Table 17. Significant Difference in the English Proficiency Level of the Respondents when Grouped According to Their Sex ANOVA Table

	Sum of Squares	df	Mean Square	F	Sig.	Remarks
Between Groups Stress/Intonation * (Combined)	.042	1	.042	.149	.699	Not Significant
Within Groups	70.508	249	.283			
Sex Total	70.550	250				
Between Groups Verbal Abilities * (Combined)	.052	1	.052	.260	.610	Not Significant
Sex Within Groups	49.693	249	.200			
Total	49.745	250				
Reading Between Groups Comprehension * (Combined)	6.614	1	6.614	.224	.000	Significant
Sex Within Groups	55.776	249		29.529		
Total	62.390	250				
Between Groups Correct Usage * Within (Combined)	3.276	1	3.276	.344	.002	Significant
Sex Within Groups	85.585	249				
Total	88.861	250				
Between Groups Identifying Errors * Sex (Combined)	1.226	1	1.226	.180	.010	Significant
Sex Within Groups	44.829	249				
Total	46.056	250				
Between Groups Spelling and Punctuation * (Combined)	.609	1	.609	.351	.189	Not Significant
Sex Within Groups	87.510	249		1.734		
Total	88.120	250				
Between Groups logical Organization * Sex (Combined)	.002	1	.002	.511	.475	Not Significant
Sex Within Groups	.994	249	.004			
Total	.996	250				

Presented in the table above is the significant difference in the English Proficiency Level of the respondents in terms of Stress/Intonation, Verbal Abilities, Reading Comprehension, Correct Usage, Identifying Error, Spelling and Punctuation and Logical Organization when they are grouped according to their profile sex using ANOVA F – test at 0.05 level of significance.

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As presented the computed significance F values of Stress/Intonation, Verbal Abilities, Spelling and Punctuation and Logical Organization when group according to their age; were greater than the critical level of significance of 0.05 ($F > .05$) resulted to the acceptance of the null hypothesis (H_0). **There is no significant difference** in Stress/Intonation, Verbal Abilities, Spelling and Punctuation and Logical Organization when grouped according to their profile sex.

For the Reading Comprehension, Correct Usage, and Identifying Error; the computed significance F values were less than the critical level of significance of 0.05 ($F < .05$), the null hypothesis (H_0) is rejected. **There is significant difference** in the Reading Comprehension, Correct Usage, and Identifying Error when grouped according to their profile sex.

Results reveal that sex of the respondents do not influence their Stress/Intonation, Verbal Abilities, Spelling and Punctuation and Logical Organization. However, along Reading Comprehension, Correct Usage, and Identifying Error; their sex showed significant role to it; wherein those who are **female** are better than the male students on the said proficiency.

The result of the present study confirms the findings of Al-Otaibi (1996) when he examined the influence of gender on the student's performance, he found out that male students are not better than female students.

Table 18. Significant Difference in the English Proficiency Level of the Respondents when Grouped According to Their Dialect ANOVA Table

		Sum of Squares	df	Mean Square	F	Sig.	Remarks
Stress/Intonation * Dialect	Between Groups (Combin ed)	.530	3	.177	.623	.601	Not Significant
	Within Groups	70.020	247	.283			
	Total	70.550	250				
Verbal Abilities * Dialect	Between Groups (Combin ed)	.873	3	.291	1.471	.223	Not Significant
	Within Groups	48.872	247	.198			
	Total	49.745	250				
Reading Comprehension * Dialect	Between Groups (Combin ed)	.374	3	.125	.496	.685	Not Significant
	Within Groups	62.017	247	.251			
	Total	62.390	250				
Correct Usage * Dialect	Between Groups (Combin ed)	.991	3	.330	.928	.428	Not Significant
	Within Groups	87.870	247	.356			
	Total	88.861	250				
Identifying Errors * Dialect	Between Groups (Combin ed)	.170	3	.057	.305	.822	Not Significant
	Within Groups	45.886	247	.186			
	Total	46.056	250				
Spelling and Punctuation * Dialect	Between Groups (Combin ed)	1.701	3	.567	1.620	.185	Not Significant
	Within Groups	86.419	247	.350			
	Total	88.120	250				
Logical Organization * Dialect	Between Groups (Combin ed)	.009	3	.003	.723	.539	Not Significant
	Within Groups	.987	247	.004			
	Total	.996	250				

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Shown in the table above is the significant difference in the in the English Proficiency Level of the respondents in terms of Stress/Intonation, Verbal Abilities, Reading Comprehension, Correct Usage, Identifying Error, Spelling and Punctuation and Logical Organization when they are grouped according to their profile dialect using ANOVA F – test at 0.05 level of significance.

