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Table of Contents IJMRA Volume 06 Issue 02 FEBRUARY 2023

S. no.	Article	Authors	Page no.
1.	The Effectiveness of Gobak Sodor Game on Increasing Agility in PB Athletes. Mega Citra	Ester Flaviani,Wawan Sundawan Suherman,Sumaryanti,Sigit Nugroho, Fransfile Manihuruk,Muhammad Fajar Ansharudin	466-470
2.	The Effect of Zig zag Running Training on Increasing VO2max for Mega Futsal Athletes	FransFile Manihuruk,Sigit Nugroho,Ahmad Nasrulloh,Jumpa Tarigan	471-476
3.	Learning from an Art Performance: The Indonesian and Islamic Laws' Perspectives on Psychodynamics of Fantasy Cannibals	Iffatin Nur,Gresia Belgis Dian Sari,Hiba Fajarwati,Divia Nur Alan Nur Ilmas	477-488
4.	Spa Therapy as a Way of Improvement of the Quality of Life for People with Muscellaneous Problems	Ioannidou, M.,Malliou, P.,Costa, G.,Taxildaris, K.	489-492
5.	Measuring Self-Serving Cognitive Distortions in School Dropout Adolescents (Boys)	Mohanapriya K , Dr. T Jothimani	493-498
6.	The Role of Institutional Factors in the Sustainable Development of Farming Businesses in Subak, Depsasar City	Putu Riska Wulandari,Ida Ayu Nyoman Saskara,I.G.W Murjana Yasa,A.A. Istri Ngurah Marhaeni	499-504
7.	The Models of Private Islamic School Based on Social Capital (PISSC) in Purwokerto Indonesia	Munjin	505-517
8.	The Effect of Command Training Methods, Exploration and Motivation Training Methods on the Smash Ability Results of Junior Sepak Takraw Athletes	Putria Hirwana,Alnedral,Anton Komain,Padli,Fiky Zarya, Muhamad Ichsan Sabillah,Ali Munir	518-530
9.	The Experience of Family Caregiver's n Caring for Post-Stroke Patients at Home During the Pandemic Covid-19	Cau Kim Jiu , Eristia Novarianda , Usman , Hartono , Wuriani , Kartika Setia Purdani , Afriyanto	531-539
10.	Development of Bali's Traditional Villages with Participation of the Local Community	I Putu Arya Dharmayasa,Made Suyana Utama,A.A. Istri Ngurah Marhaeni,Made Heny Urmila Dewi	540-545
11.	Motivation of Teenagers to Participate in Traditional Sports activities to Hunt Pigs in Padang Pariaman Regency	Handrian Lizer,Eri Barlian,Damrah,Anton Komaini,Fiky Zarya,Faza Annasai, Muhamad Ichsan Sabillah	546-550
12.	Elite Collaboration Model in Prevention and Handling of COVID-19 in DKI Jakarta	Andi Fitri Rahmadany	551-554

13.	Integration of Islamic Educational Values in Teaching of Science through Games to Kindergarten Pupils in Palu City, Indonesia	Rahmawati Rahmawati,Nurdin Nurdin, Adawiyah Pettalongi,Fatma fatma	555-563
14.	Course Refresher in Assessing and Facilitating Teacher-Learning (CRAFT) in Higher Education Institution: Basis for Improved Professional Faculty Development	Leovigildo Lito D. Mallillin, Ph.D.	564-583
15.	The Existence of the Corruption Eradication Commission in the Dynamics of Indonesian Constitutional	Sodikin	584-590
16.	Product Quality and Digital Marketing Analysis of Brand Equity through Brand Image of Mesran Super Lubricant Oil in Surabaya	Dwi Anggraeni,Muhadjir Anwar,Muchtolifah	591-597
17.	Many Practices of Global Ayurveda: A Comparative Study of Delhi Government Hospital and Charity Hospital in Berlin	Sharmistha Mallick	598-603
18.	Determining Legal Parentage and Nationality of a Child Born Through Assisted Reproductive Technology: A Comparative Perspective	Enobong Mbang Akpambang, Ph.D,Olufunmilayo Esther Rotimi-Aremu	604-623
19.	Efforts to Improve Backhand Short-Serve Motion Ability in Badminton: Literature Review	Cristine Marito, Ahmad Nasrulloh	624-626
20.	Research, Direct Construction form Optical Characteristics – OCR using Department Technology	Ly Hai Son,Nguyen Thu Nguyet Minh,Tra Van Dong	627-646
21.	Meaning and Message of Communication Behaviour of Javanese Ethnic Traders to Prospective Buyers	Jamiluddin,Ahmad Sinala,Sudirman K. Udja,Ritha Safithri	647-652
22.	Gingerol and Shogaol Nanoemulsion of Ginger Extract-based Subcritical Water Extraction	M. Endy Yulianto,Aghnisni Fadia Haya	653-661
23.	A Systematic Mapping Study on Green Purchase Intention	Farhan Maulana, Bambang Hermanto, Rivani	662-669
24.	Relationship Between Arm Muscle Strength and Leg Muscle Explosiveness Against Smash Volleyball Athletes: A Literature Study	Abdu Razak, Syamsuryadin, Fauzi,Endang Rini Sukamti,Deni Rahman Marpaung, FransFile Manihuruk	670-673
25.	Evaluation of Physical Activity Learning in State Kindergarten Kulon Progo Regency	Rumekar, Hari Yulianto, Abdul Alim, Wahyu DwiYuliant	674-679
26.	Factors affecting Tourist Experience Expectations: Evidence in the Central Highlands of Vietnam	Than Thi Hanh,Nguyen Van Dung	680-691
27.	Developing Website for Taekwondo Learning Media to Junior High School Students	Delano Wisnu Ari Pambudi,Sugeng Purwanto,Dima Krisna Wiedarjati	692-698
28.	Company Performance and Financial Distress in Automotive and Component Companies Listed on the Indonesia Stock Exchange	Sindy Putri Triliana,Sutrisno	699-708
29.	Educational Leadership Management and its Contribution to School Organization and Success	Leovigildo Lito D. Mallillin, Phd,Lourdes Oliva C. Paraiso,Gina Sy-Luna, Phd	709-718

30.	Tax Management System for Local Government Unit with SMS Notification	Arnold B. Bañes	719-724
31.	Research on Factors Affecting the Working Motivation of Insurance Agent Employees of Baoviet Life Corporation	Thi Huu Ai Nguyen, Thi Huong Tram Le,Thị Huong Phung	725-729
32.	Constructing a Model for Assessment of Factors Affecting the Efficiency of Internal Control System in Businesses in Vietnam	Nguyen Zen Nguyen,Thi Xuan Huong Le,Thuy Vinh Nguyen,Dang Quang Tran	730-735
33.	Effectiveness of Stress Management Intervention on the Stress Level of Children in Rose of Sharon House of Friendship	Mericar S. Mercado,Charles Hubie L. Salcedo,Jenele Patricia L. Servo,Diana Yvonne C. Tomenio,Araceli Bustamante-Paster	736-751
34.	Profile of Caloric Needs of Football Athletes by Position in Football School Profile of Caloric Needs of Football Athletes by Position in Football School	Muhamad Ichsan Sabillah,Ahmad Nasrulloh,Muhammad Arifin,Fauzi	752-758
35.	Analysis of Occupational Health and Safety (K3) on Work Productivity of UNY Swimming Pool Employees	Rohmad Harjanto,Sumaryanto	759-773
36.	Pilot Facility for the Use of Used Oil as an Alternative Fuel for Diesel	Edy Syamsuddin,Nizam Ghazali,Adim Hadi,Najmi Abbas,Raden Trimanadi,Anggara Lomak,Vionita Lukitari,Priambodo	774-780
37.	Grass pea (Lathyrus sativus) a Crop of Future for Sustainable Agriculture in The Changing Environmental Conditions	Chandrashekharaiyah P.S,Alok Varshney,Alok Kumar,Sushant Kangade,Shivbachan Kushwaha,Debanjan Sanyal,Venkatesh Prasad,Santanu Dasgupta	781-799
38.	Comparison Study of Indonesia and France Judicial Commission Model	Hanif Hardianto,Nina Farliana	800-805
39.	Quality Enhancement in Higher Education Institutions	Manoj Shukla	806-809
40.	Effects of Global Leadership Style on Employee Work Engagement among Sector of Tourist Attractions: Followership Styles as Mediator and Perceived Organizational Support as Moderator	Sarol, Narvey A.,Rosario, Florida S.	810-835
41.	Application and Validation of the Proposed Methodology Supported by Information and Communication Technologies in the Preuniversity Level	Santa Cabrera,Gabriela López Quesada	836-849

The Effectiveness of Gobak Sodor Game on Increasing Agility in PB Athletes. Mega Citra



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ABSTRACT: The purpose of this research is whether the gobak sodor game can improve the agility of PB badminton athletes. Mega Image. The benefits of this research are,; 1) theoretically this research opens a paradigm in the field of coaching in general and in particular in badminton to always use local wisdom in badminton physical condition training; 2) this research is expected to increase the knowledge of the trainers so that they choose simple training methods but can improve various physical conditions in badminton; 3) as a reference value for the quality of further research. The results showed that the value of the T test analysis (15.24) was greater than the value of the T table (1.729) so it could be concluded that there was an effect of the Gobak Sodor game on increasing the agility of Pb athletes. Mega Image. Analysis of research data manually without using SPSS. The frequency of exercise is 3 times a week according to the training schedule, the number of meetings is 16 times. The traditional game of gobak sodor is a cultural heritage that can be played by all ages and needs to be applied by coaches for training methods to increase agility in badminton athletes.

KEYWORDS: Gobak Sodor, Badminton, agility

I. INTRODUCTION

Indonesia is a country that has a variety of traditional games which are cultural treasures (Anggita, 2019; Irmansyah et al., 2020). Various traditional games, namely ankle, jump rope, sack run, wooden getrik, congklak, bamboo stilts and gobak sodor (Ishak, 2017). One type of game that trains muscle strength more is traditional games. Cultural developments in modern times today, which we all know that traditional games have become a hereditary social activity as transformation and conservation are increasingly eroded by the times (Lukmanulhakim, 2022). In today's modern era, traditional games are rarely played by the public, even children are currently busy with gadgets so that most children do not know how to play traditional games.

Traditional games are an important part of the cultural heritage of recreation typical of Indonesia (Iman, Soraya, Pascal). & Ahmed, 2021). Traditional games are a cultural heritage in a country that must be preserved because traditional games are loved by all levels of society, including Indonesia (Hanief & Sugito, 2015). Traditional sport is not only a game for fun but can be used as a method of learning and training in an agency or self-defense (Kylasov, 2019). Traditional games should be a very easy method to use in the learning process or as a training method in a sports branch (Sun, 2016).

The traditional games known by children today are jumping rope, hide and seek, engklek, peg catfish, and gobak sodor (Elma Arlina, Mardeli & Lidia Oktamarina, 2022). Through traditional games, gobak sodor can develop all its potential optimally, both physical potential and those related to kinesthetic, mental intellectual, and spiritual intelligence (Agus Mulyadi, Nuriska Subekti & Juhrocin, 2020).

Based on the description above, it can be concluded that traditional games are a result of community culture that has grown and lived up to now, games inherited from ancestors that are carried out voluntarily where the game is played using the language and characteristics of certain areas that must be preserved in order to strengthen identity. nation. Traditional games make people skilled, tenacious, agile, agile, and so on and have benefits for children.

The game of gobak sodor is one of the cultural heritages that is still being preserved and is still being played by children in this modern era (Ilham, 2011). Through the Gobak Sodor game, children are given the breadth to express their abilities in the three shutters, both psychomotor, cognitive, and affective (Widiasari et al., 2016). However, in this study, the Gobak Sodor game focused on psychomotor activity in badminton training (Suherman et al., 2019).

The Effectiveness of Gobak Sodor Game on Increasing Agility in PB Athletes. Mega Citra

Badminton is one type of sport that is popular and much-loved by people in the world, especially in Indonesia. This development is due to the fact that badminton is a sport that can be played by everyone from children, adults to the elderly. Badminton has reached a very rapid stage of development and is attracting the attention of many people. This badminton game was created by British Army officers in Pune, India in the 19th century when they added nets and played them competitively (I Putu Widi Diatmika & Tisna, 2020). Until now, almost every country is competing to learn, develop and hold badminton games (Juang, 2015). In badminton, agility can be seen in the movement of chasing the shuttlecock, forward right and left movements, right and left side movements, right and left rear movements that require very fast and accurate movements without compromising body balance. The agility movements of the badminton players need to be trained with the correct and appropriate method in order to improve the agility and balance of badminton players properly. In addition to aligning the principles of training in accordance with badminton. One of the exercises to improve agility and balance is the traditional game of gobak sodor. Every movement in the game of gobak sodor there is an element of agility in the badminton game.

The traditional game of gobak sodor has several aspects of physical fitness, namely speed, agility, accuracy, reaction speed and balance (Prasetio et al, 2020). In the gobak sodor game, it can encourage the development of agility and balance which can be given many opportunities to play the gobak sodor game (Gui-Ping Jiang et al., 2017). Gobak sodor as a game tool that can stimulate a person's physical work in the category of all ages. The game of gobak sodor demands good reaction speed, agility and balance in passing opponents (Danang Wicakso, Siswant, Nawan Primaso & Fauzi, 2021).

The aspects contained in the gobak sodor game are speed, agility, and accuracy (Prasetio et al., 2020). These three aspects are a basic element for a badminton athlete in pursuing the shuttlecock. Fast, precise and flexible movements enable athletes to reach the shuttlecock (Fung & Lee, 2018).

However, this is rarely applied by badminton trainers when providing training, this simple training method should be used as a driving force for the enthusiasm of the trainers in practicing at the Badminton Association in Indonesia (Septaliza & Victorian, 2017). Exercise through a traditional game approach has a good added value for athletes, in addition to practicing the physical condition of the athletes, they can also get to know their own culture, namely the traditional game of gobak sodor.

The purpose of this study was whether the game of gobak sodor could increase the agility of PB badminton athletes. Mega Image. The benefits of this research are,; 1) theoretically this research opens a paradigm in the field of coaching in general and in particular in badminton to always use local wisdom in badminton physical condition training; 2) this research is expected to increase the knowledge of the trainers so that they choose simple training methods but can improve various physical conditions in badminton; 3) as a reference value for the quality of further research.

II. MATERIALS AND METHODS

This type of research is an experimental research which means that experimental research has treatment (Tanner, 2018). The use of this method aims to help researchers obtain a complex picture related to the development of research given to the subject. The design in this study used a one-group pretest-posttest design. This design was carried out pretest to determine the condition of the subjects studied before or after being given treatment, then the results were compared to see whether the athletes experienced changes or not with posttest (Trochim & Donnelly, 2016). The place in this research is the Pb Badminton field. Mega Citra in the Special Region of Yogyakarta, Indonesia, which is still active in training. Measuring agility with a shuttel run. Analysis of research data manually without using SPSS. When this research was conducted for 8 weeks or 2 months, this research was carried out on May 09 – July 09, 2022. The frequency of exercise is 3 times a week according to the training schedule, the number of meetings is 16 times. Pb training schedule. Mega Citra Monday, wednesday and Friday at 15-18 WIB. Population is the total number of subjects in a study (French et al., 2013; Kenton, 2020). The population in this study were badminton athletes Pb. Mega Citra is active, totaling 20 athletes. The sample is part of the population to be studied in a study (Rose et al., 2017; Zalla & Yates, 2020). The sample in this study was the entire population of 20 athletes by age, adolescent athletes who had been selected and determined by the researchers in accordance with the sampling criteria, then treatment would be given. Sampling in this study was carried out carefully so that the samples used in the study met the criteria and needs in this study. The samples taken were representatives of teenage athletes Pb. Mega Citra

III. RESULT

Based on the research results obtained for the research hypothesis, it was found that there was an increase in the agility of Pb athletes. Mega Citra through the traditional game of gobak sodor. The results can be seen in table 1 below.

The Effectiveness of Gobak Sodor Game on Increasing Agility in PB Athletes. Mega Citra

Table 1. Distribution of pretest and posttest data

Treatment	N	Lowest Score	Highest Score	Average	Standard Deviation	Significant
Pretest	20	14.50	10.35	12.04	0.97	5%
Post test	20	12.75	10.15	11.74	0.78	

Based on table 1 described using Descriptive statistical analysis manually as follows: the results of the pretest in playing badminton which were treated with the Gobak Sodor game and measured agility using shuttle run got the lowest score of 14.50, the highest score of 10.35, the average value of 12.04, and standard deviation of 0.97. While the posttest results obtained the lowest value of 12.75, and the highest 10.15, the average value of 11.74, and the standard deviation of 0.78.

Table. 2 Normality Test

Treatment	N	Score	Result
Pretest	20	0.045	Normal
Posttest	20	0.089	Normal

Table 3. Test of Homogeneity of Variances

Treatment	N	Score	Result
Pretest and Posttest	20	1.59	homogeneous

Based on table 3 above, it is declared homogeneous if the value is smaller than the value of the F-distributed table with a significant level of 5%. The pretest and posttest scores (1.59) were smaller than the F table values (2.17). The conclusion is that from the data in table 3 above the pretest and posttest are distributed (homogeneous).

Table 4. Data Result Test Effect of

Treatment	N	Score	Result
Pretest and Posttest	20	15.24	Influential

From the results of table 4 above, it can be seen that there is an effect if the analyzed value is greater than the distribution table T with a significant level of 0.05. Table 4 shows the value of the T test analysis (15.24) is greater than the value of the T table (1.729). This shows that H_a is accepted and H_o is rejected, so it can be concluded that there is an effect of the Gobak Sodor game on increasing agility in Pb athletes. Mega Image. This is because agility is one of the motor components which is defined as the ability to change direction effectively and quickly and agility occurs due to explosive power movements with the traditional game of gobak sodor (Rahman, 2018).

Gobak sodor is a team sport game that requires cooperation (Nia Puspitasari, Siti Masfuah & Ika Ari Pratiwi, 2022). The game of gobak sodor has several skill aspects such as walking, running and agility, thus in the application of this game it contains techniques for mastering physical skills, one of which can be observed in the agility aspect (Suharti, Ujang Rohman & Harwanto, 2021). Badminton athletes do not only rely on strength but also the agility factor possessed by badminton athletes in order to achieve the desired achievement.

Components of the physical condition of coordination are also found in the game of gobak sodor which can be seen when the avoidance movement in the movement is found to be a collaboration between agility and balance that are interconnected in one movement (Yoga, Danang & Puji Setyaningsih, 2021). The type of physical exercise that is given quickly and vigorously will provide changes that include an increase in anaerobic substrates such as ATP-PC, creatine and glycogen as well as an increase in the number and activity of enzymes (Nogales-Gadea et al., 2016), so that regular physical exercise will increase improve one's performance (Sharti, Ujang Rohman & Harwanto, 2021).

Based on the value from table 2 above, it is declared normally distributed if L_{count} is smaller than L_{table} with a significant level of 0.05 Liliefors test. Thus the value of pretest (0.045) and posttest (0.089) is smaller than (0.190), then the data can be stated (normal).

IV. CONCLUSION

The traditional game of gobak sodor is a cultural heritage game that can be played by all ages and needs to be applied to training methods to improve agility in badminton athletes.

Based on the results of the research analyzed, it can be concluded: 1). The influence of the gobak sodor game on the agility of badminton athletes Pb. Mega Citra, 2). The gobak sodor game is proven to increase agility when athletes play badminton, 3). The gobak sodor game can also increase the athlete's confidence and joy when participating in training.

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The Effect of Zig zag Running Training on Increasing VO₂max for Mega Futsal Athletes



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ABSTRACT: This study aims to determine the effect of zig-zag running training on increasing VO₂max for mega futsal club athletes. The method in this research is to use an experimental method with a one group pretest-posttest design. The population in this study were 30 athletes of futsal mega club. The research sample is 30 mega club futsal athletes using total sampling technique. technique of measuring VO₂max uses a Yo-yo intermittent recovery test. The data analysis technique used is quantitative description and analyzed using SPSS 26 software to test data normality, data homogeneity, and influence test. The results in the study show that 1). There is an effect of zig-zag running training on increasing VO₂max of mega club futsal athletes, 2) zig-zag running training is proven to improve the physical condition of mega club futsal athletes.

KEYWORDS: zig-zag running exercise, vo₂max, athlete futsal mega klub

INTRODUCTION

Sport is a physical activity that is loved by everyone for their daily needs (Marpaung & Manihuruk, 2017). Sport grows and develops in various forms and ways of implementation, organization and goals according to its own focus, there are four goals to be achieved in carrying out sports activities, namely: (1) Recreational sports that place more emphasis on physical and mental health (2) Player achievement (competitive) more emphasis on competitive activities and achievements (3) Sports education emphasizes the educational aspect where sports are included as subjects (Marshella Aguss, Fahrizqi, Ameraldo, Nugroho, & Mahfud, 2022). In Indonesia itself, futsal is very popular with all people, from children, teenagers, to adults and Indonesian futsal is still having good achievements (Aswadi, Amir, & Karimuddin, 2016).

Futsal is a sport that is favored by the community and the popularity of futsal is not only known as an achievement sport, but also often as a health or recreational sport (Romadhoni, Herawati, & Pristiano, 2018). Futsal is a sport played by 2 teams, each team contains 5 players with the aim of putting the ball into the opponent's goal, the game of futsal requires speed of thought and physical ability, tactics, technique, agility and VO₂max in high intensity, when playing futsal players are required to move and change direction quickly, because in one team there are only 5 players with a field measuring 38m-42m x 20m-25m and played within 2x20 minutes, so futsal players are required to continue to focus and move, therefore Futsal players must have strong endurance, strong endurance is obtained from hard and correct training, high-intensity exercise requires strong stamina and physical fitness (Fuadi & Jatmiko, 2020).

The characteristics of the futsal sports components are that it requires aerobic endurance (VO₂max), strength and agility in a relatively long time and the main factor needed by futsal athletes is the level of physical condition so that they are able to carry out futsal game activities without experiencing excessive fatigue because they have good physical conditions (Kharisma & Mubarak, 2020). Special physical conditions that must be possessed by futsal athletes are strength, agility, endurance, speed and flexibility (Setiawan, Soetardji, & Nugroho, 2014) (Maryami Dati, 2016).

Oxygen intake during exercise greatly affects the stamina, flexibility, endurance and fitness of the athlete's body which is often called VO₂max (Habibah, Junaidi, & Hermawan, 2017). Athletes who do not have good VO₂max will be very visible in matches on the field, these players will experience a decrease in stamina, strength and concentration, and make many basic mistakes that can harm the athlete himself and of course for the team (Debbian & Rismayanthi, 2016).

Aerobic ability (VO₂max) is the greatest aerobic exercise ability that a person has which is determined by the amount of oxygen that can enter the heart, respiration, and hemohydro-lymphatic or transport O₂ and, CO₂ nutrients every minute What is meant by Vo₂Max is the maximum degree of aerobic metabolism in dynamic physical activity that a person can achieve (Gumantan

The Effect of Zig Zag Running Training on Increasing VO₂ max for Mega Futsal Athletes

& Fahrizqi, 2020). Higher pressure can release maximum secretions and increase oxygen saturation, but on the one hand, high pressure allows decreased oxygen saturation, trauma, hypoxemia, bronchospasm and anxiety (Suparti, 2019). Having a good level of endurance (VO₂max) is the most important thing and needs to be considered in determining futsal players (Sambora & Ismalasari, 2021).

In the game of futsal, it is very important to train physical conditions with training methods. In a coaching effort to improve skills and physical condition (VO₂max) various kinds of training can be carried out, especially zig-zag running (Novsir, Defliyanto, & Yarmani, 2020). Physical condition training in its implementation is more focused on the process of fostering the physical condition of athletes as a whole, and is one of the main and most important factors that must be considered as a necessary element in the training process in order to achieve the highest achievement (Ridwan, 2020). Efforts to improve competitive performance by reducing the potential for physiological losses during and after competition, are proposed through a physical condition training program strategy on the dominant physical aspects of futsal and the dominant physical aspects that influence the results of the study of scientific articles on futsal are VO₂max, endurance, speed, explosive power, and agility in an effort to improve or improve physical condition through training models on the dominant physical aspect of futsal with zig-zag running exercises (Widodo, 2020).

The zig-zag running exercise is an exercise in the skill of changing the direction of body movement by turning in the shortest time, the way to do the exercise is based on the technique of running as fast as possible with a twisting trajectory (Razbie, Nurudin, & Soleh, 2018). In zig-zag running, many factors influence, namely VO₂max, speed, coordination, stabilization, strength, flexibility and balance. The purpose of the Zig-zag running exercise is to master the skills of running and avoiding opponents during training and competition (Udam, 2017). One of the training methods to increase VO₂max is zig zag running, this method is a method that researchers can improve physical condition in athlete's game as expected and zig zag running is a winding running technique (Ruslan, Sarjan Mile, & Faturrahman Sangadji, 2021). The form of this exercise is in accordance with the dribbling movements in the futsal game.

Currently what happens is that most coaches do not pay attention to the physical condition of athletes so that athletes easily get tired when doing exercises or competitions. If the athlete's physical condition is good, it will be faster to the movement techniques he trains, because technical, tactical and physical training will be able to be carried out optimally (Firdaus Soffan Hadi, 2016). Poor physical ability certainly has an impact on technical and tactical aspects (Ridwan, 2020) (Indriansah, 2020). In the final match, which was participated by the club's mega futsal team, the athletes were easily fatigued or endurance which resulted in the athlete's VO₂max being not good or lacking, so that the athlete lacked concentration, passed incorrectly and was dehydrated. Other aspects outside the match physiology profile are anthropometry, somatotype, physical condition, and player concentration levels (Widodo, 2020).

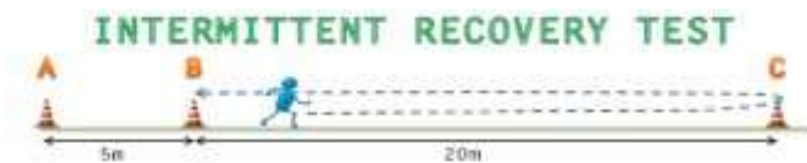
The purpose of this study was to determine the effect of zig-zag running training on increasing VO₂max mega futsal athletes club. The benefits of this research; 1) theoretically this research opens a paradigm for trainers to pay attention to the physical condition of athletes, 2) as input for mega futsal clubs to find out how to use zig-zag running to increase VO₂max), 3) as a reference for further research.

METHOD

The research method used is the experimental method, in the sense that experimental research has treatment (Tanner, 2018). The design in this study used a pretest-posttest (The One Group pretest-posttest). This research was carried out in the futsal field mega club at Gambir Baru, Asahan Regency, North Sumatra. This research was carried out for 8 weeks or 2 months, this study began January 18, 2022 - March 18, 2022. The population in this study was 30 athletes of mega futsal club. The sampling technique is total sampling, meaning that the entire population is taken as a sample. The data collection technique in this study used a Yo-Yo intermittent recovery test to measure VO₂max. The data analysis technique in this study is SPSS 26 software. The purpose of data analysis is to describe data so that it can be understood, and also to draw conclusions or draw conclusions about population characteristics based on data obtained from samples, which are usually made on the basis of estimation and hypothesis testing.

Table 1. Design One Group pretest-posttest

Pretest	Treatment	Posttest
Q1	X	Q2



Picture 1. Yo-yo intermittent recovery test

RESULTS

Based on the results of the study that the data were normally distributed, homogeneous and there was a significant effect of zigzag running exercise. The results of data analysis can be seen in the table below.

Table 2. Normality Test

Tests of Normality Kolmogorov-Smirnov^a

	Statistic	df	Sig.
PreTest	,168	30	,081
PostTest	,185	30	,060

a. Lilliefors Significance Correction

From the results of SPSS 26 in Table 1, it is found that the data is normally distributed as seen at the sig value > 0.05 so that it can be concluded that the data is normally distributed.

Table 3. Test Homogeneity

Levene Statistic	df1	df2	Sig.
.790	1	58	.378

Based on Table 2 above, the data is declared homogeneous because the significant value is greater than 0.05, which is 0.378. The conclusion is that the pretest and posttest data have the same variance (homogeneous).

Table 4. Date of effect Test Result

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Pretest	,867	,019	,993	45,621	,000
Post Test					

From the results in Table 3, it can be seen that the results of data analysis are less than 0.05, namely 0.000, so H_a is accepted and H₀ is rejected. So it can be concluded that there is a significant effect of zigzag running training on increasing the VO₂max of the mega futsal club athletes. In line with the research conducted by the researcher, the results of the research conducted (Bernhardin & Fauzi, 2022) show that zig-zag training can affect the agility of futsal athletes. The difference between the researcher and the previous research is that the researcher provides zigzag training to increase VO₂max while the previous research provides zigzag training for the agility of futsal athletes, so it can be concluded that zigzag running training can affect the improvement of the athlete's physical condition. futsal.

Endurance Aerobic (VO₂Max) is the ability of the lungs and heart to take in and process oxygen so that the body is able to carry out physical activities or sports that involve large muscles for a long time without experiencing significant fatigue (Didi Yudha Pranata, 2020). Coaching and physical exercise really need to be done during training which is an important stage in achieving sports achievement and improving the physical condition of athletes (Fletcher et al., 2018) (Aldapit & Suharjana, 2019).

At the time of training, the cardiovascular in futsal athletes determines how much VO₂max, which will then determine the endurance capacity or body fitness, so that the value of VO₂max is directly related to the cardiovascular system during exercise,

The Effect of Zig Zag Running Training on Increasing VO₂ max for Mega Futsal Athletes

assuming that the heavier the intensity of the exercise, the higher the intensity of the exercise. a lot of oxygen is needed, which indicates that athletes who exercise consistently have higher VO₂max values than athletes who rarely exercise (Kavcic, Milic, Jourkesh, Ostojic, & Ozkol, 2012). The advantage of this zig-zag exercise is that when athletes dribble past obstacles after making movements without using obstacles, athletes will not feel tired easily during training or matches (Novsir et al., 2020).

The more often a futsal athlete performs or applies good training skills to complete an exercise or match, the heart and lung system to take in and circulate oxygen throughout the body is maximized, so a good VO₂max ability is needed (Wiriawan & Sukmananda, 2017). In line with the opinion above, the opinion (Nusri & Panjaitan, 2019) VO₂Max is very closely related to endurance and has a big impact on the appearance of an athlete where athletes who have low VO₂max will have difficulty in making movements when appearing in the field so that training discipline will increase VO₂max.

Zig-zag running training for futsal players has an impact on increasing the athlete's VO₂max because the athlete moves to run which will unknowingly increase the athlete's VO₂max. Cardiovascular increases also occur due to an increase in heart rate during exercise, so this alternate exercise helps the body increase the volume in consuming oxygen during exercise at maximum volume and capacity (Wiswadewa et al., 2017). Many literatures and research results explain that increasing VO₂Max with zigzag training will improve athlete performance. Exercises to increase VO₂Max usually last for a long duration and the presence of various forms of movement or variations of exercise at each post makes athletes feel challenged and motivated to undergo the training process (Bahtra, Fahrozi, & Putra, 2020). Opinion (Kusumawati, 2013) to increase VO₂max physical exercise must be done regularly and disciplined so that increasing VO₂max should be done by means of a structured exercise program.

Efforts to achieve a good performance require physical condition training to increase the VO₂max of futsal athletes. The zig-zag running exercise carried out by the author can increase the VO₂max of the mega club futsal athletes as shown in Table 3, so that the implementation of the exercise is based on a structured training program with athletes enthusiastic in carrying out the exercise program. VO₂max cannot be formed by itself, so it is necessary to practice in increasing VO₂max for futsal athletes so that athletes do not get tired easily during matches. In line with the opinion above, (Bahtra et al., 2020) if the VO₂max of the player or athlete is not at a good level, it will interfere with the performance of the player in the match.

CONCLUSION

The zig-zag running exercise is an exercise to increase VO₂max by rapidly changing direction and based on running as fast as possible. Based on the results of data analysis and discussion, it is concluded that; 1) There is an effect of zig-zag running training on increasing VO₂max of mega club futsal athletes, 2) zig-zag running exercise proven to improve the physical condition of mega club futsal athletes, 3) zig-zag running exercise can also increase the spirit of mega club futsal athletes to increase VO₂max.

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Learning from an Art Performance: The Indonesian and Islamic Laws' Perspectives on Psychodynamics of Fantasy Cannibals



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ABSTRACT: An artwork by an Indonesian young artist with a theme of eating human corpse had reaped controversy from various circles. The concept of art displayed by Natasha Gabriella Tontey, the artist-, was endocannibalism, a practice in which people eat the body of a dead person. In her art performance, she presented a dish of foods made from breast milk and baby sweat. To add to her artistic power, she showed processed foods served in the forms of tiny babies, baby brains, and several other horror menus. The artwork done was very controversial, so it is deemed necessary to conduct a review on her artwork from the conventional and Islamic laws' perspectives. The study is qualitative research employing descriptive analysis. The results indicate that Tontey's work as outlined in her performance violated both the Indonesian and Islamic laws.

KEYWORDS: cannibalism; makan mayit; eating human corpse; conventional law; Islamic law; *maqāsid fi al-jināyah*

I. INTRODUCTION

As an infamous social phenomenon in Indonesia, cannibalism is just an equally unsettling phenomenon in the world and in Southeast Asia. Several acts of cannibalism that occurred in various Southeast Asian countries have been able to attract the attention of the world community. Cannibalism is seen as something disgusting that traumatizes everyone who sees it. Some of the examples are the cannibalism of the brothers that took place in the Philippines in 2014 [1]. In 2020, Si Ouey from Thailand was a cannibal criminal with child victims [2]. Furthermore, Malaysia also had its own incident of cannibalism which involved a famous singer, Mona Fandey [3].

In the Indonesian context, the history of cannibalism has actually been discovered long ago when in 1292 an Italian colonizer conducted research on one of the tribes in Sumatra who performed cannibalistic rituals. This condition is strengthened by the many tribes and beliefs in Indonesian society that have certain mystical customs and customs, such as cannibalistic rituals. However, in consequent documentation, cannibalism in Indonesia gradually disappeared after in 1890 the Dutch colonial government banned all forms of cannibalism in the Dutch East Indies [4]. Nevertheless, after Indonesia's independence and until now, several tribes and beliefs in Indonesia still preserve the ritual of cannibalism as a form of belief as happened in the Korowai tribe in Papua, the Punan Dayak tribe in Kalimantan, the Tolai tribe in Papua, or the Batak tribe in Sumatra [5].

In some recent years back, Indonesian social media had been busy discussing an artwork of a young Indonesian artist which carried the headline *#makanmayit* (*#eating human corpse*). The then Indonesian Minister of Women Empowerment and Children Protection, Mrs. Yohana Yembise, strongly criticized it because the work violated a number of norms. To her, the incident was very unfortunate because an art of the nation's youngsters should be an expression of creativity that contains elements of beauty, and not, contrarily, violates the norms of moral, decency, and religion. She asserted further that the country protects its children even since they were still in their mothers' wombs. Such was not, according to her, reflected in the said artwork.

In this globalization era, the development of creativity and innovation by young artists is increasingly unstoppable. One of them is an artwork performed by an Indonesian. Anggi Kusuma reported via *kumparan.com* on March 3, 2017 that there had been an art show about dining [6]. It was titled as 'Makan Mayit' (eating corpse) because the dinner served food (i.e. snacks) in the form of baby dolls, fetuses and other scary dishes. The invited guests attending the event wore formal clothes in white. Another article in *detik.com* written by Tia Agnes on 28 February 2017 mentioned that the dish served in the dinner art

Learning from an Art Performance: The Indonesian and Islamic Laws' Perspectives on Psychodynamics of Fantasy Cannibals

performance were in the form of bread and cheese originating from breast milk and baby sweat fermentation mixed with yeast. There was also mushroom soup which was similar to baby ears. The bowls used came from empty-bellied and beheaded plastic baby dolls. There also served in baby-head bowls brain-shaped broccoli [7].

For common people and art connoisseurs, these things are beyond the limits of art and beyond common sense. Meanwhile, the artist argued that this event was held to express her anxiety over the consumption of breast milk and also the practice of stem cells therapy which, according to her, is similar to cannibalism, in the form of art. It seems that people are easy to determine such behavior as abnormal, especially when it is very obviously different compared to ordinary behavior in general. The assessment was further strengthened since her action that looked strange was not understood in the way she meant it. The artwork was considered by many to have exceeded its limits. The beauty that can be created by an artwork was not achieved. Contrarily, it even had created the opposite. The form of this artwork titled 'Makan Mayit' had changed from an art to a hatred work since it was thought to have tortured babies through the food served at the dinner. The form of food served was indeed of a baby's body in various parts. This is why it was considered as a form of cannibalism to infants.

Apart from being considered as torture to babies, her artwork is an immoral form and can have a traumatic effect on connoisseurs of this artwork. The effects of trauma instilled can also provide other negative effects that encourage psychopathic actions and provoke those art connoisseurs fantasize about eating real baby meat. Foods made from sweat and breast milk make guests who ate them become siblings, especially if the milk comes from the same source. Other impurities can also come from the forms of food served on that performance night. The food served that night could cause people who ate them have cannibal fantasies. Other people who saw the performance might also be inspired to do cruel things such as eating real baby's flesh. Eventually, they might do various ways to satisfy their fantasies. Therefore, it is feared that what they would do can cross the limits of normal human habits.

The artist's idea that was considered crazy by others brought out criticism. This artist is a woman. A woman is supposedly, by nature, to conceive and give birth to babies. How can a prospective mother like her played a Saturday performance with a theme of fine dining by presenting babies as the object of dinner? Apart from that, the art performance of eating corpse is considered to be able to trigger someone's cannibal fantasies and can lead him/her to conduct various negative actions. Based on this background, it is necessary to discuss psychodynamics of fantasy cannibals in the perspective of Indonesian and Islamic laws considering that the majority of Indonesian people are Moslems.

II. LITERATURE REVIEW

In Bahasa Indonesia, the word that means *art* in English is *seni*. The word *seni* comes from the Sanskrit word *cilpa* which means coloured or *sucilpa* which means beautiful shapes or beautifully decorated. As a noun, it means coloring. This meaning then develops into all kinds of creativity that are so artistic. In the history book of art, *cilpacastra* is often mentioned. This is a book or guideline for *cilpins*, (i.e. art workers), who are nowadays called artists. Understanding of art is a personal and public expression of beauty which is collective [8]. In the medieval times, from the Latin language point of view, there were several terms such as *ars*, *artes*, and *artista*. *Ars* means a technique or craftsmanship, or dexterity and skill in carrying out anything. The word *artes* means groups that have such dexterity or proficiency. The term *artista* is a member of the group.

Experts' research shows that works of art or art itself have existed in the last 60,000 years ago. This can be proven from a cave wall in Southern France, in which there are paintings and nicks on the wall that used colors which were meant to depict ancient human life. This evidence is a reminder that modern paintings are full of expressions. There is a slight difference between ancient human art and modern one which is in the aim of creating the artwork. Primordial humans created works of art solely for the sake of socio-religious need whereas modern humans do it to satisfy themselves and describe the surrounding environmental conditions [9]. This is because modern humans are creatures who want to discover new things and have broader thinking abilities.

In art studies, there are two different views namely essentialism and relativism. To essentialists, art can be defined and determined in a precise and objective manner. However, contrarily to the relativists, or sometimes they are called contextualists-, art cannot be defined and measured objectively. Therefore, art must be understood subjectively and its position must be placed in other fields. Art must be understood contextually related to its relationship with cultural elements in a comprehensive manner. It also cannot be placed in a hollow space as an independent field, because it must be placed in a specific space called the "art world". In this special world, art can flourish [10].

Applied artwork or fine art is one type of art that is interpreted as an art that contains an aesthetic and beauty in which it contains usage or function values in everyday life apart from its aesthetic value. Fine art or applied art is also called applicative

Learning from an Art Performance: The Indonesian and Islamic Laws' Perspectives on Psychodynamics of Fantasy Cannibals

art which means that the work can be applied or used so that it has its function that can fulfill human needs. This fine art may take the form of architecture or pictures that is used to beautify buildings. Contrary to applied artworks, the pure artwork is created only to be enjoyed for its beauty. Therefore, unlike applied artworks that can be used in daily life, pure artworks are not created by considering its usage in daily life. In general, pure artworks contain a very high quality of aesthetic value.

Cannibalism is a phenomenon in which a living thing feeds on its own species, for example a dog eats another dog or a man eats another. This phenomenon is also called anthropophagus (from Greek, 'anthropos' means human and 'phagein' means eat). Etymologically, the word cannibal is absorbed from the Dutch language which is previously taken from Spanish. Cannibal implies people from the Caribbean; in this area there had been found such phenomenon of human beings ate others. Such phenomena were found not only in the Caribbean but also in America, for example in the tribes of Anasazi, Mayans, and Aztecs. Furthermore, they were also found in the Asia Pacific, for example in the Batak tribe of North Sumatra, the Dayak tribe of Kalimantan, the Asmat tribe in Papua, and several other tribes in West and East Papua, Fiji and other Melanesian regions.

Cannibalism in China emerged from episteme and science which had developed at a certain ancient time. Long time ago, some Chinese people boiled human meat for the treatment of tuberculosis (TBC). Pharmaceutical science states that human flesh was once used as medicine. Science had supported cannibalism practices carried out by humans to obtain drugs. This is the starting point why human behavior is greatly affected by science [11]. The science that discusses cannibalism is called cannibalogy in which it states that a creature can eat its own species for certain reasons. This tradition finally gave birth to a science in the form of the knowledge of eating the like [12].

Various studies have discussed a lot about cannibalism. Almost all research results show that cannibalism has become a tradition not only in Indonesia but also abroad. One country that has a long history of cannibalism tradition is the United States. Cannibalism traditions have existed since ancient times [13]. Research shows that a man can get more than 125,000 calories if eating one human body. This is why the tradition of eating fellow humans used to be a usual practice, especially at the time of war when there was no food available but carcasses of people who died during the war [14].

In Papua New Guinea, precisely in the Fore tribe, the habit of eating fellow human (i.e. cannibalism) had caused *kuru* disease. This disease was found in this tribe around 1950s. *Kuru* is taken from the language of the Fore tribe which means shivering or trembling. The symptoms caused the sufferers to experience difficulty in walking, losing control of their limbs, and losing control of their emotions. Within a year they wouldn't be able to stand alone, eat alone or use bodies' functions. Patients usually died several months after the disease reached its final stage [15]. Researchers suspect that this disease was caused by rituals that were often carried out by the Fore tribe. In a practice done by the tribe, when someone dies, his/her body, including parts of the brain and nerve cells, will be cooked and eaten. The tribe thinks that if the body is buried, it will be eaten by worms, if it is put on a stage, maggots will eat it. Therefore, it is far better that the dead body is eaten by people who love him/her rather than by worms and insects. Such ritual practice was often done by their women, so it is not surprising that this *kuru* disease infected many women than men of the tribe [16].

Psychodynamics is a study of human personality. Human actions in daily life are determined by his/her ways of thinking, his/her inner feeling, and his/her will. The assumption of psychodynamics is connected to the human soul so that many events occur outside of his/her own consciousness. Freud said that psychodynamics can describe the dynamics of a person's unconscious in conducting his/her actions, such as his/her inner impulses, conflicts, and instinctive energy. Freud also has the belief that there are many human actions that occur under his/her subconsciousness so there are things that happen beyond one's awareness such as his/her desires and inner impulses. Such desires or inner impulses that are suppressed will remain alive in one's subconscious and will, at any time, demand satisfaction [17].

The life impetus or sexual instinct, also called *eros*, such as thirst, hunger, and sexual desire, is a human's inner impulse that can guarantee his/her survive and reproduction. The energy used in this life instinct is libido. The main purpose of one's sexual instinct is to vent it so any effort to reduce its drive cannot be done. However, the way to satisfy it can be different or varied because satisfaction to sexual desire can be obtained not only from genital organs. Likewise, all behaviors motivated by life instinct are similar to sexual behavior. Sexual satisfaction is very much related to the existence of someone's fantasy or imagination. Fantasizing or imagining is one of the symptoms of cognition which exists in our psyche as a result of recognition. Fantasizing can cause our imagination to create something that has not yet existed or in other words a new thing. Every person has and experiences different fantasies both consciously and unconsciously. An example of a conscious fantasy is a sculptor who makes a statue with his fantasy whereas an unconscious fantasy is like those of little children who employ their imagination in their imaginary stories [18].

Learning from an Art Performance: The Indonesian and Islamic Laws' Perspectives on Psychodynamics of Fantasy Cannibals

III. RESEARCH METHOD

This study was qualitative research, the data were collected by conducting studies of books, literatures, notes, and reports relating to the problem. In this case, the researchers tried to examine and analyze the psychodynamics of fantasy cannibals which had caused such controversy [19]. The method of study approach used in this research was the statutory approach by reviewing all laws and regulations relating to the issue(s) discussed. This study also employed the conceptual approach to understand the concepts of views or doctrines that develop in Islamic law that can be used as the basis for building legal arguments [20]. The method of data analysis used were: first, content analysis in the purpose of describing the research manifestations objectively, systematically, and quantitatively, and, second, comparative analysis to criticize the application of research methods that are discussed by studying and understanding the problem of study objectively [21]. In order to respond to human rights problems such as ritualistic cannibalism, the researcher wanted to focus on the artwork of Natasha Gabriella Tontey as one of the cannibalistic works of art.

IV. RESULTS AND DISCUSSION

A. RESULTS

Discussions related to the world of art are common including in Islam. This is because Islam itself often uses art as a means of spreading the religion. The introduction of religion to people who find it difficult to accept Islam indeed has been employing art as a media since it is deemed to be one of its appropriate means. In the past, the discussion of art was limited to traditional music, but now the sphere is broader and its scope is more complex. Therefore, contemporary Moslem scholars also discuss and examine the problems relating to art that are included in this millennial era. In the study of contemporary *fiqh* (Islamic jurisprudence), more specifically in the *fiqh* of art, it is stated that a subject of an image has an influence on its *halāl* (lawful) and *ḥarām* (forbidden) status. Images or an artwork with subject(s) that violate *‘aqīdah* (belief), *sharī‘ah* (law), and religious modesty, for example, will surely be forbidden by the majority of Moslems [22].

Addressing the art performer, Natasha Gabriella Tontey was listed as one of the graduates of Pelita Harapan University majoring in Visual Communication Design in 2011. Born in Jakarta on 24 August 1989, she had received many awards in arts. She had performed many exhibitions and publications on her artwork. She is lined up with millennial artists with unique characters. The uniqueness of her character can even create an artwork that is totally different visually [23]. She is a designer who also develops her personal project as an artist. One of her big projects that confiscated public attention was 'Makan Mayit' which was a dinner banquet with unusual menus. There were snacks of fetal form, food served in baby doll pieces, and other horror menus. It was held as a form of social experiment on the human's fear of taboo matters. One of the fears she raised was about cannibalism and of course she did not use real human flesh. She created a form of cannibalism propaganda in the form of food served at the banquet.

The artwork was connected to Tontey's interest in discussing fears with more global matters. She started with small things to discuss prior to bigger ones and her own question about the fear itself. Fear is a creation of certain individuals to control other fears. The closest example is the prohibition in the form of fear made by parents towards their children because the parents themselves have their own fears. Another example is issues about ghosts and other supernatural creatures or terrors made by certain people to control society. Fear is identified with cannibalism since cannibalism practices can cause fear. In film industry, cannibalism is included in the category of horror films [24].

Actually, performing the artwork of 'Makan Mayit' as a cannibal fantasy psychodynamics has been Tontey's interest for a long time but it was only achieved at Koganecho, Japan. There, she opened a toy store that sold fictional stories about the dark history of Koganecho area that she mixed with Japanese ghost characters. She wrapped the toys in white bugs and only the story was visible. She wanted to sell Japanese fears to Japanese people with the aim of sharing knowledge with surrounding neighbors as well as observing and interacting directly with the community during the process of working there. Tontey's aim was simply to offer alternative ideas, trigger dialogues or debates, and open up the possibility of social reactions, - negative or positive, which are part of the field of art. The "Little Shop of Horrors" was a result of her residency at Koganecho Bazaar Yokohama, Japan in 2015. In the project, she presented "Little Shop of Horrors" as a fiction shop that offered various things about local horror stories. After a successful performance of her horror artwork in Japan, she tried to display the similar theme in Indonesia.

The artwork in Indonesia with the concept of 'Makan Mayit' was presented at Footurama, Kemang Timur Raya, Jakarta. The presentation took place since 28 January 2017. Especially for 'Makan Mayit', there were two banquet sessions conducted (on 28 January and 25 February 2017), with a total of 32 participants. Initially, the presentation just became a conversation in

Learning from an Art Performance: The Indonesian and Islamic Laws' Perspectives on Psychodynamics of Fantasy Cannibals

the circle of art lovers. The condition changed since a publication on Instagram by a country's celebrity and a gossip account, *@lambehturah* which triggered a particular attention to Tontey. A series of accusations emerged: the artist was considered a psychopath, her work was considered not educating, and the like.

The practice of cannibalism was almost the same as what was done by a cannibalistic couple in Russia. They said that they knocked their victims out with sedatives and then skinned their victims alive. Afterward, they ate parts of their victims' bodies, froze the remains or packed them in jars. The jars were filled with saline solution. At times, the couple tried to give those food to soldiers at a nearby academy where they worked and turn them into unwitting cannibals. This was done by shipping "canned human meat" into the soldiers' food. During the time in the police custody, the husband told the police that he and his wife had practiced cannibalism at least 30 times in the past two decades, as reported by the BBC [25]. What Tontey had done was almost similar to this tragedy in which she used original material for some of her artwork.

In addition to the name of foods which tends to be odd, it turned out that the material used was also shocking. There were baby-shaped cakes and soup that was served in breast milk storage bags. Tontey said, in these foods, real breast milk was the main ingredient. She also served some food in a form of a baby, the plates used were from hollowed plastic baby dolls. This is why many people criticized her artwork because she used babies as a symbol of cannibalism.