As shown the computed significance F values for the English Proficiency Level of the respondents in terms of Stress/Intonation, Verbal Abilities, Reading Comprehension, Correct Usage, Identifying Error, Spelling and Punctuation and Logical Organization when they are grouped according to their profile dialect; were greater than the critical level of significance of 0.05 ($F > .05$) resulted to the acceptance of the null hypothesis (H_0). **There is no significant difference** in English Proficiency Level of the respondents in terms of Stress/Intonation, Verbal Abilities, Reading Comprehension, Correct Usage, Identifying Error, Spelling and Punctuation, and Logical Organization when grouped according to their profile dialect.

These indicate that dialect of the respondents do not significantly affect the English Proficiency Level of the respondents in terms of Stress/Intonation, Verbal Abilities, Reading Comprehension, Correct Usage, Identifying Error, Spelling and Punctuation, and Logical Organization.

4.What is the level of Academic Performance of the K12 Respondents?

Table 19. The Level of Academic Performance of the Respondents

Academic Performance	Frequency	Percent
1.0 - 1.75 (High)	49	19.5
2.0 - 2.5(Average)	176	70.1
2.75 - 5(Low)	26	10.4
Total	251	100.0

As shown in the table, out of 251 respondents, 176 (70.1%) are within the “**Average**” level; followed by “**High**” level with 49 (19.5 %); and the least, within “**low**” level, 26 (10.4%).

The present findings affirm the result of the study of Agullo (1985), “English Performance of Freshman College Students in Relation to their Study Habits within the School Year 1984-1985 at the Philippine Normal College (PNC), Agusan Campus, Prosperidad, Agusan Del Sur”.The researcher arrived at the conclusion that the English performance of students were only **average**.Bacares(2001) also concluded in her study entitled ,”Performance Profile of Freshman of Partido State University in English 1” that there is much to be done for students to fully acquire the skills in English.

5.Is there a significant relationship between the Level of Academic Performance and Level of English Proficiency of the respondents?

Table 20. Significant Relationship between the Level of Academic Performance and Level of English Proficiency of the Respondents

Group	Significance Pearson’s r	Analysis	Decision	Remarks
Level of Academic Performance (Average) And Level of English Proficiency (Average)	.043	$r < .05$	Reject H_0	There is Significant Relationship

Table presents the significant relationship between the Level of Academic Performance and Level of English Proficiency of the respondents using Pearson’s r – test at 0.05 level of significance.

The table reveals that the computed significance r value was less than the critical level of significance of 0.05 ($r < .05$), the null hypothesis (H_0) is rejected. There is **significant relationship** between the Level of Academic Performance and Level of English Proficiency of the respondents.

Thus, Level of Academic Performance (Average) and Level of English Proficiency (Average) are dependent with each other. A student who had a better proficiency in English will result to have a better academic performance.

The result of the study concurs with the findings of Sahragard. R, et al, (2011) “A closer look at the relationship between academic achievement and language proficiency among Iranian EFL students.” Based on the findings, the study found out that a **significant relationship** between language proficiency and academic performance exists.

Moreover, in the study of (Aina,J..K, et.al. 2013) “Students’ proficiency in English language relationship with academic performance in science and technical education,” and (Garnace,L.,2001) “Correlates of English performance among fourth year

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high school students in Philippine Science High School-Eastern Visayas Campus, Science and Technology streams,” , which aimed at finding the relationship between academic achievement and language proficiency, the results of their studies showed that **there is a significant relationship** between English language proficiency and academic achievement.

Further, Carag (1997) studied the level of grammar proficiency of College Freshmen of St. Louis College of Tuguegarao, she discovered that the students’ grades in English 1-A is **significantly related** to their English Grammar Proficiency.

Results on language proficiency and academic performance were consistent with previous research that reported that there was indeed a relationship between self-perceived English language proficiency and academic performance as measured by GPA, according to Martirosyan (2015).

The results of the above studies of Sharagard, Aina , Garnace and Carag conform with the result of the present study that the English Proficiency has a significant relationship with the academic performance of the students.

FINDINGS

1. The following findings are revealed in the present study as to the significant difference of English Proficiency Level of the respondents when they are grouped according to profile:

a. Course

1)There is no significant difference in stress and logical organization. However, in Verbal Abilities, Reading Comprehension, Correct Usage Identifying Errors and Spelling and Punctuation, there is a significant difference.

2)BTVTED students are good in Verbal Abilities; BSE in Reading Comprehension; BTLED in Correct Usage; and BS Industrial Technology in Spelling and Punctuation.

b. Age

1)There is no significant difference in Stress/Intonation, Verbal Abilities, Correct Usage, Spelling and Punctuation, Logical Organization.

2) There is significant difference in Reading Comprehension and Identifying Errors.

3)Respondents aging 18 are better than the in Reading comprehension and Identifying Errors.

c. Sex

1)There is significant difference in Reading Comprehension, Correct Usage and Identifying Errors.

2)Female respondents are better than male in Reading Comprehension, Correct Usage and Identifying Errors.

d. Dialect Spoken

There is no significant difference in English Proficiency Level of the respondents in terms of Stress/Intonation, Verbal Abilities, Reading Comprehension, Correct Usage, Identifying Error, Spelling and Punctuation, and Logical Organization when grouped according to their profile dialect.

2. As to the Academic Performance of the respondents, they are within the average level with 176 or 70.1%.

3.The result reveals that there is significant relationship between the respondents’ Level of English Proficiency and their Level of Academic Performance.

CONCLUSION

From the above findings, the English Proficiency Level and Academic Performance of the freshman students are within average level. The results are dependent with each other. A student who had a better proficiency in English will result to have a better academic performance. Among the seven components of English Proficiency Test, none was performed within **high** level among the respondents. It is concluded that such findings confirm the general observation that our students’ proficiency of the English language is not quite good. The incoming freshmen who are graduates of K12 curriculum have a limited competency in English language.

RECOMMENDATION

In the light of the findings and conclusions, several recommendations are offered to English teachers, students, school administrators, curriculum designers and developers, and other research enthusiasts.

The English teachers of Isabela State University are encouraged to continuously update themselves with new approaches, methods, strategies and techniques in teaching the English subject. This can be done by attending seminars, trainings and workshops related to language and literature teaching. Through this, they can bring out innovations in their teaching and that the proficiency of the students in the English language will be heightened.

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The freshman students of Isabela State University should realize the importance of English language. They must understand the English language as a system and of the role of its components so as to understand its demands on academic tasks and eventually gain skills to address the role of academic language in their learning.

The school administrators of ISU should have concrete plans to develop and monitor their students' English language proficiency throughout their stay in the institution. Also, they should establish bases and standards for allocating resources that contribute to the students' English language proficiency. Further, they should provide professional development assistance for the faculty to equip them relevant approaches, methods, strategies and techniques in English language teaching.

The curriculum designers and developers should revisit the existing curriculum programs of the system, particularly English, by taking into consideration the result of the study.

Lastly, other research enthusiasts are encouraged to conduct a similar study on a wider scope to validate the results and findings of the present study. Likewise, they are encouraged to investigate other factors that may contribute to students' English language proficiency and academic performance such as learning styles, teaching strategies, technologies used in teaching and learning, exposure to English language, as well as other environmental and contextual variables.

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Corruption and Environmental Protection in Sub-Saharan African Countries



Fallou DIENG

ABSTRACT: Carbon dioxide (CO₂) emissions are a growing concern for policy makers and environmental advocates. The objective of the article is to determine the role of governance in environmental decarbonization based on the environmental Kuznets curve from a panel of 21 SSA countries over the period from 1996 to 2019. The Driscoll-Kraay estimator is used to estimate the long-term relationship and the dynamic ordinary least squares (DOLS) estimator to test the robustness. The results show the non-existence of an environmental Kuznets curve and the negative influence of corruption on CO₂ emissions. These results suggest strengthening the control of corruption to ensure effective environmental decarbonization policies.

KEYWORDS: Corruption, CO₂ emissions, Economic growth, SSA

JEL Classifications : O13, O50, Q53, Q56, Q59

INTRODUCTION

Since a long time, from 1972 with the United Nations Conference on the Human Environment until the Paris Agreement in 2015, the environment has been a global concern. The Saguenay flood of 1996 and the ice storm of January 1998 greatly contributed to setting the record straight on the issue of the environment (Bourque, 2000). Thus, in recent decades, considerable efforts have been made on a global scale for the protection of the environment because of its importance on economic activity.

According to the FAO (2022), the forest sector contributes more than 1,520 billion USD to the world's gross domestic product and employs 33 million people. But the consequences on the preservation of the environment remain small because we are still witnessing a rapid destruction of the global environment. Indeed, deforestation, desertification and species extinction are progressing everywhere. The Global Forest Resources Assessment shows that 420 million hectares of forest have been deforested (allocated to other uses) between 1990 and 2020 (FAO, 2022).

For a long time, Africa seemed not to be concerned with environmental and pollution problems, that it was somehow isolated from these problems of the « rich », of the « developed », of the « industrialized ». But, this is not the case, Africa is completely concerned by environmental and pollution problems (Plauchu, 2021). It is concerned with global problems, starting with climate change, the consequences of which are the reduction of biodiversity, the depletion of fishery resources, deforestation, soil erosion and degradation, acidification of the seas, freshwater and soils, freshwater scarcity, desertification, floods, etc.

Africa, in particular Sub-Saharan Africa (SSA), is considered to be the one that causes the least environmental degradation and the most exposed to its consequences. Twenty countries, including the United States, are responsible for 80% of global emissions (of greenhouse gases) and 48 countries in sub-Saharan Africa account for 0.55% of these emissions (Kerry, 2022). At the same time, about 90% of people in sub-Saharan Africa are exposed to indoor air pollution and 500,000 square kilometers of land are degraded by soil erosion, salinization, pollution and deforestation (PNUD, 2019). Furthermore, The World Bank estimates that 100 million people worldwide, mainly in South Asia and sub-Saharan Africa, are at risk of falling back into poverty due to the effects of climate change (Baarsch et al., 2020; Hallegatte, 2016). However, poor countries are at the mercy of environmental degradation (Maertens, 2017). Rapid environmental degradation poses a threat to livelihoods and social well-being for the development of SSA countries especially when the quality of institutions is weak.