In her work, Tontey used a fictional approach by making a story of an orphanage selling babies. She, as a performer, became a sister of that orphanage. This refers to a research she did. There was a special message behind her artwork, as she claimed, which is she wanted to question where cannibalism desires started. There presents the concept of endocannibalism which is the practice of eating human body parts from the same social community, Tontey said that she was inspired by that social phenomenon.

She used babies as objects of her art due to the reason that many social phenomena that occur in today's society are related to babies such as abortion, sexual abuse of infants, physical violence to infants (pedophilia), baby trafficking, and other exploitation done to babies. These phenomena had put babies very vulnerable to become objects of crimes. Cannibalism in infants also takes place in the abandonment, disposal, and trade of infants. Among others, she also used breast milk and baby sweat because she wanted to know to which extend someone's cannibalistic desire arose by consuming the dish she served.

Tontey eventually wanted to associate her fear with cannibalism. For her, cannibalism is the most basic thing. When someone eats or enters something into his/her body, apart from feeling enthusiastic (because the practice of eating is something that gives pleasure on its own) there will also be a feeling of fear especially when eating something unknown. This becomes a reminiscent of her experience that eventually made her pescatarian which means that she did not eat beef, pork, rabbits and poultries or other living things except fish and seafood. However, how food can also trigger the feeling of fear itself, because we have long understood that eating means to put something into our body, digest and blend with it, is more interesting to be discussed.

Then, Tontey was interested in raising the issue of food and fear through the form of cannibalism in her art project. Again, talking about eating as a private matter, what if a performative dinner, the way she chose together with her event organizer, was held by trying to make a communal event which was naturally taboo. She expected such performance would trigger people to be more able to talk openly and think back on why cannibalism was taboo and not ethical.

Tontey thought that cannibalism is a practice of incorporation or unification because it might be based on the feeling of love of a human being towards others, let them be siblings, children or lovers. So, they eat their beloved dead bodies by the time they die. She found out that such practice does exist and is called endocannibalism. So, she became increasingly interested in designing and testing this cannibalism. Moreover, she herself is an artist who works on issues and themes regarding eating habits, culinary, and culture. Her artwork was then called performative dinner in which Tontey was involved in designing it. The term performance dinner was chosen because finally the main event was a dinner by inviting a limited number of guests. In the dinner there would be elements that were theatrical in nature, such as narration of locus, figures or actors, scripts, lighting, visuals and sound systems, as well as the main element which was the food menu.

Tontey was then involved in designing narratives, food order sequences, scripts and menus (together with a chef named Chandra Drews). In this event, the drama was designed in such a way starting from a subtle tone about questioning cannibals to those that were visually disturbing because of their vulgarity. Of course, she used symbols and visual attributes that supported the execution of her idea.

The first thing done was starting to serve foods made of breast milk and baby. sweat fermentation mixed with fruit yeast in sourdough or bread. She obtained breast milk from a volunteer mother. This mother said that she had excess stock of breast

Learning from an Art Performance: The Indonesian and Islamic Laws' Perspectives on Psychodynamics of Fantasy Cannibals

milk that made her confused about what to do with it. She had bought an additional refrigerator but her daily milk production was more than her baby could afford to drink. So, the fridges were full quickly and the milk needed to be donated immediately.

The second menu was in the form of mushroom soup, but in her narration Tontey mentioned it as baby's ear, accompanied by the broth of coconut milk served in breast milk bags. Then vermicelli and blood-red tofu were served in plastic baby doll plates. This dish was quite vulgar visually but it used daily food ingredients. At this stage, Tontey questioned why cannibalism was considered taboo and was never discussed? Who made decision of what we could and should not eat?

It might be in this section that the dialogue with the audiences often took place. Many answers came up, ranging from the view that it is unethical to eat the dead body. of one's brothers and others, it is a form of humiliation to the corpse, and so on, to those who feel disgusted because they also have same parts of the body with what they were served. The disgust feeling, even though the body parts might have been in the form of steak, may be triggered because we then relate it to our own organs so it seemed that we were eating our own hands or brain.

The dinner was then closed with a dessert in the form of sponge cake which was designed to be a brain shape for which Tontey had seen such tutorial about it on Youtube. During the meal, she played her role and told about her anxiety as a nurse who often found babies dumped and murdered. In response to social situations, she also tried to question her fears for anything to discuss together. Her expectation was, of course, that this art project did not merely talk about fear openly in the context of eating or consuming, but also in our life as citizens who were often triggered by paranoid feelings towards other citizens which then led to violence [26].

When her desire to create masterpiece was constrained by the limitations of ideas, the idea of this corpse feast was born. She hoped that with such idea of an original masterpiece which might be the only one in the world would make her a special artist who deserved appreciation towards the quality of her work. But she forgot that people with healthy personalities are capable to trust and be trusted without manipulating the trust itself.

Tontey has succeeded in launching her latest work. Through the realization of the project she planned, of course, she wanted to gain trust and appreciation in the quality of her work. Since the public had believed in her capability, they eventually came and wanted to witness the work she had. Unfortunately, they were disappointed; the work she glorified was made above the grief of others. She created her work without considering the feeling of solidarity to others. This is a manipulation of the trust that others gave to her.

It is a possibility that Tontey has not entered the level of personality disorder. She was supposed to have symptoms of a personality disorder called narcissistic personality disorder. Someone will be said to be a sufferer if they have at least 5 out of these 9 characteristics: exaggerating his/her achievements and talents, feeling him/herself as a great person, often needs admiration and praise from others, fantasizing about unlimited success, beauty, power and fame, assuming that he/she is a special and unique person so he/she only wants to mingle with people who have high status or classy institutions, feeling that he/she has the right to get special treatment or other people must follow his/her wishes, exploiting other people to get what they want, not able to recognize or empathize with others' feelings and needs, and being arrogant and over proud.

The art performance of 'Makan Mayit' is a manifestation of sick art and the expression of sadism. Sadism is a cruel, savage, and rude behavior in order to gain satisfaction by hurting others. Sadism originates from the desire that no one interferes in his/her affairs and all people are under the control of his/her authority. Tontey used babies as a form of visual media in art. Meanwhile, babies are a gift. They are helpless living creatures. Hence, using babies for sadism performance in the name of art will only be done by people who have sadism drive in their heart and brain.

This event can trigger a person to become an exocannibalism, which is a person who suffers a mental disorder. He/she will consider such performance just as a form of pleasure or a means to scare others. If someone is affected by Tontey's artwork, he/she can become a cannibal because he/she wants to practice it directly or he/she will have curiosity to torture other humans and eat them. Such fantasy surely can bring disaster, increase one's aggressiveness and harm others.

Babies are susceptible to crimes, so Tontey raised the theme with a hope that we as commoners who enjoy art, will protect our babies from any crime. But, on the other hand, her work actually could encourage anyone to act more cruelly towards the babies. The impact would not only cause trauma to anyone who watched her work but also trigger someone to imagine as if he/she was fantasizing about eating a real baby. Indirectly, the form of empathy she expected to emerge was lost and replaced by a sadism behavior.

Cannibalism satisfies the perpetrators who are usually very secluded and hateful. Most cannibals are extreme loners, have no friends, and are full of bitterness. To them, killing and eating their victims are their way out. If being let free, a cannibal

Learning from an Art Performance: The Indonesian and Islamic Laws' Perspectives on Psychodynamics of Fantasy Cannibals

will almost certainly return to prey for other victims out of addiction. Historically, the practice of eating people is indeed old but it has been morally abandoned as an uncivilized practice.

Psychopathic behavior usually involves aggressive, criminal or sexual behavior for example serial killing or raping. However, there is also another type which is only related to social behavior, such as Tontey. She created an artwork of eating corpse that used baby-shaped food as a visual medium to eat without any feeling of guilty or sorry due to her own assumption that her work as an art is normal.

The same approach should be applied to cannibalism. Here, once again, framing the reporting of *#makanmayit* becomes important. Unfortunately, some media even carried out extensive interviews with Tontey. She, surely, defended her right to perform artwork and defended the freedom of art. Hopefully, appropriate experts can certainly talk more about the possibility of the emergence of copycats who may be inspired to actually practice cannibalistic fantasies like her artwork in the real world.

In the fourth volume of her book titled *Ourselves*, Charlotte Mason discussed at length about how great is the human imagination, but on the other hand, it can make the mind become sick when constantly supplied with negative ideas [27]. Therefore, everyone must always sort on what kind of imagination he wants to care for and let it develop. Not everything we can imagine needs to be fertilized, let alone brought into reality.

B. DISCUSSION

1. Psychodynamics of Fantasy Cannibals by Natasha Gabriella Tontey in the Perspective of Indonesian Laws

The artwork of Natasha Tontey had violated the norms of decency, propriety, and religion. If it is proven to violate the Indonesian law, the article 282 of the Indonesian Penal Code regarding decency or propriety will be likely subjected to her. The article states that:

1. Any person who either disseminates, openly demonstrates or puts up a writing of which he knows the content or a portrait or object known to him to be offensive against decency, or produces, imports, conveys in transit, exports or has in store, or openly or by dissemination of a writing, unrequestedly offers or indicates that said writing, portrait or object is procurable, in order that it be disseminated, openly demonstrated or put up, shall be punished by a maximum imprisonment of one year and four months or a maximum fine of three thousand rupiahs.
2. Any person who disseminates, openly demonstrates or puts up a writing, a portrait or an object offensive to decency, or produces imports, conveys in transit, exports or has in store, or openly or by dissemination of a writing unrequestedly offers or indicates that said writing, portrait or object is procurable, in order that it be disseminated, openly demonstrated or put up, shall, if he has serious reasons for suspecting that the writing, portrait or object. is offensive to decency, shall be punished by a maximum imprisonment of nine months or a maximum fine of three thousand rupiahs.
3. If the offender makes an occupation or a habit of the commission of the crime described in the first paragraph, a maximum imprisonment of two years and eight months or a maximum fine of five thousand rupiahs may be imposed.

Regarding this article, Mr. R. Soesilo, an Indonesian law expert, explained that the said writing, portrait or object must violate the feeling of modesty and/or the feeling of decency, for example, a porn book, obscene images or obscene statues, and so on. The nature of being obscene or not of the said objects must be determined based on public opinion, each event must be reviewed individually, and very much dependent on the customs in that community.

Some photographs about Tontey's art project were uploaded on social media. They sparked public debate because such very unusual artwork so called 'Makan Mayit' can be subjected to violate the Indonesian Act No. 11 of 2008 on Electronic Information and Transactions especially the Article 27 paragraph (1) regarding prohibited conducts that states: "Any person who knowingly and without authority distributes and/or transmits and/or causes to be accessible electronic information and/or electronic documents with contents against propriety".

Tontey has fulfilled the element "knowingly" which means that the perpetrator "wants" and "knows" consciously that her actions were carried out without rights. What is meant by "without rights" here is an act against the law in the form of uploading a number of photographs of her work of 'Makan Mayit' in the form of babies as her visual media so that they spread virally in the community.

Indeed, immoral acts are not explicitly mentioned at all in the said article but rather it talks more about forms of dissemination of pornographic material, pornography, gambling, and/or acts of violence that should be prevented by legal regulation. The use of the term "violating propriety" (aanstotelijkvoor de eerbaarheid) in the formulation of Article 27 paragraph (1) of the said Act shows that the legislators chose a term that has a broader scope. The legislators prefer a comprehensive

Learning from an Art Performance: The Indonesian and Islamic Laws' Perspectives on Psychodynamics of Fantasy Cannibals

regulatory model with a wider scope not only in one area but in all fields of law. Therefore the scope of actions that violate decency or propriety is very broad in terms of their forms, modes, and characteristics that occur or will occur.

The penalty that can be imposed onto Tontey for her violation is the Indonesian Act No. 11 of Article 45 paragraph 1 which states: "Any person who satisfies the elements as intended by Article 27 paragraphs (1), (2), (3), or (4) shall be sentenced to imprisonment not exceeding 6 (six) years and/or a fine not exceeding Rp 1.000.000.000 (one billion rupiahs)."

Tontey's anxiety leads to the symptoms of anxiety disorder. Indeed, everyone experiences anxiety from time to time. It is something normal and natural and is an ordinary reaction to various difficulties or problems of life that anyone faces. However, to most people, anxiety without proper handling can be a chronic problem. Such feeling can turn out to be a very severe and tiring disorder under certain conditions. In such a case, this is no longer an ordinary or normal anxiety. Such persons experience high level of anxiety that disrupt them consistently. So, anxiety disorder is included as a serious mental illness. People with this disorder usually have great and excessive anxiety, and often time their feeling of anxiety cripples them. Actually, there are quite a lot of people who suffer from this anxiety disorder. From existing studies, it has been revealed that anxiety disorder is pretty common, affecting almost 17% of the world population.

2. Analysis of Tontey's Artwork of 'Makan Mayit' in the perspective of Maqāṣid Sharī'ah fi al-Jināyah (Objectives of Jurisprudence on Criminalization)

The purpose of giving sanction or punishment in the Islamic *sharī'ah* (Islamic jurisprudence) is the realization of the purpose of Islamic law itself, which is retaliation to bad conducts, as a general prevention, as a special prevention, and a protection to the rights of victims. Criminalization is intended to provide suffering imposed on someone as a result of his/her actions violating the rules [28]. In another version, punishment with certain penalties is intended to bring benefit to people and prevent tyranny or adversity [29].

Limitation of punishment is for the needs and benefit of the community. If the benefit of the community demands that the punishment is aggravated, then so it be. The vice versa applies. This shows that punishment is not allowed to exceed or less than the benefit of the general public [30]. Ibn al-Qayyim explained that the basis and principle of the Shariah are to realize the benefit of mankind in the world and the hereafter. According to him, all the Islamic laws contain the values of justice, grace, benefit, and wisdom. Whenever these four values are not contained, then the law cannot be called *sharī'ah* [31], [32], [33].

The Islamic law positions the benefit of individuals and community in high level. Hence, to guard the community against a crime sometimes necessary punishments must be sentenced, for example killing the perpetrator, isolating him/her to prevent him/her from conducting crimes to the public, giving him/her death sentence, or imprisoning him/her for life, as long as he/she has not repented and not changed his/her attitudes [34].

All criminalization that result in the benefit of individuals and preserve the benefit of the community must be legally carried out. Therefore, it should not be limited by only applying certain penalties without considering other sanctions. Educating the crime perpetrators should not be understood as a form of revenge to them, but rather as a means for ameliorating them. All criminalization with their various forms carries the motives of education, improvement, and prevention that differs from one to another according to the difference of crime conducted. So, in Islam, criminalization is referred to as a form of love (mercy) and kindness from God to His servants [35].

Islam is the most perfect way of life that brings grace for the entire universe Islam continues to live and is always in accordance with the times and all the conditions faced by mankind, elastic, and not stagnant. God is the Most Wise (al-Ḥakīm) so He does not create all creatures just for a play or full of ignorance. He will not regulate a law in vain because He has no need at all to His servants. All of His commands, bans, refinement, prohibitions, and permission solely for the benefit of mankind so that they are far from digression and harm.

In Islamic jurisprudence, the term *sadd al-ẓari'ah* is wellknown. More or less it means the principle of *fiqh* on prevention. The term *sadd al-ẓari'ah* originates from two words: *sadd* and *ẓara'i*. *Sadd* means to close or clog, *ẓara'i* means mediator, whereas *ẓari'ah* means the path that leads to something. Terminologically, according to al-Qarafi, *sadd al-ẓari'ah* means cutting the path of *mafsadah* (damage) as a way to avoid the damage itself [36]. Hence, even though an act is free from the elements of damage whereas it is considered to become a path or means of damage then that act must be prevented from occurring. With similar statement, according to al-Shaukani, *al-ẓari'ah* is a problem or case that is physically permissible but will deliver to prohibited actions (*al-mahzur*) [37], [38], [39].

From the definitions above, the researchers can conclude that the purpose of Islamic law enactment by God is for the sake of *maṣlaḥah* (goodness) for mankind. Here, mankind is generally interpreted not only Moslems but all people. The

Learning from an Art Performance: The Indonesian and Islamic Laws' Perspectives on Psychodynamics of Fantasy Cannibals

following is the explanation of the two basic aspects of the criminalization formulation in *fiqh al-jināyah* (the Islamic Jurisprudence on Criminalization), namely:

a. Retribution.

The retributive function of a criminalization is the subject most widely discussed by experts in *fiqh al-jināyah*, in addition to its deterrence function. This seems to be influenced by the existence of the Quranic verses which discuss a lot about this aspect of retribution. For example, God says in the Holy Quran Surah (QS) al-Māidah (5): 33: "The punishment of those who wage war against Allah and His Messenger, and strive with might and main for mischief through the land is: execution, or crucifixion, or the cutting off of hands and feet from opposite sides, or exile from the land: that is their disgrace in this world, and a heavy punishment is theirs in the Hereafter" [40]. In another verse, He says in QS al-Maidah (5): 38: "As to the thief, male or female, cut off his or her hands: a punishment by way of example from Allah for their crime. And Allah, is exalted in power, full of wisdom" [40].

Considering "retribution" as a legal reasoning behind criminalization, there are two things that inherently become the elements that must exist in it: (a) the assertiveness of a punishment, and (b) the compulsion of giving punishment to perpetrators of crimes [41]. Compared to other law systems on crime, the form of punishment guided in Islamic law is viewed as the most severe one.

Such severity of punishment, according to the researches, is due to the strictness of the legal theory of proofing in Islamic law on crimes. In this law, evidence and prejudice are not known. Compare this with the evidences set out in Article 184 of the Indonesian Crime Procedure Code. According to this legal book, valid evidence is (a) witness testimony, (b) expert testimony, (c) letter, (d) clues, or (e) the defendant's statement. The Article 188 states further that the clues as mentioned in letter (d) may be in the forms of actions, events or circumstances, which are due to conformity, both between one another, or with the crime itself, indicating that a crime had taken place and who did it, and these clues can only be obtained from witness statements, letters and statements of the accused, and valued by the judge based on his/her conscience [42]. In Islam, prejudice is sin and is prohibited as mentioned in QS al-Ḥujurāt (49): 12 which reads: "O ye who believe! Avoid suspicion as much (as possible) for suspicion in some cases is a sin" [40]. Therefore, in its trial system, proofing cannot be based on *ẓann* (prejudice) but must be certain. Here is one of the differences between Islamic law on crimes and the Western ones.

b. The Deterrence Aspect of Criminalization

Deterrence becomes a legal reasoning on the imposition of a punishment. The main objective is to prevent the recurrence of the crime in the future. Unlike retribution which tends to look back from the time of occurrence of the crime, the deterrence is projected for the future namely the necessity of a preventive measure so that such crime does not recur.

The effect of deterrence has two objectives: internal and general ones. In the internal aspect, the deterrence is aimed to the perpetrator of the crime in order to deter him from repeating his/her evil actions while in general the deterrence is aimed to the public in general to make them afraid of committing crimes. Thus, the basic nature of this deterrence is instilling fear of criminalization. In general, the nature of deterrence against criminalization is still accepted as one of the effective forms of justification in the punishment prosecution process.

In this study concerning Tontey's artwork, it can be said that her work has deviated from religious principles and norms in the perspective of the Islamic jurisprudence's objectives. Observing it from the Islamic side of view, it is a certainty that more attention deserves to be paid on the matter, specifically on the form of deviation she had conducted. In Islam itself art is not a bad thing, however if performing or presenting it publicly brings up a deviation and results in the presence of parties who feel disadvantaged, agitated, and disturbed, it is very important to conduct an in-depth study about it.

In the authors' opinion, the study of Islamic law on crimes is actually not much different to that of the conventional one, apart from the fact that in Islamic law it is more in the form of applying deterring punishment. This is largely intended to deter the perpetrator from his/her crimes through punishment he/she receives. Nonetheless, even though Indonesia a country with its majority of people are Moslems, the application of Islamic law of crime has not been implemented and rather it still uses the conventional one.

As a criminal phenomenon that endanger humanity, ritualistic cannibalism of course must be responded to in the name of belief and ideology. In Islam, maintaining human existence and realizing the benefit of humans is one of the main visions in the Islamic law study discourse. This concept is not merely a generalization from Islam regarding ritualistic cannibalism, but a contribution of thought and actualization of the dynamics of Islamic legal thought which has been linked through the *maqāṣid sharī'ah* (religious objectives) approach. Furthermore, the role and position of Islamic law scholars so far must be able to

Learning from an Art Performance: The Indonesian and Islamic Laws' Perspectives on Psychodynamics of Fantasy Cannibals

respond and mitigate all phenomena and problems in society that have implications for harm and crime in society. Needless to say, it is one of the objectives of Islamic law in order to maintain human existence on earth [43].

Although the phenomenon of cannibalism is referred by some groups to as an art performance, several state regulations and Islamic law call it a form of crime. It is agreed that the act of cannibalism was a serious human rights crime [44]. In fact, some of the world's tribes who still perpetuate cannibal rituals are labeled serious human rights violators. Thus, in such condition, the world and Islam agree that human existence must be maintained through state regulations and the provisions and concepts of *maqāṣid sharī'ah* [45].

Through the transcendental sources that are Al-Quran and Sunnah, Islam spreads and lays out the universe in its perfect, harmonious and beautiful form. The esoteric meaning of the order of the universe shows that Allah loves beauty (art). Art is a manifestation of various senses of beauty contained in the human soul, presented by means of communication tools into a form that can be captured by the senses of hearing (sound), sight (painting), or displayed through motion (dance, drama). Works of art are not simply a report of facts but rather a projection of an artist's inspiration, emotion, preference, appreciation or value consciousness.

Islam is a religion that corresponds with human nature, whether in mind, love, taste, will, lust, nature, feeling and reason. In the soul, feeling, conscience and human heart is embedded a sense of love for beauty (art) that can move the soul, intimacy, compassion, pleasure, hatred, revenge, jealousy and envy. Ideally, art in Islam is a reflection and expression of the beauty of the Islamic form of nature, the environment, life and humans that unites truth and beauty. Therefore, Islam has measured standards in appraising a work of art, whether it is in the category of *ḥalāl* (permissible), *makruh* (better avoided) or even *ḥarām* (unlawful).

Referring to the principles of art in Islam, the author considers the art of eating baby corpses displayed by Tantoy as leaving messages of harassment of human dignity, contrary to noble moral values, contrary to the principle of beauty in Islam. The moral message that is supposedly carried in the work of cannibalism is actually buried with a show that triggers sadistic acts towards babies. The concept of Islamic art aims to guide humans to realize the concept of monotheism, devotion and human perfection (*insān kamīl*) who carry out the mandate to realize universal benefits (*maqāṣid sharī'ah*). Art born from the concept of monotheism will lead art lovers and connoisseurs to become more civilized and dignified human beings. Islam does not approve of various artistic expressions that aim for and trigger pride, exhibitionism, lust, or that mar human dignity, let alone give rise to crimes, sadism, murder and cannibalism. Art that gives birth to criminal acts is contrary to the values of *maqāṣid sharī'ah*, especially *maqāṣid sharī'ah fi al-jināyah*.

In the concept of *fiqh jināyah* which discusses various legal consequences for criminal acts that are threatened with punishment of *qishas* (compensated), *hudud* (determined punishment) and *ta'zir* (which is carefully pondered by the government), the goal is to maintain the safety of human souls and their dignity. Tantoy's artwork, in this case, is deemed as having the potential to precipitate certain degrees of sadism, especially toward babies, either in the form of pure violence or pedophilia, and acts of disrespect toward the dead, as taught by Islam.

V. CONCLUSION

Natasha Gabriella Tontey, an Indonesian artist, had performed an artwork that was unique, different, strange, and difficult to define its meaning and purpose through an art performance with the theme of 'Makan Mayit'. Observing it from the conventional law, it was a violation of decency. In addition, she also offended the Indonesian Act on Electronic Information and Transaction; this was evidenced by the distribution of photos about her art project which she uploaded freely on social media. Everything related to 'Makan Mayit' performance was almost entirely uploaded. This had reaped a lot of criticism from various groups of community and even a petition was signed up protesting her work. Likewise, when her work is observed from the point of view of the Islamic law of crimes, it certainly had violated the aesthetic of art itself. Many parties felt uncomfortable with the work she chose so that, again in the Islamic point of view, it is necessary to carry out medical treatment or deterring efforts to her and those who supported the project execution. The plan for further research related to this theme is to conduct further research on the real effects caused by Tontey's artwork performance of 'Makan Mayit' and to look at people's various perceptions and preventive measures they take towards the effects of this artwork.

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Learning from an Art Performance: The Indonesian and Islamic Laws' Perspectives on Psychodynamics of Fantasy Cannibals

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Spa Therapy as a Way of Improvement of the Quality of Life for People with Muscellaneous Problems



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SUMMARY: This research focused on the study of the effect of spa therapy on improving the quality of life, in particular in terms of the areas of physical functionality, psychological functionality, as well as sociality, in people who have problems with the spine (lumbar spine). The dysfunction of people due to their musculoskeletal problems and the ways to deal with them is a challenge for physical therapy. Method: The sample consisted of people with musculoskeletal problems, who were recipients of spa therapy services. Questionnaires were used that record the functionality of individuals in relation to the musculoskeletal problem they face, in this case, the lumbar spine. Results: From the study of the completed questionnaires, information was obtained on gender, age, occupation, health problems and the reasons that prompted the sample to use spa treatments, and the frequency of visits to spa towns. There are clear indications that the use of thermal water with a frequency of at least ten visits per year, favors people with lumbar problems. There is an improvement in mobility (better functionality in the spine), but also in the bathers' quality of life as they perceive a reduction in pain, reduced irritability, and a better mental mood. The professional action of the physical education scientist can play a decisive role in maximizing the effectiveness of the intervention through spa therapy. Conclusions: Physical education can and should have an active role in the development of Bath Therapy. Organization and appropriate actions are required to utilize the results of the research so that it takes its rightful place.

KEYWORDS: thermalism, rehabilitation, hydrotherapy, Greek spa

INTRODUCTION

A fully adequate person should have a satisfactory level of performance in a variety of physical activities but also display social adaptability, emotional stability, mental effectiveness, and positive moral and cultural competence. This means psycho-spiritual, social, and physical competence (Barrow, 1983). The dysfunction of people due to their musculoskeletal problems and the ways to deal with them is a challenge for physical therapy. Lutrotherapy as an activity can contribute to the improvement of previous ones. It refers to the immersion of the whole body or part of it in some material (water, mud) for therapeutic purposes. The method of its application is with baths, strains, wraps, patches, mud baths, hydromassage - whirlpool baths (Health Education, 2000-2001). Greece has approximately 2,500 thermo-metallic springs, of which 60 have been declared therapeutic. These are distinguished into sources of tourism and local importance depending on their capacity. According to E.O.T data, 17 of the 23 sources of tourist importance are currently operational, while 31 of the 37 sources of local importance are currently operational. The geographical distribution of the sources is random and related to the morphology of the country's terrain. Many of them are located near tectonic faults and in areas characterized as volcanic. Hot baths exert a thermal action, a chemical action that affects health favorably. Various studies show that Bath Therapy affects several ailments. Specifically, Kurabayashis et al., (1997) report that therapeutic exercise in acidic thermal waters is effective for the rehabilitation of Chronic Obstructive Pulmonary Disease. Tanizaki et al., (1984) report that exercise in a thermal water pool improves respiratory function in steroid-dependent asthmatic patients. Yokotas et al., (1997) concluded that exercise in thermal water not only improves asthma symptoms but also depression and related mental conditions. Mitsunobu et al., (2001) reported that increased levels of bronchial hyperreactivity were reduced by a spa treatment. Ohtsuka et al., (2002) pointed out that physical exercise in simple alkaline thermal waters once to twice a week, for 30 minutes and 6 weeks, is effective in improving the immune system and has stress-relieving properties in patients who are in the recovery phase from cardiovascular diseases. Nobunaga et al., (2002) demonstrated that long-term spa treatment for more than two weeks is not necessarily required to improve QoL, but on the contrary, short-term spa treatment (3-7 days) is sufficient to see improvement

Historically, the concept of quality of life begins with cancer treatments. The severe toxicity associated with anticancer chemotherapy, surgery leading to amputation of a body part (eg breast), and the adverse effects of radiation therapy, which occur to prolong life and increase patient survival, have made patients, their caregivers, and health professionals wonder about the choice between 'quantity of life' versus 'quality of life'. The price of longer survival was paid through poor quality of life. Since then, the search continues for effective and less toxic treatment methods, drugs, and surgeries. Similarly, in the field of mental health, in the

Spa Therapy as a Way of Improvement of the Quality of Life for People with Muscellaneous Problems

1960s, as a consequence of the shift to deinstitutionalization, it was believed that the quality of life of the psychiatric patient would be greatly improved by living with family. Later, the concept of family members' or caregivers' burden of caring for the psychiatric patient emerged. Weight was measured in both subjective and objective domains. Several factors such as type of symptoms, patients' physical or social disability, social support, social relationships, and coping mechanisms were shown to be related to caregiver-perceived burden (Chaturvedi & Muliya, 2016).

According to M. Tamburi (1992), the concept "Quality of Life" is identified with the subjective feeling of happiness, which is the result of the balance of the following factors: The functional state of the person, his biological harmonious functioning, his emotion, and cognitive state and his social status, possibly as a consequence of the above. This specific research acquires particular importance if one considers the absence of relevant research on the specific subject as well as the comparative advantage due to the natural wealth that our country has over other countries in combination with its utilization potential. The intervention of the science of physical education in this field captures the possibility of changing the quality of life of people with problems due to musculoskeletal dysfunctions.

By the term "musculoskeletal problems" we mean those conditions that occur in the muscles, tendons, bursae, nerves, and bones, including the neck, upper limbs, waist (lumbar area), and lower limbs. Cervical syndrome and low back pain are two of the most well-known musculoskeletal conditions, as are tendinitis and carpal tunnel syndrome (Palikhe et al, 2020). Musculoskeletal diseases are today the most common diseases affecting the population in all sectors and all forms. They cover a wide range of health problems. Musculoskeletal problems include back pain and spinal injuries, and repetitive strain injuries, including upper and lower extremity disorders. An important role in their appearance is played by the posture and position of the body during work, as well as the type of work performed. When the working posture differs from the neutral posture, in which the body is aligned and balanced while exerting minimal stress on the muscles, tendons, nerves, and bones, then the compressive effects on the aforementioned parts of the body (i.e., the muscles, tendons, joints, arms, legs, and shoulders) increase, resulting in musculoskeletal disease.

Musculoskeletal problems are the highest contributor to disability worldwide, accounting for 16% of all conditions, with low back pain predominating (Global Burden of Disease, 2017). The prevalence of chronic musculoskeletal conditions attributable to aging can lead to reduced physical work capacity. The incidence of back, upper and lower limb pain and fatigue are chronic problems (Palikhe et al., 2020). In Western countries, non-specific chronic musculoskeletal pain (CMP) represents one of the most common causes of functional disability and medical visits among the adult population (Wang et al., 2018). CMP, as a biological stressor, is a common risk factor for the development of depressive disorders (Alem et al., 2008). Pain-depression comorbidity exerts a negative effect leading to disease exacerbation, with approximately 85% of CMP patients severely affected by depression (Bair et al., 2003). Given the biological pathways shared by pain and depression, the presence of one negatively affects the other and has implications for the simultaneous treatment of both (Bair et al., 2003). Thus, it creates a serious biological stressor and generally coexists with psychological morbidities such as depression, thus creating significant barriers to the patient's treatment, management, and recovery (Sheng et al., 2017).

RESEARCH METHODOLOGY

This is a quantitative survey. The sample consisted of 200 people with musculoskeletal problems, who were recipients of spa therapy services. The purpose of this work is to find the correlation of Bath Therapy with the treatment and recovery from injuries and musculoskeletal problems. The subjects' performance was measured before and after their participation in a spa therapy program that included an average of ten sessions. Two questionnaires were used. The first one recorded information related to gender, age, occupation, somatometric characteristics, problems, and reasons that motivated the respondents to visit the spa towns as well as the frequency of visits. The second questionnaire was The Roland - Morris Low Back Pain and Disability Questionnaire which is weighted in the Greek language and records the functionality of individuals about the musculoskeletal problem they face, in the lumbar spine. The Roland Morris Disability Index is considered validated for chronic conditions and chronic disability, is the second most widely used, and has been recommended as a baseline measure for many musculoskeletal conditions. Other strengths of the questionnaire include its ease of use, user acceptance, and its availability in a variety of different languages. Although some newer questionnaires focus more on disability (e.g. the Quebec Scale) the widespread use of the Roland Morris Disability Index allows easier comparison with the literature (Stevens et al., 2015).

RESULTS

From the study of the completed questionnaires, information was obtained on gender, age, occupation, health problems and the reasons that prompted the sample to use spa treatments, and the frequency of visits to spa towns. There are clear indications that the use of thermal water with a frequency of at least ten visits per year, favors people with lumbar problems. There is an improvement in mobility (better functionality in the spine), but also in the bathers' quality of life as they perceive a reduction in pain, reduced irritability, and a better mental mood. In addition, it was found that: In the correlations of gender, it was seen that women are those who avoided socializing during the previous week because of the shoulder, elbow, or hand problems, compared to men, at a

Spa Therapy as a Way of Improvement of the Quality of Life for People with Muscellaneous Problems

significance level of $p=0.000$. Regarding the levels of pain felt by the sample, based on gender, it appeared that men were the ones who felt "great pain" and "greater pain" at night when in bed, compared to women, at a level significance $p=0.000$.

The professional action of the physical education scientist can play a decisive role in maximizing the effectiveness of the intervention through spa therapy.

The results of the research show that the spa therapy led to an improvement in the musculoskeletal conditions of the patients, who were used as a sample in the research, one year later. In particular, it is reported that in 2019 the sample was in a worse state of health, compared to 2020, after the re-examination of the same individuals.

When repeating the filling of the WOMAC questionnaire the following year to examine whether the levels of stiffness and pain had changed, it emerged that in 2020 the effect of spa therapy showed better results, compared to the answers given by the same sample the previous year, i.e., 2019. DASH questionnaire results showed that in 2020 the effect of spa therapy produced better results in the sample's ability to perform specific tasks. Regarding the KOOS questionnaire scores during the one-year follow-up in the dimensions "Symptoms", "Stiffness", "Pain", "Functioning in daily life" and "Quality of Life" were found to change significantly during follow-up. Regarding the dimension "Functioning in sports and recreational activities" there were no statistically significant differences between the initial measurement and one year later.

Compared to the correlations made among the 162 people in the sample, the results showed that the majority of women gave the answers "great" and "greater" stiffness than men. Married people were the ones who could not do heavy work compared to other family situations. Correlations based on educational level showed that those who are primary school graduates were forced to limit their work or life as a result of their shoulder, elbow, or hand problem. Also, patients over the age of 65 were the ones who showed a greater degree of inability to perform various tasks at home. Finally, smokers were the ones who reported poorer health outcomes than non-smokers. The results are in line with other studies on the beneficial effect of bath therapy and the improvement of the Quality of Life in patients with musculoskeletal problems, as the majority of authors report improved mood and pain relief.

CONCLUSIONS

DISCUSSION

Physical education can play an active role in the development of Bath Therapy. Organization and appropriate actions are required to utilize the results of the research so that it takes its rightful place. The fact that people receiving spa therapy services experience significant functional improvement results is a positive sign for the field. In a world that is becoming more and more sensitive to health issues and aware of the need for a healthier and more natural way of life, the future of Spas looks optimistic. However, their further development and success in Greece will depend on the existence of a well-planned, long-term program that will include the best ideas and the cooperation of all stakeholders and will aim to provide high-quality and competitive services both domestically and internationally. and in the global market.

Bath Therapy, or Spa Baths, has been known since ancient times for its beneficial effects on health and especially on musculoskeletal problems, while new research shows that it contributes to a better Quality of Life for patients with musculoskeletal conditions. In the present study, a sample of 162 people was used, which were examined in two time periods: 2019 and 2020, and it was concluded that Bath Therapy has significant benefits to the health and Quality of Life of patients with musculoskeletal diseases, as there is a statistically significant difference before and after the bath therapy. Musculoskeletal problems have a significant impact on the health and quality of life of patients. In particular, between the responses of the 2019 and 2020 questionnaires, it appeared that the responses in 2020 showed better health and better results in stiffness and pain levels. Also, the results of the DASH questionnaire showed that in 2020 the effect of spa therapy produced better results in the ability of the sample to perform specific tasks. Scores during the one-year follow-up in the dimensions 'Symptoms', 'Stiffness', 'Pain', 'Functioning in daily life', and 'Quality of Life' were found to change significantly during follow-up. Regarding the dimension "Functioning in sports and recreational activities" there were no statistical differences between the initial measurement and one year later. Gender correlations showed that women were those who avoided socializing during the previous week because of the shoulder, elbow, or hand problems, compared to men, at a significance level of $p=0.000$. Also, women were those affected by shoulder or elbow, or arm pain and were unable to sleep, compared to men, at a $p=0.000$ level of significance. At the same time, it appeared that women have changed their lifestyle to avoid dangerous activities for the knee, compared to men, at a significance level of $p=0.000$. In relation to age, it appeared that those who are over 66 feel less able, less useful, lost confidence, because of shoulder or elbow, or hand problems, at a significance level of $p=0.000$. Also, the age group over 66 years faces significant difficulty when going up or down stairs, at a significance level of $p=0.000$. Correlations by educational level showed that those who are primary school graduates, during the previous week, had to limit their work or life as a result of the problem they are experiencing with their shoulder, elbow, or hand; at a significance level of $p=0.000$. Also, Primary School graduates responded that they felt knee pain during activities, at a significance level of $p=0.000$. In the correlation based on marital status, it was seen that married people, at a significance level of $p=0.000$, are the ones who are most affected and cannot sleep at night because of shoulder or elbow, or arm pain. At the same time, married people are affected when they do heavy housework, in relation to the other groups, at a significance level of $p=0.001$. In the results related to the change in the Quality of Life, the sample gave better answers in the year 2020 compared to the year 2019, when

Spa Therapy as a Way of Improvement of the Quality of Life for People with Muscellaneous Problems

the first part of the research was done. This result shows that Bath Therapy contributed to the improvement of the health of patients with musculoskeletal diseases, resulting in an improvement in their quality of life. Showing a vast history and experience in thermalism, the Baths of Greece are blessed with a series of competitive advantages, such as Natural Mineral Water, geographical location, climate, and natural environment, factors that favor the improvement of the quality of life of users, as they act therapeutically on their psychology and consequently creating the bases and conditions for the physical restoration of the users' health. Of course, further studies are needed on the benefits of spa therapy in patients with musculoskeletal conditions.

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Measuring Self-Serving Cognitive Distortions in School Dropout Adolescents (Boys)



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ABSTRACT: Adolescence is an important period in the life span which includes physical, and psychological changes. These changes can be difficult for an adolescent to adjust which can lead to different adversities. Sometimes overcoming such adversities can be problematic and leads to cognitive distortions known as biased thinking.

Aim: the study aims to measure self-serving cognitive distortions in school drop -out boys.

Sample: The sample size is n=40, and the samples were collected from various places in Madurai District, Tamil Nadu using the Purposive sampling method.

Materials: informed consent form, socio-demographic variables, and the How I think questionnaire (Barriga, et al, 2001).

Results: From the results, it was found that the scoring for the dimensions Self-centered, blaming others, minimizing/mislabeling, assuming the worst, oppositional defiance, physical aggression, lying, and stealing fall under the clinical category which means there exists externalizing psychopathology. The study shows that the samples tend to engage in deviant behavior like aggression, violent behaviors, stealing, substance use, and criminal behavior.

KEYWORDS: Adolescence, cognitive distortions, school dropout, deviant behaviour

INTRODUCTION

Adolescence is an important stage of development in the lifespan of a human being because it is the transition period from childhood to adulthood. The life span of adolescents has difficulties as there is a transition in physical, social, and psychological aspects, other than that they are faced with making important decisions regarding their education since it sets the path for their career. Education is important for a person's individual development (cognition and behavior). In recent years, particularly after the Covid-19 crisis adolescence faced many problems with physical, psycho-social, and education. The Students had difficulty coping with the regular curriculum setting even before covid. The covid break was the major reason for school dropout. Since the school dropping out increased, youths became at risk of externalizing problems. Many adolescents' problem behavior starts in school and family environments like rejection by parents, and friends, social, academic failures, and drug use are considered problematic behavior identified by parents and teachers. Every year, a large number of students drop out of school worldwide. The reasons behind adolescent school dropouts include family situations like unemployment, living in poverty, receiving public assistance, being in prison, being unhealthy, divorce of parents, and having a single parent (Gonzales NA et al., 2004, and Freudenberg N, Ruglis J (2007). Students, who move from primary school to higher secondary school is a higher chance of getting a school dropout (Amit Choudhury 2006). Adolescents are facing many challenges difficulties in academics, changes in peer groups, and changes in the school environment. Students feelings such as shy or withdrawn behavior, worrying, sadness, loneliness, and low sense of self-worth are unavoidable situations in the classroom setting (Novak and Mihić, 2017). During adolescence, vulnerability –stress and risk-taking behavior are precipitating factors of dropout. These varieties of stressors are more common among high school students who drop out than among similar peers who do not, including school mobility, teen parenting, family instability, foster care placement, health problems, and hospitalizations. Adolescents drop out of school, which increases the risk of developing socio-emotional problems and urging them into criminal activities (Prevatt and Kelly, (2003); Lochner and Moretti, 2004; Bradshaw et al (2008). Esch et al., 2014; Bradshaw et al., 2008) Research suggested that children who identified with early behavioral problems are a risk of developing academic problems and experiencing rejection from peers, leading to contact with deviant peers that turn into maladjustment acts such as truancy, substance use, or violent behavior. Crosnoe and Riegle-Crumb, 2007, in their research, substance use with school dropout and unclear ranging from cognitive and neurobiological defects to

Measuring Self-Serving Cognitive Distortions in School Dropout Adolescents (Boys)

learning difficulties and low academic performance are linked. Bridgeland et al. (2006) in their research, 38% of school dropouts believed that they broke rules and regulations, skipped classes, and engaged in outdoor activities. This lack of rules seemed to relate both to lack of order and discipline at school as to substance use and juvenile antisocial behavior. According to Wilkins and Bost (2016), truancy might indicate that students are potentially disengaged from school and that a trajectory toward dropping out is likely. Truancy has been regarded as a resistance to the school culture (Zhang, 2007) which results in negative developmental outcomes such as deviant behaviors, crime, and delinquency.

Mental health problems in adolescence

Mental health problems are among the most common health conditions affecting children and adolescents. The adolescence period is the onset of mental disorders in 50% of a lifetime (Jane-Llopis E and Braddick F (2008). Mental health problems are found among 10-20% of adolescents, and studies indicate an increase in the frequency (Kieling C et al, 2011, Bor W, 2014). Psychiatric disorders associated with dropout are categorized into internalizing disorders and externalizing disorders. Internalizing disorders are those that tend to be composed of relatively covert symptoms, which are cognitive symptoms, to observe. The internalizing disorders are including symptoms of anxiety, social phobia, depression, or major depression (Fletcher, 2008; Needham, 2009). Newer American epidemiological studies state (Merikangas KR, et al., 2010) that there are a prevalence of 32% of anxiety disorders and 14.3% of mood disorders in the group of youth from 13 to 18 years old, while around 8% of American youth had a major depressive disorder. A British study included younger children, from 5 to 15, and found a prevalence of 3.7% for any anxiety disorder. The 1-year incidence rate for the first onset of major depression in adolescents is between 5.6 and 10%, while 17.9% of adolescents have a recurrent episode within a year Adolescent depression is associated with high rates of co-morbid anxiety disorders, disruptive behavior disorders, and suicide attempts. It predicts future adjustment problems including marital difficulties, unemployment, and attachment problems in offspring (Barrera AZ et al., 2007; Seeley JR et al, 2002; and Lewinsohn PM et al., 1993). Externalizing disorders are overt, highly observable either directly or indirectly (such as in the outcome of certain antisocial behaviors), and typically expressed as behavioral excess. The externalizing disorders are conduct disorder or oppositional defiant disorder (Rapport, Scanlan, et al., 1999). Attention deficit hyperactivity disorder (ADHD) is characterized by difficulty in sustaining mental focus or physical control (Barkley, Fischer, et al., 2006; Galera, Melchior, et al., 2009). Substance use disorders are characterized by excessive or dysfunctional substance use or physiological symptoms of substance dependence (Breslau, Lane, et al., 2008). Fortin, Marcotte, Potvin, Royer & Joly (2006) their research variables related to behavior problems, academic results, level of family functioning, level of emotional support from parents, and the classroom climate, the author's categorized at-risk students into four subgroups: (1) the Anti-Social Covert behavior type, (2) the Uninterested in school type, (3) the School and Social Adjustment Difficulties type, and (4) the Depressive type. In light of their multi-factorial conceptualization of school dropout risk, Fortin, et al. (2006) conclude the existence of several possible developmental pathways leading to potential school dropout.

Negative emotional and behavioral reactions might be produced and maintained by irrational beliefs and deleterious thinking patterns also known as self-debasing cognitive distortions (Clark & Beck, 2010). The cognitive distortions in thinking are caused by faulty and ineffective information procession resulting from inconsistent, irrational, and erroneous ways of thinking (Rehna, Hanif & Aqil, 2020). A self-debasing cognitive distortion is defined as unhelpful thoughts that can debase an individual directly or indirectly, which in turn can evoke or strengthen negative emotional and behavioral responses to events (Barriga, et al., 2008). The term self-serving cognitive distortions were introduced to define cognitive distortions Self-serving cognitive distortions protect the individual from self-blame and a negative self-concept, these distortions are associated with externalizing and antisocial behaviors, including aggression and delinquency. (Barriga et al., 2000). Self-debasing cognitive distortions influence a person's interpretation and appraisal of events and increase the likelihood of negative reactions to events (Akkoyunu & Turkcapar, 2012; Clark, 2014). Self-debasing cognitive distortions are associated with internalizing behaviors (e.g., misattributing helplessness 14 to oneself is associated with depression), whereas self-serving cognitive distortions are associated with externalizing behaviors. Cognitive distortions are characterized as biases in the processing that mediates between incoming stimuli and behavioral responses. Gibbs and Potter (Gibbs, 1991; Gibbs, Potter & Goldstein, 1995) introduced a four-category typological model of self-serving cognitive distortions: Self-Centered, Blaming Others, Minimizing/Mislabeled, and Assuming the Worst. Self-Centered cognitive distortions are defined as attitudes where the individual focuses on his/her own opinions, expectations, needs, and rights to such an extent that the opinions or needs of others hardly ever or never are considered or respected. Blaming Others involves cognitive schemas of misattributing the blame for one's own behavior to sources outside the individual (i.e. external locus of control). Minimizing is defined as distortions where the antisocial behavior is seen as an acceptable, perhaps necessary, way to achieve certain goals. Mislabeled is defined as a belittling and dehumanizing way of referring to others. Finally, Assuming the

Measuring Self-Serving Cognitive Distortions in School Dropout Adolescents (Boys)

Worst represents cognitive distortions where the individual attributes hostile intentions to others, considers the worst-case scenario as inevitable or sees his/her behavior as beyond improvement.

RESEARCH METHODOLOGY

Aim: Measuring self-serving cognitive distortions in school drop-out boys

Objectives: To find the self-serving cognitive distortions in school drop-out students.

Sample: The sample size is n=40, and the samples were collected from various places in Madurai District, Tamil Nadu. For this study, Purposive sampling techniques were used.

Tools used for the study and Description of the tools.

1. Inform consent form
2. Socio-demographic details - Name, Age, gender, living area, education, parents' status, smoking behavior, drug usage, and previous history of crime basic demographic details were collected
3. The How I Think Questionnaire (Barriga, & Potter, 2001) was used to examine cognitive distortions. It has 54 items and is designed on a six-point Likert rating scales that range from strongly disagree to strongly agree. There are 8 sub-scales of this questionnaire including Self-Centered (SC), Lying (L), Minimizing/ Mislabeling (MM), Opposition Defiance (OD), Blaming Others (BO), Stealing (S), Assuming the Worst (AW), Physical Aggression (PA) (Bogestad, Kettler & Hagan, 2010). Two summary scale scores can also be obtained i.e., overt and covert besides having a total score. If an adolescent or a youth circles two responses to an item, a higher value was scored.

POPULATION: The students (N= 40) Students who drop out of school from various locations in Madurai District.

SAMPLE: The children who drop out of schools the boys located in different areas of the Madurai district were selected for the present study. A sample of (n = 40) students were randomly selected and recruited for the present study with their consent.

PROCEDURE: The samples (n =40) were administered with the informed consent form, and Personal Information Schedule to obtain their personal and socio-demographic information. After the fulfillment of all requirements, the scale How I think Questionnaire (HIT) was administered the test was conducted. After collecting the response, they were scored based on the scoring key. The results were tabulated, and statistical analysis was done.

STATISTICAL ANALYSIS: Mean, Standard Deviation, Frequency, and Percentage were used for analyzing the collected data. The statistical analyses were done with the help of SPSS.

RESULTS AND DISCUSSION

Results: The study results determine interesting findings regarding the distribution of thinking errors in form of cognitive distortions in school dropout children in the Madurai district.