Governance is seen as a fundamental ingredient for driving development in harmony with environmental requirements. Whereas, bad governance is detrimental to the structural transformation of African economies. There is consensus in Africa that better governance is essential to promote growth and development and enable African countries to achieve the Millennium Development Goals (Commission économique pour l'Afrique, 2009). Furthermore, significant progress has been noted in terms of governance in Sub-Saharan Africa. Indeed, with an average score of 33 out of 100 on the Corruption Perception Index (CPI), sub-

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Saharan Africa needs to make more progress. Indeed, compared to previous years, 44 countries out of 49 in 2021 obtained a score still below 50 (Transparency International, 2022).

Countries that adopt strategies to mitigate or fight against environmental degradation seem to be the least exposed to environmental damage. Thus, SSA countries have undertaken actions for community management of natural resources, species conservation, creation of multi-use marine protected areas, development of renewable energies, etc. Added to this is the policy of the African Development Bank Group on environmentally sustainable development in Africa. But, despite these actions, environmental degradation remains a real challenge and governance is proving to be an opportunity to better address this issue. The theoretical anchoring of the question of environmental degradation on the economy finds its origin in the work of Simon Kuznets (1955). It relates inequality in the distribution of income and economic growth in the United States and the United Kingdom. Kuznets (1955) estimates the existence of a relationship described as « inverted U » between income inequality and GDP per capita. A few decades later, Grossman & Krueger (1991) tested this inverted U curve hypothesis for the relationship between environmental degradation and GDP per capita; this hypothesis will then be called the Environmental Kuznets Curve (CEK). Whereas, the process of emergence of the issue of institutions in economics has seen two opposing conceptions (orthodox and heterodox) of the relationship between economy and institution. From its foundation and up to the present day, orthodox liberal economics has sought to reduce the question of economic institutions to that of conformity between a good pure market economy without disruptive institutions and a concrete economy more or less perverted by institutions. existing. On the other hand, the various successive heterodox approaches in economics (Sismondi, Saint-Simon, historicists, Marx, Veblen) have, each in its own way, proposed a conception of the established economy.

Empirical results on the issue reveal that the relationship between governance and environment is not always virtuous. Some works have detected a CEK (H. Cho, 2021; Le & Ozturk, 2020) and others an increasing monotonic relationship between economic growth and pollutants (Kais & Ben Mbarek, 2017a; Uddin et al., 2017a). In addition, some studies have shown that governance has positive effects on the environment (Gani, 2012; Lahiri-Dutt, 2004a; Osabuohien et al., 2014a) while others show that this relationship is conditional on the characteristics of the countries as the nature of the economy (Dryzek, 1987; Fredriksson & Svensson, 2003a). Accordingly, this article focuses on the role of corruption in environmental protection in SSA African countries. The empirical approach used is that of Grossman & Krueger (1991b) et Stern (2004), i.e. that of an environmental Kuznets curve. Parametric estimators, in particular dynamic ordinary least squares (DOLS) and Driscoll and Kraay (DK), made it possible to estimate a panel of 21 SSA countries over the period from 1996 to 1999. The results show on the one hand the non-existence of a EKC in SSA countries and on the other hand the negative influence of corruption control on CO2 emissions.

An abundant literature shows that governance indicators affect environmental protection (H. Cho, 2021; Dryzek, 1987; Fredriksson & Svensson, 2003a; Gani, 2012; Kais & Ben Mbarek, 2017a; Lahiri-Dutt, 2004a; Le & Ozturk, 2020; Osabuohien et al., 2014a; Uddin et al., 2017a). Therefore, the relationship between environmental change and institution cannot be dissociated from economic policy and reform. Thus, the contribution of our research is to contribute to this abundant literature in the context of countries characterized by politico-institutional instability.

To contribute to this literature, we will, after the introduction, review the state of the art on environmental governance in SSA countries. Then present the methodology and the data used, then the estimation strategy and the results. Finally, we will end with the conclusion.

1- ENVIRONMENTAL GOVERNANCE IN SSA COUNTRIES: THEORY AND EMPIRICAL EVIDENCE

Environmental protection refers to environmental standards established with a view to protecting and preserving the natural heritage, such as emission, process, waste management standards, etc. (Beitone et al., 2013). It aims to institute sustainable development ensuring efficient use of natural resources while reducing the ecological footprint. Since the Stockholm conference in 1972, the United Nations Conference on Environment and Development has sought to have member states adopt conventions establishing environmental standards. Rich countries favor such standards. But the emerging countries and the poorest countries, globally less polluting, claim a right to pollute equal to that which the North has used its own development since the 18th century. Some economists like Pigou are in favor of eco-taxes rather than difficult-to-enforce environmental standards. But, in a context of globalization, environmental standards are controversial because some see them as a form of non-tariff protectionism. As a result, governance appears to be an alternative to counter the harmful consequences of greenhouse gas emissions, particularly in SSA countries.