Table 1. shows the demographic details of school drop- out children's (Boys)

S.NO	Demographic variables	Category	Frequency	Percentage (%)
1	Age	13 years	2	5%
		14 years	5	12.5%
		15 years	6	15%
		16 years	6	15%
		17 years	14	35%
		18 years	7	17.5%
	Mean Age	16.35		
2	Gender	Male	40	100%
3	Education Drop out	6 th Standard	5	12.5%
		7 th Standard	4	10%
		8 th Standard	13	32.5%
		9th Standard	16	40%
		10 th Standard	2	5%
4	Reason for dropping out	Difficulty in studies	17	42.5%

Measuring Self-Serving Cognitive Distortions in School Dropout Adolescents (Boys)

		Family situation	1	2.5%
		Lack of interest	22	55%
5	Parents status	Living together	18	45%
		Total orphan	10	25%
		Separated/divorced	12	30%
6	Living area	Rural	2	5%
		Semi-urban	38	95%
7	Smoking behavior	Yes	37	92.5%
		No	3	7.5%
8	Alcohol and drugs	Yes	36	90%
		No	4	10%
9	Years of usage	1	12	30%
		2	12	30%
		3	8	20%
		4	4	10%
		5	4	10%
10	Any previous history of crimes?	Yes	22	55%
		No	18	48%

DISCUSSION

Among the demographic variables, the mean age of the respondents is 16.35; for this study, only boys (n = 40) were selected. The category of school education dropout rates are from 6th standard is 12.5%; 7th standard 10%, 8th standard 32.5%, 9th standard 40% and 10th standard the education dropout percentage is 5%. The category of school education dropout is a slightly high percentage in the 9th standard (40%) the reason behind dropout is a transition from middle to high school as transferring schools leads to new peer groups and new environments. The reason for school dropout is categorized into 3, three categories, first, difficulties in studies 42.5%, the second category is due to the family situation percentage 2.5% and the third category is lack of interest in studies (55%) is highly predominant. Research shows that students' academic achievement is one of the factors in school dropout (Wood, et al., 2017). In this study parents' marital status was identified. Parents living together are 55%, parents separated or divorced 30% and orphans 15%. Family support is important for the emotional and psychological development of the child. When there is a lack of family support, it can lead to traumatic behavioral change in the Child. Research studies show that dropout is mediated by other factors, such as familial or personal factors (Suh & Suh, 2011). In the living area, semi-urban areas have a high percentage, 95%. The semi-urban boys are easily vulnerable to substance use, school dropout, and engaging in other activities. (Bachman, J.G., et al., 2008; Maynard, B.R., et a., 2015; Townsend L., F et al., 2007) Research studies show that students who drop out of high school may experience a higher risk for problems related to the use of nicotine, alcohol, cannabis, and other illegal drugs. This study shows 48% of boys have a history of crime and 90% of smoking and drinking behavior. Substance use may develop health problems, sexual behavior, accidents, homicides, suicides, violence, and self-injury behaviors.

Table 2. shows the mean and interpretation of dimensions of cognitive distortions

	HIT Total	Self-centered	Blaming others	Minimizing/ Mislabeled	Assuming the worst	Opposition defiance	Physical aggression	Lying	stealing
Mean	25.81	3.78	3.79	3.63	3.28	3.80	3.63	3.72	3.64
Percentile		96	92	92	90	94	92	88	96

The mean values for the dimensions of cognitive distortions as follows self-centered, the mean value is 3.78; the percentile is 96; Blaming others mean value is 3.79, and the percentile is 92; minimizing/Mislabeled value is 3.63 and the percentile is 92; assuming the worst value is 3.28 and percentile is 90; oppositional defiance score value is 3.80 and 94 percentile; physical aggression score is 3.63 and 92 percentile; the lying score is 3.72 and 88 percentile; stealing is 3.64 and 96 percentile. from the interpretation of mean values shows that All the above dimensions are falls under clinical category which means externalizing psychopathology is present. The study shows that the samples may show deviant behavior like aggression, violent behaviors, stealing, substance use, and also lead to criminal behavior. According to Barriga et al., (1999), higher scores on the scales indicate higher levels of cognitive distortions and are associated with criminal behavior.

Measuring Self-Serving Cognitive Distortions in School Dropout Adolescents (Boys)

CONCLUSION

The school dropout children have high level (clinical range) scores in all subscales (HIT, self-centered, blaming others, Minimizing/Mislabeling, assuming the worst, oppositional defiance, physical aggression, lying, stealing, and overall overt subscales and covert subscales). This study shows out the cognitive distortions subscale, the behavioral referent is in the clinical range. This may lead to various internalizing and externalizing behavior problems.

- The children need cognitive interventions that precisely address this biased thinking.
- The study helps to understand the importance of the role of self-serving cognitive distortions of adolescents. And this helps to prevent antisocial behavior.
- There is a need for cognitive behavioral therapy. Thus, treatment programs can reduce the likelihood of antisocial/criminal behavior by reducing adolescents' cognitive distortions.

FUTURE DIRECTIONS

The study sample size can increase to find cognitive distortions among adolescence. A prevalence study can conduct on school students female samples also can be used to find differences and the impact of life events. Intervention studies can help both the adolescent and the researcher. Future studies need adolescent training on adolescent coping skill intervention, parenting skills intervention, family strengthening programs, and school counselors

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The Role of Institutional Factors in the Sustainable Development of Farming Businesses in Subak, Denpasar City



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ABSTRACT: Due to subak's socio-agrarian, religious, economic, dynamic, and independent qualities, agriculture and subak are intimately intertwined in Bali. The existence of subak and the viability of Bali's agriculture may be threatened by both internal agricultural issues and global changes. This study intends to investigate the institutional aspects of subak agricultural sustainability in Denpasar City. The majority of the land is farmed by sharecroppers or smallholders, making the use of restricted land in urban farming a problem for sustainable urban agriculture. The research technique employed is the literature review method, which uses a variety of pertinent scientific journals, particularly those on sustainable urban agriculture, to gather the information needed for the study. The findings of this study suggest that institutional factors are crucial for preserving subak's viability and fostering subak farming in urban settings. Social capital is the factor that contributes most to the sustainability of urban farming in Denpasar City. In conjunction with Tri Hita Karana, who continues to play the function of the Subak in agriculture in the City of Denpasar, the support of social capital in institutions fosters a high level of community involvement.

KEYWORDS: Institutional factor; Subak; Sustainable Development

I. INTRODUCTION

Local wisdom specific to Bali is known as subak. Due to land conversion, subak's existence is currently declining and is not working correctly. Only 2,634 subaks have survived in 1,493 Pekraman villages during the past five years, according to data from the Office of Food Crops, Horticulture, and Plantation of the Province of Bali. In order to ensure the presence of subak in the Province of Bali, government assistance will be increased through grants in 2022. Up to 471 subaks will get management funds to help them grow and survive. The agricultural order will be impacted by the shrinking land mass and subak population, particularly in metropolitan regions (BPS Province of Bali, 2022). Nevertheless, Subak is one of the

In order to ensure and perpetuate the existence of subak, efforts are being made to combine these two things into one as a tourist attraction by fusing the notions of agriculture and tourism with the concept of tourism. Bali's subak cultural system emphasizes a distinct agricultural system that includes linked areas in addition to already-existing terracing sites. One of the things that will ensure the subak's sustainability is the connection with the neighboring places. The goal of the international community, to make Bali more appealing to tourists, will be frustrated by the changing Subak area (Sutawan, 2005). The transformation of the subak territory into a residential area is one of many hurdles and obstacles now preventing the development of subak. Ecosystems in the area will be affected by land conversion in one of two ways: favorably or unfavorably. The state of subak in the area will suffer if human engagement with the environment is not accompanied by responsibility for safeguarding and sustaining the food environment. The area around Subak has seen the emergence of a number of activities, one of which is the use of river streams and river water for domestic and commercial purposes, such as the use of water for subak irrigation in the upstream area to be used as raw material for bottled drinking water companies, as occurred in the Subak Jatiluwih landscape in Kabupaten Tabanan (Prastyadewi, 2021).

In Denpasar, there are 43 villages/wards, 4 sub-districts, and 42 subaks. There are 10 subaks in North Denpasar, 14 in East Denpasar, 10 in South Denpasar, and 8 in West Denpasar. In Denpasar City, the issue of land conversion has also been fairly prevalent. Subak, a densely populated capital city, is in danger of going extinct in Denpasar City. Due to land conversion, the number of subak continues to decrease in Denpasar City. The East Subak Marinaaupan in the Sumerta Village Area, East Denpasar, and one of the subaks, Oongan 2, have undergone alterations, according to statistics from the Bali Province Food Crops and Horticulture Office (2022). The majority of the subak lands claim that they serve as dwellings, drainage sites, or both. The Subak Temple, which is still run by active subak members, is all that's left after the subak irrigation system dried up. Being a subak

The Role of Institutional Factors in the Sustainable Development of Farming Businesses in Subak, Denpasar City

member in Denpasar, which is still active but also serves a dual purpose, one of which is Subak Kesiman Kertalangu Denpasar, which also serves as a subak tourist attraction, namely subak education or learning and knowing what is being done in the world of agriculture and irrigation systems

The existence of agricultural land and farmer organizations and institutions, particularly in urban areas, is threatened by the high rate of conversion of paddy fields in Bali as a result of the quick and dynamic movement of development wheels. The existence of more constrained agricultural land in urban areas is related to the emergence of subak as local wisdom in the agricultural sector. The viability of subak is being threatened more and more by the tourism industry, which is more promising than the agricultural sector. One of them is the younger generation's declining interest in careers in agriculture. One of the crucial issues that must be realized is the sustainability of urban agriculture in order to maintain the existence of subak in urban settings. Additionally, the agriculture industry has values that must be upheld related to local wisdom; these values have even gained global recognition. (2006); Lanya et al. (2005) (2015)

Literature study, which cannot be isolated from research, is one of the many approaches utilized to be able to debate and solve issues in research. In practically all studies, a thorough and in-depth explanation of the literature review in relation to the research subject is necessary. A literature review is a study that has been done on a particular subject to show readers what is already known about the subject and what is unknown, to determine why the study was done, and to generate recommendations for additional study (Denney & Tewksbury, 2013). Before entering the field to gather the required data, the author does a literature review after choosing the writing topic and formulating the problem (Darmadi, 2011).

Several inscriptions, including the Sukawana Inscription, the Trunyan Inscription, the Raja Purana Inscription, and the Bebetin Inscription, depict the history of Subak. According to recorded history, the title "Pekaseh," or "water administrator," first appeared in 881 AD. Additionally, the Sukawana Inscription from 882 AD contains the words "huma" (rice fields) and "perlak" (moor fields). These many inscriptions offer proof that subak existed at that period and that it is one of the irrigation systems with a very clever way of distributing water fairly in the rice fields. According to Windia (2013), the subak system was established around 1072 AD and went on to become an organization with subak members and activities. As a standalone organization, Subak is not under the direct direction and control of any other organizations.

According to what has been discussed thus far, the issues that require investigation include: What function does the institutional aspect of Subak play in ensuring the sustainability of urban farming?

II. METHOD

This work was written using the method of a literature review. This article will illustrate the institutional factor in Urban Subak using a systematic, explicit, and repeatable method for identifying, evaluating, and synthesising research results and ideas that have been produced by researchers and practitioners in the form of explanations or discussions of theory of a finding or research topic. According to Okoli & Schabram (2010), a literature review is conducted to provide a theoretical framework for research that will be carried out in an effort to examine the depth or breadth of existing research on a topic to be studied. This approach also understands the outcomes of past study while responding to essential questions.

III. RESULT AND DISCUSSION

A. Urban Subak Institutional Engaging in Sustainable Agriculture

Sustainable agriculture is a method for an agricultural system that is seen holistically, is economically successful, is ecologically benign, is in agreement with local culture, and can be applied by the community in a sustainable way to improve the quality of life (SEARCA, 1995). According to Linda et al. (2018), a number of factors, including environment, economy, socioculture, institutions, technology, and infrastructure, can affect whether sustainable agriculture continues. Food security is maintained in large part by agriculture, particularly in the food industry. Food is crucial in ensuring the community's basic needs are met as well as, indirectly, the survival of farmers. Through the use of farmer cards, Chakim (2019) conducted research on sustainable agriculture and discovered that socio-cultural context, economic context, and dimensions of understanding and compliance with regulations are all crucial factors in sustaining the distribution of farm inputs like fertilizer, seeds, and agricultural tools.

Development that meets the demands of the human race today while also producing resources for future generations is known as sustainable development. Sustainable development, according to Budimanta (2005), is a normative approach to carrying out activities in a methodical and planned manner in order to improve humankind's quality of life and environment without limiting access or possibilities for future generations. A different approach to enhancing human welfare without sacrificing the protection of the environment and natural resources is the paradigm of sustainable agricultural development. If sustainable development is combined with a commitment to forge alliances between agribusiness actors, it will be more successful. Business collaborations

The Role of Institutional Factors in the Sustainable Development of Farming Businesses in Subak, Denpasar City

that promote sustainable development can ensure the emergence of justice, equity, and environmental consciousness. Strong institutional consolidation is required to support this effort on the levels of farmers, the business sector, and the government (Septana and Ashari, 2007).

Smallholder agriculture, according to Notohaprawiro (2006), should be the primary focus since it can serve as a connecting mechanism for economic democratization and globalization. Strong community agriculture can withstand the economic downturn as well. By employing farming as a monitoring unit, it is required to completely identify the factors that affect or influence the performance of smallholder agriculture in order to establish a trustworthy new strategy leading to sustainable intensification. Environmental elements that are biophysical, social, economic, cultural, and political are among these aspects.

The Subak irrigation system is well-known in the Bali province and is one of the significant cultural legacies recognized by UNESCO. The existence of the agricultural sector and the presence of subak in Denpasar City have a significant impact on the growth of the tourism market, which quickens the development process in urban areas, particularly Denpasar City. According to Linda et al. (2018), an important factor in the sustainability of farming operations in urban locations, particularly in Denpasar City, is the role of cooperatives and the inactivity of farmers. Additionally, by maintaining the viability of urban agriculture, this will guarantee the well-being of urban farmers (Budhi, 2015).

According to Windia (2013), subak plays a crucial role in ensuring the viability of agriculture in urban areas. Its ecological role can help to preserve the agricultural environment, which will help to preserve the availability of farmland and have a long-term effect on the well-being of farmers in Denpasar. The farming community's behavior is based on religious activity, and subak is a culturally significant emblem of such activity. Subak tells us that agriculture is still necessary to maintain an adequate supply of food in the city of Denpasar despite rising land conversion.

B. Institutional Responsibility for Subak Farming in Denpasar City's Sustainability

Numerous studies have extensively examined the importance of institutional functions in economic development. Sustainable development will adopt a new paradigm that is driven by the current economic system. A significant positive link between institutional quality and performance and development outcomes was discovered in the majority of qualitative and quantitative studies on the function of institutions in the development process. Studies demonstrate that the three core tenets of economic analysis, such as transaction costs, property rights, and collective action, can successfully handle problems that are not resolved by conventional methods of analysis (Khan and Saghir, 2008).

On the basis of the distribution of economic, political, and social power among the players, institutions focus on fostering economic efficiency.

1. Cultural and Economic Phenomena

It is crucial to remember that culture is a function of cognitive tools while discussing organizations. This demonstrates that there are ideal cultural components, where these different components exhibit values, attitudes, beliefs, or occasionally form a norm (Brooks, 2008). Ismail (2003) asserts that while culture has significance, it may also be expressed more briefly as a perspective on social life or as a representation of the dominant social norms and processes.

Action, reaction, practice, and conversion when a behavior is practiced are significant physical components of culture (Yuliarmi, 2019). The importance of culture in institutions cannot be overstated in ensuring the community's character in daily conduct and in developing a dominant way of life that serves as a model for implementing this way of life. In the age of globalization and technology, culture makes people more conscious of the importance of maintaining subak as one of the key institutions in the agricultural sector.

2. Community Social Organization

Local geographic community is often used to describe a community social organization. The "capacity of the structure of society to actualize the common values of its members and sustain effective social control" is referred to as society's social organization. The community needs to use pooled resources to interlock the operations of a variety of formal and informal networks, institutions, and organizations in order to achieve collective advantage. Community macroeconomic status, population size and density, amount of population migration, ethnic heterogeneity, urbanization, and family disruption are contextual sociocultural determinants. The community's capacity to monitor and regulate youth organizations, unofficial local friendship networks, and local participation in formal and voluntary organizations are the main topics of the intervening dimension of social organization (Voydanoff, 2001).

3. social media

The idea of social networks and how society is structured socially are closely intertwined. While created within the context of community social organization, Freudenberg's (1986) notion of friendship density at the societal level in Voydanoff (2001) is comparable to network diversity as put out in social network theory. While community social organizations place more of an emphasis on collective processes such as fulfilling community values and relational standards while employing a territorial frame of reference, the concept of social networks places more of an emphasis on structural aspects.

Family and coworkers are significant social network members, which has a significant impact on how social networks are conceptualized and analyzed. Social networks are made up of linkages that tie members of the network together through established institutional ties as well as unique interactions between select individuals who are network members. In order to create connections between member organizations, social structure is seen as a network pattern.

4. Capital social

According to Adhikari (2009) and Bourdieu (1986), social capital is a combination of resources that people or groups need in order to establish more lasting institutional ties that will allow them to recognize and appreciate one another. According to Bourdieu (1986), the capacity of social capital that agents possess depends on the size of the relationship network that can be efficiently mobilized. Power and conflict are significant components of social relations. Another well-known definition of social capital links it to success in education (Coleman 1990 in Adhikari, 2009).

The qualities of social organizations, such as networks, norms, and attitudes that promote coordination and performance for mutual benefit, are referred to as "social capital" by Putnam (1995) in Adhikari (2009). He views social capital as a different kind of public good that affects collective economic and political performance. He underlines that people's involvement in associational life leads to better services and more effective governmental institutions (Putnam, 1993; Adhikari, 2009).

The present value of an actor's connections to other actors is what is referred to as social capital in an economic sense. A sunk investment in social relations is necessary to develop relationships with other players. First, social capital is a relational connection that the parties involved in the connection jointly own. Social capital is shared by all actors. Second, the rate of return of the actor's production function is correlated with social capital. One has the chance to convert financial and human capital into earnings through connections with coworkers, friends, and clients (Burt 1992; Furubotn and Rudolf, 2005). According to Brinton and Nee (1998), norms express conformance to social group norms when generating capital. Norms develop social capital based on how well they can resolve social problems (Brinton and Nee, 1998; Furubotn and Rudolf, 2005).

These institutional components are seen to be crucial in upholding and fostering a sustainable economy that protects regional culture, particularly subak in urban settings. The mechanism in Bali can endure over the long run because to the cultural rigidity of Balinese practices, according to Vesteg and Narhetali's (2010) research. This demonstrates that Bali's distinctive cultural traits are a crucial capital in preserving the viability of subak farming, particularly in urban areas. The irrigation system in Bali is made special by the function of the subak, which upholds justice and abides by Tri Hita Karana's precepts. Because only the Province of Bali owns this special irrigation system, this condition cannot be found elsewhere. To date, in order to sustain its survival, the subak law—which is not written but binds farmers who labor on their land—has required the participation of the community, institutions, and government. Although it is not rigorous and burdensome for farmers, it should be able to empower them and bring benefits to them in the Subak area of Denpasar City. This is consistent with research findings from Arnawa (2011), Lanya et al. (2015), and Prastyadewii (2020).

IV. CONCLUSION

In maintaining the existence and viability of subak farming in urban areas, the institutional factor plays four key roles: the role of cultural and economic phenomena, organization and society, social networks, and social capital. The four taken together form a solid foundation for preserving the viability of subak institutions in metropolitan areas, particularly Denpasar City. The value of social capital and agricultural products as a means of upholding and preserving traditions and culture, particularly through urban agriculture. In order to support the sustainability of farming in urban areas through Subak institutions, this can maintain a harmonious environment with fellow farmers in the local Subak environment, maintain a harmonious environment with fellow farmers in the Subak environment in other urban areas, and maintain harmonious relations between farmers and the community. Urban farmers' quality of life can be raised by practicing sustainable farming. The Balinese have a distinctive culture that governs their people's life, making social capital the most important asset they own.

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The Models of Private Islamic School Based on Social Capital (PISSC) in Purwokerto Indonesia



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ABSTRACT: Research on social capital in non-educational areas has been carried out by many experts, such as Bhandari & Yasunobu, Putnam, Coleman, and Paxton, etc. And, researches on social capital focused on educational institutions among others, carried out by Stoddart, Ju'subaidi, and Behtoui and Strömberg. They concluded that social capital is a determining factor in developing educational institutions. However, not all educational institutions are aware of this. This study aimed to analyze the social capital used by SMP Al-Irsyad Al-Islamiyah and SMP Putra Harapan Boarding School in Purwokerto which have succeeded in building their schools. Meanwhile, the collection method used is interviews, observation and documentation and then analyzed by collecting, reducing, and displaying data which ends with a drawing conclusion. The findings indicate that two institutions have the same model of bonding, bridging, or in trust building. However, Sample A is homogeneous exclusively and sample B is heterogeneous inclusive. The relationship built on Sample A is vertical, while Sample B is horizontal. Meanwhile, in building a branding image, Sample A uses the label of Al-Irsyad Islamiyah and in Sample B offers a boarding program that must be followed by all students. The trust development carried out by the two institutions has created a distinctive development identity in Islamic schools and it has become a good value in the society.

KEYWORDS: Private Islamic school, Social Capital, Integrated Islamic School

A. INTRODUCTION

Social capital is a social means for the men who want to enclose and to access in it. This concept introduced by Bhandari and Yasunobu in 1980 as a new issue. (Bhandari & Yasunobu, 2009). Beginning from that time, scholars propose their definition of social capital in different perspectives and paradigm (Qi, 2018). Coleman (1994: 368) said the discussion of social capital was originally used to explain interrelationships and social systems. This reciprocal relationship gives birth to social structures and various social relations. These social relations are seen as a source or capital for individuals or groups as an important component of social structure.

Another point of view is that the concept of material capital was originally introduced to explain how material tools such as device or machines promote the development of economic production. Schultz (1961) proposed the concept of human capital and believed that personal vocational training could maintain their ability to promote production. The recent concept of social capital recognizes that certain social relationships (such as dense networks, reciprocal norms) can also drive production. In addition, with the introduction of social capital, researchers began to talk about non-economic product efficiency gains (Paxton, 1999).

Then, study of social capital has increasingly become significant in the institution field as a mechanism to make and keep organization run well. (Timberlake, 2005; Roberts, 2013). However, there is not a fix definition in the commonly accepted (Kliksberg, 2004)

Some experts, such as Putnam (2001) cited by Roberts (2013), define social capital as the relationship between personals, social relationship, and the resulting shared norms and beliefs. In addition, Coleman (1988) cited by Healy (2006) defines social capital functionally and emphasizes three important parts of social capital; compulsions and hopes, sharing information on social networks, as well as sanctions and regulations. Although some researchers and policy makers use the social capital term, the condition is not used by public in general.

In the education world, the study of social capital is also carried out with approaches in several perspectives and objectives. Behtoui and Strömberg (2020) said that students' academic accomplishment welfare coming from different identity in school-

The Models of Private Islamic School Based on Social Capital (PISSC) in Purwokerto Indonesia

based social capital (SSC) can develop or shrink. Ethnographic studies conclude that there is a meaningful correlation between SSC and the ethnic students' identity in a education institution. Teachers' performances and motivation are influenced by higher socioeconomic background and intensive parental involvement (Apfeld B, 2022). As a result, there is a more positive and kindship relationship among pupils in that school. Meanwhile, students who have low economic income, school staff try to create a close emotional connection and build trust between them. Beames & Atencio refers to Stoddart (2004) says that to increase the competence of adolescents in productive age through non-formal schools is to be focus of social capital study. Non-formal education is expected to be a medium for them to build a wider relationship, both internally or externally (Tašner and Gaber, 2018).

Research that focused on the function of social capital related to *madrasas* has been conducted by Ju'subaidi (2012). He concluded that *madrasas* have a big responsibility for the success of the national education program, namely the formation of a community who has spiritual, social, cognitive and affective competencies. To achieve this goal, *madrasas* must synergize with the community surrounding the school and optimize their social capital.

This research analyzed the effectiveness of the schools involvement level with their communities. Effective schools demonstrate the success in developing social capital within their institutions. A good school always tries to promote its social capital to the community around the school by explaining the vision and mission in an aspirational way. It is hoped that the community will not only be involved in helping to improve schools, but in building trust also. School personnel are fully aware that community empowerment is the key to success for students and their families in the wider social context. From this description, it can be concluded that reciprocal action is needed to consider the relationship between education institution and the community (Boda and Tom. 2020). It should be noted that schools has significant position in creating a large society as a resource of social capital development (Flint, 2011).

The above explanations shows that the discussion of education based social capital is very interesting for scholars. However, studies of social capital that examine Islamic educational institutions are still rarely found. So, this article will examine the model of social capital development in Private Islamic Junior High Schools of Al-Irsyad al-Islamiyah (Sample A) and Private Yuniior High School of Putra Harapan Boarding School (Sample B) in Purwokerto. These schools are interested to study because of the following academic reasons.

When viewed from the institutional structure, activities, and social impact in the world of education, the two schools have successful indications in the development of social capital. Referring to Putnam (1993), the symptoms of social capital development can be studied if there are participation and organization, habits of cooperation, solidarity, thinking, and the development and spread of trust. In the context of trust, this can be seen from the highly parents' interest to send their children to the institution. Based on the principal's notion, sample A was only able to accept 240 new students (8 classes), even though there were more than 300 applications, so there was very tight competition. Meanwhile, sample B is only able to accommodate 180 new students or six classes, although there are more than 250 potential applicants.

In addition, Coleman (2000:16) directed the discussion of social capital needed to identify the forms and characteristics, values and benefits that can be obtained by personal, collectives, and brotherhood from social networks and relationships. The elements described by Coleman are fulfilled in Samples A and B, because the two schools are private schools and are relatively the same because they are formed from the participation and organization, cooperation and solidarity. However, they have both different shapes and characteristics.

So, the writer wants to explain the comparison between Samples A and B in building social capital in the field of Islamic education with structural social capital and cognitive social capital approaches (Uphoff & Wijayaratna, 2000). The used of structural approach will produce a description of associations, groups of institutions with rules, orders and modelling which handle Samples A and B. Besides that, the application of cognitive social capital theory will be presented.

Finally, this article attempts to answer the former studies which pay attention to the tradition norms agreed by the community and the level of relationship practiced by the groups, sample A and B (Dahal & Adhikari, 2008). Based on the preliminary research, it was found that sample A has a strong bonding social capital cohesion in the community of indigenous peoples. While in sample B, there is a social structure without mass community with strong ties, but it can be managed well.

B. THEORITECAL FRAMWORK

The development of research focused in social capital is very intensive, although research in educational field is still relatively new. Unfortunately, there is until now no single and universal meaning for the definition of social capital. They explain that the first person to introduce the idea of social capital was Lyda J. Hanifan in 1916 (Smith 2007). This concept explains that society has an important role in relation to school performance. Seely et. al. (1956), in Bhandari and Yasunobu (2009), they point out the notion

The Models of Private Islamic School Based on Social Capital (PISSC) in Purwokerto Indonesia

or idea of social capital was rediscovered after a serious disappearance, while Homans (1961) studied urban society, Jacobs (1961) social interaction theory, and Loury (1977) discussed neighboring city life and income distribution.

However, names who discuss the issue of social capital, (i.g.) Pierre Bourdieu (1986), James Coleman (1988), Robert D. Putnam (1996), Nan Lin (1999), Francis Fukuyama (2000), OECD (2001), and World Bank (2007). From these many opinions, it is concluded that they emphasize social connection which produce advantage thing. By using different point of view in looking at the personal or social resource, the definition of social capital is also not similar.

Bourdieu (1986: 16, 21) defines that social capital can be shaped into other capital such as cultural and economic capital. Furthermore, he explained that social capital is a number of truly sources correlated with enduring network ownership. Recognition and mutual acknowledgement supported by each members will make social capital collectively owned. And, this kind of relationship model must be institutionalized

Coleman (1988) proposes the concept of social capital which is associated with different types and interactions, namely; human, physical and social. This concept imitates the principle used by economists, for the analysis of social systems without leaving the processes that occur in their social organization. Furthermore, he connected sociology and individual social action with economists' scientific idea. This opinion is a form of compromise between two different theoretical views. The first opinion represents the functionalist's notion of social benefit kept on by social structures. The second statement is a theory of rational which shows that the actor's main goal is how these personal needs can be fulfilled and useful. Nan Lin (1999) tries to simplify the notion that social relations must be useful because they are intangible investments. Each member should toake benefit from his involvement in a community. All of these understandings lead to the views of Bourdieu, 1980, 1983; Coleman, 1988, 1990; Burt, 1992; Erickson, 1995, 1996; Flap, 1991, 1994; Lin, 1995; Portes, 1998; Putnam, 1993, 1995).

Cooperation between community members based on informal norms is considered as social capital by Fukuyama (2000: 3). The forms of the agreed norms can be in simple forms, from between friends, up to the sacred and abstract one. The rules made by group members are mutual agreements exclusively. However, all the systematically compiled opinions are actually rooted in the views associated with Pierre Bourdieu (1986) and James S. Coleman (1988). Based on this opinion, Robert D. Putnam (1993) is a scholar who pioneered and popularized the new condition among social experts, thus it attracts the researchers' interest and policy makers. However, it is difficult to hope a general meaning of social capital. The different definition occurred is strongly influenced by the interests and motivations of the authors (Bhandari & Yasunobu, 2009). In a broader context, Bhandari & Yasunobu (2009) describe that the definition of social capital is a multidimensional phenomenon.

Meanwhile, Schiff (2002) describes that social capital related to norms and networks that support collective conduct. This action is an potential aspect which can produce welfare both individually and collectively. Therefore, he argues that social capital is a number of elements of social structure that affect the relationship between people and can be used as a reason for obtaining profits and benefits of production.

In line with the above opinion, Loury in Coleman (1994) says that social capital as a set of potential aspect including in family relationships and in unbenefit organizations. These resources has a meaningful for developing the rational and social domains of kids or youth. The opinion of social capital is based on socio-cultural terms to describe the increasing product.

Uphoff and Wijayaratra (2000) describe the kinds of social capital related to different features and advantages. The most common forms of social capital are structural and cognitive. The former has a close relations to the shape of social relationship and other organization in a society. While, the latter is contained primarily of a set of shared norms, pure rules, behaviour, and person's beliefs related to trust, mutuality, and collaboration. Putnam (2000) and Woolcock (2001) distinguish theory of social capital into important elements. The bonding proved shows a hard ties among people who are very esteem and understand each other, like main family, intimate friends, and neighbours. Person who are in bonding networks usually have special features. Oorschot et al., 2006).

Bonding can bear effective transmission and relation to reach planned and specific goals. While, bridging denotes to more further relationship, like unfamiliar friend and employee in the same office, and they have, off course, different background and habit. By this feature, bridging has outward-looking view, informally engaged, community with the same feature, inclusive to all members, but they have the same goal (van Oorschot et al., 2006).

Bridging is an important way to solve the problem undergone by a community. Assisting, understanding each other, formatting a relationship, open with new information, and empowering the members are the way to solve it. The aspect of linking may include correlation and bind of a specific society. (Anheier and Kendall, 2002; Woolcock, 2001). But they are, in practice, different (Bhandari & Yasunobu, 2009).

Several researchers have conceptualized the difference between binding and bridging relationship in relation to trust. The basic concept of bridging social capital consists of cultivated trust, while bonding social capital is a given trust (Bengtsson, R. and

The Models of Private Islamic School Based on Social Capital (PISSC) in Purwokerto Indonesia

Brommesson, D., 2022); (van Staveren and Knorringa 2007). Ante (2008) explains that bonding and bridging social capital is also explained by Putnam. Bonding denotes to the given value to social networks in a community with different background. (Healy 2002 cited in Claridge 2018). To provide easier understanding, here is a chart of the differences between them:

Table 1. The differences between Bonding and Bridging Social Capital

Bonding social capital	Bridging social capital
Within	Between
Intra	Inter
Exclusive	Inclusive
Closed	Open
Inward looking	Outward looking
Getting by	Getting ahead
Horizontal	Vertical
Integration	Linkage
Strong ties	Weak ties
People who are alike	People who are different
Thick trust	Thin trust
Network closure	Structural holes
Public-good model	Private-good model

Granovetter (1985) distinguishes social capital according to the firm of the social ties it has. Firm or hard ties usually denote to esteem, tidy, and binding correlation, kinship and close groups of friends. Furthermore, fragile or weak relationship explains connection which are causal, transient, and contingent, such as relationships in communities of diverse backgrounds or friendships coming from different social statuses.

According to Macke and Dilly (2010), social capital links are divided into two approaches, namely relationships that consider horizontal social relationships and vertical social relationships (rulers). In this regard, the authors propose a model for analysing linking social capital in collaborative networks, and endeavour to unify the two different approaches. Bourdieu (1986) in Richardson (ed.) distinguishes social capital to be 3 kinds, namely; economic, cultural, and social.

To give a good narration about the difference between social capital from physical capital in the concept of economics, that is, measurable and tangible, and skilled and trained human capital, Coleman (2000), as quoted by Nieman, identifies certain forms that refer to social capital based on the obligations, expectations and trust of those included to build it.

Gonzalez (2013) explains that Bourdieu (1986) defines social capital as a potential resource for each individual based on group membership, relationships, influence and supported networks. It was also explained that social capital is owned by all group members, but the members with lower economic level are usually not appreciated by the dominant group with high social status. The men coming from more higher level in social life will usually tend to resist it and keep expanding their social network from time to time.

In line with other experts, Page (2017) concludes the principle sources of social capital are networks, norms, and social trust that coordinate and cooperate for reciprocal advance (Putnam 1995). This pattern acts as an engine that drives the formation of relationship and connection among families, friends, colleagues and stakeholders to achieve certain goals or expectations (Coleman 1988; Woolcock and Narayan, 2000), (Putnam 2000), (Bourdieu, 1986), friendship making, mutual interest, and social committed (Hanifan, 1916). All these parts are significant factors to generate and keep social capital and do not stand in the same element.

The relationship between these nodes forms the social structure and facilitates the emergence of action within it. The effectiveness of social capital does not depend on the actors in the community, but established on the social relationships built and applied to all members in a particular social structure (Coleman, 1988; (Putnam, 2000).

C. PRIVATE ISLAMIC JUNIOR HIGH SCHOOL AS SOCIAL CAPITAL BUILDER

Private Junior High School of Al-Irsyad Al-Islamiah and Private Junior School of Putra Harapan Purwokerto are the alternative Islamic schools besides *madrasas* in Purwokerto, and people usually call them the Integrated Islamic Junior High School (*SMP Islam Terpadu*). The Indonesian Integrated Islamic Schools Network (JSIT) website explains that integrated Islamic schools are the

The Models of Private Islamic School Based on Social Capital (PISSC) in Purwokerto Indonesia

institutional structure of Islamic education which is integrated in learning and teaching. This is the main spirit in Islamic educational institutions as a resistance to secular dichotomy understanding between religious and general sciences in the education system.

In the development of Islamic education in Indonesia, Islamic schools with the integrated label (*Terpadu*) are new one. However, from the component of social capital development, mainly in the trust aspect, it shows the existence and trend for some Muslim communities in suburban areas. They think that this school model offers more complete competencies compared to schools in general. Although, it takes a relatively expensive fee to register as a new student at this school.

If traced back, schools which are similar to the Integrated Islam model have actually been established under the Al-Azhar Jakarta Islamic Boarding School (YPI) Foundation in 1952. Then, followed by the emergence of the Madania Foundation which was founded by Nurcholis Madjid, in 1990. Madania School began to be developed as a Integrated Islamic school that explores 4 potential students, namely; potential physically, emotionally, socially and academically, in 1996 (Jarir 2016). Until the year In the 2000s, the number of integrated Islamic schools had reached ±10,000 schools throughout Indonesia (Suyatno, 2013).

According to Lubis (2018), Integrated Islamic Schools are basically Islamic schools such as *madrasas*. However, it is handled by modern management. This institution offers the concept of integrative Islamic education by eliminating the dichotomy, the separated point of view between religion and science. Otherwise, Islamic and general knowledge synergize with each other, because science in the view of Islam is inseparable. Bashori (2002) also explained that the concept of integrated Islamic school education is a combination of the concept of Islamic education with modern educational methods. This combination can be seen in several things, such as the application of the moving class model, learning by doing, Islamic exemplary, and the application of three languages of instruction: Indonesian, Arabic and English. This is implemented in the junior high school curriculum which contains religious subjects in various subjects such as *madrasas* (Marwazi, 2016).

D. METHOD

This study used a qualitative descriptive approach with Coleman's social capital, namely trust, social network and norms. The location of this research took place at SMP Al-Irsyad Al-Islamiyah (sample A) and SMP Putra Harapan Boarding School in Purwokerto (sample B). The research subjects selected were the heads of the foundation, the principals and vice-chairmen of the schools, several teachers and students' parents. The data collection techniques used were in-depth interviews, observation and documentation. Qualitative data analysis techniques were carried out by matching the empirical reality with the applicable theory using descriptive methods. The first process of analyse the data begun with digesting all sources using the perspective of Coleman's theory. Data analysis used was inductive in nature, starting with specific data and then moving on to more general data, and qualitative research resulted emphasize meaning rather than generalization. Second, the data reduction process is by compiling a summary of the observation results and interviews considered important or a selection process focusing on organizing, abstracting, transforming rough data that emerges from field notes and other data findings. Third, interpret and explain the data findings with relevant theories and in this study the data were analyzed using Coleman's theory of social capital (Miles and Huberman, 2007).

E. FINDING AND DISCUSSION

1. Development of Bonding Social Capital

Based on Claridge's opinion, there is a common understanding of the theory found in samples A and B about the occurrence of bonding social capital development which is motivated by the relationship of a group or community that has the same perception in information, resources, interests and goals (Kyne & Aldrich, 2019). However, there are different processes of formation because the background of the establishment and dedication of the two samples are characteristically different (Claridge, 2018)

To identify the differences between them, it can be rooted to the theory of structural social capital and cognitive social capital (see Uphoff and Wijayaratna, 2000). In this context, it is found that in building the structure of bonding social capital, sample A is more militant and seems to offer exclusivity. *First*, the label of Al-Irsyad is an institutional structure that has been equipped with established rules and procedures founded in 1913 (Fauzi, 2013). This condition tends to a double precedent. *First*, it can be positive from an internal point of view or inward looking, because it has succeeded in providing Islamic education in several places, such as in Jakarta, Tegal, Pekalongan, Lawang Surabaya, and others. *Second*, the structure of Al-Irsyad as a fraction of *Jam'iyatul Khoir* can also have a negative value from an external point of view or outward looking, because the label is an Islamic social organization which in some aspects of values and teachings are considered non-mainstream, especially regarding views on Islamic values on customs and traditions in Indonesia (see Fauzi, 2013; Thalib, 2018; Hasyim & Haryono, 2019).

Apart from the two points of view above, sample A has already all the elements in the construction of a bonding social capital structure in education (see table in Healy, 2002). For the case in Purwokerto, sample A in the construction of bonding social capital

The Models of Private Islamic School Based on Social Capital (PISSC) in Purwokerto Indonesia

is also very strong and entrenched. And From the structural aspect, it is also supported by Al-Irsyad Center. It has been, from the historical aspect, proven by the success of the school structure with the label of Al-Irsyad mainly at the Elementary School of Al-Irsyad Purwokerto which has been initiated since 1947 and officially notarized in 1975 (see <http://sdalirsyad01pwt.sch.id>).

If we looked the documentation, it shows that the success of Sample A is a continuation of the development of social capital bonding at Al-Irsyad Purwokerto whose existence has had very high public trust. Structurally, Basic School of Al-Irsyad has important promoted transmission and relationships to meet the common objectives (see van Oorschot et al., 2006). In this context, the purpose and existence of Sample A has been embedded in the students' souls of Al-Irsyad Basic School who will continue their studies to this institution. With this basic capital, they can automatically build trust form elements of bonding social capital, especially in inward looking, getting by, integration, strong ties, and people who are alike (see table in Healy 2002).

From the managerial aspect, the development of bonding social capital in sample A tends to be as revealed by Woolcock and Sweetser (2002). The relationship formed by the school is exclusive because they do not permit a person coming from the outgroup. The organization structure of sample A is a representation of a identical group, namely people and kinship systems that tend to be homogeneous, Arabic tribes, people of Arab descent (see Thalib, 2018; Hasyim & Haryono, 2019). The main board in the Al-Irshad Foundation is dominated by the Arab kinship, as in the Central Structure of Jam'iyah al-Irsyad 1439–1444 H/2017–2022 AD which was held by popular Arab clans such as Bin Madi, Basalamah, Bawazir, and Basyarahil. This phenomenon is not different from the management of the Al-Iryad Foundation in Purwokerto.

From the side of bonding social capital development, the managerial structure of the Al-Irsyad model is very significant to form the strong bonds and ethnicity is a very potential factor to form social capital (Putnam, 2000), (Woolcock, 2001), (van Oorschot et al., 2006). But, this phenomenon has a weakness or negative aspect if it is looked from the conventional managerial structure aspect (Claridge, 2018). In fact, Al-Irsyad foundation in Purwokerto has opened himself up to positions held by non-Arabs personal, these positions are, even though, still complementary to organizational and business needs.

As for sample B, the aspect of bonding social capital development has similarities with sample A, especially in a structural context. It is undeniable that the establishment of sample B was inspired by the successful development of bonding social capital in Sample A. However, there is a striking difference between them. Sample B offers a social bonding structure based on Islamic education by choosing the Indonesian nationality diction and is not labelled with the word Islam. That is *Putra Harapan, Junior High School Boarding School, Sekolah Calon Pemimpin*. (see, <http://smp.putra-harapan.sch.id/>); (Drouhot, and Victor Nee. (2019). So, the organizational structure of Putra Harapan is not based on ethnicity (contrary to Putnam's theory, 2000; Woolcock, 2001), and is not affiliated with national-scale mainstream Islamic community organizations like sample A. Sample B has only a local-scale social structure in Purwokerto and does not show as an Islamic community organization, but purely an organizational structure engaged in education.

Referring to the structuralist and cognitive social bonding (Uphoff and Wijayaratra, 2000), Sample B is unique in its success in forming the structure of elements, local, heterogeneous people with different backgrounds but can associate them well, because they have the same interest to found an educational institution named Putra Harapan. This condition is contrary to the theory of relationship within a homogeneous group in Woolcock and Sweetser (2002) which is suitable for Sample A.

In Sample A, the relationship is exactly the opposite of that of Sample B. It has strong ties of homogeneous group and ethnicity within Arab tribes, while Sample B in the field of relationship is built on weak ties between individuals and heterogeneous groups which then proceed to form inward looking or people who are alike, and form strong ties (see table of Healy, 2002). The success of Sample B is a model of bonding social capital development that is closer to the theory of mutual benefit (Putnam 1995), and cohesion between friends to achieve a given goal or outcome (Coleman 1988; Woolcock and Narayan 2000), not because it is motivated by homogeneous group relations (Woolcock and Sweetser, 2002), or ethnicity (Putnam, 2000; Woolcock, 2001; van Oorschot et al., 2006).

2. Development of Bridging Social Capital

Bridging is a kind of social capital describing the relationship which connects people in associations between communities, groups, or organizations. In this context, the analysis of bridging social capital development is to describe many aspects of various social exchanges existed in Samples A and B. The following discussion will be divided into two; first, the vertical and horizontal linking, and second, creating an empowering linking with the community around the institution. (Boxman et al., 1991).

a. Vertical and Horizontal Linking

These two approaches refer to the theory developed by Macke and Dilly (2010) which is also influenced by Gelderblom's opinion (Gelderblom, 2018). He explained that there are criticisms of the theory of vertical and horizontal linking in Putnam's bridging social capital model, as if it can automatically be a solution to intolerance and other social ills. In fact, to unite various social

The Models of Private Islamic School Based on Social Capital (PISSC) in Purwokerto Indonesia

relationships to form social capital, a deeper social process is needed, the relationship that occurs is not only for cooperation, but also for competition.

In linking social capital, it relates to relationships with people in power, political or financial positions (Woolcock and Sweetser, 2002). This condition will affect to vertical relation to formal institutions (Woolcock, 2001; Mayoux, 2001). Some factors which have contributed to the shaping bridging social networks is building infrastructure, communications tools, educational policy and political decisions (Westlund, et al., 2010).

The above statement shows that in building bridging social capital elements of a vertical relationship needs good relationship between school leaders whose political and economic are powerful with various formal institutions considered which can increase the bond, strength, and communication. All of them contribute positively to Samples A and B. In bridging social capital can also optimize horizontal linking to replace the limitations on vertical linking.

1. Vertical linking

Viewed from the institutional aspect, Al-Irsyad has long been in the field of education. Al-Irsyad has established the first school in 1914 and has a wide educational network using the Al-Irsyad label that spreads in several places (Thalib, 2018). This shows that the nationally vertical linking of Al-Irsyad has been strong and automatically affects the entire Al-Irsyad network, including in Purwokerto. Vertical linking owned by Sample A is very strong. Even some influential mosques in Purwokerto, such as the Fatimatuz Zahro Mosque and the General Sudirman Mosque are the mosques structurally controlled by the Al-Irsyad network which has political legitimacy (vertical) which is marked by the absence of political opposition (local government policies) against their existence in the development and management of the two mosques.

It was also found that Al-Irsyad's personnel built vertical linking through political parties. Like Ali Umar Basalamah, he was a member of the Golkar Faction, DPRD Banyumas regency period 2009-2014. The involvement of Arab business minority groups in local practical politics directly or indirectly strengthens their economic dominance at the local level which has a positive impact in building branding image. As a result, sample A has also developed into a politically and economically strong and popular Islamic school. Good vertical linking built with the local government has a positive effect to develop and expand its infrastructure. It is proved that this institution was given a land lease by the Banyumas Regional Government for a football field and integrated sports arena around the school (Umar and Ershad, interview, 2022).

As for Sample B, SMP Putra Harapan, in developing local and limited in building vertical linking is not as wide as Sample A. There is no extraordinary data that shows the success for the school committee in dedicating themselves to build vertical linking with successful people in economies in regional scale or through practical politics. In addition, sample B is mostly doing vertical linking in a narrow scope with government administrators at the sub-district level where the school is located (Mikiewicz and de Araújo, 2021)

However, in developing social ties and conducting networks, vertical linking, sample B built it with policy makers, although in a small scale in the surrounding environment, but it is very effective in improving its existence, goals, and organizational structure. Thus, the network can develop as social capital to be a strong ties, mutual, and trust. Looking at the activities and teaching and learning processes in sample B, the local vertical linking process and approach is indeed very appropriate. Because, the location of sample B takes place on the second road and is integrated with the community. Even, the Head Office is only in the house building which is located on Jl. KS. Tubun Gang Slobor No. 3. There is no majestic physical capital with multi-storey buildings on the side of the main road. But, this condition is not a handicap to continue growing and discovering the process of bridging social capital by optimizing small and local vertical linking.

It was also found that this school was able to optimize the network through good communication with formal institutions, even at the village level government (Westlund, et al., 2010). Meanwhile for Sample A, vertical linking of social capital was built through political parties, local government power, economic power networks, and formal networks. It strengthens the theory of Woolcock and Sweetser (2002), Woolcock (2001), and Mayoux (2001).

2. Horizontal linking

In social capital, horizontal linking plays an important role as described by Dewey (1900, 230) as cited in Plagens (2011), that social capital as something positive lying beyond the individual, and it will be available when the individual connects with others in a meaningful way. Thus, good or bad values will be seen when individuals, associations, and educational institutions have been connected with other individuals, associations or communities outside themselves.

The findings show that Sample A has a strong example of vertical linking in the Purwokerto area, but weak in horizontal linking. Structurally, the label of Al-Irsyad is a centralistic organization, in the form of top-down and the majority of its policies. This centralistic nature becomes an obstacle in building horizontal linking with outside individuals or communities because the values

The Models of Private Islamic School Based on Social Capital (PISSC) in Purwokerto Indonesia

and norms offered by Al-Irsyad are non-mainstream in the Purwokerto area. And in addition, the location of Sample A which is far from other social activities and elements increasingly has an effect on the limitations of building horizontal links.

The main line of horizontal linking that can be optimized by Sample A is only through communication and interaction with other elements, namely students' parents. The data shows that the students' parents of Sample A have upper middle class socioeconomic backgrounds. This is based on the ability of parents to meet the burden of registration fees and the relatively high cost of education (the most expensive school in Purwokerto) compared to Sample B or other private schools. This condition is a very significant capital, because programs that support horizontal linking are easily fulfilled even though they require expensive economic capital, such as family gatherings, *zakat*, *qurban*, and *infaq* programs for students, or the development program for *tahfiz al-Qur'an* to Al-Azhar University, Cairo, Egypt. The *qurban infaq* program held has a strategic process for Sample A in the context of horizontal linking, not only with individuals around the school but with community who are far away and have no ties to the school. In every year, an average of IDR 200,000,000 is collected which can be spent on 7 cows and 16 goats distributed to 17 poor areas, such as Samudra, Gumelar, Kemawi Somagede, Kotayasa, Sumbang, Melung, and Kedungbanteng village etc. (see <https://smpalirsyadpwt.sch.id/tebar-kapal-kurban-1441-h-3/>). On the other hand, Sample B is not strong in vertical linking but strong in horizontal linking. It succeeds through a horizontal linking approach and cognitive social capital. (see Nahapiet & Ghoshal, 1998; Uphoff and Wijayaratna, 2000).

As previously explained, the existence of Sample B has already a strong bonding social capital, but it is weak in physical capital which is not integrated but is spread over several buildings and located in densely populated locations. However, this condition actually creates a positive social process, because the elements interact with each other. In the process of developing horizontal linking, Sample B prioritizes relationships with students' parents by communicating and interacting about the successful implementation of the mandatory boarding program for all students (Demi, 2021).

The development of horizontal linking with the students' parents creates strong ties along with the outputs achieved from the boarding school program which has fostered good values and norms in students. Referring to Behtoui and Strömberg (2020), the boarding school program at Putra Harapan can be called a speculative program which will, if it fails, actually create inequalities in the eyes of students and parents, especially on academic aspects and socioeconomic status. However, the data show that Sample B can create equalities among students in many social and religious norms.

In addition, it shows that the development of cognitive social capital (i.g. individual norms, values, belief systems which then lead to trust, and reciprocity) of Sample B is successful. It does not only comes from students and their parents, but it also comes from residents around the school. From here, several elements of bridging social capital structure can be looked at the success of Sample B in positive value and reciprocity. This condition has then a positive effect on some people transforming into bonding social capital, especially in terms of inward looking and integration (see figure 1, Healy, 2002). The surrounding community has strong ties and some take a part their children to study at this institution.

c. Social Empowerment

To build bridging in the context of empowering the surrounding community, sample A has a weakness because its physical capital meets difficult access to the surrounding community. Because, the location is on Jl. Prof. Soeharso, so it is far from residential areas, so it has an unmeaning effect on the development of bridging social capital. As a result, this institution feels slow in reducing the thin trusts and weak ties of the surrounding community (Cox & Quinn, 2021).

On the other hand, sample B has limitations in physical capital but is very successful in building bridging social capital through social empowerment from weak ties and it can then unite in strong nodes in understanding, interrelationships with the structure and objectives of institution. Then, the elements of bridging social capital, especially the elements of people who are different, thin trusts, and weak ties can be managed positively by Sample B.

In addition, Sample B shows similar findings to the study conducted by Flint (2011), that effective schools in creating a large amount of social capital are schools which involve the surrounding community who are aspirational towards learning programs in promoting their institutions. Borrowing Flint's language, through horizontal linking with student's guardian and local residents, Sample B can create a big society with strong ties and mutual trust. In addition, this institution has also succeeded in building and maintaining bonding social capital in the organizational management structure established by the Foundation.

d. Development Trust based on Norms and Networking

Judging from the two samples A and B in building trust, they have the same model, namely both of them offers schools based on superior and Islamic norms. The institutions excellence are manifested in students' academic and non-academic achievements in various competitions, local and national. Meanwhile, Islamic characteristics are manifested in a hidden inclusive and integrative curriculum structure. The extracurricular activities carried out are also very fulfilled by Islamic and noble characters that support

The Models of Private Islamic School Based on Social Capital (PISSC) in Purwokerto Indonesia

the realization of norms, such as; morning and evening *dhikr*, *dhuha* prayers, congregational prayers, and the *tahfidz* al-Qur'an program, memorizing Hadith, Al-Quran literacy, and Arabic (Fayzullin & Fayzullin, 2022).

Although both have the same activity platform as mentioned above, sample B has more advantages, namely by requiring all students to stay on boarding school. This academic atmosphere is used as a branding image and becomes a magnet for the surrounding community. This multidimensional instrument that covers many aspects of social norms, obligations, and other relationships is very effective in building trust (Bhandari & Yasunobu 2009).

In the networking element as explained in the previous section, Sample A is stronger in creating vertical linking, while Sample B is stronger in networking through horizontal linking. If the differences between the two institutions are depicted in the form of a diagram, it can be seen as below.

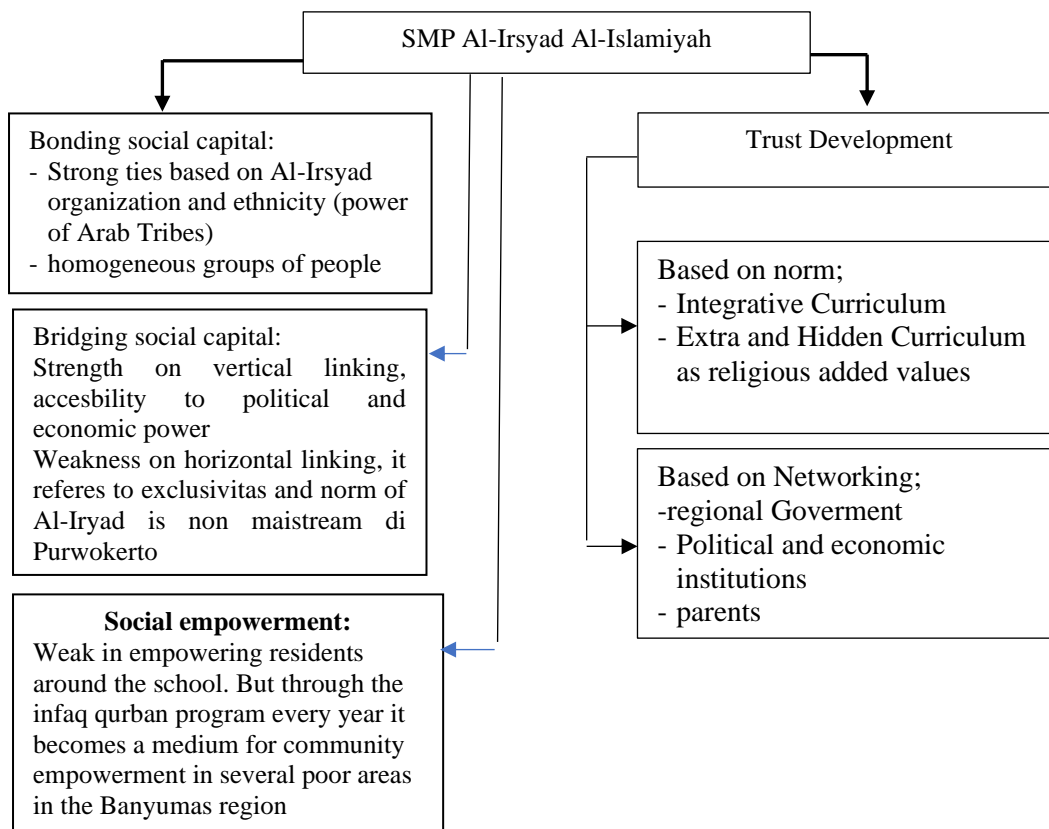
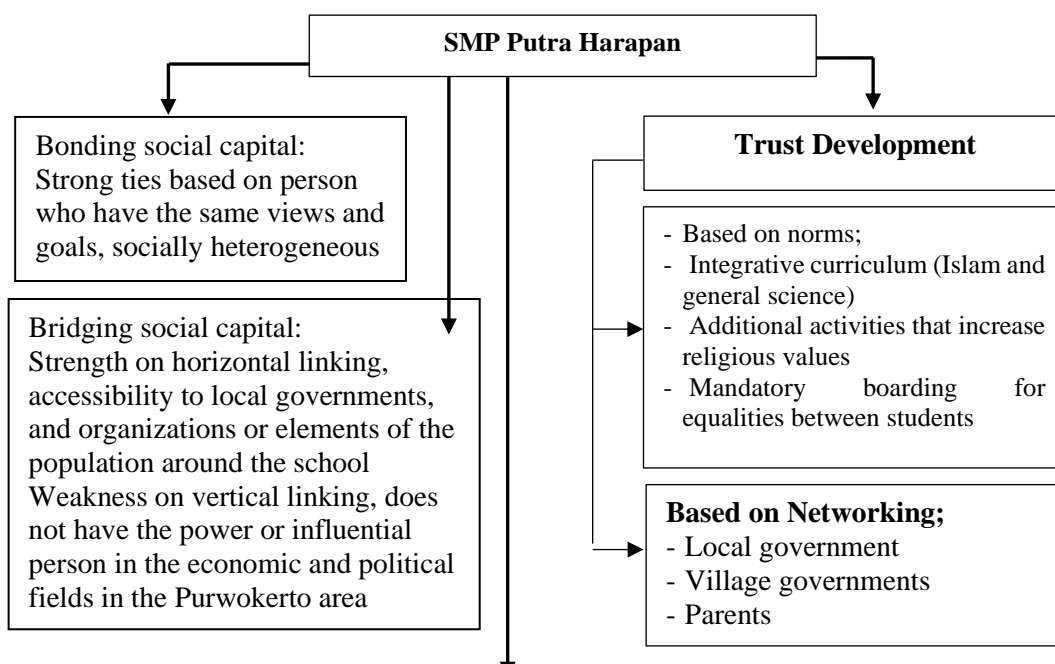


Figure 1. The Models of Islamic School based on Social Capital (ISSC) Sample A



The Models of Private Islamic School Based on Social Capital (PISSC) in Purwokerto Indonesia

Social empowerment:
Very strong in establishing social relations with residents around the school and cooperation in achieving the process, goals, and success.

Figure 2. The Models of Islamic School based on Social Capital (ISSC) Sample B

F. CONCLUSION

Private Islamic Junior High School of Al-Irsyad Al-Islamiyah (Sample A) and Junior High School of Putra Harapan (Sample B) have the same model in social capital development, that is bonding, bridging, and building trust.

Apart from these similarities, there are differences between them. Strong ties in the bonding social capital built in Sample A were motivated by the strength of Arab tribes or homogeneous groups. Meanwhile, Sample B is more inclusive and dynamic in building strong ties because it is socially heterogeneous.

In the development of bridging social capital, Sample A can optimize vertical linking, especially in local government relations, but it is weak in horizontal linking, and empowering the surrounding community. On the other hand, Sample B is not as strong in vertical linking, but it is very strong in optimizing horizontal linking, so the knots unrevealed in the surrounding community are transformed into strong ties through empowerment and cooperation.

In trust development, Samples A and B have the same characteristics, namely through norms, mandatory boarding for Sample B and optional for Sample A. Then the development carried out by the two samples has created a distinctive development identity in Islamic schools and has become a good value in public perception. This makes it easy to create networking with students' parents as the main stakeholders in the process and continuity of education.

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The Effect of Command Training Methods, Exploration and Motivation Training Methods on the Smash Ability Results of Junior Sepak Takraw Athletes



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ABSTRACT: The problem in this study is the low ability of junior sepak takraw smash. This study aims to determine the Effect of Command Training Methods, Exploration and Motivation Training Methods on the Smash Ability Results of Junior Sepak Takraw Athletes in Sijunjung Regency. This study was conducted using a 2 x 2 factorial redesign. The method of exercise and motivation is as a factor variable, while the smash ability of the variable is bound. The population is all junior sepak takraw athletes assisted by PSTI sijunjung district. The sample was Sijunjung Regency Junior Sepak Takraw Athletes with 24 people with male and female genders. The sample collection method used in this study is the total sampling technique. The collection of smash capability data is carried out by testing the ability of smash, namely by smashing 20 times the predetermined target. The physical fitness data obtained were further analyzed with inferential statistics of two-way ANOVA 2 x 2 (two way ANOVA). Based on the results of data analysis and interpretation of the results of the study, it shows that: (1) there are differences in the ability of smash sepak takraw in the command training method to be higher than the exploration training method, (2) there is a difference in the ability of smash sepak takraw on high training motivation has differences with low training motivation, (3) there is an influence of interaction between training methods and motivation on the ability of smash sepak takraw, (4) there are differences in the ability to smash sepak takraw athletes who have high motivation, higher in command training methods than in exploration training methods, (5) there are differences in the smash ability of sepak takraw athletes who have low motivation, have differences with command training methods and exploration training methods.

KEYWORDS: Command Training Method, Exploration, Motivation, Smash Ability

I. INTRODUCTION

Physical education planning is carried out carefully to meet the development, growth, and behavioral needs of each child (Darmiyanti et al., 2021). Exercise is a form of physical activity that has the benefit of being able to increase physical freshness. Sports can be used as a forum for increasing the dignity and dignity of the nation, unifying the nation, and obtaining achievements. One of Indonesia's human development goals is directed at sports activities where the target is all Indonesian people because one of the nation's valuable assets is a nation that is physically and spiritually healthy (Anggriawan, 2015; Mulyana, 2018; Prasetyo & Damrah, 2018). In addition to increasing physical freshness, sports can also be used as a means for recreation and increased achievement. The achievement of this achievement sport is not easy, it takes quite a long time, motivation and seriousness are high, exercises are carried out continuously and programmatically. In sports, achievement highly upholds the value of discipline and the value of sportsmanship, carried out both individually and in groups. Law of the Republic of Indonesia Number 11 of 2022 concerning Sports, in Chapter I Article 1 paragraphs 12, 16, and 18 states that: Achievement sports are sports that foster and develop sportsmen in a planned, systematic, integrated, tiered, and sustainable manner through competitions to achieve achievements with the support of sports science and technology. Achievements are the results that Sportsmen achieve in Sports activities. (18) Sports Award means a recognition of achievements in the field of Sports embodied in material and/or nonmaterial form.

Effendi, (2016); Utami, (2015) Sports coaching efforts in order to achieve high achievements according to Bahar stated that they will be influenced by several elements, namely health conditions, body shape, psychic values, physical freshness,

The Effect of Command Training Methods, Exploration and Motivation Training Methods on the Smash Ability Results of Junior Sepak Takraw Athletes

movement efficiency, capacity of body tools, tactical skills (tactics) and competing experience. The skills of an athlete in a sport can be seen in terms of the level of ability which is divided into two categories, namely the mass of sports that are just learning or training and the seeds of sports that are being nurtured and fostered to achieve maximum achievements (Alfiandi et al., 2018; Hidayat et al., 2020).

Sepak Takraw is one of the games on the list of sports that competes using foot media (Muhyi et al., 2021). The game became popular throughout Southeast Asia and in the 1940s, rules were established and the game became officially known as Sepak Takraw. Sepak takraw or volleyball is a sport native to Southeast Asia, resembling volleyball, only it uses rattan balls and only allows players to use their feet and head to touch the ball (Maselena et al., 2016). The sport of sepak takraw is one of the branches known to almost all levels of society (Pratama & Wiyaka, 2021; Syam, 2019). This is because the sport of sepak takraw has game characteristics that are identical to the traditional sport that has been cultivated for the people of West Sumatra, namely sepak rago. How to play football using a ball made of wicker rattan that has the purpose of flapping the ball and keeping the ball as long as possible in the air. But nowadays the game of sepak takraw is no longer played using a ball made of rattan but already using a ball made of fiber (*synthetic fiber*) (F. W. Putra et al., 2020).

The development of sepak takraw in West Sumatra has made a lot of progress, this is evidenced by the existence of sepak takraw athletes who have been able to achieve achievements in several championships, both at the regional, national and even international levels. (Hidayat et al., 2016; Ramadhan & Bulqini, 2018). In Sijunjung Regency, which is one of the most respected regencies in the sepak takraw branch, at the 2008 PON XVII in East Kalimantan and the 2012 PON XVIII in Riau specifically for the princess team number, there were 4 female athletes from Sijunjung Regency, namely Rike Media Sari (tekong), Putria Hirwana (Pider), Ria Afrianis (Smash), Dian Kurnia (Tekong), who succeeded in donating a bronze medal. At PON XIX 2016, there were 3 female athletes from Sijunjung Regency, namely Rike Media Sari (tekong), Dian Kurnia (Tekong), Tiska Permata Sari (Smash) who won a bronze medal. In Pre-PON in West Java, Sijunjung Regency only has 1 representative of An.Tiska Permata Sari (Smash) (Hidayat et al., 2019).

In junior athletes, the achievement of athlete coaching achievements can be seen from the number of junior athletes who have successfully passed the West Sumatra PPLP entrance test in the last 5 years. This data was obtained from direct interviews with junior athlete coaches Mr. Drs. Syafnel, M.M, as follows: (1) In 2017 - 2018 the number of athletes who took the test was 12 men and 6 women but none of the junior athletes passed; (2) In 2019, there were 9 male athletes and 8 female athletes, who successfully passed the PPLP, namely An. Rani Mukherji (daughter); (3) In 2020 as many as 10 male athletes and 6 female athletes, who successfully passed the 1-person test on behalf of Abelia (women); (4) In 2021, as many as 8 male and 6 female athletes took the test, and who successfully passed the test of 1 person on behalf of Akhram (men); (5) In 2022, as many as 8 sons and 6 daughters took the test, only 1 person passed An. Gendis (Princess).

Judging from the description of the achievements above, it can be seen that there is no increase in the achievements of sepak takraw athletes in Sijunjung Regency. Based on the results of an interview with Drs. Syafnel, M.M. who brought the Sijunjung sepak takraw team for the West Sumatra PPLP test, he stated that the failure of the athletes in the selection was caused by the low physical condition of the athletes (in the VO2MAX test results), the variation (there are high and some low) the results of basic engineering tests and the frequency of entry of smashes and services are relatively low, It can be seen from the 10 balls given for the highest serve they put it 6 balls and smash 5 balls.

From the results of the interview with the head coach above, it can be seen that the lack of ability of junior athletes to enter serve balls and smashes during tests, while service and smash skills are very important in winning a match (Maksum et al., 2017). To be able to pass the smash test, the test taker must be able to enter the smash ball quickly and strongly as many as 10 balls and so must serve. Serves and smashes are very important forms of attack in the game of sepak takraw. A serve is the first attack that if executed properly will be very lethal and gain points, while a smash is a final attack which is a form of attacking scheme fed by a pider/tekong whose flow of the ball is very sharp and hard this can produce points quickly. Therefore, it is important for a sepak takraw athlete in his team to have good smash skills/abilities (R. N. Putra & Fuaddi, 2021).

In general, the athlete's performance is determined by two factors, namely internal factors and external factors. Internal factors are factors that come from the individual athlete himself, that is, any form of potential possessed by the athlete that can determine and influence achievements such as mental, emotional intelligence, athlete motivation, and physical condition. Meanwhile, external factors are factors that come from outside the athlete that can affect his achievements, such as training programs, facilities/infrastructure and the role of administrators and the competence of coaches. Through information from KONI Sijunjung, it was revealed that in cang sepak takraw there is not even 1 coach who has a Regional – National referee review (Zulva & Raharjo, 2022).

The Effect of Command Training Methods, Exploration and Motivation Training Methods on the Smash Ability Results of Junior Sepak Takraw Athletes

Fath, (2019) The achievements of a sports sport are also influenced by the means and means of support. In this case, Pengkab. PSTI Sijunjung does not have a training ground / sepak takraw building owned by the PSTI regency itself, where Sijunjung athletes are fostered and trained at SMP Negeri 1 Sijunjung for generations. There are 2 concrete fields that are in pretty good condition, but far from being in decent condition for a sepak takraw field for match standards. In addition, training equipment such as balls, nets, fishing rods, and tennis rackets are considered very limited and the absence of field barriers makes the training balls fall further down (the texture of the ground is tiered) making athletes need time to collect the ball.

Judging from the aspect of coaching, in the Sijunjung Regency area in particular is not developing well, this can be seen from the number of letters that have entered the PSTI Regency Government regarding the implementation of events in 2021, only 2 Nagari, namely Sijunjung nagari and new Kamang. This is allegedly due to the Covid-19 pandemic that has hit the world in the past 3 years as well as the lack of interest of young people in the sport of sepak takraw games as well as the low motivation to learn to play sepak takraw, this may be due to movements in sepak takraw skills (serves, smashes, passes) which are suspected to be quite difficult to do and are judged to be quite acrobatic.

Based on the results of an interview with one of the organizing committees of the open sepak takraw tournament in Nagari Palangki and one of the An participants. Junaidi can be concluded that the athletes who participated in the championships were between 30 - 40 years old. At that age the game of sepak takraw performed its role as a recreational sport. This resulted in the soldering of athletes not going well, the District PSTI Management also saw that attention was focused on coaching young athletes, which would later be prioritized to pass the PPLP entrance selection. In terms of coaches, according to data from KONI Sijunjung Regency in 2022 that there is no licensed sepak takraw coach of Sijunjung Regency. The current coach is a former athlete who has a bachelor's educational background in sports education.

Meanwhile, the researcher also conducted an interview with PPLP coach Yovi Hendra Utama, he mentioned that broadly speaking there are several factors that cause athletes not to pass the PPLP selection, namely: (1) Not achieving level 7 for women and level 9 for men in the VO2MAX test; (2) Non-achievement of football test results within 1 minute with a specified height with a minimum result of 60/min, (3) Non-achievement of special technical test results such as serves and smashes of 10 balls in 8-10 balls with correct service techniques and good accuracy of serves and smashes. From the information found in the field, it can be concluded that in general the achievements of Sijunjung sepak takraw athletes have not improved and it is necessary to give training treatment that will affect the improvement of the abilities of junior athletes in Sijunjung Regency, especially the smash training method. "Smash is the last movement to obtain numbers or points. Therefore, jumping or reaching the legs at the time of performing the smash is indispensable". Therefore, To perform high jumps and high leg reach requires a form of exercises that lead to explosive power of the leg muscles.

The term smash or Rejam (in Malaysian) is the most important work motion and is the final motion of the attack work movement which is important to get points or numbers for the team that does it. If the final attack smash is ineffective and inaccurate means a failure in the game to earn points, although the other companion players are quite skilled, but the final attack is ugly and fails then the attempt to win the match will become heavier. A skilled smasher will be able to insert the ball into the opponent's area with all conditions, both with the terrace and also be able to place the ball in the opponent's empty area accurately.

In the game of sepak takraw the position of smash, it is very important because it is the last attack to obtain a value or number. The smash position is a very important position because the final execution is usually carried out by the smasher. There are several kinds of smash in sepak takraw including: smash roll, smash scissors, smash kedeng, straight smash and foot sole smash. When an athlete performs a smash and is able to consistently insert the smashed ball into the opponent's game area, the physical condition component is needed, because in doing the smash movement, the support of the explosive power of the leg muscles is very necessary when making the highest possible jump up using one fulcrum foot. In the process of its implementation, strength is also needed, the contraction of the leg muscles will exert pressure or repulsion on the floor when performing the prefix, is the starting point that determines the height of the jump in accordance with Newton's Law III of the law of interaction (Law of Interaction) that each action will cause an equally large reaction and the opposite direction.

In the process of training many smash exercise methods can be applied such as 1) Hanging ball training method, 2) Drill training method, 3) Command exercise method and exploration exercise method. The command training method is a trainer-centered training activity, while the exploratory exercise method is a player-centered training activity. "It is called the command method because from planning to execution it depends entirely on the coach's command, while the player's task is simply to hear the explanation and imitate the execution of the task shown by the coach". While the exploration method is "a learning

The Effect of Command Training Methods, Exploration and Motivation Training Methods on the Smash Ability Results of Junior Sepak Takraw Athletes

process in which the entire initiative in the implementation of tasks or problem solving depends entirely on the player". So the command and exploration methods can be carried out to improve the player's achievements.

In addition to choosing the right training method to improve the ability of athletes, training motivation and achievement also have an important role. Different psychological conditions of athletes can affect training results as well as at matches. Motivation is one of the factors that always goes hand in hand with motion skills, which is a desire that arises from a person who will encourage to perform and complete motion tasks. Motivation is one of the factors that influence a person, in doing, acting, working to achieve or achieve certain goals. The instriksic and extrinsic motivation factors possessed by athletes are thought to improve the ability of sepak takraw athletes in Sijunjung Regency. From the description above, this is the reason behind the author to examine the extent of "The Effect of Command Training Methods, Exploration and Motivation Training Methods on the Results of Smash Abilities of Junior Sepak Takraw Athletes in Sijunjung Regency. With this research, it should be useful to improve the ability of Sijunjung athletes to perform special techniques, namely the ability to smash in the game of sepak takraw.

II. MATERIAL AND METHODS

This type of exercise is Quasy Exsperiment, the purpose of this study is to see the influence of the Command training method and the exploration training method accompanied by motivation on the smash ability of junior sepak takraw athletes in Sijunjung Regency. This research design is a design used to facilitate the research process, the design that will be used in this study is treatment by design with a factorial design of 2 x 2. *Teknik* analisis data untuk penelitian ini menggunakan desain penelitian eksperimen *factorial 2x2*. Therefore, hypothesis testing will be carried out using a two-path analysis of variance (ANOVA). Before the analysis is carried out, researchers will test the analysis requirements, namely the normality test and the homogeneity test. Furthermore, a histogram table is created to represent the frequency distribution. Data normality testing was performed using the Liliefors test technique. If the test results show that $L_{hitung} < L_{tabel}$, then the data comes from a normally distributed population. In addition, researchers will also conduct homogeneity tests using the Bartlett test. By criteria, if the test results show $\chi^2_{count} < \chi^2_{table}$, then the data has a homogeneous variant.

After the normality test and homogeneity test were carried out, the research hypothesis test was then carried out using a two-track ANOVA because the design of this study was 2x2. If the results of the variance analysis show that there is a main effect between the free variable on the bound variable and the interaction (simple effect) then it is continued with the Tuckey test as a further test to determine which group has better results with a significance level $\alpha = 0.05$

III. RESULTS AND DISCUSSION

Results

1. Overall Command Training Method Group Sepak Takraw Smash Ability (A1)

The smash ability of the commando training method group as a whole consisted of 12 athletes ($n=12$), resulting in the highest smash ability score of 41 and the lowest score of 17. From this group of data obtained an average score (\bar{X})= 29 and a standard deviation (SD) = 8.54, mode (Mo) = 36, median (Me) = 31.

2. Sepak Takraw Smash Ability Group Overall Exploration Training Method (A2)

The sepak takraw smash ability group of exploration exercise methods as a whole consisted of 12 athletes ($n=12$), resulting in the highest smash ability score of 36 and the lowest score of 12. From the group of data obtained an average score (\bar{X})= 26 and a standard deviation (SD) = 6.56, mode (Mo) = 23, median (Me) = 25.

3. Sepak Takraw Smash Ability Group of Highly Motivated Command Training Methods (A1B1)

The smash ability group of commando and high motivation exercise methods consisted of 6 athletes ($n = 6$), resulting in the highest smash ability score of 41 and the lowest score of 33. From this group of data obtained an average score (\bar{X})= 37 and a standard deviation (SD) = 3.20, mode (Mo) = 36, median (Me) = 36.

4. Sepak Takraw Smash Ability Group of Highly Motivated Exploration Training Methods (A2B1)

The smash ability group of exploration and high motivation exercise methods consisted of 6 athletes ($n = 6$), resulting in the highest smash ability score of 23 and the lowest score of 16. From this group of data obtained an average score (\bar{X})= 20 and a standard deviation (SD) = 2.83, mode (Mo) = 23, median (Me) = 20.

The Effect of Command Training Methods, Exploration and Motivation Training Methods on the Smash Ability Results of Junior Sepak Takraw Athletes

5. Sepak Takraw Smash Ability Group Low-Motivated Command Training Method (A1B2)

The group's smash ability of commando training methods and low motivation consisted of 6 athletes ($n = 6$), resulting in the highest smash ability score of 29 and the lowest score of 17. From the data group obtained an average score (\bar{X}) = 22 and a standard deviation (SD) = 4.26, mode (Mo) = 21, median (Me) = 21.

6. Group smash ability Low-Motivated exploratory exercise method (A2B2)

The smash ability group of exploration and low motivation exercise methods consisted of 6 athletes ($n = 6$), resulting in the highest smash ability score of 36 and the lowest score of 27. From the data group obtained an average score (\bar{X}) = 31 and a standard deviation (SD) = 3.43, mode (Mo) = 31, median (Me) = 31.

Furthermore, a summary of the sample sepak takraw smash ability data on command and exploration exercise methods, a description of the data can be seen in the table below;

Table 1. Descriptive Statistics Dependent Variable: Improved smash capability

Motivation	Exercise Methods					
	Command (A_1)		Exploration (A_2)		$\sum b$	
Tall (B_1)	n_1	6	n_2	6	n_1	12
	$\sum X_1$	274	$\sum X_2$	187	$\sum X_1$	461
	$\sum X_1^2$	12544	$\sum X_2^2$	5887	$\sum X_1^2$	18431
	X_1	46	X_2	31	X_1	77
Low (B_2)	n_3	6	n_4	61	n_2	12
	$\sum X_3$	131	$\sum X_4$	172	$\sum X_2$	303
	$\sum X_3^2$	2951	$\sum X_4^2$	5092	$\sum X_2^2$	8043
	X_3	22	X_4	29	X_2	51
$\sum k$	nA_1	12	nA_2	12	n_t	24
	$\sum XA_1$	405	$\sum XA_2$	359	$\sum X_t$	764
	$\sum XA_1^2$	15495	$\sum XA_2^2$	10979	$\sum X_t^2$	26474
	XA_1	57	XA_{02}	46	X_t	102

From the 2 x 2 factorial design mentioned above, there are 8 (eight) data groups consisting of 4 groups of athletes that will be described separately. These results indicate that, the average value of smash capability after being given command and exploration exercises at high motivation saw that the group of highly motivated command methods (A1B1) was 46 higher than the high-motivation exploration method (A2B1) of 31. In addition, the smash performance in the command training method group is at low motivation, where the average athlete's smash ability given the command method on motivation (A1B2) is 22 lower than the exploratory training method (A2B2) of 29. The average results of smash ability performed on two groups of athletes by two different methods. Leads to improvements in command methods compared to exploration methods. Where, the command method has an average value of 57 while the exploration method has 46.

A. Testing Analysis Requirements

1. Test Data Normality

The purpose of conducting a data normality test is to find out whether the sample comes from a normally distributed population. The data analysis used was the Kolmogorov Smirnov test at the confidence level = 0.05. Data normality tests were performed for each 2 x 2 factorial research design. The results for more details can be seen in table 2 below:

Table 2. Summary of Data Normality Test Results

Group	N	P	=0,05 α	Conclusion
A ₁	12	.200*	0,05	Normal
A ₂	12	.200*	0,05	Normal
B ₁	12	.114	0,05	Normal
B ₂	12	.200*	0,05	Normal
A ₁ B ₁	6	.200*	0,05	Normal

The Effect of Command Training Methods, Exploration and Motivation Training Methods on the Smash Ability Results of Junior Sepak Takraw Athletes

A ₂ B ₁	6	.200*	0,05	Normal
A ₁ B ₂	6	.200*	0,05	Normal
A ₂ B ₂	6	.200*	0,05	Normal

Information

N = Number of samples

p = Probability/chance value

= 0.05 α

A₁ = Command exercise method sample group

A₂ = Command exercise method sample group

B₁ = Group of highly motivated samples

B₂ = Group of highly motivated samples

A₁B₁ = Sample group of command exercise methods that have high motivation

A₂B₁ = Sample group of exploratory exercise methods that have High motivation

A₁B₂ = Sample group of command exercise methods that have Low motivation

A₂B₂ = Sample group of exploratory exercise methods that have Low motivation

Based on the normality test results in table 6, the 4 (four) research design groups above turned out to be the price of $p > \alpha = 0.05$. In conclusion, all groups of data in this study were taken from normally distributed populations, so that the first condition for the hypothesis test was met.

2. Homogeneity Test

The homogeneity test aims to find out whether the sample is in a homogeneous state or not. The results of the homogeneity test for each group of sepak takraw smash ability of athletes from each group using Variants and Bartlett tests at a significant level = 0.05, Homogeneity testing was carried out with the test criteria are; H_0 is accepted if $p > (= 0.05)$

Table 3. Homogeneity Test of Variance of the Four Groups Using the Barlett Test of the Research Design

Box's M		3.430
F	Approx.	1.056
	df1	3
	df2	720.000
	Sig.	.367

Tests null hypothesis of equal population covariance matrices.

Based on the table above, the value of p-value = 0.367 > 0.05 or H_0 is obtained. Thus, the smash ability data of the four homogeneous groups.

B. Hypothesis Testing

Hypothesis testing is carried out using a two-track ANAVA analysis technique, furthermore, if there is an interaction between the exercise group and motivation to the sepak takraw smash ability, then proceed with the Tukey Test. The purpose of the two-track ANAVA analysis is to determine the influence of free variables on experimental results (main effect) and to determine the influence of interaction (interaction effect). The main influences in this study are: (1) differences in the influence of training methods and motivation on smash ability, (2) differences in smash ability levels for athletes who have high and low basic skills in command and exploration training methods. Meanwhile, the influence of interaction is the influence of a combination of exercise methods and basic skills on improving smash ability. Furthermore, the results of data analysis carried out using ANAVA 2x2 and its summary can be seen in Table 4, below;

The Effect of Command Training Methods, Exploration and Motivation Training Methods on the Smash Ability Results of Junior Sepak Takraw Athletes

Table 4. Anava 2 x 2 Calculation Results Summary (Tests of Between-Subjects Effects)

Dependent Variable: Results

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1811.000 ^a	3	603.667	35.268	.000
Intercept	24320.667	1	24320.667	1420.876	.000
Metode	88.167	1	88.167	5.151	.034
Motivasi	1040.167	1	1040.167	60.769	.000
Metode * Motivasi	682.667	1	682.667	39.883	.000
Error	342.333	20	17.117		
Total	26474.000	24			
Corrected Total	2153.333	23			

a. R Squared = ,822 (Adjusted R Squared = ,796)

Based on the table above, it can be concluded that there are differences in sepak takraw smash ability between groups of command and exploration training methods. But based on the motivation of having differences Furthermore, to see which groups are different, then proceed with the Tukey test.

1. The sepak takraw smash ability on the command exercise method is higher than on the exploratory exercise method after being given both forms of exercise method.

Based on the results of the hypothesis (A1 A2) obtained the value of $p = 0.034 < \alpha = 0.05$. This means that H_0 is rejected, so there is a difference in the ability to smash sepak takraw between command and exploratory training methods. Likewise, when viewed from the average score of the command exercise method group is 57, while the average score of the exploration exercise method group is 46 ($57 > 46$). Thus it can be concluded that the smash ability of sepak takraw group command training method is higher when compared with the ability of smash sepak takraw exploration training method. For more details about the results of the analysis can be seen in the table below;

Table 5. ANAVA Advanced Test Results Summary

Comparable groups	P	($\alpha=0,05$)	($\alpha=0,01$)	Information
(A ₁ , A ₂)	**0,000	0,05	0,01	Significant

2. The ability to smash sepak takraw on high training motivation has a difference with low training motivation.

Based on the results of hypothesis tests (B1 and B2) obtained p values = $0.000 < \alpha = 0.05$. This means that H_0 is rejected, so there is a difference in smash ability between high training motivation and low training motivation. Likewise, when viewed from the average score of the smash ability group between high training motivation is 38, while the average score of the smash ability group between low training motivation is 25. Thus it can be concluded that the smash ability of the high exercise motivation group and the low exercise motivation are different. For more details about the results of the analysis can be seen in the table below;

Table 5. ANAVA Advanced Test Results Summary

Comparable groups	P	($\alpha = 0,05$)	($\alpha = 0,01$)	Information
(B ₁ , B ₂)	** 0,000	0,05	0,01	Significant

3. There is an influence of the interaction between exercise methods and motivation on improving smash ability

Based on the results of the calculation of variance analysis (ANAVA) two paths obtained p values = $0.000 < \alpha = 0.05$ and 0.01 . This means that H_0 who stated that there is an influence of interaction between training methods and motivation on sepak takraw smash ability was rejected, while H_a who stated that there is an influence of interaction between training methods and basic skills on sepak takraw smash ability is empirically accepted.

Furthermore, due to the influence of the interaction between the exercise method and motivation on the ability of the sepak takraw smash treated by the exercise method, the next analysis technique can be continued. For more details about the

The Effect of Command Training Methods, Exploration and Motivation Training Methods on the Smash Ability Results of Junior Sepak Takraw Athletes

interaction of exercise methods and motivation towards improving smash ability, see the image below. Based on the picture, it can be seen that there is an interaction between low motivation and high motivation on the smash ability of sepak takraw athletes.

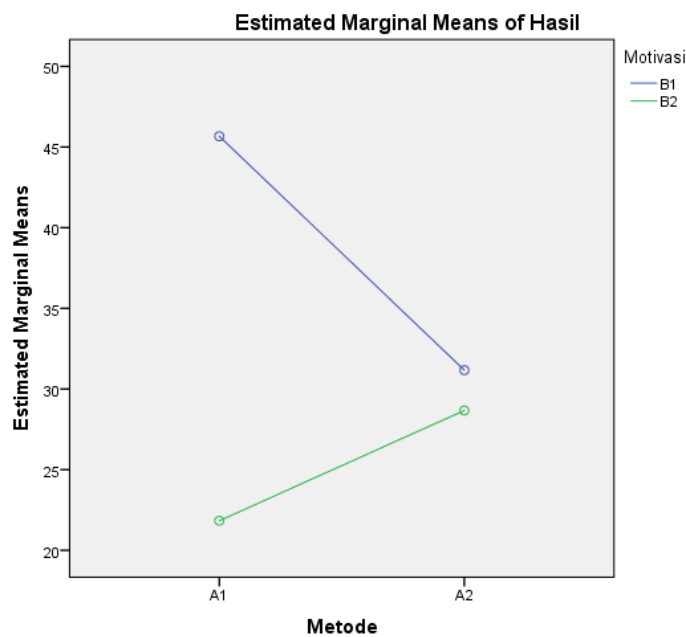


Figure 1. Interaction of exercise methods and motivation towards improving smash ability

With the hypothesis proving that there is an influence of interaction between exercise methods and motivation on samash ability, the analysis continues using the Tukey test.

Table 6. ANAVA Advanced Test Results with Tukey Test

	(I) Interaksi	(J) Interaksi	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Tukey HSD	A1B1	A1B2	23.83*	2.389	.000	17.15	30.52
		A2B1	14.50*	2.389	.000	7.81	21.19
		A2B2	17.00*	2.389	.000	10.31	23.69
	A1B2	A1B1	-23.83*	2.389	.000	-30.52	-17.15
		A2B1	-9.33*	2.389	.004	-16.02	-2.65
		A2B2	-6.83*	2.389	.024	-13.52	-.15
	A2B1	A1B1	-14.50*	2.389	.000	-21.19	-7.81
		A1B2	9.33*	2.389	.004	2.65	16.02
		A2B2	2.50	2.389	.725	-4.19	9.19
	A2B2	A1B1	-17.00*	2.389	.000	-23.69	-10.31
		A1B2	6.83*	2.389	.044	.15	13.52
		A2B1	-2.50	2.389	.725	-9.19	4.19
Scheffe	A1B1	A1B2	23.83*	2.389	.000	16.55	31.12
		A2B1	14.50*	2.389	.000	7.22	21.78
		A2B2	17.00*	2.389	.000	9.72	24.28
	A1B2	A1B1	-23.83*	2.389	.000	-31.12	-16.55
		A2B1	-9.33*	2.389	.009	-16.62	-2.05
		A2B2	-6.83	2.389	.071	-14.12	.45

The Effect of Command Training Methods, Exploration and Motivation Training Methods on the Smash Ability Results of Junior Sepak Takraw Athletes

	A2B1	A1B1	-14.50*	2.389	.000	-21.78	-7.22
		A1B2	9.33*	2.389	.009	2.05	16.62
		A2B2	2.50	2.389	.779	-4.78	9.78
	A2B2	A1B1	-17.00*	2.389	.000	-24.28	-9.72
		A1B2	6.83	2.389	.071	-.45	14.12
		A2B1	-2.50	2.389	.779	-9.78	4.78

Based on observed means.

The error term is Mean Square(Error) = 17,117.

*. The mean difference is significant at the 0,05 level.

Based on further tests using the Tukey Test above, it can be stated, namely:

1. The smash ability of highly motivated athletes sepak takraw is higher in command training methods than in exploratory training methods

Based on the results of tukey's advanced tests (A1B1 and A2B1), p values = $0.000 < \alpha = 0.05$ and 0.01 were obtained. It means that H_0 is rejected i.e.; There are differences in the smash ability of highly motivated sepak takraw athletes between commando and exploratory training methods. Judging from the average score of the highly motivated command exercise method group is 46, while the average score of the high-motivation exploration exercise method group is 31, or $46 > 31$. Thus it can be concluded that the smash ability of sepak takraw group command exercise method and exploration exercise method is different. For more details about the results of the analysis can be seen in the table below;

Table 7. Summary of ANAVA Advanced Test Results with Tukey Test

Comparable groups	p	($\alpha=0,05$)	($\alpha=0,01$)	Information
(A ₁ B ₁ , A ₂ B ₁)	**0,000	0,05	0,01	Significant

2. The ability to smash sepak takraw athletes who have low motivation, has differences with command training methods and exploratory training methods

Based on the results of tukey's advanced tests (A1B2 and A2B2), p values = $0.034 < \alpha = 0.05$ and 0.001 were obtained. It means that H_0 is rejected i.e.; There is a difference in the smash ability of low-motivated sepak takraw athletes between commando and exploratory training methods. Judging from the average score of the command exercise method group that has low motivation is 22, while the average score of the group of low-motivation exploration exercise method group is 29. Thus it can be concluded that the smash ability of sepak takraw group command exercise method and exploration exercise method is different. For more details about the results of the analysis can be seen in the table below;

Table 8. Summary of ANAVA Advanced Test Results with Tukey Test

Comparable groups	P	($\alpha = 0,05$)	($\alpha = 0,01$)	Information
(A ₁ B ₂ , A ₂ B ₂)	**0,024	0,05	0,01	Significant

DISCUSSION

Based on the results of data analysis and hypothesis testing using two-lane 2 X 2 factorial anava statistical analysis, which is then continued with Tukey's test of the hypothesis proposed in this study, it turns out that of the five hypotheses submitted, all five hypotheses are accepted as empirically correct. The next step is to discuss the findings. For this reason, sequentially, several things will be discussed as follows.

1. The first hypothesis proposed in this study is; The sepak takraw smash ability on the command exercise method is higher than that of the exploratory exercise method. Based on the results of data analysis, it turns out that this first hypothesis is accepted, namely $p = 0.034 < \alpha = 0.05$. That is, there is a difference in the level of sepak takraw smash ability between the command exercise method and the exploratory exercise method.

The training method is a method and tip applied by a coach to provide training material in effective ways so that the material conveyed can be accepted or mastered well by athletes. If creative training methods are supported by a good level of athlete motivation, it will certainly have a positive effect on the athlete's training results in knowledge and practice. In order for the level of smash ability of athletes to increase the coach must choose a suitable metode to use. Many problems are encountered

The Effect of Command Training Methods, Exploration and Motivation Training Methods on the Smash Ability Results of Junior Sepak Takraw Athletes

when coaches and athletes carry out the training process. These problems include that the training methods used have not varied and are not in accordance with the material being given so that the training goals are not achieved and athletes do not understand the concept of training given (Bahtra et al., 2020).

Based on the characteristics of the command training method and exploration shows that, the command training method has a better effect on the results of the sepak takraw smash ability. This is because, the command training method in practice begins with giving specific examples and then comes to its generalization. In addition, coaches can also monitor more carefully, because the movement tasks carried out by athletes are different from the rules that must be implemented. Based on these results, it is clear that command training methods have better influence on the results of smash ability than exploration teaching styles.

The difference in smash ability that athletes have is due to commando training is better compared to the exploratory exercise method. Because the kломандо approach in training is an approach that begins with presenting a number of materials that are exemplified and instructed so that it can make it easier for athletes to understand the training material that is given, especially to junior sepak takraw athletes. Unlike the exploratory training method where, this method is the most extreme opposite of the command method that depends entirely on the trainer". If in the command method the entire initiative of task execution and problem solving depends entirely on the trainer. However, in the overall method of exploration the initiative and its solution were invented by athlete itself. In this activity, the athletes train in their groups to solve problems, make conclusions to report to all players, this is the silhouette for junior athletes in improving smash skills.

2. The second hypothesis proposed is; High exercise motivation has a difference from low exercise motivation towards smash ability. Based on the results of data analysis, this second hypothesis is accepted, namely $p = 0.000 > \alpha = 0.05$. That is, there is a difference in smash ability improvement between high exercise motivation and low exercise motivation.

The motivation of high and low athletes has a difference in doing exercises. This is because the smash ability that athletes have at high motivation is higher than low motivation. The smash ability possessed by athletes is very significant differences related to the high and low motivation that athletes have in the game of sepak takraw, especially in mastering smash techniques. While the fundamental difference is seen in students who have high exercise motivation. Where, students who have high training motivation in terms of knowledge quality and movement skills can be encouraged to improve their smash skills. This, due to the exercise method used as well as the high motivational drive towards the exercises performed, is related to the achievement of smash ability. This ability has a significant difference for junior athletes in the sport of sepak takraw. Based on this, between high and low training motivation gives different results in terms of sepak takraw smash ability (Okilanda et al., 2020). There are differences in training motivation also supported by a training process, in simple terms it will have a difference in improving the results of the smash ability itself.

3. The third hypothesis proposed in this study is; There is an influence of the interaction between exercise methods and motivation on improving smash ability. Based on the results of data analysis, it turns out that this third hypothesis is empirically acceptable ($p = 0.000 < \alpha = 0.05$). This is because these two variables (the ability of the sepak takraw smash treated by the exercise method as a free variable, and the motivation as an attribute variable) affect each other's ability to smash sepak takraw as a bound variable.

The practice process is very important for a person's change, so the exercise method can improve the smash ability. As previously known, the ability to smash will be influenced by several components for the achievement of effective and maximum goals. This will be related to the effectiveness of training methods to optimize training in complex exercises related to improving the smash ability possessed by athletes.

The given exercise method can be through the command and exploration exercise method. Through this training method, it is hoped that it can improve the athlete's smash ability. Because, the increase in the athlete's smash ability will greatly affect the quality of the athlete's own desu. The training method is expected to be in accordance with the training objectives where, the athlete has an increase in smash ability, so that the athlete is proficient in mastering smash.

After the athlete's improved smash ability, another factor that supports it is motivation. Motivation is considered as the set of a person's equipment that the individual will use to do something, whether in the form of knowledge or movement skills. Motivation is seen as a level of encouragement both from within and outside oneself in a number of series of activities. Motivation is considered as an integrated spirit of individual characteristics, as well as knowledge related to self-awareness or the quality of movement possessed, especially achievers in training to get good smash skills.

These characteristics are needed as a foundation in displaying complex life sequences. Knowledge of a person's or individual's motivations will help to estimate some of the obstacles that nati will face in the process of achieving smash ability. In

The Effect of Command Training Methods, Exploration and Motivation Training Methods on the Smash Ability Results of Junior Sepak Takraw Athletes

addition, motivation can influence athletes to achieve maximum performance in some other movement activities, especially to get smash abilities. Based on the description above, it can be explained that, the training methods (A1), (A2) and motivation (B1), (B2) have an influence on the interaction on improving the results of the athlete's smash ability.

It is pointed out from the explanation that, there is an interaction between command training methods and exploration and motivation towards improving the athlete's smash ability. Therefore, at a high level of motivation the increase in smash ability given the command exercise method is greater than that of the group given the exploration exercise method. Meanwhile, at low motivational levels, the increase in the smash ability of athletes who were given the command training method was greater than the group who were given the exploration exercise method. This is due to the different training processes of the command and exploration methods. Low motivation group with command exercise method, easier to reason in drawing conclusions compared to exploration method (Indra & Marheni, 2020).

4. The four hypotheses proposed are; The smash sepak takraw ability of highly motivated athletes is higher in command training methods than in exploration training methods. Based on the results of data analysis it turned out that the fourth hypothesis was accepted ($p = 0.000 < \alpha = 0.05$). This means that the ability to smash sepak takraw between command training methods and highly motivated exploratory exercise methods is statistically different.

The high motivation factor is also one of the factors that are thought to influence the improvement of smash ability. The motivation of athletes will have a huge influence on the performance and achievement of training results, especially on improving smash ability. The motivation in a person is different, depending on the needs and goals to be achieved. With high Motivation a person strives to achieve a high standard of achievement. The drive to avoid failure and high rewards contribute greatly to the acquisition of good training results. Based on the explanation above, the group of athletes who use the command training method with high motivation is better than the group of exploration training methods in athletes who have high motivation.

In contrast to the command training method, the high motivation condition in this exercise method is necessary because, in this method the athlete becomes a participant, and the coach makes the atmosphere or training situation to cultivate a pleasant exercise in a person, in order for them to be motivated to perform the exercise. Therefore, the preparation of the exercise material must be oriented to the basic principles or concepts of the idea of the method itself (Amirzan et al., 2019).

Likewise with the exploratory training method, athletes do not really master a specific material, athletes only get material in general. So that in improving the smash ability of athletes, they do not get a better quality of smash ability. So, if this command method, is carried out with a high condition of motivation then the athlete will be better and able to put himself in receiving and obtaining better training results as well, because in essence in this method the coach as a training center.

Based on the differences put forward that the increase in smash ability in the high motivation category using the command exercise method is greater than the high motivation using the exploration exercise method. This is because highly motivated athletes already have a drive, so by using the athlete's command method it is easier to do reasoning in drawing a conclusion in the form of facts or principles from the material that has been provided (Hadi, 2019), Especially on the athlete's smash ability.

5. The fifth hypothesis proposed is; The ability to smash sepak takraw athletes who have low motivation, have differences with command training methods and exploration training methods. Based on the results of tukey's advanced test, p values = $0.024 > \alpha = 0.05$ and 0.01 were obtained. It means that H_0 is rejected i.e.; There is a difference in the smash ability of low-motivated sepak takraw athletes between command and exploration training methods. Thus it can be concluded that the smash ability of sepak takraw group command exercise method and exploration exercise method is different.

The low category motivation condition that athletes have can certainly affect the results or goals to be achieved. In this method of exploration there is no need for high motivation because in training the athlete carries out activities simultaneously from each component of the smash ability. If the motivation that the athlete has does not affect the quality of training so that the results of the goals to be achieved can still be. Therefore, the command method results in the athlete's smash ability at low motivation is lower than using the exploration method at low motivation.

Based on the differences stated, it should be an increase in the ability of smashes with a low motivation category that uses the command method greater than the low motivation group that uses the exploration exercise method. This is due to the command method is a trainer-centered exercise method. However, empirical data prove that extrapolation exercises or exercises performed jointly can provide differences in results with command exercises at low motivation. Thus, athletes who have low motivation are more suitable for exploratory training methods than commando. Because, the command method is often called traditional training, where the coach starts with general theories and then escalates to the application of the theory (example) while performing commands to the athlete.

The Effect of Command Training Methods, Exploration and Motivation Training Methods on the Smash Ability Results of Junior Sepak Takraw Athletes

Exercises with a commando approach emphasize on the coach transferring information to the athlete. Whereas Exploration is a constructiv learning theory-based investigation that occurs in problem solving situations in which the athlete refers to his own past experiences and existing knowledge to discover facts and relationships with new truths to be learned together (Kusnodo & S., 2012).

IV. CONCLUSION

Based on the results of data analysis and discussion, the following will be stated the conclusions of the study as follows; The sepak takraw smash ability has differences in the training method, where the command exercise is higher than the exploration exercise method $p = 0.018 < \alpha = 0.05$. The ability to smash sepak takraw on high training motivation has no difference from low training motivation $p = 0.211 > \alpha = 0.05$. There is an influence of the interaction between training methods and motivation on the ability to smash sepak takraw $p = 0.000 < \alpha = 0.05$. The smash ability of highly motivated athletes sepak takraw is higher in the command training method than in the exploratory exercise method $p = 0.000 < \alpha = 0.05$. The smash sepak takraw ability of athletes who have low motivation, has differences with command training methods and exploration exercise methods $p = 0.001 < \alpha = 0.05$.