1.1- The Kuznets environmental curve

The problem posed by greenhouse gas emissions (pollution) can be seen from the point of view of pollution-related externalities (SECK, 2020). The notion of externality is introduced by Sidgwick (1887) then clarified by (Viner, 1931). An external effect or

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externality is a consequence (positive or negative) of an economic activity that is not taken into account by the market (Beitone et al., 2013). Pollution linked to atmospheric emissions is a negative external effect. Indeed, the discrepancy between the private cost and the overall cost for the community due to imperfections in the functioning of the market shows the difficulty of implementing environmental governance. However, several lessons can be drawn from work on the quality of the environment, the theoretical foundations of which are to be found in the hypothesis of the environmental Kuznets curve (Grossman & Krueger, 1991b, 1995).

In 1955, Simon Kuznets detected a bell-shaped relationship (inverted U) between the level of per capita income and social inequalities. Following several works, it appears possible that the evolutions of certain pollutants compared to the level of wealth of a country follow a similar path, hence the name of « Kuznets environmental curve ». Indeed, according to Beckerman (1992) : « There is clear evidence that, although economic growth normally causes environmental degradation in the early stages of development, in the end the best - and probably the only - path to regaining decent environment in most countries is to get rich ». This assertion also reflects this apparent relationship called the Environmental Kuznets Curve (ECC).

The EKC postulates the existence of an inverted U-shaped relationship between economic growth and environmental quality. Consequently, the quality of the environment deteriorates during the first phases of economic growth; but from a certain level called the turning point, an improvement in the quality of the environment improves with the level of economic growth. Moreover, the environmental Kuznets curve suggests the existence of a non-linear relationship between economic growth and the quality of the environment in the long term. However, while the theoretical predictions seem to be clear, the conclusions of the empirical literature on CEK seem to be mixed.

A first part of the literature found the existence of a CEK (Apergis & Ozturk, 2015; C.-H. Cho et al., 2014; Jebli et al., 2016; Panayotou, 1993; Saboori et al., 2012; Shafik & Bandyopadhyay, 1992), then a second finds an increasing monotonic relationship between growth and various types of pollutants (Kais & Ben Mbarek, 2017b; Ozturk & Acaravci, 2013; Uddin et al., 2017b) and finally a third pan finds the existence of a complex relationship between growth and the environment (Boyce et al., 1999; Dasgupta et al., 2002; De Bruyn et al., 1998; Fujii & Managi, 2016; Meunier, 2004; Stern, 2004).

The hypothesis of an environmental Kuznets curve has been demonstrated by a number of empirical works. Thus, Apergis & Ozturk (2015) analyze the hypothesis of an environmental Kuznet curve on a sample of 14 Asian countries covering the period 1990-2011. They use the GMM methodology looking at CO₂ emissions, GDP per capita, population density, share of industry in GDP and quality of institutions. They find the existence of an inverted U-shaped association between CO₂ emissions and per capita income, i.e. validation of the environmental Kuznets curve hypothesis.

To investigate the existence of a KEC in the countries of the Organization for Economic Co-operation and Development, Cho et al. (2014) use the ordinary least squares (OLS) method on a panel of 22 countries over the period 1971-2000. The results show that energy consumption plays an important role in explaining greenhouse gas emissions in OECD countries. Similarly, Jebli et al. (2016) apply a panel of 25 countries the dynamic ordinary least squares method and find the existence of an environmental Kuznets curve in the shape of an inverted U. On the other hand, increased trade reduces CO₂ emissions. In the same way, Saboori et al. (2012) suggest the existence of a long-term relationship between CO₂ emissions per capita and real gross domestic product (GDP) per capita. However, other works show the existence of an increasing monotonic relationship between economic growth and various types of pollutants.

To examine the existence of a CEK in selected African countries, Kais & Ben Mbarek, (2017) examine the causal relationship between energy consumption (EC), carbon dioxide (CO₂) emissions and growth economy in three North African countries. They use panel cointegration analysis using data for the period 1980-2012. The results show in the short term the existence of a unidirectional relationship between economic growth and energy consumption. Similarly, a similar result is found by Ozturk & Acaravci (2013) in Turkey, Uddin et al. (2017) on a panel of the main global contributors to the ecological footprint, Dasgupta et al. (2002) and Stern (2004) in developing countries as well as Fujii & Managi (2016) in eight countries emitting environmental air pollutants. However, despite the identification of a CEK, recent literature emphasizes the role of governance in environmental protection.