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The Experience of Family Caregiver's n Caring for Post-Stroke Patients at Home During the Pandemic Covid-19



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ABSTRACT: Taking care of a family member(s) who suffers from stroke at home especially during the covid-19 pandemic time is unquestionably not easy. This study aimed at exploring the experience of family-caregivers in caring for post-stroke patients at home during the covid-19 pandemic. This qualitative research employed a phenomenological approach with participants consisting of 14 family members who have been caring for post-stroke patients at home during the Covid-19 pandemic in the Pontianak City area. This research began with observation for 3 months which was then followed by interviews and FGDs. The data obtained from the results of in-depth interviews and FGDs were processed using content analysis. The result of his study generated 5 themes regarding the experience of family caregivers in caring for post-stroke patients at home during the Covid-19 pandemic including 1) Changes in caregiver roles, 2) engagement values, 3) spiritual values, 4) Isolation in the surrounding community, 5) The experience of situational anxiety. Considering that both stroke survivors and caregivers of post-stroke patients do not only face several problems and conditions related to stroke and stroke recovery as well as community stigma, but several live scenarios are also provided for them especially during the COVID-19 pandemic. Therefore, further community reintegration ought to exist in the rehabilitation where it can prepare someone who used to suffer from stroke to have ability to do self-reorganization psychologically, physically and socially.

KEYWORDS: caregiver, covid-19, experience, family, post-stroke

I. INTRODUCTION

Americans die every 4 minutes from stroke. In the US, stroke is the number one cause of disability and the fifth leading cause of death (Nayeri, 2014; Torregosa, Sada, 2018). The prevalence of stroke in 2019 was 101.5 million, with details of 77.2 million ischemic stroke, 20.7 million intracerebral hemorrhage, and 8.4 subarachnoid hemorrhage. Statistical data recorded that 610 million people died from stroke in 2020, which has increased from the previous year, 2019 (AHA, 2021; Sveriges officiella Statistics, 2021). Likewise, Oceania and Southeast Asia are the leaders of intracerebral hemorrhage in the world and then become one of the countries with the highest stroke mortality rate as well (AHA, 2021). Furthermore, in Indonesia, one of the Southeastern countries, stroke was the leading cause of death during 2007-2017 (Institute for Health Metrics and Evaluation, 2020)

When it strikes, stroke affects the patient and related people (e.g., family) in many ways, and several studies divide the impacts into individual impacts, family impacts, and social impacts (Araújo et al., 2019; Northcott, Moss, Harrison, 2015) Additionally, Physical, psycho intellectual, and individual function, are three categorized of individual impacts resulted from a stroke disease (Bettger, 2018; Broussy et al., 2019; Karuniawati, 2017; Philp et al., 2013). In family impacts, some families feel burdened, but some of them benefit from stroke that attack one of their family members (Agianto and Nuntaboot, 2018; Gillespie & Campbell, 2011; Hesamzadeh, Dalvandi, Maddah, 2015; Karunia, 2016; Somerville et al., 2019). Finally, social impact, where a person and related environment who experience this disease experience decreased social activity, family life problems, and vulnerable relationships with friends and coworkers and other networks (Northcott, Moss, Harrison, 2015). Therefore, stroke survivors need more attention to be able to overcome this situation.

The Experience of Family Caregiver's in Caring for Post-Stroke Patients at Home During the Pandemic Covid-19

Stroke can attack people of all ages. However, the data show that the elderly is more common in these cases. According to records in 2020, 74 percent of stroke deaths occurred at the age of 70 years and over, based on this real data, those aged 70 years and over died the most as a result of stroke (90%). Only less than 4 percent of stroke survivors die under 50 years (Sveriges officiella Statistik, 2021). The condition of stroke in Indonesia as reviewed shows that the incidence of stroke in urban areas is more common. This is in contrast to the relatively small incidence in rural areas. While the prevalence of stroke patients age is 40 years and upper (Department of Health of Samarinda Province, 2017; Maharani et al., 2019; The Health Minister of the Republic Indonesia, 2018a). Indonesia is a leading country in smoking behavior in Southeast Asia which is correlated with health behaviors supporting stroke (Kulshreshtha et al., 2012). One of provinces in Indonesia, West Kalimantan-Pontianak, also has a significant number of stroke sufferers. Based on data taken from the West Kalimantan basic health data research in 2018 determined that the age group of stroke sufferers was aged 75 years and upper (54,22%), with the highest proportion of women, uneducated and most unemployed; and specially the prevalence number confirms the previous study findings of Indonesian Statistic record regarding stroke prevalence that urban population has the most strokes (The Health Minister of the Republic Indonesia, 2018b).

In early 2019, December, unexplained pneumonia first broke out in Wuhan, China which later became a global pandemic called coronavirus disease 2019 (COVID-19). Two hundred and ten countries with more than 29 million people, and 900,000 confirmed COVID-19 deaths (Nannoni et al., 2021). The WHO report data reviewed by the panel showed that 5% (95% confidence interval [CI]: 2.8-8.7%) who suffered from ischemic stroke had a risk of COVID-19 infection (Spence et al., 2020). Some literature has found that Corona virus infection (COVID-19) has an impact on neurological symptoms including stroke and other neurological diseases (Avvantaggiato et al., 2021). Stroke attacks have stroke sequelae. Almost all sequelae of stroke create disability, especially when coupled with a COVID-19 diagnosis (Frumkin & Haines, 2019; Martinez et al., 2020; Mercer, 2018; Pitthayapong et al., 2017; Richards et al., 2016). Thus, as this case inevitably occurred during a pandemic, rehabilitation services have proven the needs of post-stroke patients, regardless of conditions. During the COVID-19 pandemic, almost all health services implemented strict health protocols (Kamalakkanan et al., 2016; Qi et al., 2020). Therefore, families as caregivers for post-stroke patients must take care of themselves at home, including rehabilitation. In other cases, the demands for care from stroke caregivers with stroke added with a diagnosis of COVID-19 (Nayeri, 2014; Spence et al., 2020). The need to understand the experience of the family as a caregiver for post-stroke patients who are treated at home during the COVID-19 pandemic is of interest to researchers. The purpose of this study was to explore the experience of family caregivers in caring for post-stroke patients at home during the Covid-19 pandemic

II. RESEARCH METHODS

This qualitative research used a phenomenological approach, and the participants in this study were 14 family members who were caring for post-stroke patients at home during the Covid-19 pandemic in the Pontianak City area. This research began with a 3-month- observation, which then was followed by interviews and FGDs. Furthermore, the data that has been obtained from the results of in-depth interviews and FGDs was processed using content analysis. This research was conducted after obtaining ethical approval from the Ethics Committee of the Pontianak Muhammadiyah College of Nursing Number:

86/II.1.AU/KET.ETIK/III/2021

The instruments used in conducting in-depth interviews was interview guidelines developed by the researcher based on the research objectives. Some examples of main questions based on interview guidelines include 1) how have you been caring for a family member who had a stroke during the Covid-19 pandemic, 2) how did you feel when you cared for a family member who had a stroke, 3) What lessons have you learned or you get in caring for family members with strokes at home during the covid-19 pandemic.

In this study, the researcher followed the criteria to maintain the reliability of research results, which consisted of credibility, transferability, dependability, and confirmability (Farrelly, 2013). Techniques for building trust in this study were carried out as follows 1) credibility, which is parallel to validity, carried out with prolonged involvement, member checking, and persistent observation; 2) transferability, which is parallel to external validity, was carried out by purposive sampling; 3) dependability, which parallels reliability, carried out by external audits and audit trails; 4) confirmability which is parallel to objectivity carried out by external audits and audit trails.

Data were analyzed using thematic analysis techniques. According to Braun and Clarke (2006) thematic analysis consists of six stages which include verbatim and such processes as transcribing all audio recordings of interview data, coding, searching for themes, reviewing themes, defining and naming themes, and the last process is writing (Braun & Clarke, 2006). In the first stage, the researcher first wrote or recorded all the audio recorded in Indonesian and then translated them into English. Then

The Experience of Family Caregiver's in Caring for Post-Stroke Patients at Home During the Pandemic Covid-19

the researcher read them back and checked the recordings as well as their transcriptions, in this case they were in forms of writings that had been typed. In the second stage, the researcher did the coding for the transcription results. This was done by identifying the data considered to be related to the research questions and then coding all data items line by line. In the third stage, after coding, the researcher then made sub-themes which were grouped into themes. The themes are then classified based on the categories that come from each code group. Finally, in the last stage, the researcher wrote all the research findings.

III. RESULTS

The findings of this study resulted in five themes regarding the experience of caregiver-family in caring for post-stroke patients at home during the COVID-19 pandemic which consisted of 1) Changes in caregiver roles, 2) engagement values, 3) spiritual values, 4) ostracized from society and its surroundings, 5) the experience of situational anxiety.

Theme 1. Changes in caregiver roles

Caring for parents who have a stroke during the Covid-19 pandemic brought several changes to family members, especially female family members who take care of their mothers with strokes at home during Covid-19, as shown below:

"... in the past, everything was done by mom but now since mom is sick everything is done by me, such as cooking vegetables, washing clothes, packing, basically I'm the one who does all the housework" (F1, 30 yo)

"I'm more independent because I don't depend on my parents anymore since mom has been sick, then I took over all the housework instead of mom, it's impossible for my father to do the work..." (F8, 25 yo)

"Besides taking care of my husband who has a stroke, I also have to work to replace my husband's role as the backbone of the family because if I expect what is given by my children, it's not enough..." (F10, 38 yo)

"...since my husband has had a stroke, he cannot work anymore so I have to work to earn a living to meet my children's daily needs and tuition fees" (F12, 31 yo)

Unlike a husband who is the main caregiver for his wife who has had a stroke, the husband said that he has to take care of his sick wife alone because he is alone at home as shown in this transcription below:

"... like it or not, I myself, the only one, who takes care of my wife at home, clean her body, help her urinate or defecate, and I also have to cook in the kitchen because there are no children living at home" (M5, 58 yo)

Theme 2. Engagement Values

Several participants revealed that caring for sick parents is a child's duty and obligation to both parents, as stated by some of the following participants:

"...it's the child's job to take care of sick parents, sir, even though we sometimes get tired when coming home from work, but like it or not, because my parents live with me, so I have to take care of her, no matter what her illness is." (F13, 22 yo)

"Who else is taking care of our stroke mother during this pandemic? if not us as his children. So, we can be closer to our parents, and as the evidence given to our children (i.e., an example) of our devotion to the parents who have raised us, it is obligatory for us to take care of them when they are sick like now, Sir..." (F11, 30 yo)

In contrast to the participants who took care of their partners who have a stroke during the COVID-19 pandemic. Some couples, especially wives, feel that taking care of their husbands when they are sick is a wife's obligation to her husband, as stated by the following participants:

"As a devotion to my husband when he is sick, I can take care of him and continue to fulfill my obligations as a wife because I love him not only when he is healthy but also when he is sick, it is my duty to take care of him..." (F6 33 yo)

"...(it is like) testing my loyalty to stay with my husband until the end of his life, and I take care of him until he recovers, especially during this Covid condition, of course I will be by his side because I am his wife and it is my duty to take care of my spouse..." (F7, 56 yo)

"...because it is my duty and obligation as a wife, I take the time to continue to care for my husband who is sick even though I am exhausted after coming home from work. because I understand that, as a wife, I have to take care of my husband. my husband, no matter how tired I am..." (F12, 31 yo)

Theme 3. Spiritual values

Participants who are Muslim are of the view that caring for sick parents is a practice for a child to reach heaven if she/he takes care of her/his parents sincerely and patiently, as stated by some of the following participants:

"...who else will take care of the parents if it's not me, the child, after all, it's my duty as a child to take care of my sick mother and this can be my practice to get my reward and heaven..."(F13, 22 yo)

The Experience of Family Caregiver's n Caring for Post-Stroke Patients at Home During the Pandemic Covid-19

"...I have to be patient when taking care of mom, if not, I won't be sincere at the end. Allah will surely reward me for taking good care of my parents as well as giving me health and ease of working..." (F8, 25 yo)

"...taking care of my mom who has a stroke is part of (faith) worship for me, so I will get a reward, hopefully by taking care of my mom I can get heaven when I die (F2, 25 yo)

Furthermore, there were also participants who said that the wisdom gained from giving care for their elderly with stroke at home during the covid-19 was that they became more obedient in worship and were closer to God by practicing their faith duty, as expressed by the following participants:

"Every time I pray, I always pray that Allah will heal my wife who has a stroke, and I will also be also given health during taking care of her..." (M3, 29 yo)

"During prayers I do not forget to pray for my wife to get well soon, and we who take care of her would be kept away from the dangers of the Covid-19 virus. Besides doing prayers, I also do more fasting and donation so that Allah grant our prayers (M5, 58 yo)

Theme 4. Isolation from society and its surroundings

Some participants who provided care for family members with strokes during the Covid-19 pandemic also met unpleasant experiences from their neighbors and local residents due to having and taking care of family members with strokes at home, as stated by the following participants:

"Every time I pass in front of a neighbors' houses, they must quickly enter their house and the door is closed, even though I just pass by, not wanting to go to their house..." (F14, 47 yo)

"...the women in this alley, when they saw me coming from afar, they immediately avoid me as they were afraid that I would carry the virus and transmit the Covid-19 virus to them (F6, 33 yo)

"When I leave the house, my neighbors living on left and right of my house go straight into their house, they are really afraid of me, so we are not comfortable with this situation, they don't even want to greet us at that time..." (F3, 29 yo)

Theme 5. Experiencing Situational Anxiety

Several participants revealed that they felt anxious when providing care to a family member who had a stroke during the Covid-19 pandemic. This feeling arises because of concerns, in case, that stroke sufferer had been confirmed to have Covid-19. So that if she/he dies, they must follow the burial protocol set by the government as stated by the following participants:

"...there is a worry, what if my wife suddenly catches Covid and dies and has to be buried following the established protocol, it's a shame that the children can't see their mother anymore" (M5, 58 yo)

"Frankly speaking, as the children we are worried, especially during this pandemic, as my mom has a stroke. It is obvious that there may be a risk of getting COVID-19. So, we are worried what if she has to be taken to the hospital, and later due to the covid she might then die, and we the children can't see her anymore..." (F1, 30 yo)

"As for me, I am afraid that I will bring the Covid-19 virus home and transmit it to my mother who has had a stroke. So, it would be a shame if because of me, for example, my mother caught Covid-19 and had to be isolated in a hospital, for example (F11, 30 yo)

Table 1. Characteristic of participants

Coding	Age	Sex	Occupation	Education level	Status in the family
F1	30 years old	Female	Private	Bachelor	daughter
F2	25 years old	Female	private	Bachelor	daughter
M3	29 years old	Male	private	Bachelor	husband
F4	26 years old	Female	private	High School	daughter
M5	58 years old	Male	retiree	Bachelor	husband
F6	33 years old	Female	Civil servant	Bachelor	wife
F7	56 years old	Female	retiree	High School	wife
F8	25 years old	Female	private	Bachelor	daughter

The Experience of Family Caregiver's n Caring for Post-Stroke Patients at Home During the Pandemic Covid-19

F9	45 years old	Female	Civil servant	Bachelor	wife
F10	38 years old	Female	Housewife	High School	wife
F11	30 years old	Female	private	Bachelor	daughter
F12	31 years old	Female	Civil servant	Bachelor	daughter
F13	22 years old	Female	students	Bachelor	daughter
F14	47 years old	Female	housewife	High School	wife

IV. DISCUSSION

Five themes resulting from the findings of this study will be discussed to explain the experience of family caregivers in caring for Post-Stroke Patients at Home During the COVID-19 Pandemic: 1) Changes in caregiver roles, 2) Engagement values, 3) spiritual values, 4) Isolation from surrounding community, 5) Experiencing situational anxiety.

1) Changes in caregiver roles

One of the impacts of the COVID-19 pandemic for stroke patients is the length of hospitalization. It was found that based on data analyzed of several studies more than 2000 hospitals experienced a decrease in length of stay. In particular, the length of stay for stroke patients is >4 days during the COVID-19 period. (Burns et al., 2022; Srivastava et al., 2021). Therefore, the choice of treatment for stroke patients is home setting or hospice. Unfortunately, in some conditions stroke caregivers and stroke survivors have only acquired fewer skills for stroke care. In addition, outpatient therapy centers and home health cares are limited in the community (Sama et al., 2021; Srivastava et al., 2021). Hence, home is the main choice for follow-up care, especially during the COVID-19 pandemic. Consequently, there are more duties, responsibilities, and needs from a spouse, a parent, or a family member with the illness that cause the changing the role of caregivers. A change in role of a caregiver means a significant change in the caregiver's response from day to day or special moment. For examples, teachers, advocates, personal officers, personal principals, personal officers and advocates, entertainment directors, movement facilitators, friends, administrators, health care providers and personal trainers are some of the differences as a result of changing caregiver roles (AARP, 2019; Dula et al., 2020; Jennifer L. Rowe, 2021).

2) Engagement value

A study carried out in Brazil found thirty-eight percent of stroke survivors with hemorrhagic stroke were dependent on their caregivers at discharge, after 1 to 2 years were 16% dependent, and 14% dependent 3 years later. The number is smaller than patients with subarachnoid hemorrhage who was 19% dependent at discharge, and 45 after 1 to 3 years, in Brazil, Functional Dependence (FD) was estimated at 120 stroke patients every year (De Campos et al., 2017).

Almost all caregivers who provided care for stroke survivors are informal or unskilled caregivers. Informal caregiver is someone who provides unpaid care with for their work, a potential person with negative consequence, who must deal with all types of demand care, a lot of burden, and worship (Revenson et al., 2016; Zarzycki & Morrison, 2021).

Family members serve as stroke caregivers have main caring-tasks for recovery and keep a life for patients with stroke. In another case, someone who is a stroke caregiver must be prepared to give the cares or to experience the stroke impacts toward her or his life. Several literatures were discussed and observed for some factual data that promote the preparedness of stroke caregivers because stroke cases require long-term care, and there are only a small proportion of stroke patients without comorbidities related diseases. In other studies, too, found some of the effects of being a stroke caregiver or unwillingness to bother others made stroke survivors use a formal caregiver (Garnett et al., 2022; Haley et al., 2019; Lobo et al., 2021)

3) Spiritual value

Several studies claim individual and social behavior as a result of religious belief. In Indonesia, eighty-five percent of the population is Muslim, around 255 million of the total population is Muslim (Mahyarni et al., 2018). Accordingly, the main spiritual value in a Muslim is "taqwa"—some ways of religious practice to be close to God and others. Therefore, it can motivate a person to carry out an alternative way for her or his actions in terms of providing cares for a family member with stroke and in this study this principle exists in almost caregivers. Spiritually, *taqwa* is related to human experience with oneself, relationships, love, involvement, favors, togetherness, or the state of health through which human experience increasing spiritual values. (Mahyarni et al., 2018; O'Callaghan et al., 2019; RAZAK, 2020).

4) Isolation from surrounding community

Community stigma is usually based on the conditions of an individual who has mental disorder or chronic neurological problems. In this case, the most common neurological defect is caused by stroke (Pang, 2013; Sarfo et al., 2017). Permanent disability due

The Experience of Family Caregiver's in Caring for Post-Stroke Patients at Home During the Pandemic Covid-19

to stroke conditions makes stroke sufferers lose their normal and responsible roles. Moreover, the impacts are not only experienced by a stroke survivor himself, but also family members in general and particularly the caregivers. The caregivers are loaded with several new tasks and responsibilities for giving cares for their family member with stroke, which reduces their community activities. This situation also undermines the public perception that someone who returns home from the hospital is a COVID-19 patient. In this case, stigma in society emerges and correlates with clinical, psychosocial, and demographic characteristics of some people in society (Deng et al., 2019; Obembe et al., 2013; Sarfo et al., 2017).

5) Experiencing Situational Anxiety

The relationship between COVID-19 and the incidence of stroke associated with coagulopathy, endotheliopathy and antiphospholipid antibodies increases the likelihood of death and critical illness (Goshua et al., 2020). Another study by Mao and colleagues claimed that 0.5% of 221 COVID-19 positive patients had cerebral hemorrhage and 5% had ischemic infarction (Mao et al., 2020). The specific response that increases anxiety is called situational anxiety; in this case it is related to the COVID-19 pandemic and the incidence of stroke, both of which have links in the pathobiological system. (Taneasa White, 2022). Some literature depicts that anxiety has a relationship with objective and subjective burdens. Most stroke caregivers find the burdens on care activities, as affirmed by some research conducted in Asia (Pérez-Cruz et al., 2019; Wang et al., 2021).

V. CONCLUSION

Several life scenarios are provided for both stroke survivors and stroke caregivers, especially during the COVID-19 pandemic. They do not only face the problems and conditions related to stroke and stroke recovery, but also have to accept the stigma of society. Therefore, further community reintegration must exist in stroke rehabilitation which prepares someone who has had a stroke to be taught how to self-reorganize psychologically, physically, and socially.

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Development of Bali's Traditional Villages with Participation of the Local Community



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ABSTRACT: A region's culture will change as a result of the introduction of a foreign culture. In order to preserve the culture, which is currently being used as a marketing tool to draw tourists to Bali, the community is essential. This study intends to depict community involvement during the construction of a traditional village in the Bali province amid the influx of foreign culture. This study's methodology draws on literary analyses from a variety of sources, including books and the findings of other investigations. The study's findings indicate that the community is development's primary concern and ultimate goal, making community participation a logical outgrowth of this claim. Community participation also fosters a sense of self-worth and the personal capacity to take part in strategic decisions affecting the community's interests. Because development is carried out based on the outcomes of agreements and cooperative performance between customary village officials and indigenous village communities in the region, it will produce a favourable atmosphere for community growth in the area itself.

KEYWORDS: participation; community; traditional village development

I. INTRODUCTION

A crucial and critical part of regional and national development is village development. Equity is a top priority in development efforts. The outcomes of village development are thought to be more equipped to influence the interests of the vast majority of people who reside in rural areas. Village government is positioned as a subsystem of the governance system in village development to give communities the power, responsibilities, and obligations to manage and control community interests through creating village income streams. According to Law No. 6 of 2014 concerning Villages, the goal is to enhance the welfare of village communities, improve the standard of living, and decrease poverty by addressing basic needs, constructing village infrastructure, fostering local economic potential, and utilizing natural resources and the environment sustainably. Then, Bali Province Regional Regulation No. 4 of 2019 regarding Traditional Village Funds was born, with Law No. 6 of 2014 serving as its foundation. The emergence of this regional regulation is also based on a number of factors, including Bali's traditional villages, which have been growing and developing for centuries and have origin rights, traditional rights, and original autonomy rights to manage their own households, which have greatly contributed to the continuity of people's lives in the nation and state. In order to realize the life of the Balinese Krama, who are politically independent, the traditional village must be nurtured, protected, fostered, developed, and empowered. The traditional village is a unit of customary law community based on the philosophy of *Tri Hita Karana*, which is rooted in the local wisdom of *Sad Kerthi*, imbued with Hindu religious teachings and cultural values, and local wisdom living in Bali.

Sustainable development and community involvement as the engine for this growth are inextricably linked for the sake of preserving Balinese culture. In order to manage traditional village revenues and align communal interests, direct community engagement is crucial. There are two sorts of definitions of community participation that are frequently used, according to (Soetrisno, 1995), namely "community engagement" and "community participation," which are both described as community support for development plans created and objectives chosen by the planner. Another definition of community involvement is the government's planners' cooperation or collaboration with the community in the planning, preservation, and development of the community's development outcomes. The term "community engagement in development" can be understood as community involvement in the activities of planning, implementing, utilizing results, and assessing development programs, in accordance with the definition given above.

Development of Bali's Traditional Villages with Participation of the Local Community

In terms of epistemology, the word participation is derived from the Latin participio, which comprises of the word pars and capere, which mean to take part. The verb participare, which means "take part," is the root of the word participaio. Additionally, the term "participate," which meaning "to participate" or "take part," was derived from the Latin word participare (Wojowarsito, 1976). Because there are actions or activities, participation has an active connotation, which is conveyed (Sukanto, 1983). According to the dictionary, participation means "engaging in an activity", "participating in an activity", or "actively or pro-actively participating in an activity." The wide definition of participation is "a form of community interaction and participation in a process of activity that is carried out willingly, either owing to causes that arise from inside themselves (intrinsic reasons) or from outside themselves (extrinsic reasons)"

Participation might be either active or passive at the application level. The absence of attitudes, behaviors, and actions that would block an activity is referred to as passive participation. Active participation can be seen in one or more types of activity, such as: (1) thinking about one's own destiny by using societal institutions and politics as a channel for aspirations; (2) exhibiting a strong sense of community and state awareness by refusing to leave fate in the hands of others, such as formal and informal leaders and community leaders; and (3) carrying out duties as a responsible citizen, such as paying taxes. (Tobing, Simangunsong, & Siagian, 2021), so that every member of society has the opportunity to take part in and contribute to progress in order to realize a brighter future. In fact, everyone has a responsibility to participate and a right to do so in order to help the group realize its objectives and provide everyone the chance to contribute their ideas and initiative to development. Meetings and other gatherings, both official and informal, are excellent venues for expressing these contributions and creative ideas.

There are two different definitions of community participation that are frequently used: community participation, which is defined as community support for development plans that are created and the goals established by the planner, and community participation, which is defined as participation or collaboration between planners (government) and the community in planning, preserving, and developing the outcomes of development (Soetrisno, 1995). The phrase "community engagement in development" can be understood in light of the description above as community involvement in the activities of planning, implementing, utilizing results, and assessing development initiatives. Involvement in development refers to taking part in or contributing to it, whether by willingness to engage in activities, contribution of ideas, time, effort, knowledge, resources, or other resources, or involvement in utilizing and appreciating the outcomes of development. More specifically, community participation in development refers to a process in which the community participates in all stages of development, including program development, planning and implementation of development, policy formulation, decision-making and decision-implementation, enjoyment of results, and activity evaluation (Cohen & Uphoff, 1980) (Korten & Alfonso, 1983) (Murphy, 1985).

Community involvement in problem-solving refers to their active involvement in the processes of identifying potentials and problems that exist in their area, choosing alternate solutions, making decisions to solve identified problems, putting various solutions into action, and evaluating perceived changes (Isbandi, 2007). It was also clarified that "community participation" refers to a technical procedure for giving the community more power and chances to collaboratively solve problems. This delegation of authority is carried out based on the degree of community involvement in these activities, with the goal of improving solutions by expanding chances for the community to contribute so that the implementation of activities runs more successfully and effectively (Isbandi, 2007).

II. METHOD

The research and development process is used to combine and assess research that is pertinent to the core of a given topic in this systematic assessment of the literature. A comprehensive evaluation of the literature looks at, identifies, assesses, and interprets all studies on an intriguing topic with a range of questions in relevant studies (Sugiyono, 2015). In order to provide the data that was gathered to the reader in a logical manner and subsequently to explain and defend it, this study use descriptive analysis.

III. RESULT AND DISCUSSION

A. The concept of community participation

The importance of community involvement in development cannot be overstated, as the success of development projects in a given area is mainly dependent on how much the local population cares about and participates in them, as well as how much they stand to gain from such projects. Villages have traditional and origin rights to control and manage the interests of the village community (Chomariyah, Hudi, & Ariyanto, 2016). According to Mely G. Tan and Koentjaraningrat (Murtiyanto, 2011), there are a few critical factors that can be used as benchmarks for the success of development, including: (1) the results of the development can actually be seen in a short amount of time; (2) the results of the development must be beneficial to the local community; and (3) these development activities must not conflict with the prevailing value system in the community so that the community determines the direction of the development. This highlights the significance of community supervision, especially in technical,

Development of Bali's Traditional Villages with Participation of the Local Community

administrative, social, and external supervision, as substantiated by research by (Bahtiar & Supeno, 2020). This is in line with study by (Ramziah, 2020) (ortant in the sense that the effectiveness of the development is greatly influenced by how much the community cares about and participates in the development and how much the community will benefit from the development carried out in their region.

(Conyers, 1991) contends that community involvement in development is essential because it acts as a tool for understanding the circumstances, requirements, and attitudes of local people, without whose input development initiatives or programs are unlikely to be successfully implemented. The community will have more faith in development initiatives and programs if they feel engaged in every step of the procedure, from planning to implementation, which also serves to improve public trust. The following is more information about the importance of involvement from (Moeljarto, 1987), (1) The welfare of people is development's primary goal. This is why community involvement makes sense; (2) it promotes a person's sense of worth and their ability to participate in decisions that have an impact on societal interests; and (3) without involvement, there would be no feedback loop for the information flow regarding opinions, desires, needs, and local conditions. It is impossible to stop this information flow because it is essential for successful development. Better development can be achieved by: (1) starting where the people are and with what they have; (2) starting where the people are and with what they have; (3) starting where the people are and with what they have; (4) starting where the people are and with what they have; (5) increasing the area that development projects are acceptable in; and (6) increasing the community's access to all government services. Community involvement will keep development going.

The goal of community engagement, according to (Sumampouw, 2004), is to increase the capacity of every individual involved directly or indirectly in development programs and initiatives that take place in their area. This is accomplished by putting into practice the participatory approach implementation guidelines, which address the following topics:

1. Coverage, which denotes that all individuals or group representatives who are impacted by a development project's choice or procedure,
2. Equality and partnership: everyone have the right to use their skills, abilities, and initiative to participate in every process of fostering discourse without taking into account the degree and structure of each party;
3. Transparency: To foster an open discourse and mutual respect, all parties must be able to establish communication and a suitable environment for communication.
4. Equality of authority: In order to prevent the potential of one party dominating the participation, the many parties involved must be able to balance the allocation of authority and power.
5. Equitable accountability: Different parties have distinct obligations in each phase as a result of equal authority and participation in the decision-making process and following stages.
6. Involvement of different parties is intimately tied to each party's strengths and shortcomings, thus via active participation in each activity phase, there will be a process of learning from one another and mutually strengthening one another.
7. Cooperation, which calls for all parties to collaborate in order to maximize their strengths and minimize their deficiencies, particularly those relating to the abilities and caliber of the individuals involved.

According to (Soetrisno, 1995), there are two ways to gauge the level of community involvement in development: first, if it is merely seen as support for projects or plans that are planned and whose goals are set by planners (the government), the level of involvement will either be high or low. Second, if the community participation in question is a close collaboration between planners and local communities in terms of planning, implementing, developing development results, and monitoring, then the level of community participation is not only seen from the willingness of the community to take responsibility for financing development, whether in the form of money or manpower in carrying out the development project;

B. Indicators of community participation

According to (Yadav, 1980), there are four activity indicators that show community involvement in development efforts, and they are as follows:

1. Decision-making involvement

In general, the central government decides on every community development program (including the utilization of local resources and budget distribution), which frequently reflects more the nature of the demands of small groups of ruling elites and less the wishes and needs of the broader population. The establishment of forums that enable the community to directly engage in the decision-making process about development programs in the local area or at the local level is therefore necessary to promote community participation in development.

Development of Bali's Traditional Villages with Participation of the Local Community

2. Taking part in the execution of actions

The term "community participation in development" is frequently used to refer to the voluntary involvement of a large number of individuals (who are typically poorer). The layer above it, which is typically made up of wealthy individuals, gains more from the outcomes of development and is not obligated to make a proportionate contribution. Because of this, community involvement in development must be understood as an equitable distribution of community contributions in the form of work, money, and/or a variety of other forms of sacrifice commensurate with the benefits to be obtained by each member of the community in question. Additionally, community involvement in the upkeep of successfully completed community development projects is something that is frequently overlooked in the implementation of development. In order to retain the development's outcomes and ensure that the advantages may be enjoyed in the long run (without deteriorating in quality), special actions to unite the community are required.

3. Involvement in monitoring and evaluating development

It is urgently necessary to monitor and evaluate development projects and programs. It's important to get input on the issues and limitations that surface throughout the implementation of the development in question, not just so that the goals can be met as anticipated. In this situation, community involvement is required to gather data on development initiatives and the conduct of development officials.

4. Taking part in the application of development outcomes

The most crucial aspect, which is sometimes overlooked, is participation in the exploitation of growth achievements. This is so because the major objective of development is to distribute its benefits to as many people as possible in order to improve their quality of life. The community's willingness and voluntarism to always participate in any future development projects will be stimulated by the usage of development results as well. The government and development administrators in general frequently pay less attention to participation in the application of development results because they frequently believe that once development implementation is complete, the target population would automatically experience the advantages. In fact, the results of development programs are frequently not optimal since the target population does not clearly appreciate their advantages.

C. Forms of Community Participation

Real or tangible participation and intangible or intangible participation are the two main categories of community involvement. In contrast to non-significant participation, which includes thought, social participation, decision-making participation, and representative participation, real participation can take the shape of material, property, labor, and expertise (Holil, 1980) (Hamijoyo, 2007).

The goal of participation in material form is to support initiatives to meet the needs of those in the community who require assistance. participation in the form of several types of property, including tools for the job and other tools. While skills participation is encouraging community members who need to carry out an activity in an effort to improve their welfare through the skills they possess, labor participation is participation in the form of labor to carry out activities that can support the success of a program or activity.

Participation in the form of thoughts takes the shape of ideas and helpful thoughts that are expressed both during the program's preparation phase and during its implementation and realization. In order to develop the activities they engage in, they share the expertise and knowledge they have amassed. The participants' social activity serves as a symbol of their sense of community. The involvement of a person in every conversation or forum held in an effort to discover answers to the issues encountered in the common interest is what constitutes participation in the decision-making process. Participation that entails putting faith in others to speak for oneself in every committee, organization, and forum is categorized as representative participation.

D. Typologies of Community Participation

Opinions about the typology of community participation emerge along with an understanding of the essence of participation in various human activities. (Arnstein, 1969) argues that the typology of community participation can be divided into three categories with eight levels. The lowest category is the condition of non-participation of the community; the next category is community participation in various forms of citizen activity (degrees of citizen tokenism); and the highest category is shown by the presence of citizen power in determining activities related to their existence (degrees of citizen powers). Meanwhile, (Pretty, Guijt, Thompson, & Scoones, 1995) and (Tosun, 1999) also build a typology of community participation differently. (Pretty et al., 1995) created a community participation typology that has seven levels. Participation that is manipulative is at the lowest degree, and self-mobilization is at the highest level. The typology of community engagement is divided into three primary categories by (Tosun, 1999), including spontaneous participation, compulsory participation, and participation as a result of personal encouragement.

Development of Bali's Traditional Villages with Participation of the Local Community

These three types of community participation have commonalities and distinguishing characteristics. Similarities lay in the number of participating major groups. These three perspectives comprise three categories of participation: (1) low participation, (2) medium participation, and (3) high participation. The distinction resides in the perspective adopted for further stratification of each formed group (Tosun, 1999). For example, Arnstein's typology model, which divides participation into non-participation, degrees of citizen tokenism, and degrees of citizen power, is improved by the typology (Tosun, 1999) by giving each of these typologies its characteristic attribute. If the Arnstein typology and the Pretty typology are compared, the manipulation and therapy categories in the non-participation group of the Arnstein typology are the same as the manipulative and passive participation categories in the Pretty typology. Similarly, the partnership, delegation of power, and citizen control categories in the Arnstein typology are the same as the interactive participation and self-mobilization categories in the Pretty typology.

Spontaneous participation is the highest type of participation in the typology (Tosun, 1999). It has similarities with the levels of citizen control (control is in the community) in the Arnstein model and independent mobilization and interactive participation in the Pretty model. Some of the characteristics of the highest participation in the Tosun model are: bottom-up participation, active and direct participation, participation in decision-making, original (authentic participation), and independent (self-participation). Community participation in the Tosun typology is carried out due to induced participation, generally carried out from the top (top down), and is passive (passive), formal (formal), most of it indirect (mostly indirect), manipulative (manipulative), pseudo-participation, participation in implementation and sharing benefits, and choice between proposed alternatives and feedback. The type of participation at this level is the same as the level of community activity in the Arnstein model, functional participation, participation due to material incentives, and participation through consultation in the Pretty model.

Coercive participation, which is the lowest level of participation in the Tosun model, is equivalent to non-participation in the Arnstein model and manipulative participation and passive participation in the Pretty typology. This coercive participation is the same as no participation, with top-down, passive, generally indirect, and formal characteristics; the community participates in implementation but does not always share benefits; it chooses between the limited alternatives proposed or no choice; paternalism; non-participation; and high levels of tokenism and manipulation.

IV. CONCLUSION

Traditional villages in Bali can grow and change well if the community and the people in charge work well together. With community participation, the work program will be more focused, and the community will be able to keep an eye on how the agreed-upon work program is being run. The community is also the main focus and end goal of development, so community participation is a logical result of this argument, since participation gives people a sense of self-worth and the ability to take part in making strategic decisions about the community's interests. With a sense of community participation, it will help the community grow in the area itself, since development is based on agreements and joint work between customary village officials and indigenous village communities in the area.

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Motivation of Teenagers to Participate in Traditional Sports Activities to Hunt Pigs in Padang Pariaman Regency



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ABSTRACT: Now many teenage children have participated in pig hunting activities in Nagari Anduring District 2X11 Kayutanam. Such teenage children are highly motivated towards hunting pigs. The high motivation of adolescent children towards pig hunting lacks the support of adult pig-hunting participants. This study describes the motor activities of adolescents, pig hunting recreational activities for adolescents, adolescent social activities in pig hunting, and motivation of adolescents to participate in pig hunting. This research uses a qualitative approach, the data collection methods used are observation, interviews, and documentation. The sampling technique uses total sampling. The population in this study was all adolescent children and participants who participated in pig hunting in Nagari Anduriang, District 2X11 Kayutanam, Padang Pariaman Regency, which consisted of 15 adolescent children and 25 adults. The data collection of this study was obtained using observation, interviews, and questionnaires. The results showed that the motivations of adolescents to participate in the traditional sport of pig hunting in Nagari Anduring are: 1) Motor activities of adolescents in pig hunting activities. 2) Make pig hunting activities recreational activities for adolescents. 3) Social activities of adolescents in pig hunting activities. 4) Very high motivation of adolescent children in pig hunting activities.

KEYWORDS: Motivation, Youth, Activities, Traditional Sports

I. INTRODUCTION

Pig hunting is also included in the traditional sports of the West Sumatra Region (Ferdika & Komaini, 2019). Pig hunting activities carried out for generations brought by the ancestors of the Minangkabau people. The traditional sports activity of hunting pigs was originally created from folk games, namely as a filler of free time to release fatigue from work every day. Pig hunting activities are increasingly developing among the community by using traditional game characters of the Minangkabau people. According to Naufal & Barlian (2019) said the so-called traditional sport must meet two requirements, namely in the form of "sport" and the same time also "traditional" both in having traditions that have developed over several generations and in the sense of something related to the cultural traditions of a nation more broadly. The Minangkabau people make pig hunting a traditional sport that is carried out for generations (Barlian et al., 2021; Putra et al., 2022).

Nowadays, it is known for a century full of technology that has been far developed which makes many people and teenagers affected by technological advances, such as teenagers who are addicted to playing games, and parents are also often active on social media (Makridakis, 2017; Wartberg et al., 2020). Currently, the sport of hunting pigs has experienced many developments used by people to connect socially between communities, improve the community's economy, and also become a reactive sport or entertainment for the community.

The high will of adolescent children to participate in hunting sports is based on the pleasure and will of teenage children (Giacomelli & Gibbert, 2018). In hunting pigs, many get a skill or skill that they can use in their daily lives. The skills gained will have a positive impact on adolescent children to achieve the success of pride in themselves, thus making a repeat of pig hunting activities. The lack of parental role in directing and encouraging motivation in pig hunting activities and better preserving this pig hunting activity so that traditional sports develop and do not become extinct.

Motivation of Teenagers to Participate in Traditional Sports Activities to Hunt Pigs in Padang Pariaman Regency

In the traditional sport of pig hunting, there is also a lot of learning about positive social values for the lives of adolescents (Von Essen, 2018). Traditional sports activities of hunting pigs also provide many benefits for fitness and body health (Kretchmar et al., 2018). Pig hunting sports also have a positive impact such as teaching how to help each other, and respect each other. Traditional sports of pig hunting are also included in recreational sports because pig hunting is carried out in groups and is also common in obtaining health, physical fitness, excitement, relieving boredom, building social relationships, and preserving and improving regional and national cultural wealth (Alnedral, 2016). In this case, recreation becomes an important need for the community for activities as a place to relieve boredom and fatigue from work. Here it can be seen and understood how the function of hunting this pig over time undergoes changes and developments according to its times. So this traditional sport of hunting pigs is included in recreational sports or community sports (Andersson Cederholm & Sjöholm, 2021; Wahyudi et al., 2020). So pig hunting activities have also attracted many teenagers which makes social relations between adults and teenagers established.

The physical condition of the sport of hunting pigs is a component that cannot be simply separated, both its improvement and maintenance that must be developed (Suherman 2018). The physical activity carried out by adolescents is closely related to the body movements produced by skeletal muscle muscles that require energy expenditure. The sport of hunting pigs has many elements of physical condition which are interpreted as elements that affect the ability to work. Endurance in the sport of hunting pigs is the ability or ability of a person to move with a certain intensity over a long period of time without excessive fatigue.

At this time, Minangkabau teenagers are very happy to participate in pig hunting sports activities with many forms of social activity, which can improve physical condition and also show their identity. This physical activity is also very useful for these teenagers for the immunity and body fitness of these teenagers to avoid disease (Dunton et al., 2020; Ferreira et al., 2020).

Nagari Anduriang Community District 2X11 Kayu Tanam makes the traditional sport of hunting pigs a routine activity of the community which is carried out once a week a month, which is carried out on Sundays, and the place moves to each korong. Many pig-hunting activities become community sports (recreational sports) that are carried out regularly. Based on the description above, teenagers are very fond of pig-hunting sports so they make pig-hunting sports a hobby or routine activity with the development of technology. When carrying out pig hunting sports, it is unfortunate that parents do not provide learning about the pig hunting activities of teenagers. Therefore, this study will focus on determining the Motivation of Adolescents to Participate in Traditional Sports Activities in Buru Babi in Nagari Anduring District 2X11 Kayu Tanam Padang Pariaman Regency.

II. METHOD

Research using qualitative methods. According to Barlian (2018) qualitative research is research that intends to understand the phenomenon of what is experienced by the research project, for example behavior, perception, motivation, action, and others holistically and by way of description in the form of words and language, in a special natural context and by utilizing natural methods. The sampling technique uses total sampling. The population in this study was all adolescent children and participants who participated in pig hunting in Nagari Anduriang, District 2X11 Kayutanam, Padang Pariaman Regency, which consisted of 15 adolescent children and 25 adults. The data collection of this study was obtained using observation, interviews, and questionnaires.

III. RESULT

Based on data on the intrinsic motivation of adolescents following pig hunting activities obtained from the results of questionnaires conducted by field examiners on respondents, namely as follows.

Table 1. Research on the intrinsic motivations of adolescents in hunting pigs

No	Sub indicators	Score	Percentage	Average
1	Hobby	51	85%	1,70
2	Sense of pleasure	60	100%	2,00
3	High sense of willpower	52	87%	1,73
4	Self-discipline	46	77%	1,53
5	Confident	53	88%	1,77
6	Skill	50	83%	1,67
Mean		51,5	85,8%	1,72

Motivation of Teenagers to Participate in Traditional Sports Activities to Hunt Pigs in Padang Pariaman Regency

Thus the table above can be concluded the results of the analysis of intrinsic motivation data of adolescent children following pig-hunting activities: 1) The hobbies of pig-hunting adolescent children have a score of 51 (85%) in the moderate category. 2) The sense of pleasure of teenage children hunting pigs has a score of 60 (100%) categorized as high. 3) A high sense of willpower hunting pigs had a score of 52 (87%) moderately categorized. 4) having self-discipline having a score of 46 (77%) is categorized as low. 5) Confidence in pig hunting has a score of 53 (88%) moderately categorized. 6) have expertise in pig hunting with a score of 50 (83%) categorized as moderate.

Based on data on the extrinsic motivation of adolescents following pig hunting activities obtained from the results of questionnaires conducted by researchers in the field on respondents, namely as follows.

Table 2. Research on the extrinsic motivation of adolescents to join the pig hunt

No	Sub indicators	Score	Percentage	Average
1	Parents/ Family	50	83%	1,67
2	Friendship	60	100%	2,00
3	Neighborhood	48	80%	1,60
4	Awards/Compliments	47	78%	1,57
Mean		50	83,3	1,67

Thus the table above can be concluded the results of the analysis of extrinsic motivation data of adolescent children participating in pig hunting activities: 1) Parents/family have a score of 50 (83%) categorized as moderate. 2) Friends have a score of 60 (100%) in the high category. 3). The community has a score of 48 (80%) categorized as moderate. 4) Awards/Compliments have a score of 42 (78%) in the low category

IV. DISCUSSION

Based on the data on the motivation of adolescents who participate in pig hunting, which consists of intrinsic and extrinsic motivations, adolescents participate in pig hunting. From the intrinsic motivation, adolescent children participating in pig hunting have a high percentage of 100%, namely through pleasure, and a low percentage of 77% of self-discipline, with an average (mean) of 1.72. From the extrinsic motivation, the motivation of adolescent children participated in hunting pigs had a high percentage of 100% of friendships and the lowest 78% of Awards/praises, with an average (mean) of 1.67. Based on the results above, it can be concluded that the motivation of adolescent children to participate in pig hunting in Nagari Anduriang District 2X11 is in a good category. The motivation that comes from inside and outside of adolescent children towards pig hunting activities is behind the fact that pig hunting activities have a positive impact on the lives of adolescent children. This is in accordance with the opinion according to Oktiani (2017) intrinsic motivation is a motive that becomes active or whose functioning does not need to be stimulated from the outside, since in each individual self there is already an impulse to do something, Extrinsic motivation is the opposite of intrinsic motivation. Extrinsic motivations are those motives that are active and function due to the presence of external stimulation.

The motivation possessed by adolescent children to participate in pig hunting has good values and a positive impact on adolescent children can be seen from the feeling of pleasure, self-confidence, self-discipline, high willpower, and expertise in hunting pigs. In accordance with the opinion Ali & Anwar (2021) explaining motivation will involve the encouragement of deeds toward a specific goal. It can be understood that motivation is related to the individual related to factors of vigor, confidence, willpower, discipline, and orientation to the goal.

The motivation of adolescent children to participate in pig hunting sports activities comes from outside the adolescent children. As we can see, the encouragement given by parents, friends, and the environment can be a driving force for adolescent children to be able to preserve the traditional sport of pig hunting. So that the sports activity of hunting pigs is preserved and developed. Traditional sports must meet two requirements, namely in the form of sports and at the same time also traditional both in having traditions that have developed over several generations and in the sense of something related to the cultural traditions of a nation more broadly (Gazali et al., 2018; Makorohim et al., 2021; Widodo & Lumintuarso, 2017)

Pig hunting activity is one of the sports that teaches social value, is recreational, has good motor activities for the growth of adolescent children, and also provides benefits for adolescent children, thus generating motivation that will encourage adolescent children to always participate in pig hunting activities. This is in accordance with the opinion Wulf & Lewthwaite (2016) motivation is the encouragement created from internal and external in carrying out an activity and can change the direction, purpose, and magnitude of effort to carry out activities.

Motivation of Teenagers to Participate in Traditional Sports Activities to Hunt Pigs in Padang Pariaman Regency

In pig hunting activities, there are many benefits for adolescent children such as relieving stress, increasing friendships and adding knowledge, cooperation, and health for adolescent children. The benefits of recreational sports are physical fitness, mental, and social (Kusuma, 2016; Litwiller et al., 2017). Recreational sports are physical activities carried out in leisure time that is based on desires and desires that arise to provide satisfaction or pleasure (Fesanghari et al., 2021; Veal, 2016). Individuals who are active in sports and culture will benefit, both physically and mentally, in the form of minimizing the level of depression and improving physical health (Rahman et al., 2017). In accordance with the opinion Khadijah & Amelia (2020) express body movements that rely on large or overall muscles of the limbs affected by the maturity of a child. It can be concluded that pig hunting sports are recreational sports categories that can provide benefits for both the physical and mental health of adolescent children.

The sport of pig hunting has a motivational impact on individuals because it is gained in teaching many adolescent children in Nagari Anduring about the various forms of social values that exist in society. Social values such as respect for human dignity, basic rights, personal property rights, patriotism, solidarity, religion, sacrifice, providing help, cooperation, individuality, social equality, and human values (Royackers et al., 2018; Zabda, 2017; Zelizer, 2018).

V. CONCLUSIONS

Teenagers in Nagari Anduriang have good motivation in participating in pig hunting activities and the basis for Nagari Anduriang teenagers have high motivation in pig hunting activities. Hunting pigs provides a motor impact from adolescent offspring. So that adolescent children are eager to participate in pig hunting, making the recreational sport of hunting pigs also provides positive knowledge and is also beneficial for the health of adolescent children. Social activities in pig hunting activities have a very good influence on adolescent children in Nagari Anduring. In pig hunting activities, many teenagers in Nagari Anduring teach about social values that are beneficial to the daily life of adolescent children.

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Elite Collaboration Model in Prevention and Handling of COVID-19 in DKI Jakarta



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ABSTRACT: The purpose of this study was to analyze the use of the collaborative model concept in the prevention and treatment of Covid-19 in DKI Jakarta Province. The method used in this research is to use a qualitative approach. Sources of data in this study consisted of primary data and secondary data. In this research, the researcher acts as an instrument as well as a data collector. The procedures used in data collection are: (1) Observation, (2) Interview, and (3) Documentation. In the research that has been presented, the analysis of the collaborative model in the prevention and management of COVID-19 in DKI Jakarta Province can be seen through its goal of collaboration and partnership through relationships with the smallest and most comprehensive community on a grassroots basis, this is to realize development consistency and commitment between actors at each sectoral level of society.

KEYWORDS: Collaboration, Prevention and Handling of Covid-19, DKI Jakarta

I. INTRODUCTION

The high number of Covid-19 cases has made Jakarta one of the provinces whose handling is prioritized by the central government. DKI Jakarta Province even recorded the highest addition of Covid-19 cases three times in a week. One form of prevention and handling of Covid-19 is through good collaboration between the business and business world as stakeholders with the DKI Jakarta Provincial Government. One form of prevention and handling of Covid-19 is through good collaboration between the business and business world as stakeholders with the DKI Jakarta Provincial Government.

collaborative governance is a series of arrangements in which one or more public institutions directly involve non-state stakeholders in a formal, concession-oriented and deliberative policy-making process aimed at making or implementing public policies or managing public programs or assets (Ansell and Gash, 2007). Collaborative governance is a series of arrangements in which one or more public institutions directly involve non-governmental stakeholders in a formal, consensus-oriented and deliberative policy-making process that aims to make or implement public policies or regulate public programs or assets.

The collaboration process in question is collaborative governance which is defined as a process and structure in public policy decision-making and management that involves the community constructively within the boundaries of public institutions, levels of government and/or society, the private sector and civil society to carry out the public interest that is cannot be achieved without the involvement of the private sector and the community (Emerson, Nabatchi & Balogh, 2011). The collaborative governance model according to Ansell and Gash (2007) consists of four main variables, namely initial conditions, institutional design, leadership and collaborative processes. The stages in the collaborative process include face-to-face dialogue, building trust, commitment to the process, shared understanding and interim results. All collaborative governance is built on face-to-face dialogue between stakeholders. As a consensus process, direct dialogue is required of stakeholders to identify opportunities for mutual benefit. Based on the background above, the researcher is interested in further researching the Analysis of Collaborative Models in the Prevention and Handling of COVID-19 in DKI Jakarta Province.

II. THEORETICAL BASIS

Epistemologically, the word collaboration comes from the English word 'co-labor' which means working together. it runs. Morsink et al (1991) suggested collaboration as a joint effort to plan, implement and evaluate a program. In this effort there are (contained) joint or coordinated actions carried out by team members to achieve the (shared) goals of the team. Wondolleck and Yafee (2003) put forward a number of arguments why individuals or institutions collaborate by asking hypothetical questions. Huxham and Siv

Elite Collaboration Model in Prevention and Handling of COVID-19 in DKI Jakarta

Vangen stated that there are at least six things in the process of inter-organizational collaboration. The six things are: (a) Managing aims, (b) Compromise, (c) Communication, (d) Democracy and equality, (e) Power and Trust,

As stated above, collaboration is needed along with the emergence of interdependence between actors or organizations. The greater the interdependence between actors or organizations, both vertically and horizontally, the greater the need for collaboration. Interdependence further encourages increased frequency and intensity of inter-organizational communication which is manifested in decisions and actions that are made together and carried out collectively (Agranoff and McGuire, 2003). To map this interdependence, the collaboration model is a mental image that tries to simplify the complexity of relationships and interactions between organizations. In this simplification, a number of dimensions are identified that form the relationship and interaction. To complete the basis for the preparation of the model, the theoretical models of collaboration proposed by a number of experts will first be presented. These models are the Agranoff-Mc Guire model, the Buttler Coleman model, the Weber et.al model and the Polder model.

According to Agranoff and McGuire (2003), collaborative public management is a concept that describes the process of facilitating and operating in multi-organizational settings to solve problems that cannot be solved, or solved easily, by a single organization. Collaborative means to work together, to achieve common goals, often working across borders and in multisectoral and multiactor relationships.

Governance is a topic that has been studied by organizational scholars, in both business organizations and non-profit contexts. Concerns about collaborative governance among city stakeholders have generated some of the most important and enduring questions in the fields of political science, territorial planning and public administration. The distinction between government and governance is emphasized in much contemporary work on local politics and public administration and coincides with the emergence of a new regionalism movement (Feiock, 2004). For many, governance requires a collective decision-making process in which governmental organizations at all levels, not-for-profit organizations, and the private sector work together in new partnerships for the collective social benefit (Stoker, 2000), that span across jurisdictions (Feiock, 2004) or operate in a hierarchy (Agranoff and McGuire, 2003). Intergovernmental collaborative arrangements together with the interdependence with the nongovernmental sector and the complexity of the relationships between actors bring new challenges and development potential within regional and metropolitan governance.

Goddars (2006) concluded that in relation to government and third sector organizations there has been a shift from a formal administrative bureaucratic framework to a collaborative model. Collaboration is a form of complementary relationship concept, especially relations between the government and non-profit organizations, third sector organizations and other social organizations. Based on that, collaboration is part of the study of public administration.

III. RESEARCH METHODS

The method used in this research is to use a qualitative approach. The approach used in this study is constructivist. Sources of data in this study consisted of primary data and secondary data. The primary data obtained by researchers came from the research field both from the interview method and the results of observations of informants. In this research, the researcher acts as an instrument as well as a data collector. The procedures used in data collection are: (1) Observation, (2) Interview, and (3) Documentation. To ensure the validity of the data, a qualitative validity test was used using the triangulation technique. The data analysis technique in this study consisted of data collection, data display and conclusions.

IV. DISCUSSION

The COVID-19 pandemic is a challenge for health systems around the world. The brief description of the pandemic and the impact of the changes that have occurred, both in terms of the economic, social, relations between nations, and the public service system (especially health), above, shows the determination of health in the order of life and human civilization. The health crisis has triggered crises in other sectors of life, as well as being a coercive factor for changes in individual and organizational behavior. COVID-19, although it is predicted that it is far from over, has also created devastating shocks. In the economic sector, reports from various international institutions point to an economic contraction that could trigger a global recession.

COVID-19 will be a new milestone for major changes in the social, political and economic order, although the final form of this change is still not definitive. This has resulted in a rapidly increasing need for care for people with COVID-19 compounded by fear, misinformation, and restrictions on movement of people and supplies that are disrupting the delivery of frontline health services for everyone. The tug-of-war between economic and health interests has been going on since the outbreak of COVID-19. The choice that takes place tends to be zero-sum in nature, which sees the two interests contradicting each other and negating

Elite Collaboration Model in Prevention and Handling of COVID-19 in DKI Jakarta

one another. As health systems are overwhelmed and people are unable to access the services they need, direct and indirect deaths from preventable and treatable diseases increase.

Government collaboration in dealing with COVID-19 is the adoption of a new normal that surfaced in mid-June 2020, starting with President Jokowi's statement to prepare to live side by side with COVID-19. The collaboration that the central government is trying to echo is then synchronized with the Regional Government of the Province of DKI Jakarta in the viewpoint of which is a transitional mechanism to encourage the resumption of economic and social activities. Operationally, the Provincial Government of DKI Jakarta has prepared various safe protocols from COVID-19 needed in workplaces, public service institutions, religious institutions, traffic, tourism, and so on. The President himself symbolically checked directly on the preparation of the protocol towards returning to the opening of the economy in a number of places, including malls and stations. In its development, the DKI Jakarta Provincial Government's efforts to get a lawsuit, because it is considered to cause confusion in the community. The government's response was to change the terminology to "adaptation to new habits". Even though they are semantically different, the substance is the same, namely the adaptation of various health protocols in individual and organizational behavior.

Therefore, the collaboration from the government that can be taken is that collaboration that starts from the community level is an integral platform for primary health services, key to the delivery of essential public health services and functions, and for community involvement and empowerment regarding their health. This community-based platform with capacity for health service delivery and social engagement has an important role to play in the response to COVID-19 and is important in meeting existing health needs, especially for the most vulnerable people. Existing service delivery approaches need to be adapted according to risk-benefit analysis for any changes in activities in the context of a pandemic. Certain activities may need to be prepared in places where transmission of COVID-19 has not yet occurred, adjusted if alternative modes of delivery can be implemented safely, or temporarily suspended in places where widespread transmission of COVID-19 is occurring. If necessary, in-person visits should be limited through the use of alternative service delivery mechanisms such as mobile apps, telemedicine and other digital platforms. Specific adaptations will depend on context, including local overall disease burden, COVID-19 transmission scenario, and local capacity to deliver services safely and effectively. in-person visits should be limited through the use of alternative service delivery mechanisms such as mobile apps, telemedicine, and other digital platforms. Specific adaptations will depend on context, including local overall disease burden, COVID-19 transmission scenario, and local capacity to deliver services safely and effectively. in-person visits should be limited through the use of alternative service delivery mechanisms such as mobile apps, telemedicine, and other digital platforms. Specific adaptations will depend on context, including local overall disease burden, COVID-19 transmission scenario, and local capacity to deliver services safely and effectively.

For the most part, collaboration is described as at least an essential imperative or more an ideal as a highly desirable aspect of social, economic and political life. Collaboration in handling the COVID-19 case starts with a plan to handle the COVID-19 case, with a commitment in the form of regulatory regulations which become material in steps. Considering that the aspects of change cover various levels and degrees of change that can take place in two major scenarios: 1) are short-term and temporary as a reaction to the pandemic and are part of the transition to return to old normality; or 2) is long-term and permanent as a form of civilizational evolution due to environmental changes, including a pandemic (Lumbanraja, 2020).

The pandemic forced changes at the individual and institutional levels as a result of adaptations that had to be made. At the individual level, the collaboration model that is formed is an institutional adaptation of health protocols in the daily behavior of individuals, which further requires redefining patterns of interpersonal relationships. From an institutional perspective, collaborative modeling of inter-sectoral adaptation from the local government is also ongoing and includes various sectors, private and public. In the private sector, institutional collaboration modeling takes place as part of a mechanism to survive, especially economically. In the public sector, the direction of modeling collaboration is the creation of a more universal and impartial public goods management system (including basic services). The concept of Collaborative Governance is an alternative step for handling a COVID-19 case which is expected to be able to realize the acceleration and implementation of handling the COVID-19 case. Collaborative Governance is the involvement of various parties who have their own needs but can achieve common goals.

V. CONCLUSIONS

In the research that has been presented, the analysis of the collaborative model in the prevention and management of COVID-19 in DKI Jakarta Province can be seen through its goal of collaboration and partnership through relationships with the smallest and most comprehensive community on a grassroots basis, this is to realize development consistency and commitment between actors at each sectoral level of society. Collaboration is also used as a tool for the process of negotiation and preparation of compromises during a pandemic, besides that it is also used as a central point for drafting regulations and monitoring and coordination in implementing existing regulations. Every process of collaboration will produce pros and cons, where the other side is that this

Elite Collaboration Model in Prevention and Handling of COVID-19 in DKI Jakarta

collaboration makes a new force as a source of policy authority. can be seen from the stipulation of the Transitional PSBB determined by only one party. Collaboration will encourage the commitment of public policy-making actors to emerge and be seen, where collaboration is then expected to build public motivation and trust in their active involvement in the prevention and control of COVID-19.

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Integration of Islamic Educational Values in Teaching of Science through Games to Kindergarten Pupils in Palu City, Indonesia



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ABSTRACT: This aims to discuss the integration of Islamic education in science teaching through games to kindergarten pupils in Palu city, Indonesia. This study used a qualitative approach involving two kindergartens in Palu city. Data was gathered through direct observation, in-depth teacher interviews, and document analysis. The findings show that Islamic education values have been integrated into the teaching of science during school days learning. The kindergartens used a number of learning centers, such as the science center, tauhid center, and art center, to integrate Islamic values into the teaching of science to pupils. This study contributes to the body of knowledge regarding the integration of Islamic education values with learning of science at the kindergarten level. This study also contributes to practices in which other kindergartens might use these strategies in the integration of Islamic education values with the learning of science.

KEYWORDS: Integration, Islamic education, Islamic values, science, kindergarten

I. INTRODUCTION

Children are individuals who need direction and guidance from parents, teachers, and people around them [1]. With good direction and guidance from teachers and parents, children can develop the basic skills needed. For this reason, early childhood education is needed so that it can direct the child's basic abilities as much as possible. A number of parties have studied the importance of developing science learning in early childhood because, at an early age, a child's brain develops rapidly [2, 3]. The process of brain growth goes according to the growth of the child's body. For example, when a child is 5 years old, his brain growth will reach 80%. Thus early childhood education requires the right strategy to stimulate the growth of these children's brains.

The Indonesia Ministry of National Education has issued regulation Number 58 of 2009 concerning competencies that must be mastered by early childhood in early childhood education programs. One aspect that is developed in early childhood education is children's cognitive development. Cognitive development is related to the introduction of science in Kindergarten. This is in accordance with Government Regulation no. 58 of 2009 which states that in the development of children aged five to six years, teachers need to pay attention to cognitive development in the educational process at Kindergarten. Efforts to improve cognitive abilities need to be made by increasing the ability of general knowledge and science [4, 5]. The process of increasing cognitive abilities can be done through the introduction of the concepts of shape, color, size, and pattern; and the concept of numbers, number symbols, and letters.

Cognitive development is one of the areas of the basic development in the kindergarten curriculum, which plays a strategic role in efforts to develop children's thinking power [6, 7]. This thinking power functions to help children to be able to process their learning outcomes and help develop their logic. The development of science learning in children also has a very important role in assisting cognitive development in early childhood. Teachers need to be aware of the importance of imparting science to children from an early age because children currently live in a world that is dynamic, developing, and changing continuously. The development of the world today is increasingly complex, which requires good thinking skills in every child.

Science learning strongly supports children's cognitive development because science is knowledge about the natural surroundings, which contains theories or concepts obtained through observation, research, and experiments on natural phenomena [8, 9]. Therefore, the process of observation and research can be taught to children from an early age so that it supports children's cognitive development and increases their understanding of various natural knowledge around them.

Integration of Islamic Educational Values in Teaching of Science through Games to Kindergarten Pupils in Palu City, Indonesia

However, introducing science to children must be adapted to the stages of the child's age and physical development [10, 11]. Therefore, the process of teaching science to children cannot be done in the same way for all children of different ages. The introduction of science needs to be done according to the age and physical development of children so that they are not burdened with a heavy brain. In the introduction of science, teachers can train children to use their five senses to recognize various objects or natural phenomena around them. Children can be trained to see, feel, smell, feel, and hear by using their age-appropriate minds. Thus children can gain new knowledge from the results of their sensing. Introduction to science that is carried out from an early age also needs to be done with activities that are fun for children and through habituation so that children experience the science process slowly.

A number of studies on teaching science to children have been carried out by a number of researchers [12]. However, the study focused on elementary and middle school children. Meanwhile, research on science learning for young children between the ages of five and six who are studying in Kindergarten still needs to be completed. Research related to science learning for early childhood can reduce our understanding of science learning strategies for children in an effort to improve children's cognitive abilities.

For this reason, this research was conducted to analyze the ways of learning science and those that are integrated with Islamic religious values in kindergartens aged between five and seven years. The purpose of this research is to provide understanding to academics and practitioners regarding good science learning strategies for children in Kindergarten. This research can be useful for the academic world and practitioners, both government and private parties, who organize Kindergarten education. Thus learning science to children can help their cognitive development properly.

II. LITERATURE REVIEW

A. Integration of Islamic Education Values in Science Teaching

Integration of values in learning is a process of guidance through the example of a teacher who is oriented towards inculcating life values, which include religious, cultural, ethical, and aesthetic values, to form students who have spiritual intelligence, self-control, good personality, and noble character [13, 14]. Integration is a unified whole, not divided and divided. Integration includes the needs or completeness of the members that form a unit with a close, harmonious relationship between the members. Meanwhile, what is meant by the integration of values in learning is the process of unifying values -educational values with religious values in the learning process. The concept of unification between educational and religious values means integrating these two values.

Islam is a religion that pays attention to all aspects of human life in order to provide perfect happiness. Islam also provides instructions that humans can follow in carrying out their life activities [15, 16]. For example, when humans carry out educational activities, they need to be equipped with religious values to balance knowledge and religion. The balance between general knowledge and religious values is important for humans so that the education they have can give meaning to life. Islam is a religion that gives mercy to all humans and obliges humans to seek knowledge through education inside and outside formal education. Even Allah sent down the Qur'an with verses that commanded the Prophet to read and read because reading is one way to gain knowledge. Thus humans can develop their knowledge and use this knowledge for their own welfare.

A number of Islamic education studies are still descriptive, normative, and adaptive in nature, influenced by western researchers [17, 18]. As a result, a number of educational approaches in Indonesia are also influenced by western culture, which lacks religious and social values. For example, western education emphasizes a positivist paradigm that is far from religious values. Meanwhile, Islam requires education based on divine values because Muslims believe that the world and its contents are God's creations, not the result of human engineering. Meanwhile, the western education paradigm emphasizes logic without linking it to religious values.

Indonesian cultural traditions that have come into contact with various cultures have given birth to educational traditions that require society to incorporate religious values into the educational process at all levels. Thus, general education integrated with Islamic education's values can provide a balance in science. Thus, science will be able to form Muslim scholars with knowledge and religious values. The existence of scientific integration is an attempt to improve the history of scientific understanding in the past, which separated science from religion. For this reason, science learning in the future must be carried out with an integrated science approach. So far, the Ministry of Religion of the Republic of Indonesia has implemented several strategies for the integration of knowledge in Islamic educational institutions, such as interdisciplinary, multidisciplinary, and integration. The goal is for students to have broad insight into various branches of knowledge. Thus all schools under the department of religion are required to apply the concept of integrating knowledge in school learning from Kindergarten to the tertiary level.

Integration of Islamic Educational Values in Teaching of Science through Games to Kindergarten Pupils in Palu City, Indonesia

The aim of the integration of knowledge in science learning is also related to the government's efforts to educate students to have a moderate appreciation of the differences in the various branches of knowledge being studied [19]. A moderate view can eliminate fanaticism, prejudice, and narrow insights. Then the scientific paradigm without religion can also be eliminated so that the attitude of scientific egoism can also be eliminated. The integration of Islamic educational values with science has an important role in minimizing the lack of theological aspects in learning. Thus learning activities have an important role in shaping student development at the Kindergarten education level. This is the same as the purpose of human creation, namely, to worship Allah, as stated in QS. Az-Zariyyat: 56:

وَمَا خَلَقْتُ الْجِنَّ وَالْإِنْسَ إِلَّا لِيَعْبُدُونِ ٥٦

Translation:

And I did not create jinn and humans except that they serve Me

III. METHODOLOGY

This study uses a qualitative method [20] to investigate the strategy of Islamic education values integration in the teaching of science at kindergartens in Palu City, Indonesia [21, 22]. Data were collected through direct observation in the case field and in-depth interviews with teachers and kindergarten principals [23]. Written materials were also analyzed to understand the strategy used in the integration of learning science and Islamic values. Data analysis consists of several procedures, which include reduction and verification techniques with various data sources [24]. The reduced data is then analyzed, reflecting on the theoretical concepts used in this study. Finally, the results were presented based on thematic issues found in the data [25, 26], which show the study's insight relating to the use of higher-order thinking skill strategy in teaching Islamic religious subjects within the state high school.

IV. RESULTS AND DISCUSSION

A. Integration of Islamic education values in learning themes

One of the activities carried out by the teacher in designing the Daily Activity Plan is the activity of integrating the values of Islamic education (Wahyuddin, Nurdin, & Pettalongi, 2022) one of the missions in kindergartens in the city of Palu. This is explained by the informant below:

The mission of the Kindergarten in the city of Palu is to ensure that children aspire to become Muslim entrepreneurs following the example of the Prophet Muhammad, who is polite and independent. For this reason, it is necessary to determine the values of Islamic education in designing daily activity plans in order to realize this mission. The values of Islamic education can be taken from the exemplary stories of the prophets, Islamic figures, verses of the Koran, Asma ul husna and the hadith of the Prophet

The activity of making daily activity plans needs to integrate the values of Islamic education. The goal is to achieve the mission in Kindergarten. The values of Islamic education can be taken from the exemplary stories of the prophets, Islamic figures, verses of the Koran, asma'ul husna, and hadiths of the Prophet. With regard to the values of Islamic education, other informants explained that:

To integrate the values of Islamic education, we must pay attention to the learning themes and the goals to be achieved by children so that the values of Islamic education are in line with the learning themes and goals to be achieved by children.

The process of integrating the values of Islamic education carried out by Palu Kindergarten teachers is adapted to the learning themes and goals to be achieved by students. Therefore, in designing the Daily Activity Plan, the teacher analyzes the lesson's theme and objectives by categorizing the values of Islamic education that will be applied in the learning process. Other informants added the following:

In integrating the values of Islamic education, teachers must also pay attention to the learning centers that are part of the education system in kindergartens in the city of Palu, starting from monotheism centers to art centers. In making daily activity plans that we carry out from Monday to Friday, we also establish different centers every day, thus requiring different values of Islamic education

The values of Islamic education were integrated when kindergarten teachers in the city of Palu, namely by making an Activity Plan Making, had to pay attention to learning centers. The designed daily lesson plan from Monday to Friday had different centers so that the educational values The integrated Islam is also different. For more details, the learning centers used in Kindergarten can be explained as follows:

In the education system organized by several kindergarten foundations in the city of Palu, they use a learning system that combines learning with games through a central system adopted from the Beyond Center and Circle Time (BCCT). The centers implemented are: tauhid center, exercise center, life skill center, science center, block center, and art center.

Integration of Islamic Educational Values in Teaching of Science through Games to Kindergarten Pupils in Palu City, Indonesia

Based on the informant's statement, it can be understood that the education system implemented in Palu Kindergarten adopts the Beyond Center and Circle Time (BCCT) concept. The centers determined based on the BCCT are the monotheism center, exercise center, life skill center, science center, block center, and art center. Several learning centers can be seen in the following figures:



Picture 1. Block Centre and Science Centre



Picture 2. Lifeskill Centre and Exercise Centre



Picture 3. Art Centre and Tauhid Centre

Based on some of the pictures, it can be understood that each center has its own classroom, which is facilitated by various learning media that support the learning system, making it easier for children to absorb the subject matter taught by the teacher. Every day the learning center is taught alternately with the values of different Islamic education as well, as explained by the informant below:

In general, the learning centers are carried out based on the curriculum and daily activity plans, which include, on Mondays, learning is carried out at the monotheism block center, Tuesdays at the monotheism science center, Wednesdays at the tauhid life skills center, on Thursday the tauhid exercise center and on Friday at art tauhid center

The learning centers implemented in the Kindergarten in Palu City are different every day. Implementing learning at a different center every day is so students don't get bored. Then also so that students get new knowledge on different days. In other words, the values of Islamic education that will be applied also vary according to the theme and learning objectives. From the analysis of the curriculum and daily activity plans, it can also be seen that all centers taught from Monday to Friday are always integrated with Islamic values.

B. Model of Integration of Islamic value in teaching sciences

The values of Islamic education that are integrated into the learning activities carried out at the Palu Kindergarten are carried out by the teacher to realize the vision and mission of the Educational Park [22]. The values of Islamic education began to be seen being integrated from the beginning of the learning activities, as the results of the researchers' observations on the learning activities carried out by the teacher in the Education Park. An informant said the following:

Learning activities begin with intentions and prayers before learning, and then the teacher invites the children to sing songs, play brain games, and a competition to move books. After that, the children sang several songs, followed by telling folk tales that contained moral messages, such as the story of a monkey who is naughty and likes to steal bananas. Then the monkey got lost in the forest because other animals were chasing him. After that, the teacher conducts dialogue and guides the child to find the moral value of the story

The initial learning activities were carried out on two different days. In this initial activity, the teacher began to integrate the values of Islamic education through reading prayer studies and Dhuha prayers. However, on the first day, the teacher tells fairy tales which are then shown the moral values that come from these fairy tales so that children can apply them

Integration of Islamic Educational Values in Teaching of Science through Games to Kindergarten Pupils in Palu City, Indonesia

in their lives. On the second day, the teacher invites children to memorize asma'ul husna al-awwal and al-thawwab and their meanings so that children can get to know the names of Allah through memorizing the two asma'ul husna. Furthermore, other participants said the following:

In the morning material activities on Wednesday, the teacher begins his activities by reading hadiths about maintaining cleanliness, reviewing past material, and then carrying out learning according to a certain theme. For example, the teacher introduces natural phenomena on earth, such as volcanic eruptions, and convinces children about good luck and bad luck. Then the teacher invites the children to play with letter cards with new vocabulary to add to the children's vocabulary. After that, the teacher invites the children to learn English vocabulary to remember several English words.

In the morning material learning activities, the teachers also integrated the values of Islamic education, which were carried out at the beginning of the activity, explaining the certain subject matter, as for the values of Islamic education that are integrated into these learning activities, namely the value of fate in Islamic teachings, such as the understanding that everything that happens in this world (such as floods, landslides, volcanic eruptions, and death) is a destiny that Allah has arranged. Thus humans need to do good in preparation for death. Furthermore, the snack time activities also integrate the values of Islamic education. One of the informants said the following

The teacher carries out the snack time activity by directing the children to gather together and leading the reading of the prayer meal which is carried out with the children. After that the children have breakfast with the teacher while reading a prayer together. Then the teacher guides the children to tidy up the room and put the food boxes back in the place provided. After that, the children can play freely. However, the teacher explained that playing must be careful and use time well in playing because time is God's most precious gift

During recess activities, the teachers still integrate Islamic educational values in the form of guiding children to pray before and after doing something. For example, when tidying up the dining area and giving messages, the teachers convey Islamic educational values. As for science center activities, the teachers also integrate Islamic values with science by linking science with Islamic education. An informant said the following.

The teacher begins the activity by reading a book about natural phenomena, namely volcanic eruptions, explaining and entering several vocabularies related to this (Wednesdays and Thursdays), on Wednesdays the teacher guides children to play the role of a fishing family, namely as a father fishing by boat. Small, as a mother selling fish in the market (money and toys) as a school child, in these activities, the values of Islamic education were integrated, namely being diligent in playing games. Whereas on Thursday, the game is to trace a picture of an erupting volcano by sticking paper onto a picture of an erupting volcano and the child traces it, followed by putting the numbers into a basin filled with water and then the child writing down the numbers that are visible, the teacher emphasizes that the activity is tracing pictures and Writing down the numbers that appear in the basin is an ability (al-qawiyy) bestowed by Allah.

Based on the results of the opinions of these sources, it can be understood that teachers continue to integrate the values of Islamic education into the center's activities. On Wednesday, the teacher integrates Islamic educational values, namely persistence in tracing pictures so that children can learn to make pictures of volcanoes. Whereas on Thursday, the values of Islamic Education are integrated into the form of the power to pay attention and write down the numbers that are in a basin filled with water. So that on these two days, you can see the harmonization values carried out by the teacher in the learning process. This alignment activity is to improve children's motor skills through tracing and observing activities. Thus children can get used to paying attention to the circumstances around them to gain knowledge and values of life. One informant said the following:

The activities carried out are guiding the child to perform ablution and then guiding the child to read Iqra' (Wednesday Iqra' p. 31 and Thursday Iqra' p. 32), then memorizing dhikr after prayer, waking up prayers and hadiths to keep clean (Wednesday), memorizing letters al-qadr, asmaul husna al-awwal and al-thawwab (Thursday) then midday prayers in congregation.

The informant's opinion shows that the midday prayer activity is an activity that contains Islamic educational values both when the teacher guides the child to perform ablution and guides the child to read Iqra'. After that, the study hours still contain the values of Islamic education, namely memorizing dhikr after prayer, waking up, and listening to hadiths about maintaining cleanliness. Then the children perform Dzuhur prayer activities in the congregation, which is also part of the integration of Islamic educational values.

C. Some of the Islamic values integrated into science learning

The educational process in Kindergarten uses a learning while-playing system so that the learning process is carried out by the teacher using various types of games and learning media as well as certain values that are integrated into these learning

Integration of Islamic Educational Values in Teaching of Science through Games to Kindergarten Pupils in Palu City, Indonesia

activities. In kindergartens that have a vision and mission, namely to become the favorite Islamic Kindergarten in Indonesia and a mission to ensure that children aspire to become Muslim entrepreneurs according to the character of the Prophet Muhammad, polite and independent values that are integrated with games designed by the teacher. -are the values of Islamic education. This research is focused on science learning, so the focus of the author's research is also on the learning process, especially science centers, which are mostly carried out by the educational park every Tuesday.

The school theme is the initial theme of learning in the odd semester. In this theme, children are introduced to the school and the various activity programs in it so that children can adapt to the school environment they have just entered. Based on the results of the author's observations of this theme, it can be described as follows :

Children who have just entered Kindergarten are very unfamiliar with activities in Kindergarten. Therefore the first theme taught is the theme of my school, where learning and playing with God's gifts are carried out for three weeks with the theme namely: introducing the parts of the school, introducing the tools learning tools, and introducing school activities.

The theme of my school is that learning and playing with God's grace is the first theme that a child who has just entered Kindergarten gets. Through this theme, children are introduced to new activities. Thus they need adjustments to Kindergarten activities. Therefore Kindergarten helps children adjust to activities in the new educational environment by introducing various learning themes. The values of Islamic education that are integrated into the learning process can be seen from the explanations of the following participants:

In the opening hours of class activities, the values of Islamic education are integrated, namely teaching children to read study prayers, guiding children to pray by reading letters an-Nas and al-Falaq, and memorizing asma'ul husna: al-rahman and ar-uterus and its meaning. Classrooms and playgrounds are good learning places because children can gain knowledge. In science center activities, the children are invited to go around the school, and the teacher introduces parts of the school while inviting the children to say alhamdulillah for having a good learning place. In recess activities, the teacher teaches the children to read the prayers for meals and prayers after eating.

The values of Islamic education that are integrated in the learning are: reading learning prayers, guiding children to pray dhuha by reading surahs an-Nas and al-Falaq, memorizing asma'ul husna: al-rahman and ar-rahim and their meanings, classrooms, and playgrounds are places of learning that should be grateful for because children can gain knowledge, take children around the school, and the teacher introduces parts of the school and then invites children while saying alhamdulillah for having a good place to study as for the values of Islamic education that were integrated in the second week, namely introducing learning tools, in this theme the values of Islamic education that were integrated were: opening activities, teaching children to read learning prayers, guiding children to pray dhuha by reading letters al-Ikhlâs and told the children to memorize the asma'ul husna: as-salam and al-mu'min and their meanings.

In the morning, material activities, namely books, pencils, blackboards, tables, and benches, are human creations as tools for learning God's gift of reason. In science center activities, guiding children to trace school patterns by pasting paper over pictures. During recess activities, the teacher guides children to read. Prayer for eating and prayer after eating. In the activities of the Dzuhur prayer series, the activities carried out by the teacher are guiding children to perform ablution 'memorizing surahs al-Ikhlâs and al-Lahab, and reading Iqra. The learning activity ends by guiding the children to read surah al-Ashr, pray after studying, pray outside the classroom/home, and pray before traveling.

Whereas in the third week, integrated Islamic education values are carried out in early learning activities by reading study prayers, guiding children to pray dhuha by reading surahs al-Ikhlâs and al-Lahab, and memorizing asma'ul husna: as-salam and al-mu'min and their meanings. In the morning material activities, the teacher provides books, pencils, blackboards, tables, and benches by explaining that all these items are man-made whose knowledge is given by God. In science center activities guiding children to play tracing the shape of the blackboard, the shape of the book, and the shape of the pencil by pasting the paper over the pictures. The learning activity ends with guiding the children to read a variety of short prayers.

5. CONCLUSION

We found that kindergarteners have successfully integrated Islamic education values into the teaching of science to kindergarten pupils. The kindergartens utilized learning centers such as science centers, tauhid centers, and art centers to integrate Islamic values into learning science for their pupils. The integration was also conducted through daily practicing Islamic religious teachings during school time. Science was taught side by side with the teaching of Islamic values. This study contributes to the body of knowledge regarding the integration of Islamic education values with the learning of science at the kindergarten level. This study also contributes to practices in which other kindergartens might use these strategies in the integration of Islamic education values with the learning of science.

Integration of Islamic Educational Values in Teaching of Science through Games to Kindergarten Pupils in Palu City, Indonesia

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Course Refresher in Assessing and Facilitating Teacher-Learning (CRAFT) in Higher Education Institution: Basis for Improved Professional Faculty Development



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ABSTRACT: The study examines the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution among the respondents in terms of skills productivity, school culture, update training trends, development of teaching management, and training needs and gaps. Likewise to identify the extent of the improved professional faculty development of the respondents' aspects as to roles, understanding, and expectation, development of trust and respect, organizational and institutional development culture, perspective faculty success, and assessment of program outcome.

Descriptive correlational research design is utilized in the study and gathering of population size is purposive sampling. The study comprised one hundred seventy five (175) respondents only from the various Higher Education Institutions.

Results show that skills productivity create things simple, focus plan, and faculties to stay on set tasks for success and clear outcome, school culture shows to build strong relationship which is one of the core values, update training trend shows to design capability of faculty to improve approach in teaching the latest trend based on the needs of students' learning process, development of teaching management shows to help and develops the improved teaching management and implementation, training needs and gaps show to determine valuable training needs for faculties overall competency and efficiency to increase school organization, roles, understanding, and expectation show to offer better professional opportunity development for faculties in retaining and attracting skilled employees for better advancement career, development of trust and respect show socialization in education provided by the school organization behavior process of individual employee faculties, organizational and institutional development show to promote collaboration and decision making on dynamic converging issues requiring leadership setting, attention, and teamwork goal orientation in the school culture environment, perspective faculty success shows to provide proper discipline for faculty itself in the organizational school system, and assessment of program outcome shows to demonstrate mastery of educational assessment program outcome in political context, psychological, historical, socio-cultural, and philosophical educational system and setting.

Findings show that there is no significant correlation between the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution and the extent of the improved professional faculty development among the respondents.

KEYWORDS: Course refresher, assessing and facilitating teacher-learning, Higher Education Institution, professional faculty development, skills productivity, school culture, update training trends, development of teaching management, training needs and gaps

INTRODUCTION

Course refresher in assessing and facilitating teacher-learning (CRAFT) in the Higher Education Institution provides professional development of faculties in the improved process of tasks as molders and shapers of the young minds. This is aligned with the vision and mission of Far Eastern University (FEU) as to the core values of fortitude, excellence, and uprightness. It is a professional development to be imposed by the university to upgrade knowledge of faculties and staff in preparation for the school process for the whole semester. The objectives are defined during the CRAFT session. The program is designed to maintain competency among faculties through training and seminars because they are being taught the proper way of handling the process in the educational institution. It maintains professional development skills to commit ethically to the interest of the faculties. It is a type of profession to disseminate aspirant minds and knowledge to balance new challenges faced by the faculties. It measures

Course Refresher in Assessing and Facilitating Teacher-Learning (CRAFT) in Higher Education Institution: Basis for Improved Professional Faculty Development

competency level of faculty performance and skills. It involves innovation and technical challenges in teaching and learning as molders and shapers of students as the centers of learning. The competency is based on professional development of faculty and staff as self-management, strategic action, teamwork, administration, planning and communication process. This is necessary in the Higher Education Institution as part of the course training workshop, (Mallillin, & Mallillin, 2019). On the other hand, course refresher in assessing and facilitating teacher-learning (CRAFT) requires faculty to nurture professional development in helping students' learning process and academic performance. Though the teaching profession is the noblest among all professions. Educators are catalysts in the social change for students in the society where professional development is needed as part of course refresher in assessing the facilitation of learning and teaching. It is a career profession that laden's classism and ethics development of professionalism in the improved learning process of students. It explores teaching careers and consequences of motivation in the work ethics that leads to job satisfaction as part of professionalism among faculties and staff. It identifies professional development of faculty in motivating career exploration of profession as to predictability, emotion, characteristics, outcome and performance, (Mallillin, 2021).

On the other hand, the purpose course refresher in assessing and facilitating teacher-learning (CRAFT) improves skills and knowledge related jobs among faculties and staff on new development school organization systems and setting. It upgrades continuous skills, professional development of faculties in better manner of work and performance expectation. It refreshes orientation and course program for in-service professional development faculties to maintain professional development and quality teaching. It focuses on teaching and the learning process. It explores teaching and theoretical background of practical knowledge among Higher Education Institution faculties. It designs different activities of faculties in the application and opportunity workplace. During the CRAFT, faculties acquire different teaching methods, skills, and models based on expected learning outcome to be implemented. It helps students to understand the development objectives in the educational system process of Higher Education Institution. It tries to focus on different policies teaching and learning process curriculum subjects. It integrates knowledge and professional teaching technology that enhances the focus of learning. It identifies the gaps and issues knowledge and integration of teaching and learning as purpose of course refresher in assessing the faculties in teaching and learning, (Mallillin, et al., 2020). The course refresher in assessing faculties teaching and learning examines implementation on educational learning and teaching intervention for student performance, learning activities, direct instruction, learning reflection, and student interest. It also identifies the contribution of adapting learning intervention of teacher model theory in the educational system especially in the Higher Education Institution since faculties are considered as talented, resourceful, effective, efficient, honest, adaptable, creative, and enthusiastic, (Mallillin, 2022, pp. 99-121).

Moreover, the course refresher in assessing and facilitating teacher-learning (CRAFT) helps to keep training necessary for knowledge among faculties. It dumps the information and refresher training course for improved personal knowledge among faculties and staff. It tickles the brains of faculties to become effective and efficient work performance to the best in handling students as centers of learning. It is the most necessary and important concept of the CRAFT among faculties in Higher Education Institutions. The course refreshes the concept workshop and training from time to time. It is designed to refresh professional development of faculties to bring the fundamental knowledge and information. It plays an effective major role for students as centers of learning. It contributes better competency and professionalism in the classroom practice. It applies teacher model generic competency for self-regulated learning in the classroom setting where training is needed for effective knowledge and development of faculties. Faculties can be assessed on various characteristics and necessary aspects as to self-efficacy, belief, and knowledge. It determines the characteristics of professional faculties in the course refresher assessing teaching and learning. It shows that faculty proficiency and competency has an impact on the training effect to inspire teaching and learning practice. Hence, faculty training and characteristic plays a big role in development and competency for professional classroom practice and knowledge as to variation of pedagogical belief, and motivational orientation for teaching and learning practice, (Dignath, 2021, pp. 555-594). Meanwhile, course refresher in assessing faculties and learning teaching in the Higher Education Institution has an impact pressure in requiring faculties for advance training through CRAFT experiences. Faculties are expected to utilize and deliver the medium of learning in various technologies as part of professional development. It aims to provide better challenges and understanding that can be addressed, (Li, & Morris, 2021, pp. 253-271).

Similarly, the facilitation of learning in understanding of course refreshes in assessing and facilitating teacher-learning (CRAFT) among faculties creates impact on the outcome and success of teaching and learning. It helps to facilitate better instruction and teaching learning for students' classroom atmosphere. It facilitates better learning philosophy of teaching based on the core values of the university. It is a tool used in facilitating learning for student tool sets in teaching strategy and method. It encourages students to absorb new information relevant in a meaningful process. It replaces the role of learning subtly

Course Refresher in Assessing and Facilitating Teacher-Learning (CRAFT) in Higher Education Institution: Basis for Improved Professional Faculty Development

appreciation, imaginative learning, comprehensive understanding, and critical thinking which is needed among the learners. It predicted the idea of a learning environment that empowers trusted responsibility, and the decision making process of teaching and learning. It provides professional development for faculties efficiency and effectiveness impact work performance. It expands the evaluation and development framework for professional development, (Shin, & Kim, 2021, pp. 365-388). Hence, it provides better evaluation teaching and learning experiences of faculties. It provides understanding teaching outcomes and monitors progress of faculty performance and professional development. Course refresher in assessing faculty teaching provides product designed implementation training needed prior to actual work output, (Inman, & Roberts, 2021, pp. 205-236).

Furthermore, course refresher in assessing and facilitating teacher-learning (CRAFT) stresses facilitation learning especially on proper techniques in teaching strategies and methods such as variation of class activities in teaching and learning styles. This will assist students to explore and to shine skills. It helps in the approach of choosing the best techniques of teaching and learning, choice and options of teaching and learning style. It facilitates learning interest and exercises authority, connection for the lesson that relates learning experiences of students such as current issues, subjects, classes in real life situations, and resources to update students information teaching challenges to validate assessment of quality learning. It explores resources, tools, and trust in gauging trustworthiness of the learning process. It engages academic performance of students based on the various domains as motivating factors such as skills and motives in the process of learning, (Mallillin, 2020, pp. 1-11). It describes the structural domain of teaching in various learning as to affective, cognitive, and psychomotor domains of learning. It includes teaching strategies, and approach for students achievement toward academic performance, (Mallillin, et al., 2021).

STATEMENT OF THE PROBLEM

1. What is the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution among the respondents in terms of
 - 1.1 skills productivity,
 - 1.2 school culture,
 - 1.3 update training trends,
 - 1.4 development of teaching management, and
 - 1.5 training needs and gaps?
2. What is the extent of the improved professional faculty development of the respondents' aspects as to
 - 2.1 roles, understanding, and expectation,
 - 2.2 development of trust and respect,
 - 2.3 organizational and institutional development culture,
 - 2.4 perspective faculty success, and
 - 2.5 assessment of program outcome?
3. Is there a significant correlation between the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution and the extent of the improved professional faculty development among the respondents?

HYPOTHESIS

There is no significant correlation between the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution and the extent of the improved professional faculty development among the respondents.

THEORETICAL FRAMEWORK

The study is anchored on "Professional Development System Theory for Quality Education" as cited by (Mallillin, & Laurel, 2022) as this theory contributes to skills and professional system and development of faculties in various theories as to reflection, effectiveness, implementation, observed model of teaching, standard requirements, and acquiring knowledge theory. It shows how to develop knowledge and skills in the application and process of learning, and provides understanding in the skills and instruction process. It contributes to the teaching process and system of professional development. It includes well-organized skills in the classroom process of learning. It also provides an ability process to focus on thoughts and manner of teaching access and implementation to equip opportunities for learning. It promotes mindset growth and opportunity for faculty learning process support and outcome. It adopts and guides effectiveness to address opportunity standard professional development learning and

Course Refresher in Assessing and Facilitating Teacher-Learning (CRAFT) in Higher Education Institution: Basis for Improved Professional Faculty Development

collaboration in the educational setting. It describes tools to reflect the systematic process of teaching, analyzing, collecting, recording, thought observation for teachers.

FLOW OF THE STUDY

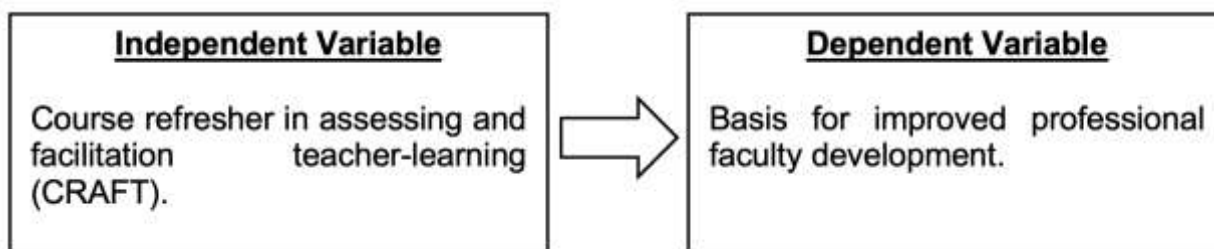


Figure 1. Independent variable and dependent variable on course refresher in assessing and facilitation teacher-learning (CRAFT) as basis for improved professional faculty development

RESEARCH DESIGN

Descriptive correlational research design is utilized in the study. It is based on a set criteria where it measures and quantifies contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution among the respondents in terms of skills productivity, school culture, update training trends, development of teaching management, and training needs and gaps. Likewise to measure the extent of the improved professional faculty development of the respondents' aspects as to roles, understanding, and expectation, development of trust and respect, organizational and institutional development culture, prospective faculty success, and assessment of program outcome. It provides support and process on course refresher in assessing and facilitating teacher-learning competency that enhances professional development process of faculties, (Essel, et al., 2022, pp. 1-21).

Sampling Techniques

Purposive sampling is employed in the study. It is a convenient process in gathering the sample population of the study. It is drawn on a convenient sample population that is an accessible source for the researcher. It defines and characterizes the relevance and purpose of the study. It generalizes the purposive sampling and conveniences based on the entire population of the study. It explains the concept and examples of the practice and process of sampling size. It enriches the design of purposive sampling and convenience. It explains the design and sampling techniques as to understated research and interpretation, (Andrade, 2021, pp. 86-88).

Respondents of the Study

The subjects of the study are a group of professional faculties and staff of the various Higher Education Institutions who underwent training and workshop prior to actual work of teaching experiences. The study comprised one hundred seventy five (175) respondents only.

Instruments Used

1. Contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institutions in terms of skills productivity.

Scale	Descriptive Level	Descriptive Interpretation
4.20-5.00	Strongly Agree	skills productivity is highly observed
3.40-4.19	Agree	skills productivity is observed
2.60-3.39	Moderately Agree	skills productivity is limited
1.80-2.59	Disagree	skills productivity is not observed
1.00-1.79	Strongly Disagree	skills productivity is not observed at all

2. Contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institutions in terms of school culture

Scale	Descriptive Level	Descriptive Interpretation
4.20-5.00	Strongly Agree	school culture is highly observed

Course Refresher in Assessing and Facilitating Teacher-Learning (CRAFT) in Higher Education Institution: Basis for Improved Professional Faculty Development

3.40-4.19	Agree	school culture is observed
2.60-3.39	Moderately Agree	school culture is limited
1.80-2.59	Disagree	school culture is not observed
1.00-1.79	Strongly Disagree	school culture is not observed at all

3. Contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institutions in terms of update training trend

Scale	Descriptive Level	Descriptive Interpretation
4.20-5.00	Strongly Agree	update training trend is highly observed
3.40-4.19	Agree	update training trend is observed
2.60-3.39	Moderately Agree	update training trend is limited
1.80-2.59	Disagree	update training trend is not observed
1.00-1.79	Strongly Disagree	update training trend is not observed at all

4. Contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institutions in terms of development of teaching management

Scale	Descriptive Level	Descriptive Interpretation
4.20-5.00	Strongly Agree	development of teaching management is highly observed
3.40-4.19	Agree	development of teaching management is observed
2.60-3.39	Moderately Agree	development of teaching management is limited
1.80-2.59	Disagree	development of teaching management is not observed
1.00-1.79	Strongly Disagree	development of teaching management is not observed at all

5. Contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institutions in terms of training needs and gaps

Scale	Descriptive Level	Descriptive Interpretation
4.20-5.00	Strongly Agree	training needs and gaps is highly observed
3.40-4.19	Agree	training needs and gaps is observed
2.60-3.39	Moderately Agree	training needs and gaps is limited
1.80-2.59	Disagree	training needs and gaps is not observed
1.00-1.79	Strongly Disagree	training needs and gaps is not observed at all

6. Extent of the improved professional faculty development of the respondents' aspects as to roles, understanding, and expectation

Scale	Descriptive Level	Descriptive Interpretation
4.20-5.00	Strongly Agree	roles, understanding, and expectation is highly observed
3.40-4.19	Agree	roles, understanding, and expectation is observed
2.60-3.39	Moderately Agree	roles, understanding, and expectation is limited
1.80-2.59	Disagree	roles, understanding, and expectation is not observed
1.00-1.79	Strongly Disagree	roles, understanding, and expectation is not observed at all

7. Extent of the improved professional faculty development of the respondents' aspects as to development of trust and respect

Scale	Descriptive Level	Descriptive Interpretation
4.20-5.00	Strongly Agree	development of trust and respect is highly observed
3.40-4.19	Agree	development of trust and respect is observed
2.60-3.39	Moderately Agree	development of trust and respect is limited
1.80-2.59	Disagree	development of trust and respect is not observed
1.00-1.79	Strongly Disagree	development of trust and respect is not observed at all

Course Refresher in Assessing and Facilitating Teacher-Learning (CRAFT) in Higher Education Institution: Basis for Improved Professional Faculty Development

8. Extent of the improved professional faculty development of the respondents' aspects as to organizational and institutional development culture

Scale	Descriptive Level	Descriptive Interpretation
4.20-5.00	Strongly Agree	organizational and institutional development culture is highly observed
3.40-4.19	Agree	organizational and institutional development culture is observed
2.60-3.39	Moderately Agree	organizational and institutional development culture is limited
1.80-2.59	Disagree	organizational and institutional development culture is not observed
1.00-1.79	Strongly Disagree	organizational and institutional development culture is not observed at all

9. Extent of the improved professional faculty development of the respondents' aspects as to perspective faculty success

Scale	Descriptive Level	Descriptive Interpretation
4.20-5.00	Strongly Agree	perspective faculty success is highly observed
3.40-4.19	Agree	perspective faculty success is observed
2.60-3.39	Moderately Agree	perspective faculty success is limited
1.80-2.59	Disagree	perspective faculty success is not observed
1.00-1.79	Strongly Disagree	perspective faculty success is not observed at all

10. Extent of the improved professional faculty development of the respondents' aspects as to assessment of program outcome

Scale	Descriptive Level	Descriptive Interpretation
4.20-5.00	Strongly Agree	assessment of program outcome is highly observed
3.40-4.19	Agree	assessment of program outcome is observed
2.60-3.39	Moderately Agree	assessment of program outcome is limited
1.80-2.59	Disagree	assessment of program outcome is not observed
1.00-1.79	Strongly Disagree	assessment of program outcome is not observed at all

RESULTS

1. What is the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution among the respondents in terms of skills productivity, school culture, update training trends, development of teaching management, and training needs and gaps?

Table 1. Contribution of CRAFT in HEI in Terms of Skills Productivity Among the Respondents

Indicators	WM	I	R
It creates things simple, a focus plan, and faculty to stay on set tasks for success and clear outcome.	4.21	SA	1.5
It sets goals on strategies and skills processes to ensure progress and success of tasks in the school setting.	3.61	A	5
It helps to minimize activities in the office or school such as work teaching load, meeting, and lack of organization.	3.38	MA	6.5
It motivates employees in the most difficult time and crucial understanding of individual work.	3.87	A	4
It minimizes expectation and avoids multitasking of work output and productivity.	3.38	MA	6.5
It improves productivity in focusing employee programs and benefits toward performance goals of the school organization.	4.21	SA	1.5
It encourages employees to focus and maintain performance on skills and productivity improvement.	4.01	A	3
Average Weighted Mean	3.81	A	
Standard Deviation	0.359		

Course Refresher in Assessing and Facilitating Teacher-Learning (CRAFT) in Higher Education Institution: Basis for Improved Professional Faculty Development

Table 1 presents the weighted mean and the corresponding interpretation on the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution among the respondents in terms of skills productivity.