1.2- Corruption and CO₂ emissions in the literature

The word governance was updated in the 1990s by Anglo-Saxon economists and political scientists and by certain international institutions (UN, World Bank and IMF). In a general sense, governance can be defined as the set of methods by which individuals and institutions manage their common affairs (Beitone et al., 2013). Whereas, Perez (2010) considers that governance is “a device involving both institutions, relationships, rules and behaviors”. Thus, it marks on the one hand, the distinction with the government as an institution and on the other hand takes into account the participation of civil society at all levels (Paye, 2005). Governance refers to the institutional and traditional mechanisms that allow individuals to respect supreme power (Kaufmann et

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al., 2011). The fundamental institutional and traditional mechanisms of governance are made up of certain procedures including the quality of the bodies that govern the socio-economic relations between citizens and the government and finally respect for the rights of citizens (Agyeman et al., 2022).

The importance given to the quality of human relations, that is to say the fight against corruption, stems from the observation that citizens informed of ecological issues can express their environmental needs by demanding more transparency (Payne, 1995). Work in the field uses several indicators including the control of corruption (Hadj & Ghodbane, 2022; Kaufmann et al., 2011). The fight against corruption is reputed to be favorable to the quality of the environment. Thus, empirical studies have shown that the fight against corruption leads to the reduction of greenhouse gas emissions (Al-Mulali & Ozturk, 2015; Biswas et al., 2012; Ederington & Minier, 2003; Lahiri-Dutt, 2004a; Osabuohien et al., 2014b; Panayotou, 1993).

Panayotou (1993) uses cross-sectional data from a sample of developed (27 countries) and developing (41 countries) countries and shows by ordinary least squares regression that a 10% improvement in the quality of institutions reduces emissions. sulfur dioxide (SO₂). Similarly, Ederington & Minier (2003) using panel data from 374 industrial sectors over the period 1978 to 1992 show that institutional development, accelerating compliance with laws and reducing corruption can reduce the risk of a country's CO₂ emissions.

To analyze the effect of pollution on the environment, Biswas et al. (2012) look at the informal sector in over 100 countries. They analyze using a panel covering the period 1999-2005 to show how the informal economy affects pollution through corruption in public administration. Indeed, production in the underground economy allows companies to avoid environmental regulatory policies. The results show that the relationship between the informal economy and pollution levels depends on corruption levels. Similarly, Lahiri-Dutt (2004) using a literature review shows that informal mining activities in mineral-rich developing countries negatively affect the environment through corruption. Indeed, in the informal sector, polluting industries escape environmental regulations and lead to environmental degradation.

To analyze the effect of institutions on pollution in developing countries, Osabuohien et al. (2014) analyze 50 African countries over the period from 1995 to 2010. They show that in oil-producing countries, institutions have a positive impact on CO₂ emissions, while the opposite effect is observed in non-producing countries. Thus, the link between governance and the quality of institutions is not always virtuous but depends on the characteristics of the countries. Moreover, Fredriksson & Svensson (2003) postulates that democracy alone cannot lead to the improvement of the quality of the environment given that investors will operate the choices of their methods of production and use resources exclusively on the basis of their private interests.

The explanation behind the effect of the fight against corruption on environmental protection is that governance ensures that a country's resources are used efficiently by framing productive activities and supporting sustainability. as well as environmental quality (Agyeman et al., 2022). However, the literature on the issue shows that researchers have not paid particular attention to the role of governance in the successful implementation of decarbonization policies. Therefore, we hypothesize that the fight against corruption can play an important role in reducing CO₂ emissions.

2- METHODOLOGY AND DATA

In this part we will first present the econometric model and the data used, then the estimation strategy and the interpretation of the results.

2.1- The econometric model and data

We assume that the fight against corruption plays an essential role in the quality of the environment. Therefore, behaviors such as endemic corruption in governance systems are not environmentally friendly (Liu et al., 2021; Ulucak, 2020). To highlight the empirical link between corruption and environmental quality, following the example of Agyeman et al., (2022), we will adopt a classic CEK model with panel governance of 21 countries (Table 2) over the period from 1996 to 2019 due to data availability. The econometric specification of the model is as follows:

$$lco2_{it} = \alpha_{0it} + \alpha_1 l g d p_{it} + \alpha_2 l g d p_{it}^2 + \alpha_3 c c_{it} + \alpha_4 c o m o p_{it} + \alpha_5 c o n s e n e r g_{it} + \alpha_6 F D I_{it} + \alpha_7 v a _ i n d_{it} + \varepsilon_{it} \quad (1)$$

In the equation « l » represents the natural logarithm (ln), the parameters α the value of the coefficients of the variables of the model and ε an error term. The model variables are defined in Table 1. The databases used are those of the World Bank, namely the World Development Indicators (WDI) and the World Governance Indicators (WGI).