As noted in the table, it shows that rank 1 is shared by the two indicators which are “It creates things simple, focus plan, and faculty to stay on set tasks for success and clear outcome”, and “It improves productivity in focusing employee program and benefits toward performance goals of the school organization”, with a weighted mean of 4.21 or Strongly Agree which means contribution of course refresher in assessing and facilitating teacher-learning in terms of skills productivity is highly observed. Rank 2 is “It encourages employees to focus and maintain performance on skills and productivity improvement”, with a weighted mean of 4.01 or Agree which means contribution of course refresher in assessing and facilitating teacher-learning in terms of skills productivity is observed. Rank 3 is “It motivates employees in the most difficult time and crucial understanding of individual work”, with a weighted mean of 3.87 or Agree which means contribution of course refresher in assessing and facilitating teacher-learning in terms of skills productivity is observed. The least in rank is shared by the two indicators which are “It helps to minimize activities in the office or school such as work teaching load, meeting, and lack of organization”, and “It minimizes expectation and avoids multitasking of work output and productivity”, with a weighted mean of 3.38 or Moderately Agree which means contribution of course refresher in assessing and facilitating teacher-learning in terms of skills productivity is limited. The overall average weighted mean is 3.81 (SD=0.359) or Agree on the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution in terms of skills productivity as observed among the respondents.

Table 2. Contribution of CRAFT in HEI in Terms of School Culture Among the Respondents

Indicators	WM	I	R
The employees, faculties, and staff are role models where they can assist one another as part of the trends in the school organization especially in coping with unfamiliar situations.	3.36	MA	7
Shows unity, respect, and understanding that no one is left behind where camaraderie is observed from time to time.	4.00	A	3.5
School culture builds strong relationships which is one of the core values of Higher Education Institutions to breed positive culture.	4.20	SA	1
It influences support and improves the performance of every employee to make the school climate focus on strong relationships as one team in the educational system.	4.12	A	2
It sets a wide procedure in the school system to define culture, framework, and structure policy in the educational system.	3.74	A	5
It strengthens positive behavior of employees to reinforce better school culture in the educational system of the university.	4.00	A	3.5
It measures and tracks positive school culture climate success and initiative to define metrics and establish success.	3.53	A	6
Average Weighted Mean	3.85	A	
Standard Deviation	0.314		

Table 2 presents the weighted mean and corresponding interpretation on the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution among the respondents in terms of school culture.

As gleaned in the table, it shows that rank 1 is “School culture builds strong relationship which is one of the core values of the Higher Education Institution to breed positive culture”, with a weighted mean of 4.20 or Strongly Agree which means contribution of course refresher in assessing and facilitating teacher-learning in terms of school culture is highly observed. Rank 2 is “It influences support and improves performance of every employee to make school climate focus on a strong relationship as one team in the educational system”, with a weighted mean of 4.12 or Agree which means contribution of course refresher in assessing and facilitating teacher-learning in terms of school culture is observed. Rank 3 is shared by the two indicators which are “Shows unity, respect, and understanding that no one is left behind where camaraderie is observed from time to time”, and “It strengthens positive behavior of employees to reinforce better school culture in the educational system of the university”, with a weighted mean of 4.00 or Agree which means contribution of course refresher in assessing and facilitating teacher-learning in terms of school culture is observed. The least in rank is “The employees, faculties, and staff are role models to assist one another as part of the trends in the school especially in coping with unfamiliar situation”, with a weighted mean of 3.36 or Moderately

Course Refresher in Assessing and Facilitating Teacher-Learning (CRAFT) in Higher Education Institution: Basis for Improved Professional Faculty Development

Agree which means contribution of course refresher in assessing and facilitating teacher-learning in terms of school culture is limited. The overall average weighted mean is 3.85 (SD=0.314) or Agree on the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution in terms of school culture as observed among the respondents.

Table 3. Contribution of CRAFT in HEI in Terms of Update Training Trends Among the Respondents

Indicators	WM	I	R
Innovates trends of educational systems and advanced technology in collaborative teaching and learning connection.	3.39	MA	6.5
Improves advanced technology for teaching approach on outcome-based teaching for students as the centers of learning.	4.07	A	2.5
Mobilizes classroom learning environments on different trends in technology to keep educational change on its quality from time to time.	3.81	A	5
Training updates design the capability of faculty to improve approach in teaching trends based on the needs of students' learning process.	4.23	SA	1
It helps to improve interactivity in the classroom through the trend of teaching utilizing the advanced technology for quality education output results.	4.07	A	2.5
It engages in updating academic measures of faculty classroom activities to focus on in-depth learning guidance in the course module.	3.39	MA	6.5
It introduces classroom learning experiences in the educational setting and system for a tremendous change and improves teaching immersive methods.	4.00	A	4
Average Weighted Mean	3.85	A	
Standard Deviation	0.338		

Table 3 presents the weighted mean and the corresponding interpretation on the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution among the respondents in terms of update training trend.

As shown in the table, rank 1 is "Training updates design capability of faculty to improve approach in teaching based on the needs of students' learning process", with a weighted mean of 4.23 or Strongly Agree which means contribution of course refresher in assessing and facilitating teacher-learning in terms of update training trend is highly observed. Rank 2 is shared by the two indicators which are "Improve the advanced technology for teaching approach outcome-based teaching for students as the centers of learning", and "It helps to improve interactivity in the classroom through the trend of teaching utilizing the advanced technology for quality education output result", with a weighted mean of 4.07 or Agree which means contribution of course refresher in assessing and facilitating teacher-learning in terms of update training trend is observed. Rank 3 is "It introduces classroom learning experiences in the educational setting and system for a tremendous change and improves teaching immersive method", with a weighted mean of 4.00 or Agree which means contribution of course refresher in assessing and facilitating teacher-learning in terms of update training trend is observed. The least in rank is shared by the two indicators which are "Innovates trends of educational systems and advanced technology in collaborative teaching and learning connection", and "It engages update academic measure of faculty classroom activities to focus on in-depth learning guidance in the course module", with a weighted mean of 3.39 or Moderately Agree which means contribution of course refresher in assessing and facilitating teacher-learning in terms of update training trend is limited. The overall average weighted mean is 3.85 (SD=0.338) or Agree on the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution in terms of update training trend as observed among the respondents.

Table 4. Contribution of CRAFT in HEI in Terms of Development of Teaching Management Among the Respondents

Indicators	WM	I	R
It sets routine and classroom expectations on behavior of student positive outcome and improved performance.	3.34	MA	7
It helps to develop the improved teaching management and implementation for teaching and learning to the fullest.	4.20	SA	1.5
It determines to provide positive reward and behavior in teaching and learning during the delivery of the module.	4.17	A	3.5

Course Refresher in Assessing and Facilitating Teacher-Learning (CRAFT) in Higher Education Institution: Basis for Improved Professional Faculty Development

It reinforces development of teaching management and positive behavior of learners gradually for the academic performance of students.	4.02	A	5
It defines best possible teaching and development management to emphasize positive behavior for the learners-based needs teaching process.	4.20	SA	1.5
It establishes a norm on development teaching management, evaluation of performance, development of interactive communication system, and planning.	3.78	A	6
It helps to develop goals and access to the educational system that can be achieved effectively in development management teaching for faculty.	4.14	A	3.5
Average Weighted Mean	3.97	A	
Standard Deviation	0.318		

Table 4 presents the weighted mean and the corresponding interpretation on the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution among the respondents in terms of development of teaching management.

As noted in the table, rank 1 is shared by the two indicators which are “It helps to develop the improved teaching management and implementation for teaching and learning to the fullest”, and “It defines best possible teaching and development management to emphasize positive behavior for the learners-based needs teaching process”, with a weighted mean of 4.20 or Strongly Agree which means contribution of course refresher in assessing and facilitating teacher-learning in terms of development of teaching management is highly observed. Rank 2 is also shared by the indicators which are “It is determined to provide positive reward and behavior in teaching and learning during the delivery of the module”, and “It helps to develop goals and access to educational system that can be achieved effectively in development management teaching for faculty”, with a weighted mean of 4.14 or Agree which means contribution of course refresher in assessing and facilitating teacher-learning in terms of development of teaching management is observed. Rank 3 is “It reinforces development of teaching management and positive behavior of learners gradually for the academic performance of students”, with a weighted mean of 4.02 or Agree which means contribution of course refresher in assessing and facilitating teacher-learning in terms of development of teaching management is observed. The least in rank is “It sets routine and classroom expectation on behavior of student positive outcome and improved performance”, with a weighted mean of 3.34 or Moderately Agree which means contribution of course refresher in assessing and facilitating teacher-learning in terms of development of teaching management is limited. The overall average weighted mean is 3.97 (SD=0.318) or Agree on the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution in terms of development of teaching management as observed among the respondents.

Table 5. Contribution of CRAFT in HEI in Terms of Training Needs and Gaps Among the Respondents

Indicators	WM	I	R
It determines valuable training needs for faculty overall competency and efficiency increased school organization.	4.21	SA	1.5
It analyzes the gap in identifying the knowledge of training needs and performance of an organization to recognize upskill faculty training.	3.56	A	6
It identifies the outcome desired training gap of faculty in the actual team school system and setting.	4.21	SA	1.5
It helps to improve the skills for faculty whether soft or hard to address training expectation and disparity during the CRAFT.	3.35	MA	7
It determines training needs of faculties to provide analysis on performance issues that may arise before and after the CRAFT.	3.87	A	4.5
It helps to provide competency skills, knowledge for employees to keep them updated and perform better.	3.87	A	4.5
Training needs and gaps recognize knowledge and skills of faculty in organizational priority training and implementation of reskill and upskill.	4.04	A	3
Average Weighted Mean	3.87	A	
Standard Deviation	0.323		

Course Refresher in Assessing and Facilitating Teacher-Learning (CRAFT) in Higher Education Institution: Basis for Improved Professional Faculty Development

Table 5 presents the weighted mean and the corresponding interpretation on the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution among the respondents in terms of training needs and gaps.

As observed in the table, rank 1 is shared by the two indicators which are “It determines the valuable training needs for faculty overall competency and efficiency to increase school organization”, and “It identifies outcome desire training gaps of faculties in actual team school system and setting”, with a weighted mean of 4.21 or Strongly Agree which means contribution of course refresher in assessing and facilitating teacher-learning in terms of training needs and gaps is highly observed. Rank 2 is “Training needs and gaps recognize knowledge and skills of faculty in organizational priority training and implementation of reskill and upskill”, with a weighted mean of 4.04 or Agree which means contribution of course refresher in assessing and facilitating teacher-learning in terms of training needs and gaps is observed. Rank 3 is also shared by the two indicators which are “It determines training needs of faculties to provide analysis on performance issues that may arise before and after the CRAFT”, and “It helps to provide competency skills, knowledge for employees to keep them updated and perform better”, with a weighted mean of 3.87 or Agree which means contribution of course refresher in assessing and facilitating teacher-learning in terms of training needs and gaps is observed. The least in rank is “It helps to improve the skills for faculties whether soft or hard to address training expectation and disparity during the CRAFT”, with a weighted mean of 3.35 or Moderately Agree which means contribution of course refresher in assessing and facilitating teacher-learning in terms of training needs and gaps is limited. The overall average weighted mean is 3.87 (SD=0.323) or Agree on the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution in terms of training needs and gaps as observed among the respondents.

2. What is the extent of the improved professional faculty development of the respondents’ aspects as to roles, understanding, and expectation, development of trust and respect, organizational and institutional development culture, perspective faculty success, and assessment of program outcome?

Table 6. Extent of Improved Professional Faculty Development Aspects as to Roles, Understanding, and Expectation Among the Respondents

Indicators	WM	I	R
It gains new skills on professional development in continuous career training in education and workforce through workshops, industry conferences, training, and expanding knowledge of faculty.	3.49	A	5
It offers an in-house professional development opportunity such as mentoring program and training session for various professional development systems and settings.	4.12	A	2
It provides career opportunity and advancement in honing skills of faculty in the school organization.	3.37	MA	6.5
It develops professional privilege for faculty in higher job satisfaction and productivity school organization.	3.37	MA	6.5
It invests in training programs and professional development of faculty success and interest in advanced career processes.	3.66	A	4
It offers better professional opportunity development for faculty in retaining and attracting skilled employees for better advancement careers.	4.22	SA	1
It builds professional development of faculty benefit and ability for personal goals and potentials.	4.00	A	3
Average Weighted Mean	3.74	A	
Standard Deviation	0.361		

Table 6 presents weighted mean and the corresponding interpretation on the extent of the improved professional faculty development as to aspects of roles, understanding, and expectation among the respondents.

As shown in the table, rank 1 is “It offers better professional opportunity development for faculty in retaining and attracting skilled employees for better advancement career”, with a weighted mean of 4.22 or Strongly Agree which means improved professional faculty development aspects as to roles, understanding, and expectation is highly observed. Rank 2 is “It offers an in-house professional development opportunity such as mentoring program and training session for various professional development systems in the school system and setting”, with a weighted mean of 4.12 or Agree which means improved

Course Refresher in Assessing and Facilitating Teacher-Learning (CRAFT) in Higher Education Institution: Basis for Improved Professional Faculty Development

professional faculty development aspects as to roles, understanding, and expectation is observed. Rank 3 is “It builds professional development of faculty benefit and ability for personal goals and potentials”, with a weighted mean of 4.00 or Agree which means improved professional faculty development aspects as to roles, understanding, and expectation is observed. The least in rank is shared by the two indicators which are “It provides career opportunity and advancement in honing skills of faculty school organization”, and “It develops professional privilege for faculty in higher job satisfaction and productivity school organization”, with a weighted mean of 3.37 or Moderately Agree which means improved professional faculty development aspects as to roles, understanding, and expectation is limited. The overall average weighted mean is 3.75 (SD=0.361) or Agree on the extent of the improved professional faculty development as to aspect of roles, understanding, and expectation as observed among the respondents.

Table 7. Extent of Improved Professional Faculty Development Aspects as to Development of Trust and Respect Among the Respondents

Indicators	WM	I	R
It advances faculty development of trust and respect to form part of the school culture where academic democracy is being emphasized.	3.76	A	5
It seeks to fulfill trust and respect development in school culture heritage as to its function in social integrity and personal development of faculty.	3.36	MA	7
It develops trust and respect to socialization in education provided by the school organization behavior process of individual employee faculty.	4.23	SA	1
Trust and respect are reinforcing the structure function process of school culture in Higher Education Institutions as skills develop knowledge and complexity.	3.55	A	6
It is a total socialization in education-based needs and processes to survive for values and dominant roles in the educational institution.	4.02	A	3
It provides transmission of culture on trust and respect development in fundamental information and behavior of individual faculty.	3.87	A	4
Development of trust and respect maintains social control and manifestation standard faculty in the school organization.	4.11	A	2
Average Weighted Mean	3.84	A	
Standard Deviation	0.310		

Table 7 presents the weighted mean and the corresponding interpretation on the extent of the improved professional faculty development as to aspects of development of trust and respect among the respondents.

As noted in the table, rank 1 is “It develops trust and respect to socialization in education provided by the school organization behavior process of individual employee faculty”, with a weighted mean of 4.23 or Strongly Agree which means improved professional faculty development aspects as to development of trust and respect is highly observed. Rank 2 is “Development of trust and respect maintains social control and manifestation standard faculty in the school organization”, with a weighted mean of 4.11 or Agree which means improved professional faculty development aspects as to development of trust and respect is observed. Rank 3 is “It is a total socialization in education-based needs and processes to survive for values and dominant roles in the educational institution”, with a weighted mean of 4.02 or Agree which means improved professional faculty development aspects as to development of trust and respect is observed. The least in rank is “It seeks to fulfill trust and respect development in school culture heritage as to function in social integrity and personal development of faculty”, with a weighted mean of 3.36 or Moderately Agree which means improved professional faculty development aspects as to development of trust and respect is limited. The overall average weighted mean is 3.84 (SD=0.310) or Agree on the extent of the improved professional faculty development as to aspects of development of trust and respect as observed among the respondents.

Course Refresher in Assessing and Facilitating Teacher-Learning (CRAFT) in Higher Education Institution: Basis for Improved Professional Faculty Development

Table 8. Extent of Improved Professional Faculty Development Aspects as to Organizational and Institutional Development Culture Among the Respondents

Indicators	WM	I	R
It focuses on understanding greater need for school-based professionals as to common beliefs, attitude, norms, and common values on the institutional development culture.	3.35	MA	6.5
It builds cohesion explicit organizational and institutional development care as to direction determination, distinction, pattern behavior, standard, and promotion of achievement orientation.	4.17	A	2
Organizational and institutional development culture has advantages, and disadvantages function among faculty and educational institution setting and system.	3.82	A	4
It is conducive to positive institutional school culture, satisfaction, professionalism, morale, and effectiveness to foster collaboration in the educational institution.	3.61	A	5
It promotes and engages healthy behavior in organizational and institutional development culture among faculty and staff to display high professional standards.	3.35	MA	6.5
It promotes collaboration and decision making on dynamic converging issues requiring leadership setting, attention, and teamwork goal orientation in the school culture environment.	4.24	SA	1
It defines allowable policy and intention to ensure coherence, decision making, behavior in real change of organizational, and institutional development culture.	4.00	A	3
Average Weighted Mean	3.79	A	
Standard Deviation	0.367		

Table 8 presents the weighted mean and the corresponding interpretation on the extent of the improved professional faculty development as to aspects of organizational and institutional development culture among the respondents.

As glanced in the table, rank 1 is “It promotes collaboration and decision making on dynamic converging issues requiring leadership setting, attention, and teamwork goal orientation in the school culture environment”, with a weighted mean of 4.24 or Strongly Agree which means improved professional faculty development aspects as to organizational and institutional development culture is highly observed. Rank 2 is “It builds cohesion with explicit organizational and institutional development care as to direction determination, distinction, pattern behavior, standard, and promotion of achievement orientation”, with a weighted mean of 4.17 or Agree which means improved professional faculty development aspects as to organizational and institutional development culture is observed. Rank 3 is “It defines allowable policy and intention to ensure coherence, decision making, behavior in real change of organizational, and institutional development culture”, with a weighted mean of 4.00 or Agree which means improved professional faculty development aspects as to organizational and institutional development culture is observed. The least in rank is shared by the two indicators which are “It focuses on understanding greater need for school-based professionals as to common beliefs, attitude, norms, and common values on the institutional development culture”, and “It promotes and engages healthy behavior in organizational and institutional development culture among faculty and staff to display high professional standard”, with a weighted mean of 3.35 or Moderately Agree which means improved professional faculty development aspects as to organizational and institutional development culture is limited. The overall average weighted mean is 3.79 (SD=0.367) or Agree on the extent of the improved professional faculty development as to aspects of organizational and institutional development culture as observed among the respondents.

Table 9. Extent of Improved Professional Faculty Development Aspects as to Perspective Faculty Success Among the Respondents

Indicators	WM	I	R
Perspective faculty success is responsible for the academic output and achievement instruction guide for the task assignment of the faculty success and responsibility.	3.76	A	4
It provides proper discipline for faculty itself in the organizational school system and success responsibility.	4.22	SA	1.5
It helps to manage time properly to allow personal responsibility and academic success for students as the centers of learning.	3.55	A	5.5

Course Refresher in Assessing and Facilitating Teacher-Learning (CRAFT) in Higher Education Institution: Basis for Improved Professional Faculty Development

It helps to improve academic performance and support student success and experience in teaching and learning.	3.55	A	5.5
It provides knowledge of instruction and prompts the query of students in teaching and learning.	4.22	SA	1.5
It determines and helps students to press forward on academic success despite issues and gaps in the learning process as to problems and personal crises.	3.34	MA	7
It helps to notify instruction and work diligently to the best where support and services are needed in the academic performance of students.	4.00	A	3
Average Weighted Mean	3.80	A	
Standard Deviation	0.348		

Table 9 presents the weighted mean and the corresponding interpretation on the extent of the improved professional faculty development as to aspects of perspective faculty success among the respondents.

As revealed in the table, rank 1 is shared by the two indicators which are “It provides proper discipline for faculty itself in the organizational school system and success responsibility”, and “It provides knowledge of instruction and prompts the query of students in teaching and learning”, with a weighted mean of 4.22 or Strongly Agree which means improved professional faculty development aspects as to perspective faculty success is highly observed. Rank 2 is “It helps to notify instruction and work diligently to the best where support and services are needed in the academic performance of students”, with a weighted mean of 4.00 or Agree which means improved professional faculty development aspects as to perspective faculty success is observed. Rank 3 is “Perspective faculty success is responsible academic output and achievement instruction guide for the task assignment of the faculty success and responsibility”, with a weighted mean of 3.76 or Agree which means improved professional faculty development aspects as to perspective faculty success is observed. The least in rank is “It determines and helps students to press forward on academic success despite issues and gaps in the learning process as to problems and personal crises”, with a weighted mean of 3.34 or Moderately Agree which means improved professional faculty development aspects as to perspective faculty success is limited. The average weighted mean is 3.80 (SD=0.348) or Agree on extent of the improved professional faculty development as to aspect of perspective faculty success as observed among the respondents.

Table 10. Extent of Improved Professional Faculty Development Aspects as to Assessment of Program Outcome Among the Respondents

Indicators	WM	I	R
Demonstrates mastery of educational assessment program outcome in political context, psychological, historical, socio-cultural, and philosophical educational system and setting in the Higher Education Institution.	4.21	SA	1
It facilitates learning delivery mode of teaching range and methodology appropriate to specific learning assessment and program outcome environment.	3.69	A	5
It develops curriculum and innovation program outcomes and establishes assessment as to diverse resource learning, teaching approach, and instructional plan.	4.01	A	2.5
It develops and applies skills in utilizing assessment program outcomes to promote sustainable relevant quality educational practice.	3.39	MA	7
It demonstrates different thinking skills, learning progress, reporting outcome, assessing, monitoring, and planning on program outcome of educational system and setting.	3.45	A	6
It practices assessment program outcomes as to ethical, and professional teaching standards, and sensitivity as to reality for national, global, or local setting.	4.01	A	2.5
It pursues assessment and program outcome in personal and professional growth lifelong learning varied experiential opportunity in the educational system.	3.81	A	4
Average Weighted Mean	3.79	A	
Standard Deviation	0.305		

Course Refresher in Assessing and Facilitating Teacher-Learning (CRAFT) in Higher Education Institution: Basis for Improved Professional Faculty Development

Table 10 presents the weighted mean and the corresponding interpretation on the extent of the improved professional faculty development as to the aspect of assessment of program outcome among the respondents.

As noted in the table, rank 1 is “Demonstrates mastery of educational assessment program outcome in political context, psychological, historical, socio-cultural, and philosophical educational system and setting in the Higher Education Institution”, with a weighted mean of 4.21 or Strongly Agree which means improved professional faculty development aspects as to assessment of program outcome is highly observed. Rank 2 is shared by the two indicators which are “It develops curriculum and innovation program outcome and establishes assessment as to diverse resource learning, teaching approach, and instructional plan”, and “It practices assessment program outcome as to ethical, and professional teaching standard, and sensitivity as to reality for national, global, or local setting”, with a weighted mean of 4.01 or Agree which means improved professional faculty development aspects as assessment of program outcome is observed. Rank 3 is “It pursues assessment and program outcome in personal and professional growth lifelong learning varied experiential opportunities in the educational system”, with a weighted mean of 3.81 or Agree which means improved professional faculty development aspects as assessment of program outcome is observed. The least in rank is “It develops and applies skills in utilizing assessment program outcome to promote sustainable relevant quality educational practice”, with a weighted mean of 3.39 or Moderately Agree which means improved professional faculty development aspects as assessment of program outcome is limited. The overall average weight mean is 3.79 (SD=0.305) or Agree on the extent of the improved professional faculty development as to the aspect of assessment of program outcome as observed among the respondents.

3. Is there a significant correlation between the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution and the extent of the improved professional faculty development among the respondents?

Table 11. Test of Significant Correlation Between the Contribution of CRAFT in HEI and the Extent of the Improved Professional Faculty Development Among the Respondents

Test of Variables CRAFT vs. Professional Faculty Development	Computed r value	Relationship *significant *not significant	Hypothesis *accepted *rejected
1. Skills productivity:			
roles, understanding, and expectation	0.02008293	not significant	accepted
development of trust and respect	0.01981971	not significant	accepted
organizational and institutional development	0.01995002	not significant	accepted
culture			
perspective faculty success	0.01992375	not significant	accepted
assessment of program outcome	0.01995002	not significant	accepted
School culture:			
roles, understanding, and expectation	0.01997833	not significant	accepted
development of trust and respect	0.01971648	not significant	accepted
organizational and institutional development	0.01984611	not significant	accepted
culture			
perspective faculty success	0.01981998	not significant	accepted
assessment of program outcome	0.01984611	not significant	accepted
Update training trends:			
roles, understanding, and expectation	0.01997574	not significant	accepted
development of trust and respect	0.01971392	not significant	accepted
organizational and institutional development	0.01984353	not significant	accepted
culture			
perspective faculty success	0.01981741	not significant	accepted
assessment of program outcome	0.01984353	not significant	accepted
Development of teaching management:			
roles, understanding, and expectation	0.01967407	not significant	accepted
development of trust and respect	0.01941621	not significant	accepted
	0.01954387	not significant	accepted

Course Refresher in Assessing and Facilitating Teacher-Learning (CRAFT) in Higher Education Institution: Basis for Improved Professional Faculty Development

organizational and institutional development	0.01951814	not significant	accepted
culture	0.01954387	not significant	accepted
perspective faculty success			
assessment of program outcome			
Training needs and gaps:			
roles, understanding, and expectation	0.01992664	not significant	accepted
development of trust and respect	0.01966547	not significant	accepted
organizational and institutional development	0.01979476	not significant	accepted
culture			
perspective faculty success	0.01976870	not significant	accepted
assessment of program outcome	0.01979476	not significant	accepted
One tailed test, df of 175, with 0.05 level of significant and critical r value of 0.147558			

Table 11 presents the test of significant correlation between the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution and the extent of the improved professional faculty development among the respondents.

It reveals in the table that when each variable is tested, it shows that all computed r values are lower than the r value of 0.147558, one tailed test with 0.05 level of significance, and df of 175 which is not significant in the relationship and acceptance of the hypothesis. Therefore, it is safe to say that there is no significant correlation between the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution and the extent of the improved professional faculty development among the respondents.

DISCUSSION

The contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution among the respondents in terms of skills productivity shows to create things simple, focus plan, and faculty to stay on set task for success and clear outcome. It also shows to improve productivity in focusing employees program benefits to work for the performance goals of the school organization. The process of the CRAFT explores professional development of faculty views from various school organizations and benefits. It provides better competition as expected from the faculty in Higher Education Institutions. It benefits the whole school system on substantial impact as to performance, attraction, and retention. It is the strategy and focused to help employees in the school organization as to competitive advantage, sustainability and goals. It elaborates the skills productivity of the faculty to stimulate professionalism and work output in the organization, (Werner, & Balkin, 2021, pp. 8-22). Hence, it also helps to minimize activities in the office or school such as work teaching load, meeting, and lack of organization to avoid multitasking work output and productivity. This is based on policy and rules mandated by the school organization. It enhances quality teaching in improving resources to effective educational systems in the Higher Education Institution. It increases school resources for faculty, facility and infrastructure, and improves quality school systems such as teacher professional development empowerment, (Romlah, et al., 2021).

Indeed, the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution among the respondents in terms of school culture shows to build strong relationship which is one of the core values of the Higher Education Institution to breed positive culture as to fortitude, excellence, and uprightness. It influences support and improves performance of every employee to make the school climate focused on strong relationships as one team in the educational system. It is a comparative view and practice in exploring relationship and experience success and climate school culture context. It includes positive aspects in identifying success of faculty, learners, heads, school-based counselling or guidance, and teamwork. This includes utilization of school curriculum, respect in teaching, and relevant clear education act system and process. It is a catalyst to the educational and complex system practice dimension to school leadership influenced success of the learners, (Baafi, 2021). Still, it shows that employees, faculties, and staff are role models to assist one another as part of the trends in school, especially in coping with unfamiliar situations. It also shows unity, respect, and understanding that no one is left behind where camaraderie is observed from time to time. It strengthens positive behavior of employees to reinforce better school culture in the educational system. It develops a responsible leadership theory based on the roles in the organization school expertise. It motivates faculties to conceptualize leadership success when molding and shaping students to the fullest. A responsible leader or

Course Refresher in Assessing and Facilitating Teacher-Learning (CRAFT) in Higher Education Institution: Basis for Improved Professional Faculty Development

faculty requires concept and behavior complexity in providing role models for the learners. It provides positive and perceived leadership effectivity engagement in the school organization and value orientation, (Voegtlin, et al., 2020, pp. 411-431).

Notably, the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution among the respondents in terms of update training trend shows to design the capability of faculty to improve approach in teaching based needs of student learning process. It also improves advanced technology for teaching approach outcome-based teaching for students as the centers of learning. It also shows to help and to improve interactivity in the classroom through the trend of teaching utilizing the advanced technology for quality education output result. It examines organizational dimension capacity change from good, better, and best such as development of faculty professional and context change. This strengthens learning capacity and influences the progress of school organization performance, (Sukoco, et al., 2021). On the contrary, update training innovates trends of the educational system and advanced technology in collaborative teaching and learning connection. It also engages in updating academic measures of faculty classroom activities to focus on in-depth learning guidance in the course module. It introduces classroom learning, an experienced educational setting and system for a tremendous change and improves teaching immersive methods. It shapes educational structure based training design being updated for professional development as to skills and employment process. It strengthens development professional faculty high-tech skills and educational growth and value, (Qureshi, 2021).

Moreover, the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution among the respondents in terms of development of teaching management shows to help and to develop the improved implementation for teaching and learning. It defines best possible teaching and development management to emphasize positive behavior for the learners-based needs in the teaching process. It determines to provide positive reward and behavior in teaching and learning during the delivery of the module. It helps to develop goals and access to educational systems that can be achieved effectively in development management in teaching for faculty which means practical experience, social development thinking, for faculty can improve professional competence, and profession. This depends on the attitude and logic in adequate respect, ability, and professional skills. It analyzes the level of training activity for professional faculty. CRAFT has designed professional formation competency skills for employee and staff of Higher Education Institution system and process, (Orishev, & Burkhonov, 2021, pp. 139-150). Besides, it shows that development of teaching management sets routine and classroom expectation behavior of student positive outcome and improved performance. It also reinforces development of teaching management and positive behavior of learners gradually for academic performance of students. It develops faculty behavior in classroom intervention and effectiveness as to techniques in the delivery mode of teaching and stimulus control, techniques in consequent-based contingency, and management, (Staff, et al, 2021, pp. 763-779).

Furthermore, the contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution among the respondents in terms of training needs and gaps shows to determine the valuable training needs for faculty overall competency and efficiency to increase school organization which is necessary for professional development. It also identifies the outcome desired training gaps of faculty in the actual team school system and setting to provide development and learning. Training needs and gaps recognize knowledge and skills of faculty in organizational priority training and implementation of reskill and upskill. Effectiveness of training explores faculty performance competency as to soft skills, and knowledge management to strengthen and develop full potential individually. It enhances faculty solving problem skills, and concept development, (Mislia, et al., 2021, pp. 1368-1383). Yet, training needs and gaps help to improve the skills for faculty whether soft or hard to address training expectation and disparity during the CRAFT. This is a part of skills development as they face challenges in the now normal environment, especially in the adjustment process of teaching and learning. It determines training needs of faculty to provide analysis on performance issues that may arise before and after the CRAFT. This has been provided by the school organization before the start of the classes from time to time. It helps to provide competency skills, knowledge for employees to keep them updated and perform better. It assesses development and importance of CRAFT in improving performance of faculty in molding and shaping the young minds to the fullest. This is accounted for by the personality and professional development of faculty in the Higher Education Institution. It highlights relevant belief and cohesive structure in the academic skills of faculty, (Chamorro-Premuzic, et al., 2010, pp. 221-241).

Similarly, the extent of the improved professional faculty development as to aspects of roles, understanding, and expectation among the respondents shows to offer better professional opportunity development in retaining and attracting skilled employees for better advancement careers. This forms part of the vision, mission, and core value of the Higher Education Institution. It offers an in-house professional development opportunity such as mentoring program and training session for various professional development systems and settings. Various speakers are invited to give inspirational talks for faculty to engage in the

Course Refresher in Assessing and Facilitating Teacher-Learning (CRAFT) in Higher Education Institution: Basis for Improved Professional Faculty Development

impact of moderate role and practice. It provides an impact and enhances faculty retention and contribution through engagement of professional development processes. It appraises faculty on absorption process value at work, dedication, and vigor. It contributes to faculty improvement on job engagement. Faculty role and understanding provides real wealth in the educational system and organization as intense competency in providing quality education, (Sepahvand, & Bagherzadeh Khodashahri, 2021, pp. 437-468). Also, it provides career opportunity and advancement in honing skills of faculty in the school organization which means to provide proper training needed for teaching competency. It develops professional privilege for faculty in job satisfaction and productivity school organization. It builds professional development of faculty benefit and ability for personal goals and potentials. It highlights experiences and professional development of faculty in enhancing skills and competency for growth and development in teaching and learning practice. It challenges faculty on focus of work, and professional development to strengthen student future careers, (Grossman, & Duchesneau, 2021).

Nonetheless, the extent of the improved professional faculty development as an aspect of development of trust and respect among the respondents shows to develop socialization in education provided by the school organization behavior process of individual employee faculty. This must be the environment of the school organization where unity, and respect can be inculcated to have working relationships in Higher Education Institutions. Development of trust and respect maintains social control and manifestation standard faculty in the school organization. This is observed in the school organization. It fosters support for faculty as to diversity and equity intervention of the CRAFT. It underlies various theories as explained by the plenary speakers on processing theory, social information, and social learning theory to spur faculty on academic influence and leadership. It highlights the success of CRAFT in the role, respect, and understanding of the success of the faculty development program, (Marchiondo, Verney, & Venner, 2021). However, it shows to seek and to fulfill trust and respect development school culture heritage as to its function in social integrity and personal development of faculty. This has implanted to the mind of faculty the essence of development and trust among them. This maintains better camaraderie among faculty in the organization. It is a total socialization in education-based needs and processes to survive for values and dominant roles in the educational institution. It is determined to focus on faculty performance in an ideal workplace and purpose in the organization. This highlights better output and maintenance in the teaching and learning process. It mediates roles in the school organization of faculty, (Jena, 2021).

Certainly, the extent of the improved professional faculty development as to aspect of organizational and institutional development culture among the respondents shows to promote collaboration and decision making on dynamic converging issues requiring leadership setting, attention, and teamwork goal orientation in the school culture environment which means necessary characteristics and features of faculty in the school system and organization. It shows how to build cohesion with explicit organizational and institutional development care as to direction, determination, distinction, pattern behavior, standard, and promotion of achievement orientation. It defines allowable policies and intention to ensure coherence, decision making, behavior in real change of organizational, and institutional development culture. It draws a holistic level of professional development during the process of CRAFT in competency and leadership skills. It Influences faculty performance and mechanism model of social interaction and adaptation, mediation, dominance leadership, discipline in leadership, and charismatic leadership needed for faculty in the Higher Education Institution. It builds competitive team learning, performance, and goal orientation, (Lin, & Wu, 2022, pp. 1-28). Also, it shows a focus on understanding greater need for school-based professionals as to common beliefs, attitude, norms, and common values in the institutional development culture. It also promotes and engages healthy behavior in organizational and institutional development culture among faculty and staff to display high professional standards. It explores faculty engagement, working atmosphere and environment. It provides proper medicine in complying requirements of tasks in teaching and learning. This is necessary for faculty to feel the sense of belongingness in the school organization to strengthen morale in professional attribution in the system, (Rasool, et al., 2021).

In addition, the extent of the improved professional faculty development as an aspect of perspective faculty success among the respondents shows to provide proper discipline for faculty itself in the organizational school system and success responsibility. Faculty is being provided proper training for value and morale. This can maintain proper integrity. This includes behavior and attitude which is being measured during the process of evaluation and work performance. It provides knowledge of instruction and prompts the query of students in teaching and learning as part of integrity and moral for faculty. It helps to notify instruction and work diligently to the best where support and services are needed in the academic performance of students. It illustrates the concept and responsibility of faculty in teaching and learning. It implements novel potent pedagogy as professional faculty in the Higher Education Institution. It is an advanced faculty learning and concept designed for the faculty professional development process, (Chen, & Tsai, 2021). Thus, perspective faculty success determines and helps students to press forward on academic success despite issues and gaps in the learning process as to problems and personal crises. Perspective faculty success

Course Refresher in Assessing and Facilitating Teacher-Learning (CRAFT) in Higher Education Institution: Basis for Improved Professional Faculty Development

is responsible for the academic output and achievement instruction guide for the task assignment of the faculty success and responsibility. It provides formal training and expertise for faculty development programs. It describes operational faculty success based on the policy and standard requirement of Higher Education Institution that leads to effective teaching and learning practitioners, (Farakish, Cherches, & Zou, 2022, pp. 1-14).

Lastly, the extent of the improved professional faculty development as to aspect of assessment of program outcome among the respondents shows mastery of educational assessment program outcome in political context, psychological, historical, socio-cultural, and philosophical educational system and setting in the Higher Education Institution. It develops curriculum and innovation program outcomes and establishes assessment as to diverse resource learning, teaching approach, and instructional plans. It practices assessment program outcomes as to ethical, professional teaching standards, and sensitivity as to reality for national, global, or local settings. It examines the teaching and learning assessment outcome of the program for both faculty and students to align with the standard requirement of the school organization. This can apply to the various domains of learning as part of the program and assessment outcome, (Wei, Saab, & Admiraal, 2021). In consequence, it develops and applies skills and utilization assessment program outcomes to promote sustainable relevant quality educational practice. This can equip competency in the world of the educational system. It describes an intervention outcome assessment program for student and development process. The approach attempts to provide proper skills for students based assessment programs set in the module, (Hilty, et al., 2021, pp. 356-373).

CONCLUSION

The contribution of course refresher in assessing and facilitating teacher-learning (CRAFT) in Higher Education Institution among the respondents in terms of skills productivity shows to create things simple, focus plan, and faculty to stay on set task for success and clear outcome to improve productivity in focusing employee program and benefit to work performance goals of the school organization.

School culture shows to build strong relationships which is one of the core values of the Higher Education Institution to breed positive culture. It also influences support and improves performance of every employee to make the school climate focus on strong relationships as one team in the educational system.

Update training trend shows to design capability of faculty to improve approach in teaching based on the needs of student learning process to improve advanced technology for teaching approach on outcome-based for students as the centers of learning, and it helps to improve interactivity classroom through the trend of teaching utilizing the advanced technology for quality education output result.

Development of teaching management shows to help and develop the improved teaching management and implementation for teaching and learning to the fullest, and it defines best possible teaching and development management to emphasize positive behavior for the learners-based needs in the teaching process. It also determines to provide positive reward and behavior in teaching and learning during the delivery of the module to help develop goals and access to the educational system that can be achieved effectively in development management in teaching for faculty.

Training needs and gaps show to determine valuable training needs for faculty overall competency and efficiency to increase school organization, and to identify outcome desire training gaps of faculty in actual team school system and setting. Training needs and gaps recognize knowledge and skills of faculty in organizational priority training and implementation of reskill and upskill.

Roles, understanding, and expectation shows to offer better professional opportunity development for faculty in retaining and attracting skilled employees for better advancement careers to offer an in-house professional development opportunity such as mentoring program and training session for various professional development systems in school system and setting.

Development of trust and respect shows socialization in education provided by the school organization behavior process of individual employee faculty where development of trust and respect maintains social control and manifests standard faculty in the school organization.

Organizational and institutional development shows to promote collaboration and decision making on dynamic converging issues requiring leadership setting, attention, and teamwork goal orientation in the school culture environment. It builds cohesion explicit organizational and institutional development care as to direction determination, distinction, pattern behavior, standard, and promotion of achievement orientation.

Course Refresher in Assessing and Facilitating Teacher-Learning (CRAFT) in Higher Education Institution: Basis for Improved Professional Faculty Development

Perspective faculty success shows to provide proper discipline for faculty itself in the organizational school system and success responsibility. It also provides knowledge of instruction and prompts query of students in teaching and learning. It also shows to help and to notify instruction work diligently to the best. The support and services are needed in the academic performance of students.

Assessment of program outcome demonstrates mastery of educational assessment program outcome in political context, psychological, historical, socio-cultural, and philosophical educational system and setting in the Higher Education Institution where it develops curriculum and innovation program outcome and establishes assessment as to diverse resource learning, teaching approach, and instructional plans. It also shows practice assessment of program outcome as to ethical, and professional teaching standard, and sensitivity as to realities for national, global, or local setting.

CONFLICT OF INTEREST STATEMENT

The author declares no conflict of interest.

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The Existence of the Corruption Eradication Commission in the Dynamics of Indonesian Constitutional



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ABSTRACT: The Indonesian constitutional system recognizes the existence of state institutions that are not expressly defined in the 1945 Constitution. These institutions are known as state auxiliary organs or state auxiliary institutions or auxiliary state institutions which are state institutions that are supporting. One of the auxiliary institutions formed during the reform era in Indonesia is the Corruption Eradication Commission. This institution was formed as a part of the corruption eradication agenda which is one of the most important agendas in reforming governance in Indonesia. The problem regarding the existence of the Corruption Eradication Commission as an independent state institution in the dynamic structure of the Indonesian constitutional, and the research method used is legal research. The results of this study explain that the Eradication Commission is a state institution whose form does not derive from the 1945 Constitution but is a constitutional organ/constitutionally entrusted power, because it was formed on the basis of a constitutional order. The existence and position of the Corruption Eradication Commission is as an independent state institution within the constitutional system of the Republic of Indonesia according to the 1945 Constitution. The independence of the Corruption Eradication Commission is expressly stated by the legislators of the law. Its authority is independent and free from the influence of any power.

KEYWORDS: State Institutions; Constitutional Law; Corruption.

INTRODUCTION

Since Indonesia became independent seventy-seven years ago, it has experienced various important events in the field of constitutional. Community upheaval in the regions, the transfer of government power to amendments to the state's basic law (constitution) have become an inseparable part of the history of the Indonesian state (Asshiddiqie, 2006a). One of the prominent developments from a constitutional perspective began when this country experienced turmoil in constitutional life which resulted in a monetary crisis, and the fall of President Soeharto from power in 1998.

After going through a transitional period led by President B.J. Habibie for about two years, the demands for a better constitutional system began to be realized by high-ranking officials in this country. The concept of separation of powers of state institutions is also carried out by following the theories of separation of powers of state institutions. For quite a long time, the classic concept of *trias politica* which was developed since the 18th century by Baron de Montesquieu was widely known and used in many countries as the basis for the formation of state structures. This concept divides the three functions of power, namely legislative, executive, and judicial (Asshiddiqie, 2006b). Montesquieu, as explained again by Asshiddiqie (2006b) idealizes the three functions of state power to be institutionalized respectively in three different state organs. Each organ carries out one function and one organ with other organs may not interfere with each other's affairs in an absolute sense. This, although not explicitly, Indonesia adopted this form of *trias politica* (Asshiddiqie, 2006b).

With the development of ideas regarding the state, the concept of *trias politica* is no longer relevant considering that it is impossible to maintain the exclusivity of each organ in carrying out its respective functions separately. The fact shows that the relationship between branches of power in practice must touch each other. The positions of the three organs are equal and they control one another in accordance with the principle of checks and balances (Asshiddiqie, 2006b). An increasingly developing society actually wants the state to have an organizational structure that is more responsive to their demands. The realization of effectiveness and efficiency both in the implementation of public services and in achieving the goals of administering government is also the hope of the people which is pinned on the state. These developments have had an impact on the organizational structure of the state, including the forms and functions of state institutions. The demands of the development of the constitutional life,

The Existence of the Corruption Eradication Commission in the Dynamics of Indonesian Constitutional

then the establishment of new state institutions that differ in type, position and authority in the form of councils, commissions, committees, boards, authorities (Asshiddiqie, 2006b), or institutions.

The emergence of new state institutions occurred as a consequence of amendments to the 1945 Constitution. The new institutions in question were institutions that were not expressly or explicitly specified in the 1945 Constitution. These new institutions were usually known as state auxiliary organs or state auxiliary institutions which in Indonesian are defined as "Auxiliary State Institutions" and are state institutions that are supporting in nature (Asshiddiqie, 2006b). One of the auxiliary institutions formed during the reform era in Indonesia is the Corruption Eradication Commission. This institution was formed as a part of the corruption eradication agenda which is one of the most important agendas in reforming governance in Indonesia (Muslim, 2004). The existence of the Corruption Eradication Commission in carrying out its functions does not clearly position itself as one of the three *trias politica* institutions. The position of the institution in the form of the Corruption Eradication Commission is not in the executive, legislative, or judicial branches of power. However, these institutions are also not treated as private organizations or non-governmental organizations. The Corruption Eradication Commission was born because the eradication of corruption carried out by existing law enforcement agencies was not optimal. Therefore, by interpreting the term "law enforcement" in the 1945 Constitution, so that it is necessary to form a new institution whose task and authority is the eradication of corruption, then an institution called the Corruption Eradication Commission is born.

However, along the way, the existence and position of the Corruption Eradication Commission in the structure of the Indonesian state began to be questioned by various parties. Duties, authorities and obligations legitimized by Law no. 30 of 2002 concerning the Corruption Eradication Commission indeed makes this commission seem like a super body institution. Furthermore, Law No. 30 of 2002 was then replaced by Law No. 19 of 2019 concerning the Second Amendment to Law No. 30 of 2002 concerning the Corruption Eradication Commission. The birth of Law No. 19 of 2019 began to be questioned about the duties and powers possessed by the Corruption Eradication Commission. With this law, the eradication of corruption carried out by the Corruption Eradication Commission is not optimal and it is as if the Corruption Eradication Commission is unable to eradicate corruption crimes.

As a state organ whose name is not mentioned in the 1945 Constitution, the Corruption Eradication Commission is considered by some to be an extra-constitutional institution (the Corruption Eradication Commission is an extra-constitutional institution because it has taken over the authority of other institutions obtained from the 1945 Constitution which has actually been completely divided into executive, legislative and , and judicial) (*Putusan Nomor 012-016-019/PUU-IV/2006*, 2006). The nature of being independent and free from the influence of any power is feared to make this institution have absolute power in its scope of work. In addition, the special authority in the form of unifying the functions of investigation, investigation and prosecution in one organ also reinforces the argument that the existence of the Corruption Eradication Commission tends to deviate from the principles of applicable law, and does not rule out the possibility of contravening the constitution (Mahkamah Konstitusi, 2006). However, the Corruption Eradication Commission is currently also being debated, because its status as an institution is less credible in terms of eradicating corruption, because its authority through the new law has begun to be reduced. Apart from that, the performance of the leadership of the Corruption Eradication Commission is considered to have softened in relation to the handling of corruption cases (Kompas.com, 2020).

Thus, the existence and position of a state institution whose name is the Corruption Eradication Commission as an independent institution in the constitutional system adopted by Indonesia is still an interesting topic for discussion, because this independent state institution, the Corruption Eradication Commission, is one of the law enforcement agencies in eradicating corruption crimes. in Indonesia. Philosophically and practically, the position and legitimacy of law enforcement is an entry point for both law enforcement and state governance (Soekanto, n.d.).

This research will discuss the issue regarding the existence of the Corruption Eradication Commission as an independent state institution within the Indonesian constitutional structure, as viewed from the 1945 Constitution, and also based on various opinions of experts in the field of constitutional law. The research method used is legal research by using the Corruption Eradication Commission as an example of an independent state institution.

DISCUSSION

State Commission in Indonesian Constitutional Structure

Changes and the formation of new institutions or institutions in the system and structure of state power are the implications of demands for reform and aspirations for justice that are developing in society. Reform requires changes in all fields, so that changes are needed in the life of the nation, state and society. This includes changes in the constitutional structure that require fundamental changes, as well as an effort to encourage the realization of the ideals of the state desired in this reform era, namely

The Existence of the Corruption Eradication Commission in the Dynamics of Indonesian Constitutional

upholding democracy and realizing human rights and just law, as well as clean and transparent government. responsible (Arifin, et al., 2005).

The development of a new institution which became known as a state commission is an interesting new phenomenon in the context of a democracy-based country, and the development of a new institution has become a norm and a necessity. The need for new institutions in Indonesia's constitutional structure is a public request as a demand for reform (Arifin, et al., 2005). Thus, the strengthening of democracy and human rights which are very significant in the development and formation of democratic institutions requires the establishment of an independent state commission.

The fact that is widely practiced in several countries and the historical experience of the Indonesian state, it is estimated that the development of the implementation of democracy is not enough to rely solely on the branches of power introduced in Montesquieu's teachings. Government run by the executive (President), legislative (Parliament), and judiciary (Judiciary) powers develop in line with the problems that arise. The branches of power are seen as incapable and no longer effective in solving existing problems. It is these branches of power which are the main problem of undemocratic running government, even the executive branch of power is very dominant (Huda, 2007).

The complexity of the problems in governance and the changing social system has implications for the Indonesian constitutional structure. This coincides with the addition of new ideas or concepts from the world globally which more or less affect the situation of society and the state in Indonesia. So, in essence, countries that are in a transitional situation towards democracy such as Indonesia are starting to rearrange their constitutional structures as a precondition towards creating a country with a good and transparent government system by upholding democracy and upholding human rights through oversight of people's representative institutions, and society, civil society, and the upholding of human rights (Huda, 2007).

The formation of independent state institutions illustrates the occurrence of major and very fundamental changes in the style and composition of the constitutional structure of a country today. According to Jimly Asshiddiqie, the institutional style of state organizations with the complexity of their administrative system has developed very far (Asshiddiqie, 2006b). The existence of a state commission in the constitutional system becomes very important when the commission will carry out its functions, duties and authorities as a state auxiliary institution around which state institutions have been established which are clear to one another. Whether or not a commission is strategic will be determined by whether or not the commission's position is strong against other state institutions, so that it is equal to other existing institutions or institutions that have been determined or mentioned in the 1945 Constitution.

Independent state commissions as independent state institutions are considered important to guarantee the upholding of democracy. This independent state commission is an idealized independent state institution in the sense that it is free from the interference of any branch of power, because it is outside the executive, legislative, and judicial powers. However, at the same time, this Independent State Commission has functions and characteristics that are a combination of the three (Huda, 2007). Thus, the independence, position and scope of authority of the independent state commissions are different, so that it can be said that there are no benchmarks of similarity in theory to establish the characteristics of independence, position and scope of authority of these institutions. In addition, the legal basis for its formation can originate from the constitution or law, and some of these institutions are permanent and ad hoc in nature (Huda, 2007). The characteristics of the independence of an independent state commission are specifically related to a number of things, for example independence which is closely related to the dismissal of members of the commission which can only be carried out based on the reasons stipulated in the law on the formation of the commission in question. This is not as usual in administrative agencies which can be dismissed by the President at any time because they are part of the executive branch.