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Tableau 1 : Description of model variables

Variables	Symbols	Definition and measurement	Data source
Pollution	ICO2	A measure of environmental quality World captured by carbon dioxide (CO2) emissions Development from fossil fuel combustion and Indicators cement manufacturing. It is measured 9WDI) in metric tons per head.	WDI
Gross Domestic Product	dgp	Gross domestic product per capita, is gross domestic product divided by mid-year population. Data are in constant 2015 US dollars..	WDI
Corruption Control	CC	It captures perceptions of the extent World to which public power is exercised Governance for private gain. It is between 2.5 and -2.5. Indicators Commercial opening comop represents the degree of trade openness Energy consumption consenergy Represents primary energy use before transformation into other end-use fuels; It is measured in Kg per head	WDI
Foreign Direct Investment.	FDI	Représents Foreign Direct Investmen. They are expressed as a percentage of GDP	WDI

Source: Author based on WDI and WGI

Our field of analysis concerns the countries of sub-Saharan Africa. For a rigorous analysis of corruption on the environment, we will retain the countries of Sub-Saharan Africa whose score on the corruption perception index in 2021 exceeds the average for the region which is 33 out of 100. It is These are the 21 countries in Table 2:

Table 2: Corruption perception index score of SSA countries above or equal to the average for the region in 2021

Countries	Score
Seychelles	70
Cape Verde	58
Botswana	55
Maurice	54
Rwanda	53
Namibia	49
São Tomé-et-Principe	45
South Africa	44
Ghana	43
Senegal	43
Benin	42
Burkina Faso	42
Ethiopia	39
Maroco	39
Tanzania	39
Lesotho	38
Gambia	37
Ivory coast	36
Malawi	35
Sierra Leone	34
Zambia	33
Source: Author based on Corruption Perceptions Index Report 2021	

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2.2- Estimation strategy and interpretation of results

The estimation strategy first goes through the cross-sectional dependency test to determine the appropriate unit root test category for the data being used. Next, we will proceed to the stationarity test. Finally, we test the cointegration before determining the most relevant estimators for the estimation of the empirical model.

The cross-sectional test of independence (Table 3) makes it possible to determine the most appropriate unit root test for our series. For this, we will use the test of (Pesaran, 2021) and (Born & Breitung, 2016).

Table 3: Cross-sectional independence test

Variables	Pesaran Test		Born and Breitung Test (2016)	
	CD test	P VALUE	Q(p)-test	P VALUE
lco2_hbt	42.74	0.000	33.28	0.000
lgdp_hbt	52.21	0.000	23.67	0.000
lgdp_hbt2	52.21	0.000	23.67	0.000
lconsenergyhbt	45.08	0.000	55.50	0.000
contcorrup	2.22	0.026	28.89	0.000
FDI_gdp	6.304	0.000	4.69	0.096
va_ind	-.932	0.351	22.64	0.000
comop	6.195	0.000	ND	ND

Source: Author based on WDI and WGI data

the results show that the null hypothesis can be rejected by at least one of the tests for the different variables. Therefore, there is a cross-sectional dependency relationship for the whole series. Therefore, it is more appropriate to use second-generation Panel unit root tests such as the Pesaran (2007) and Westerlund et al. (2016) which allow efficient testing of stationarity by taking into account heterogeneity and cross-sectional dependence.

The stationarity test (Table 4) shows that the series of CO2 emissions, gross domestic product and coverage rate are not stationary while those of energy use, corruption control, FDI and industrial value added are stationary at least in first difference. Then, there is at least one stationary series in the presence of cross-sectional dependence so we can apply a cointegration test of Westerlund et al. (2016).

Table 4: Series stationarity test

Variables	CADF		CIPS	
	Level	first difference	Level	first difference
lco2_hbt	34.1465	38.1330	-1.953	-1.888
lgdp_hbt	23.1486	17.8472	-1.559	-1.806
lgdp_hbt2	23.1486	17.8472	-1.559	-1.806
lconsenergyhbt	30.9787	85.9137***	-1.631	-1.885
contcorrup	385.7466***	35.7900	-3.517***	-1.926
FDI_gdp	197.4742***	80.2330***	-3.517***	-2.374***
vab_ind	74.2800***	62.3865**	-1.794	-1.315
comop	34.7835	38.4023	-1.315	-1.406

Source: Author based on WDI and WGI data

The cointegration test (Table 5) shows that for all the variables the Gt is statistically significant at the 1% level.

Table 5: Cointegration test on Westerlund Panel

	Gt	Ga	Pt	Pa
lgdp_hbt	-3.574***	-10.007***	-8.207*	-7.508***
lgdp_hbt2	-3.574***	-10.007***	-8.207*	-7.508***
lconsenergyhbt	-5.848***	-7.243	-9.612	-8.099
contcorrup	-4.513 ***	-13.289	-8.128	-14.143***
FDI_PIB	-3.252***	-12.007	-16.587***	-23.235***
vab_ind	-5.578***	-15.492***	-9.662	-16.252***
opcom	-4.909***	-20.545***	-13.163***	-21.634***

Source: Author based on WDI and WGI data

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The result shows a longitudinal cointegration between the explanatory variables (GDP, energy use, foreign direct investment, control of corruption, added value of the industrial sector) and the explained variable (CO2 emissions). Therefore, it is possible to move on to estimating the long-term elasticity.

To estimate the relationship between corruption control and environmental protection, we will use the Driscoll–Kraay (DK) estimator. On the other hand, to test the robustness of the results, we will use the dynamic ordinary least squares (DOLS) estimator.

Table 6: Estimation of the relationship between corruption control and environmental protection

Dependant Variable	CO2 emission			
	Estimateur DK		Estimateur DOLS	
Indépendant Variable	Coefficients	t	Coefficients	z
lgdp_hbt	1.038 ***	6.61	1.184***	25.47
lgdp_hbt2	0.519 ***	16.17	0.592***	25.47
lconsenergy_hbt	-0.025	-0.88	0.011	0.357
contcorrup	-1.200 ***	-5.38	-1.533***	-17.58
FDI_gdp	-0.099 ***	-3.92	-.135***	-21.56
Va_ind	0.070 ***	5.30	0.074***	10.75
opcom	-.033***	-4.96	-.031***	-8.69
	R2 = 0.954		R2 Ajusté = -24.585	
Nombre d'observation	504		420	

Note: * (10%), ** (5%) and *** (1%) represent the threshold for rejecting the null hypothesis or for the significance of the variables.

Source: Author based on WDI and WGI data

The results (Table 6) show that economic growth measured by GDP per capita and its square positively and significantly affect CO2 emissions. Indeed, the 1% increase in growth leads to a more than proportional increase, i.e. 1.038%, of CO2 emissions in the 21 countries of Sub-Saharan Africa. Therefore, there is no inverted U-shaped relationship between income and environmental pollution in other words the absence of an environmental Kuznets curve (EKC) in the 21 countries of Sub-Saharan Africa. This evidence can be explained by the fact that most countries in Sub-Saharan Africa are in the process of structural transformation and industrial development to achieve sufficient economic growth (Agyeman et al., 2022). This result reveals that policies for decarbonizing CO2 emissions are not focused on economic growth. Thus, there is a decoupling between environmental policies and economic growth in sub-Saharan African countries.

The link between pollution and growth varies with changing fundamental conditions of economic systems and technological advances. So, as income increases its impact on environment increases. Therefore, environmental governance regulations are needed to reduce pollution in the environment (Olubusoye & Musa, 2020; Simionescu et al., 2021).

The results show the existence of a link between corruption and CO2 emissions. An improvement in corruption control of 1 point leads to a 1.2 point reduction in CO2 emissions. Indeed, controlling corruption can significantly reduce the waste of resources. This result is corroborated by Chirenje et al., (2013) et Wu & Pagell, (2011). In addition, the reliability of the results is reinforced by the robustness test, the application of the DK and DOLS estimators give substantially the same result.

The preponderant role of corruption control on environmental protection would however be reinforced if the countries of sub-Saharan Africa are more careful with regard to foreign direct investment and trade openness. Indeed, the results show that FDI and trade openness are negatively and significantly related to CO2 emissions. This result can be explained by the fact that FDI in sub-Saharan African countries is directed towards polluting sectors such as mining. Similarly, the international trade of these countries essentially involves polluting products such as oil.

CONCLUSION

The role of governance, in particular the fight against corruption, in the protection of the environment still remains a subject of interest for the actors in charge of environmental policy. The objective of the article was to show whether corruption is an important instrument in the control of CO2 emissions in Sub-Saharan Africa. For this, we used a panel data approach on 21 SSA countries covering the period 1996 to 1999. Second generation unit root tests, notably CADF and CIPS, were used to examine the stationarity of the series. In addition, the parametric estimation approach such as the DOLS and Driscoll and Kraay estimators on panel data made it possible to estimate the econometric model.

The results show that in the twenty-one SSA countries, corruption negatively and significantly influences carbon dioxide emissions. Also, the EKC is not valid in the SSA countries studied. The robustness test of the results is validated by using the DK and DOLS

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estimators. In addition, governments of SSA countries should further tackle corruption in projects and contracts with high environmental impact to improve decarbonization systems. They should also implement environmental policies taking into account the role of economic growth in CO₂ emissions.

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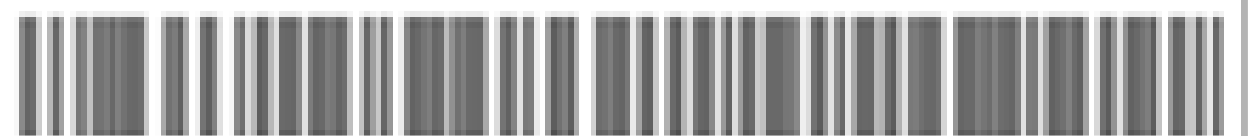
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