The independence of the commission is expressly stated by the legislators, namely the law on the commission. Independent, in the sense of being free from the influence, will or control of the executive branch of power. This is categorized as a condition that must exist if a state institution is categorized as an independent state commission. The dismissal and appointment of commission members uses certain mechanisms that are specifically regulated, not the will of the President.

The basic assumption about the existence of independent judicial institutions is to support judicial power. Thus, how important and how wide the authority possessed by independent institutions (independent state commissions) cannot replace the position and function of existing judicial power implementing institutions (Supreme Court and Constitutional Court) (Huda, 2007). Independent state commissions that have the function of supporting judicial power, and having quasi-judicative authority, such as the Corruption Eradication Commission and other institutions, have a special position in the legal system in Indonesia, and may change in the future, either increasing or decreasing in existence and authority. That is for sure, everything functions to ensure that law and justice can be upheld and realized in the best way possible.

Thus, the position of an independent state commission in the constitutional structure of the Republic of Indonesia which is based on the 1945 Constitution is still positioned below other state institutions, and is considered an additional or supporting

The Existence of the Corruption Eradication Commission in the Dynamics of Indonesian Constitutional

state institution. This not entirely correct concept should be deconstructed again. This is important for institutional consolidation on a large scale in order to reorganize the state institutional system of the Republic of Indonesia in accordance with the mandate of the 1945 Constitution. One way is through the restructuring and revitalization of independent state commissions, among others by making them constitutional organs through subsequent amendments to the 1945 Constitution (Asshiddiqie, 2006b).

The Idea of forming the Corruption Eradication Commission

In the Indonesian context, the presence of auxiliary state institutions mushroomed after the amendment to the 1945 Constitution. These various auxiliary state institutions were not formed on a uniform legal basis. Some of them were founded on constitutional mandates, but some obtained legitimacy based on laws or presidential decrees (Huda, 2007). One of the auxiliary state institutions established by law is the Corruption Eradication Commission. This, even though it is independent and free from any power, the Corruption Eradication Commission still depends on the executive power in relation to organizational matters, and has a special relationship with the judicial power in terms of the prosecution and trial of corruption cases (Wijaya, 2008).

The reform era which should have shown significant changes in all areas of life, in fact, corrupt practices did not just disappear, so that the eradication of corruption in Indonesia has always been the main focus for both academics and practitioners. Many efforts continue to be made to eradicate criminal acts of corruption which are increasing. One of the efforts to eradicate corruption is to form new state institutions, as state auxiliary institutions, known as independent state commissions, namely the Corruption Eradication Commission. The establishment of the Corruption Eradication Commission as a supporting state institution or independent state commission aims to assist the implementation of tasks that have been carried out by state institutions that have so far been less effective (Hakim, 2010).

Initially, the eradication of corruption in Indonesia was carried out by the Police and the Attorney General's Office. However, in the development of public trust in the Police and the Attorney General's Office has decreased in eradicating corruption in Indonesia. Various efforts continue to be made by the government in the context of eradicating corruption. One of these efforts was carried out by establishing a new state institution, namely the Corruption Eradication Commission. Historically the Corruption Eradication Commission was born from an assumption that law enforcement carried out by the Police and the Attorney General's Office was not running effectively. The high rate of corruption in Indonesia has made people lose trust in existing institutions, and the government responded by forming the Corruption Eradication Commission (Huda, 2005).

The birth of the Corruption Eradication Commission is a new, better hope from the public for eradicating corruption in Indonesia, a new institution with authority which is often referred to as a super-body institution that has extra authority compared to other state institutions. At the beginning the Corruption Eradication Commission received a fairly good reception from the public. Various corruption cases were able to be resolved by the Corruption Eradication Commission. This situation prompted public opinion to establish the Corruption Eradication Commission as a permanent institution, and some experts even suggested that the position of the Corruption Eradication Commission be regulated in the constitution like other countries, for example South Africa (Pedomannew.com, 2011).

Functionally, state institutions can be divided into two parts, namely primary state institutions, namely state institutions that must exist in every country because they are a reflection of the existence of a country. There are also secondary state institutions, namely state institutions that carry out derivative functions from existing state institutions or supporting state institutions. Corruption Eradication Commission as regulated in Law no. 30 of 2002 concerning the Corruption Eradication Commission as amended by Law no. 19 of 2019, when viewed in terms of authority, the authority that exists in this institution is an authority that is derived from the authority of the executive branch (President), namely in the field of law enforcement. Viewed from the side of authority, the authority now owned by the Corruption Eradication Commission is the authority that was previously in the hands of the Police and the Attorney General's Office (Pedomannew.com, 2011). The authority of the police is the authority in terms of investigations and investigations in the event of a criminal act of corruption. Meanwhile, the Attorney General's authority, which has now been taken over by the Corruption Eradication Commission, is the authority for prosecution in cases of criminal acts of corruption, which are limited in nature. Prosecution authority previously rested with the prosecutor's office. Now the authority of the prosecutor's office is to prosecute except for criminal acts of corruption which have been regulated in a limited manner in the Corruption Eradication Commission Law and other laws and regulations. The Corruption Eradication Commission's relationship with the Police and the Attorney General's Office is a partnership, namely the Corruption Eradication Commission as a support for the performance of the Police and the Attorney General's Office in eradicating criminal acts of corruption. The Corruption Eradication Commission was established with the assumption that the Police and the Attorney General's Office were less effective in eradicating corruption (Pedomannew.com, 2011). The formation of the Corruption Eradication Commission was also due to the lack of trust from the public in eradicating corruption, as well as the high workload of the police and prosecutors

The Existence of the Corruption Eradication Commission in the Dynamics of Indonesian Constitutional

so that a new institution called the Corruption Eradication Commission was needed to complement state institutions in the field of corruption eradication.

The Corruption Eradication Commission was formed with the main mission of enforcing the law, namely in terms of eradicating corruption. The establishment of this institution was due to the notion that conventional law enforcement agencies, such as the Attorney General's Office and the Police, were deemed unable to eradicate corruption (Widoyoko, 2005). The police and the Attorney General's Office have lost confidence in eradicating corruption, they have failed to eradicate corruption (Tauda, 2012). Therefore, it is necessary to establish a special institution that has broad and independent authority and is free from any power. In addition, with the increasing sophistication of how people commit corruption, conventional law enforcement agencies are increasingly unable to disclose and bring major corruption cases to justice. In particular, the urgency of forming the Corruption Eradication Commission can be seen from the main ideas of forming the Corruption Eradication Commission (Widoyoko, 2005).

In this premise it is explained that corruption in Indonesia is already a systematic and widespread crime that not only harms state finances, but also violates the economic and social rights of the people. Therefore, the settlement of corruption cannot be carried out using only conventional methods and institutions, but must use new methods and new institutions (Atmasasmita, 2002). The Corruption Eradication Commission exists as an institution that has a very big task. The public has pinned their hopes on eradicating corruption on the Corruption Eradication Commission. Therefore, the Corruption Eradication Commission has enormous authority, namely conducting investigations, investigations and prosecutions as well as cases of criminal acts of corruption.

The importance of establishing special anti-corruption agencies is also required in international provisions, namely Article 6 of the 2003 United Nations Convention Against Corruption which reads as follows: Preventive Anti-Corruption Body or Bodies "Each State Party shall, in accordance with the fundamental principles of its legal system, ensure the existence of bodies or bodies, as appropriate, that prevent corruption by such means as..." (Islam.com, 2012).

These provisions indicate the importance of a special institution that has the authority to eradicate corruption, not only in Indonesia. An independent anti-corruption body is a popular reform proposal in developing countries (Rose-Ackerman, 2006), although it does not rule out the possibility of developed countries having such institutions. Anti-corruption bodies are also present in various countries, including Australia, Hong Kong, Malaysia, Singapore, Thailand, South Korea, China, Vietnam, the Philippines, Egypt, Ecuador, Latvia, Lithuania and Botswana (Hamzah, 2005). However, even though the institution mentioned above has been established, criminal acts of corruption continue to increase or in other words the institution has failed in eradicating corruption. The ineffectiveness of this institution became a lesson in the formation of the Corruption Eradication Commission. Thus, the Corruption Eradication Commission is guaranteed independence and broad authority, it is hoped that the Corruption Eradication Commission can operate effectively in eradicating corruption.

Authorities of the Corruption Eradication Commission

The eradication of corruption in Indonesia has always been the main focus, both among academics and practitioners. Various efforts continue to be made to eradicate criminal acts of corruption which are increasing. One of the efforts to eradicate corruption is to form a new state institution, namely the Corruption Eradication Commission as a state auxiliary institution. The establishment of these supporting state institutions aims to assist the implementation of tasks that have been carried out by existing state institutions so far that have been felt to be less effective (Hamzah, 2005).

The Corruption Eradication Commission is an institution formed by Law no. 30 of 2002 concerning the Corruption Eradication Commission, later amended by Law no. 19 of 2019 concerning the Second Amendment to Law no. 30 of 2002 concerning the Corruption Eradication Commission. The authority contained in the law explains that the institution has the task of carrying out inquiries, investigations and prosecutions of criminal acts of corruption. This authority synergizes with police agencies and the prosecutor's office in handling corruption cases. Thus, the synergy between the police, the prosecutor's office and the Corruption Eradication Commission as institutions that handle corruption cases needs to be increased so that each can be efficient and effective in efforts to eradicate corruption based on the principle of equality of authority and protection of human rights.

The Corruption Eradication Commission is a state institution within the executive power cluster which in carrying out its duties and authorities is independent and free from the influence of any power (Article 3 of Law no. 19 of 2019); (Pope, 2003). So far, the eradication of corruption carried out by various institutions such as the Attorney General's Office and the Police as well as other agencies has experienced various obstacles (due to executive, legislative or judicial interference). For this reason, an extraordinary law enforcement method is needed through the establishment of a special body, namely the Corruption Eradication Commission which has broad authority (covering the authority of inquiries, investigations and prosecutions) and is independent

The Existence of the Corruption Eradication Commission in the Dynamics of Indonesian Constitutional

(independent, free from any power), with the aim of increasing the efficiency and results for efforts to eradicate corruption (Ruki, 2007).

The Corruption Eradication Commission is a state institution which in carrying out its duties and authorities is independent and free from the influence of any power, but must coordinate with agencies authorized to eradicate corruption, supervise agencies authorized to eradicate corruption, conduct inquiries, investigations, and prosecuting criminal acts of corruption, taking measures to prevent criminal acts of corruption, and monitoring the administration of state government. The birth of the Corruption Eradication Commission is proof that the Indonesian state respects human rights and upholds justice and law. Law as a system can work properly in society if the implementing instruments are designed properly too. According to L.M. Friedmann (1975) that the legal system is composed of legal subsystems in the form of legal substance, legal structure and legal culture. related to the legal substance and legal structure above, the existence of the performance of the Corruption Eradication Commission is important.

The authority possessed by the Corruption Eradication Commission according to the law, the Corruption Eradication Commission as a corruption eradication institution has a strong position and is not outside the constitutional system, but is placed in a juridical manner within the constitutional system according to the 1945 Constitution. The independent and self-reliant constitutional system which is the character of the Corruption Eradication Commission is also realized through other tasks, namely monitoring the implementation of state government. In carrying out all of its duties, powers and responsibilities in accordance with the mandate of the law, the Corruption Eradication Commission is also obliged to prepare an annual report and submit it to the President, the People's Representative Council and the Supreme Audit Agency. Because it is not under executive, legislative or judicial powers, the Corruption Eradication Commission is directly responsible to the public for carrying out its duties. This public accountability is carried out through means such as mandatory audits of performance and financial accountability in accordance with the work program.

In the context of preventing and prosecuting criminal acts of corruption, the Corruption Eradication Commission can also cooperate, both with government agencies such as the police and prosecutors, as well as other institutions and organizations that are expected to assist the Corruption Eradication Commission in carrying out its task of eradicating corruption. This cooperation is carried out by making a memorandum of understanding (MOU) which aims to improve coordination between the Corruption Eradication Commission and institutions that are partners in cooperation.

CONCLUSION

The Corruption Eradication Commission is a state institution whose form does not derive from the 1945 Constitution but is a constitutional organ/constitutionally entrusted power, because it was formed on the basis of a constitutional order that is to interpret the word "law enforcement". Through various interpretations to find the form of state institutions, the Corruption Eradication Commission is an independent constitutional institution that is not influenced by any institution. The existence and position of the Corruption Eradication Commission is as an independent state institution within the constitutional system of the Republic of Indonesia according to the 1945 Constitution. Independent Corruption Eradication Commission is expressly stated by the legislator, because in carrying out its duties and authorities it is independent and free from the influence of power anywhere. The Corruption Eradication Commission is publicly responsible for carrying out its duties and submits its reports openly and periodically to the President of the Republic of Indonesia, the People's Representative Council of the Republic of Indonesia and the Supreme Audit Agency of the Republic of Indonesia.

The author suggests, if the 1945 Constitution is amended again, then the Corruption Eradication Commission should be regulated or mentioned in the 1945 Constitution as a permanent institution in the context of eradicating criminal acts of corruption, bearing in mind that corruption is still a crime that endangers state finances.

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Product Quality and Digital Marketing Analysis of Brand Equity through Brand Image of Mesran Super Lubricant Oil in Surabaya.



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ABSTRACT: The objectives of this study are: To analyze and determine the effect of Product Quality on Brand equity, To analyze and determine the effect of Digital marketing on Brand equity, To analyze and determine the effect of Product Quality on Brand equity through Brand image and to analyze and determine the effect of Digital marketing on Brand equity through Brand image. The population of this study were customers of Mesran Super Lubricating Oil in Surabaya, with the number of samples in this study being 140 respondents (28 x 7). Data analysis was carried out using the Partial Least Square (PLS) method using SmartPLS version 3 software. Based on the test results using PLS analysis, to test the effect of several variables on Brand equity, the following conclusions can be drawn: Based on the test results, it shows that Product Quality has an effect on Brand equity, Based on the test results, it shows that Digital marketing has an effect on Brand equity, Based on the test results show that Product Quality has an effect on Brand equity through Brand image. Based on the test results, it shows that Digital marketing has an effect on Brand equity through Brand image.

KEYWORDS: Product Quality, Digital Marketing, Brand Equity, Brand Image.

I. INTRODUCTION

The development of the business world which is increasingly increasing has led to intense competition among various companies to be able to meet the needs and desires of consumers, especially companies that produce similar products (Sari and Nuvriasari 2018). Therefore, companies must follow developments and changes in all fields and analyze business strategies so that they can find out how far competitors have made developments and changes to their products.

Consumers in choosing a product brand will go through the trial stage first, at this stage consumers will often try different brands. If it is felt that the brand is suitable and fulfills what is expected from similar products, then consumers will continue to look for that brand. Brand or mark is a name, term, sign, design symbol, or a combination thereof that identifies a product or service produced by a company.

The lubricant industry is a strategic industry. The potential for the lubricant industry in Indonesia is growing rapidly along with the increasing demand and the number of motorized vehicles from year to year. The number of motorized vehicles in Indonesia will reach more than 133 million units in 2020. The data is summarized in the records of the Central Statistics Agency (BPS). The number of vehicles has increased by about five percent since two years ago. In 2020, the number of vehicles increased by 7,108,236 units, an increase of 5.3 percent to 133,617,012 units from the previous year's 126,508,776 units. The number of vehicles in 2019 rose 5.9 percent from 2018 of 118,922,708 units. This is due to the ease with which people buy motorbikes, because the down payment required is very cheap. Growth in the lubricants industry was also driven by developments in the industrial sector, which includes production and construction. Lubricants for vehicles and industrial machinery are very important. Machines used in motor vehicles and industry certainly require lubricants for protection. The increase in the number of vehicles as well as developments in the industrial sector will lead to the growth of the lubricants industry.

Table 1. Top Brand Index of Lubricant Oil for 2019 - 2021

BRAND	TBI 2019	BRAND	TBI 2020	BRAND	TBI 2021
Castrol	24.8%	Castrol	20.8%	Castrol	25.3%
Yamalube	19.3%	Yamalube	19.5%	Yamalube	17.9%
Federal	14.5%	Federal Oil	14.8%	Federal Oil	12.9%

Product Quality and Digital Marketing Analysis of Brand Equity Through Brand Image of Mesran Super Lubricant Oil in Surabaya.

Super Mesran	7.4%	enduro	8.9%	enduro	6.8%
enduro	5.4%	Super Mesran	7.7%	Super Mesran	6.0%

Source: Top Brand index, 2022

Table above shows that there is a change in the index rating which indicates that consumers easily switch to other products. In addition to the satisfaction index, based on the results of the Top Brand survey conducted by frontier, mesran super showed a decline in performance again. Top brands are often known by consumers as superior or well-known brands which often occupy the top position in the minds of consumers. Mesran Super ranks second after Top 1 which is shown based on TBI results which have decreased compared to previous years.

II. REVIEW OF LITERATURE

Product Quality are the hopes and dreams of all parties, so marketers before marketing their products must pay attention to the condition and appearance of the product that consumers will use. Quality is a product and service that goes through several stages of the process taking into account the value of a product and service without the slightest deficiency in the value of a product and service, and produces products and services according to high expectations from customers.

According to (Chaffey 2016) "Digital marketing is the application of the internet and related digital technologies in conjunction with traditional communications to achieve marketing objectives." This means that digital marketing is the application of the internet and is related to digital technology which is related to traditional communication to achieve marketing goals. This can be achieved by increasing knowledge about consumers such as profile, behavior, values, and loyalty levels, then integrating targeted communications and online services according to each individual's needs.

According to Keller brand image in (Widyastutir and Said 2017) "brand image is "a consumer's perception of a brand which is also a reflection of memories that can be described and related to" the brand. According to (Khuong and Tran 2018) Brand image is "a situation where consumers think and feel an attribute of a brand so that consumers can properly stimulate consumer purchase intentions and increase brand value".

Brand equity is the added value given to products and services which is reflected in the way consumers think, feel and act in relation to the brand, as well as the price, market share and profitability provided by the brand for the company (Kotler 2016). A good and innovative brand is able to provide added value and great benefits for producers and consumers. In fact, a brand is already considered as equity by a company or better known as brand equity (Kotler 2016).

III. POPULATION AND SAMPLE

The population is a combination of all elements in the form of events, things or people who have similar characteristics which are the center of attention of a researcher because it is seen as a universe of research (Ferdinand 2006). The population of this study are customers of Mesran Super Lubricating Oil in Surabaya. According to the number of samples depends on the number of parameters estimated, the guidelines are 5-10 times the number of parameters estimated. Because in this study there were 28 indicators, the number of samples in this study was $28 \times 7 = 140$, so the sample used was 140 respondents.

IV. RESEARCH METHODS

The type of research used in this research is quantitative, namely collecting, compiling, processing and analyzing data in the form of numbers which in practice are given certain treatments that are examined in it. According to quantitative research can be interpreted as a method based on the philosophy of positivism, used to examine certain populations or samples, sampling techniques are generally carried out randomly, data collection uses research instruments, data analysis is quantitative/statistical with the purpose of testing the hypotheses that have been set.

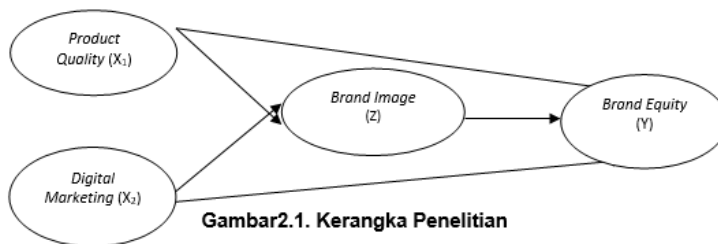
V. HYPOTHESES

Based on the background, the formulation of the problem, research objectives, previous research and the theoretical basis used can be formulated as follows:

1. It is suspected that Product Quality has a positive effect on Brand equity
2. It is suspected that digital marketing has a positive effect on brand equity
3. It is suspected that Product Quality has a positive effect on Brand equity through Brand image
4. It is suspected that digital marketing has a positive effect on brand equity through brand image

Product Quality and Digital Marketing Analysis of Brand Equity Through Brand Image of Mesran Super Lubricant Oil in Surabaya.

VI. CONCEPTUAL MODEL



Gambar2.1. Kerangka Penelitian

VII. DATA ANALYSIS RESULTS AND DISCUSSION

Outer Model

1. Validity Test

The indicator has met convergent validity or good validity

Table 1. Average Variance Extracted (AVE)

	Average Variance Extracted (AVE)
Product Quality(X1)	0.766
Digital Marketing(X2)	0.667
Brand Equity (Y)	0.696
Brand Image(Z)	0.526

Source: Processed Data (2022)

The next measurement model is the Average Variance Extracted (AVE) value, which is the value indicating the magnitude of the indicator variance contained by the latent variable. The convergence of AVE values greater than 0.5 indicates good adequacy of validity for latent variables. On the reflective indicator variable it can be seen from the Average variance extracted (AVE) value for each construct (variable). A good model is required if the AVE value of each construct is greater than 0.5.

AVE test results for product quality variable (X1) of 0.766, digital marketing (Z2) of 0.667, brand image variable (Z) of 0.526, and brand equity (Y) of 0.696, these four variables show a value of more than 0.5, So overall the variables in this study can be said to have fulfilled discriminant validity or good validity.

2. Reliability Test

Composite reliability is an index that indicates the extent to which a measuring device can be trusted to be relied upon. If a tool is used twice to measure the same symptoms and the measurement results obtained are relatively consistent, then the tool is reliable. In other words, reliability shows a consistency of measuring devices in the same symptoms. The full results can be seen in the following table.

Table 2. Data Reliability

	Cronbach's Alpha
Product Quality(X1)	0.811
Digital Marketing(X2)	0.757
Brand Equity (Y)	0.863
Brand Image(Z)	0.749

Source: Processed Data, 2022

Construct reliability is measured by the composite reliability value, the construct is reliable if the composite reliability value is above 0.70 then the indicator is called consistent in measuring its latent variables. The results of the Composite Reliability test show that the product quality variable (X1) is 0.811, digital marketing (X2) is 0.757, the brand image variable (Z) is 0.749, and brand equity (Y) is 0.863, the four variables show Composite Reliability values above 0.70 so that it can be said that all variables in this study are reliable.

Product Quality and Digital Marketing Analysis of Brand Equity Through Brand Image of Mesran Super Lubricant Oil in Surabaya.

Inner Model Testing

1. R Square

Testing of the inner model or structural model is carried out to see the relationship between variables, the significance value and the R-square of the research model. After knowing the significant relationship between variables. thus, it can be concluded the hypothesis for the problem of customer satisfaction. Hypothesis testing is done by bootstrap resampling method. The test statistic used is the t-test statistical test. Testing of the structural model is carried out by looking at the R-Square value which is a goodness-fit model test. Inner model testing can be seen from the R-square value on the equation between latent variables. As follows:

Table 3. R-Square

R Square		
	R Square	R Square Adjusted
BRAND EQUITY (Y)	0.323	0.308

Source: Processed Data, 2022

The R2 value of brand equity (Y) = 0.512, this can be interpreted that the contribution of the independent (exogenous) variable to the digital marketing variable with a variance of 51.2% while the remaining (100% - 51.2%) of 48.8% is explained by other variables.

2. Results of Inner Weights

a. Direct Influence

Table 4. Inner Weight

	Original sample(O)	sample Means (M)	standard Deviation(STDEV)	T Statistics (O/STDEV)	P Values
X1 -> Y	0.243	0.233	0.117	2,074	0.039
X2 -> Y	0.275	0.284	0.123	2,230	0.026

From the table above it can be concluded that the hypothesis:

1. Product quality(X1) has a positive effect on brand equity (Y) is acceptable, with a T-statistic value of 2.074 greater than the value of $\alpha = 0.05$ (5%) = 1.96, and a p value of 0.039 less than 0.05, then significant (positive).
2. Digital marketing(X2) has a positive effect on brand equity (Y) is acceptable, with a T-statistic value of 2,230 greater than the value of $\alpha = 0.05$ (5%) = 1.96, and a p value of 0.026 less than 0.05, then significant (positive).

b. Indirect Influence

Apart from the direct effect as in the hypothesis testing above, from this modeling it can be seen the total effect or indirect effect or indirect effect (through mediating variables), as shown in the following total effect table for hypothesis testing with mediating variables as follows:

Table 5. Total Effects (Mean, STDEV, T-Values)

	Original sample(O)	sample Means(M)	standard Deviation(STDEV)	T Statistics (O/STDEV)	P Values
X1 -> Z -> Y	0.289	0.291	0.128	2,857	0.004
X2 -> Z -> Y	0.285	0.286	0.125	2,874	0.001

Source: Processed Data, 2022

From the total effect table above it can be concluded that the hypothesis:

3. Product quality (X1) has a positive effect on brand equity (Y) through brand image (Z) as an acceptable mediating variable, with a T-statistic value of 2,857 greater than the value of $\alpha = 0.05$ (5%) = 1.96 , with a value p value of 0.004 which is less than 0.05, then it is significant (positive).

Product Quality and Digital Marketing Analysis of Brand Equity Through Brand Image of Mesran Super Lubricant Oil in Surabaya.

4. Digital marketing(X2) has a positive effect on brand image (Y) through brand image (Z) as a mediating variable that is acceptable, with a T-statistic value of 2,874 greater than the value of $\alpha = 0.05$ (5%) = 1.96 , with a value p value of 0.001 which is less than 0.05, then it is significant (positive).

EFFECT OF PRODUCT QUALITY ON BRAND EQUITY

Based on the results of the research that has been done, it is found that Product Quality has a positive effect on Brand equity, acceptable, with product performance indicators being the largest indicator influencing Product Quality. PT products Pertamina Lubricants, namely Mesran Super Lubricant contains special additives so that it has multigrade viscosity, making this lubricant easy to circulate. The engine is easy to start when the engine is cold and the temperature is low and still has a stable viscosity when operating at high temperature and speed, which makes the motor performance maximum. Mesran Super Lubricants are made from high quality mineral oil base oil. Contains detergent dispersant additives, anti-oxidation, anti-wear and has properties to protect and maintain piston cleanliness, prevent the formation of sludge (sludge deposits), able to reduce wear and tear on moving parts, especially on valves or valves. High-quality products are needed so that consumer desires can be fulfilled. Consumer desires that are fulfilled in accordance with their expectations will make consumers accept a product so that it will create brand equity.

The results of this study are in accordance with the opinion of (Kotler 2016) product quality is the superiority of a product in fulfilling the function of the product. Product quality is the value of the products produced and the quality of service that meets consumer expectations, where guaranteed product quality will increase brand equity. Consumers will of course choose good quality products to buy, so this requires companies to create good quality products and innovate old products so that they have even better quality to increase brand equity.

This research is in accordance with research conducted stated that quality has a direct influence on brand equity. Research conducted by (Loureiro 2013); (Muzaqqi, Fauzi, and Suyadi 2016); (Sukiarti, H, and Haryono 2016); (Nofriyanti 2017); (Hidayat and Martini 2019); (Pandiangan, Masiyono, and Dwi Atmogo 2021), showed results that perceived product quality has a positive and significant effect on brand equity.

The Influence of Digital Marketing on Brand Equity

Based on the results of the research that has been done, the results show that digital marketing has a positive effect on brand equity, acceptable, with the indicator of having a community on social media being the biggest indicator influencing digital marketing. The community has a fairly important role in increasing brand equity, with a group of trusted people, they can spread and increase your company's brand awareness to anyone they know. In addition, through the community, PT. Pertamina Lubricant can communicate regularly and intensively with customers. And when the communication is going well, customer trust will continue to increase and increase brand equity. Digital marketing as a forum for conveying information related to products so as to create strong brand equity to consumers. So, digital marketing Instagram that is good in terms of context, communication, and collaboration is able to form good brand equity.

The results of this study are in accordance with the opinion of (Kotler 2016) who describe social media marketing as digital marketing, which uses social media tools used by consumers to share information, images, sound and video with companies, and vice versa. From the description and general definitions above, it can be concluded that digital marketing is a marketing strategy carried out by companies using online social media tools to promote their products and service brands to increase brand equity.

The results of this research are in accordance with research conducted by (Ratana 2018) explaining the effect of digital marketing on brand equity, which shows that digital marketing has an influence on brand equity. According to Metta Ratana, the media has great power in influencing human views of the world through the content that is presented.

Effect of Product Quality on Brand Equity Through Brand Image

Based on the results of the research that has been carried out, it is found that Product Quality on Brand equity through Brand image is acceptable, with the indicator Mesran Super Lubricating Oil Product having functions and benefits which need not be doubted to be the indicator that has the biggest influence on Brand image. In this case PT. Pertamina Lubricant is not only able to provide various values or benefits to make customers choose brands, but the company must also continuously make various efforts to build the brand and improve brand image. Through good brand equity, it can generate emotional value in consumers, where positive feelings will arise when buying or using a brand, and vice versa if a brand has a bad image in the eyes of consumers.

The results of this study are in accordance with the opinion of (Kotler 2016) which states that brand equity is a requirement for a strong brand and image is a perception that is relatively consistent in the long term (enduring perception). So it is not easy

Product Quality and Digital Marketing Analysis of Brand Equity Through Brand Image of Mesran Super Lubricant Oil in Surabaya.

to form an image, so once it is formed it will be difficult to change it. The image formed must be clear and have advantages in terms of product quality when compared to its competitors.

The results of this study are in accordance with research conducted regarding the measurement of customer brand equity, concluded that one of the factors that influence brand equity is image or image. One of the brand attributes is the brand name. This brand name will later become an identity for the service brand that customers get, and become an image of the brand, which will ultimately make customers remember in their minds that the brand is right for them and will give them their own satisfaction when they get it.

The Influence of Digital Marketing on Brand Equity Through Brand Image

Based on the results of the research that has been carried out, the results show that digital marketing has an effect on brand equity through brand image. This shows that marketing through social media can provide information more quickly and easily to consumers about the products being sold so as to provide a positive brand image by increasing brand equity. Digital marketing as an online media marketing channel with various updates provided is able to increase, boost and even maintain the stability of a product's brand equity so that it continues to exist in the midst of intense product competition. The ease of digital marketing in interacting, communicating and accessing images and information helps products to be better known through their brand equity.

These results are in accordance with the opinion of (Sterne 2010), the use of digital marketing can help companies to see various opinions and analyze shifts in customer attitudes. This can provide insight to the company to be able to defend itself in the midst of market changes and the company's brand equity. This is also reinforced by explanation that digital marketing, almost of all types, is a good tool for building a brand. Through digital marketing, a company can increase consumer awareness about a product (top of mind awareness) and target more segmented targets through brands that have a positive image in the eyes of consumers. (Kaplan and Haenlein 2010) said that social media has an influence on the branding process.

These results are in accordance with research conducted by (Godey et al. 2016) stated that digital marketing has a significant positive effect on brand equity and on the two main dimensions of brand equity: brand awareness or recognition and brand image. The higher the role of social media, the brand equity will increase. With the increasing benefits of brand equity, companies have formed brand equity and how brands can be built through brand image with different marketing actions (Christodoulides & De Chernatony, 2015). Kim and Ko's research (2018) reveals that social media is an effective and positively influential marketing media activity related to future buying behavior or responses.

VIII. CONCLUSIONS

Based on the test results using PLS analysis, to test the effect of several variables on brand equity, the following conclusions can be drawn:

1. Based on the test results, it shows that Product Quality has an effect on Brand equity
2. Based on the test results, it shows that Digital marketing has an effect on Brand equity
3. Based on the test results, it shows that Product Quality affects Brand equity through Brand image
4. Based on the test results, it shows that Digital marketing has an effect on Brand equity through Brand image

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Many Practices of Global Ayurveda: A Comparative Study of Delhi Government Hospital and Charity Hospital in Berlin



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ABSTRACT: The paper attempts to draw some comparisons between government hospitals (co-located) in Delhi and Charity hospital in Berlin. The paper is ethnographic in nature and my main focus is on the way Ayurveda functions in these two different settings. The sociological analysis of these ethnographical comparisons reveals many forms and practices of global Ayurveda. The comparison has many similarities and differences but at fundamental level not necessarily is antagonistic to each other. The fieldwork is done over two years in Delhi and Berlin where I have looked at the different models of medical integration and how they function.

BACKGROUND

As far as Ayurveda in Germany is concerned, it found its roots in quite early with the Maharishi Mahesh Yogi movement in the 1980s. Since then, it has grown up and become independent. The Maharishi Mahesh Yogi group still dominates the medical Ayurveda market in Germany that concentrated on nutrition advices, massages and oil applications (Stollberg 2001) which gave Maharishi group huge popularity both within and outside Germany. Maharishi's speciality is in the transcendental meditation. Transcendental Meditation, as Maharishi defines it, is that one simple procedure which can raise the life of every individual and every society to its full dignity, in which problems are absent and perfect health, happiness, and a rapid pace of progress are the natural features of life. Although Ayurveda was principally popularised by Maharishi Mahesh Yogi known as 'Maharishi Ayur-ved' in Germany, it also exists outside the Maharishi organisations. There have been studies done on Maharishi Ayurveda and Transcendental Meditation by different scholars (Chopra 2008; 2010; Jeannotat 2008; Ann Humes 2008). My aim in this study is to look at Ayurveda practiced outside the Maharishi organisations and Charity hospital is one of them which is the focus of my study.

In Germany, Ayurveda is one of the many forms of alternative and complementary systems of medicine. Among alternative and complementary medical systems, acupuncture is the most prominent mode of treatment in the German healthcare system. While it is hard to estimate the number of patients resorting to acupuncture, around a third of all German medical doctors use it in their own practice (Stollberg 2001, Marstedt and Moebus 2002). In the last years, acupuncture treatment was mostly covered by public health insurance companies. But there is still no official recognition of Ayurveda. Nevertheless, private insurance companies partly reimburse their members for Ayurvedic treatment. But these schemes cover only a small part of the population, the better off section (Stollberg 2005).

BACK TO INDIA

In India, mainstreaming of AYUSH as a policy commitment of Government of India gained more importance by the establishment of National Rural Health Mission (NRHM) in 2005 which aims for an integrative health structure in which alternative systems of medicine and western medicine will serve the people in the public health system (Balarajan et al 2011; Dummer and Cook 2008). Mainstreaming of Ayurveda can be seen as an attempt by the postcolonial Indian state to decolonize and promote those marginalized medical systems which have been sidelined in the dominant logic and the hegemonic practice of western medicine.

There has been a considerable change in the popularity of Ayurveda in the last few years in Germany and at present there are more institutions, more training facilities and more professional associations set up for Ayurveda. This new phase of Ayurveda has drawn attention of the professional, academic and medical community. Universities, private institutions and hospitals have shown their interest in doing research on it and even practicing it in the context of public health care systems and the treatment of chronic diseases. In Germany, research on Ayurveda is being conducted at major universities across the

Many Practices of Global Ayurveda: A Comparative Study of Delhi Government Hospital and Charity Hospital in Berlin

disciplines – from medicine to Indology, religious sciences, linguistics, sociology and anthropology. In the medical faculties, research is ongoing at the University of Duisburg-Essen and the Charité Medical University, as well as the Europäischen Akademie für Ayurveda in Birstein, an academic partner of the Immanuel Hospital. In Charity medical university especially, doctors are carrying out research on Ayurveda by putting it into the clinical trials. Ayurveda in India has got maximum attention in these 5-10 years and the Indian state has tried to promote Ayurveda not only at the national level but also at the international level.

LOCATION IN HOSPITAL

The paper is based on my study in hospitals in Berlin and Delhi. Charity medical hospital has four campuses in Germany and I have visited only one campus in Berlin. Charity hospital connects to Immanuel hospital and both these institutions exist at both the sides of the road. On one side of the road there is Immanuel hospital and on the other side, Charity OPD department. Physicians work in both charity and Immanuel hospitals. The head (chair) of this CAM and integrative medicine department is the chief physician of Immanuel hospital. The head unites and links these two institutions together.

The Immanuel Hospital is a special clinic, with departments of orthopedics / rheumatism surgery, internal medicine / rheumatology /clinical immunology, metabolic disorders / osteology and naturopathy. It has 200 beds and a large outpatient clinic. This Immanuel hospital has one department called Department for CAM and integrative medicine where people get treated both in and out patient departments. The OPD department for CAM and integrative medicine is at Charity medical university (public hospital) where people get free of cost treatment. Besides OPD, the Charity medical university and hospital has unique possibility of treating IPD patients with CAM and integrative medicine treatment which is reimbursed by the health insurance companies and this is the specialty of this hospital which is not found in other hospitals in Germany. They just not treat people who are privately insured but also all other people who are not privately insured. In CAM and integrative medicine department, Ayurveda is just one part of it. Besides treating people in both OPD and IPD, in CAM and integrative medicine department, they also do research for which they get grants from different German foundations, CCRAS and so on.

In Delhi co-located institutions, ayurvedic dispensary is integrated in government allopathic hospital that comes under the purview of medical superintendent who is always an allopath. Generally ayurvedic dispensary is controlled by its directorate where people from Ayurveda looks into the affairs of the dispensary. In co-located hospitals in Delhi the ayurvedic unit began with the aim of mainstreaming of Ayurveda by the government so that people will have more treatment options under one roof. Along with ayurvedic unit, in these institutions, homeopathic and yoga dispensaries are co-existed.

THE MODEL OF INTEGRATION

In Berlin and in Delhi, the model of integration and the intricacies of integration on one level are different. Like Ayurveda in Charity hospital in Berlin exists in the form of complementary and alternative medicine and as integrative medicine. In Europe, integrative medicine refers to combination of methods of conventional Western medicine and complementary methods of treatment such as naturopathy, homoeopathy, acupuncture and Ayurveda. By practicing Ayurveda in Germany, physicians in my study said they try to overcome the existing divisions or ideological divides between these systems. As per one ayurvedic physician, 'Ayurveda as integrative medicine has the potential to provide the best possible medical care to each individual'. In this context, scholars like Hans A Baer (2008) have argued that western medicine has become more holistic as a result of this development in the West whereas others suggest it has embarked upon a subtle process of absorbing or co-opting CAM.

As per ayurvedic physicians, working at the Charité Department for Complementary and Alternative Medicine (CAM) located at the Immanuel Hospital, practices of integration are key. Their approach is at its core integrated medicine. As per the ayurvedic physician in Department for CAM and integrative medicine, doctors are trying, based on solid scientific evidence of the best possible medical practices, to integrate everything into individual patient treatment which can be beneficial for the patient. All CAM's physicians are trained in Western medicine, but they are also in favour of science-based complementary therapies. By law, doctors in Germany are not limited to Western medical practice. Two ayurvedic physicians said, "as medical doctors, they have the right to do for the patient what they think is good for the patient, but they also have to carry the responsibility". They said Ayurveda maintains that illnesses develop from an imbalance, it is also about patient self-empowerment and self-effectiveness to activate the healing properties of the body.

They said Ayurveda in Charity hospital is integrated in such a way that a combination of therapies is applied in patient's treatment. There is no conflict exist here, they are not either Ayurveda or western medicine, and they are both at the same time. Ayurvedic doctors said their aim is not to indulge in philosophy or contradictions. For them, it makes no difference whether the patient is taking Ayurveda or western medicine. For him, what is more important is usefulness and effectiveness of medical systems. So they do not tell patients to stop taking all the types of western/ conventional treatments. If the patient is taking they

Many Practices of Global Ayurveda: A Comparative Study of Delhi Government Hospital and Charity Hospital in Berlin

have no problem. Patients here in Germany do not take these medical systems either or options. They come here for something which is missing in conventional medicine. Here, integrative medicine comes here. They want something additional to what they are having in conventional medicine. As doctors after seeing the deficit in conventional medicine, they try to add, change and combine alternative medicine with conventional medicine based on individual patient case. All the physicians in Charity hospital along with training in Western medicine are also trained in various CAM therapies like Chinese medicine, acupuncture, yoga and Ayurveda. They generally have additional qualification in CAM.

The situation in Delhi is different from Charity hospital Berlin. In co-located institutions in Delhi Ayurveda and allopathy are being co-located under one roof in which Ayurveda exists in the form of dispensary. Despite their co-location in one setting, both of these medical systems stay as separate by maintaining their distinct identities. There is no conscious integration or mutual exchange happening between these medical systems. Cross referral takes place very rarely. In my research, in government ayurvedic health institutions in Delhi, the co-location of Ayurveda with allopathy do not give Ayurveda an equal status with allopathy rather creates new hierarchies between these two medical systems. For instance, on the one side the patient's strength in allopathy is 1000 or even more than that and in Ayurveda it is only 30-50. Secondly, ayurvedic doctors are not able to treat the patients in an effective manner due to the lack of infrastructure, medicines and adequate space. The space provided for Ayurveda is only one room and one small pharmacy and there are only 3 staffs like ayurvedic doctor, pharmacist and one attendant. In this dispensary, the doctor has to do all the tasks such as entering patients name in the register, seeing the patient and so on. From my observations and from my interaction with patients and doctors in Delhi, it becomes clear that Ayurveda is integrated in such a manner in public health setting where people sometimes are trying all the treatment options at the same time and they are not sure about the efficacy of any of these medical systems. In co-located medical setting, patients take medicines from all the departments such as allopathy, Ayurveda and homeopathy for the same disease situations.

Unlike Charity hospital, the patient load is relatively high in Delhi hospitals and they do not have adequate facilities to treat people. Another point is that unlike German ayurvedic doctors, ayurvedic doctors in Delhi are not trained in western or other alternative medical system. Whatever training they have got in western medicine in their BAMS, MD / MS, wsth that training they were neither well versed with allopathy or with Ayurveda. Few ayurvedic doctors have even pointed out this in my study that the poor quality of medical education and absence of mutual exchange between ayurvedic and allopathic doctors are often responsible for their poor performance in government institutions in which they neither treat patients as per Ayurveda nor they can do a mixture of both medical systems. Ayurvedic doctors even prescribe only allopathic drugs in order to compete with their allopathic counterparts.

METHOD OF DIAGNOSIS AND TREATMENT

In regard to disease diagnosis, it is found that German ayurvedic doctors spent half an hour or even more than that with patients. But there is also a difference/ a hierarchy exists at the level of publicly insured and privately insured patients in terms of the treatment method. In two days OPD, the two ayurvedic doctors see 7-10 patients per day. There is a special format for the diagnosis, the short format and the long format. They do a regular 'ashta and dasavidha pariksha'¹. Because they said maximum patients have already done so many tests and they usually have come with bundle of test reports. They have come in Ayurveda since they want something other than tests. They want a correct assessment of their personality, in terms of their existence. If they find something is missing in the test reports, they advice them to do some more pathological tests. They want something which they do not get in western medicine. They do not want more tests. They want classic ayurvedic tests. In Charity ayurvedic OPD, as the doctors said, they usually find patients who have already undergone many western medicine treatments and they have come in Ayurveda at the chronic stage. Minority patients prefer CAM as the first treatment option. In German doctor's case, their treatment especially includes panchakarma, herbs and in addition it includes aahar, bihar, meditation, yoga and mantra recitation.

On the other hand, in Delhi, although doctors say that they treat patients as per ayurvedic theory (based on doshas, dhatus) but in actual practice they spend 2-4 minutes on an average for each patient in an OPD. But there are some exceptional cases found in some institutions where patients are given 5-10 minutes for diagnosis in which patients are asked about disease history, symptoms and some preventive measures like physical exercises for the patients to follow up. This is not institution specific rather this is very much doctor-specific and sometimes also case-specific. But this is rarely found in one or two government ayurvedic institutions in Delhi. Diagnosis is done without following ayurvedic philosophy in most of the institutions where a doctor

¹ Rogi pariksha or the examination of the patient is done in a detailed eight fold (ashtasthana pariskha) and ten-fold (dasavidha pariksha) processes to understand clearly the condition of the doshas and by doing this, proper diagnosis is done.

Many Practices of Global Ayurveda: A Comparative Study of Delhi Government Hospital and Charity Hospital in Berlin

treats the patient symptomatically. Doctors ask questions like *kya hua hai aap ko, kab se hai aur abhi kaisa lag raha hai*. After asking two-three questions like this, they prescribe medicines. Diet restrictions are also not strictly followed for the patients in Delhi hospitals. There are some general food restrictions like to avoid spicy, oily and non-vegetarian food. Again this is found in very few patients cases. So we can say sometimes due to this less hour spent for diagnosis, patients are not able to make a difference between Ayurveda and allopathy in Delhi government hospitals. So Ayurveda in Delhi government health institutions after failing to treat the patient holistically has fallen into the trap of biological reductionism where patients are diagnosed only in terms of symptoms. In response to this, doctors said the diagnosis cannot be done in a government hospital as it was done earlier during the time of vaidya taking detailed history of the patient, his disease situation, what kind of treatment they have taken till now, background of the patient and family history. This is because they see so many patients per day due to which it is practically impossible for them to do diagnosis as per ayurvedic theory (such as doshas, dhatus, malas). But this is even true of doctors in institutions who see only 10-20 patients per day.

MAKING OF PATIENTS' CHOICE

When it comes to patients' view on selection of medicine or medical system it is clear that the limitations of western medicine played a more significant role in choosing ayurvedic treatment. This is true both of Charity and Delhi hospitals. In my fieldwork I found that the final decision to use Ayurveda was highly influenced by members of the respective personal network. Advice from close friends or relatives majorly leads people to choose ayurvedic treatment in both the settings. My fieldwork also shows that patients coming exclusively for ayurvedic treatment are very few. However maximum patients in these two settings come for ayurvedic treatment after consulting allopathy that is after unsuccessful allopathic treatment (when they did not get cure from allopathy). In government hospitals and dispensaries of Delhi, unsuccessful allopathic treatment, for instance, when it causes excessive side effects and when it does not give satisfactory result in chronic disease situations like arthritis, joint pain, diabetes, hypertension, chronic indigestion, hyperacidity, gastric problem and chronic respiratory cases people prefer alternative medicine such as Ayurveda, homeopathy and siddha. People go for Ayurveda in government institutions since they find it equally cheap like allopathy. Likewise, in Charity hospital, as per doctors, 90-95 % patients come for the treatment of chronic diseases like chronic back pain, chronic rheumatic diseases like osteoarthritis, rheumatoid arthritis, psycho somatic diseases, metabolic diseases like diabetes, hypertension and neurological conditions like Parkinson disease. Among these, majority patients come for rheumatic diseases and psycho somatic diseases. People come for ayurvedic treatment mainly in cases of stress related disorders, back pain, psychosomatic disorders unlike Delhi. People come in Ayurveda in Charity hospital also after unsuccessful allopathic treatment.

So, it is clear that majority of patients in Ayurveda in Delhi health institutions and in Charity hospital come after they have consulted allopathy and mostly they have undergone all types of diagnostic tests in allopathy. In case of need, patients are referred to diagnostic tests by the ayurvedic doctors in both the settings.

SOCIAL BACKGROUND OF PATIENTS

If we will look into the social background of patients, in case of Delhi majority patients are from lower socio-economic background like rickshaw pullers, workers, government employees like peons, security guards, people who work privately and have their own small shops. Poor people from distant villages in other states like Bihar, Haryana, and Rajasthan also come here for ayurvedic treatment after listening to others who have already been to these institutions. One can say that Ayurveda in the government health institutions in Delhi can be availed by the poor people and people from lower middle classes. On the other, Ayurveda in the private health set up is expensive which is primarily accessed by the middle and upper middle class community in Delhi.

As I have shown in case of Delhi, the similar hierarchies also prevail in Germany in terms of Public and privately insured patients. The category of patients in the Department of CAM and integrative medicine in Charity hospital is broadly divided into regular patients (in and out) and trial group (research) patients. Within the category of regular patients, there is another division between publicly and privately insured patients. Here in Charity hospital the treatment provided to these two categories of patients is slightly different. Since privately insured patients are reimbursed the whole money spent on their treatment, and the publicly insured patients, some percentage of it. All the privately insured patients are given proper care and massage therapies and panchakarma treatment like Abhyanga, Swedana² whereas publicly insured patients are given only consultation and

² Panchakarma therapy consists of five therapies such as vaman (therapeutic emesis), virechan (therapeutic purgation), basti (therapeutic enema), nasya (therapeutic evacuation of vitiated *dosha* from head) and *rakta mokshana* (therapeutic blood cleansing). These main therapies are preceded by some pre-treatments like *snehana* or *abhyanga* (oleation, herbal oil massage) and *swedana* (herbal steam bath). Abhyanga is a whole body massage with specific herbal oils. This massage is usually followed by a medicated steam bath (*swedan*). *Swedana* is a process to

Many Practices of Global Ayurveda: A Comparative Study of Delhi Government Hospital and Charity Hospital in Berlin

medication. And if any person (publicly insured) needs more than this, then they have to pay on their own. All of the regular patients get some kind of ayurvedic treatment. One can say that how different models of integration come with different types of hierarchies which are prevalent in both the settings. Another point is that the background of patients is also different in both the settings. In one setting since better off people are coming, it is possible for them to follow the diet pattern and they can also take time consuming treatments like panchakarma and massage. In another setting there are people who are from lower socio-economic background, in this case, people hardly get all the medicines from the dispensary.

WHOSE AYURVEDA IS MORE AUTHENTIC AND 'PURE'?

To quote one ayurvedic physician in Charity hospital, "Ayurveda is more than just a medical system; it also includes the spiritual and the psycho-mental realm. Ayurveda is holistic in its very sense". In Ayurveda, physicians look not only at the body, but rather integrate everything that can be gained from the patient. "That's one of the reasons that medical analysis from the western point of view is not sufficient". Ayurveda is a complex system of medicine. This is much more than medicine. This takes a lot of philosophical aspects. The treatment procedure is according to the classical texts such as Charak Samhita, Bhagvata and Susruta. It covers all the aspects, physiological and psycho-mental, spiritual aspects, day-to-day aspects of diet, life style.

Similarly, most of the doctors interviewed in Delhi concur that Ayurveda is a science deeply embedded in our culture. Likewise, they emphasise that Ayurveda has a history of 5000 years. In Ayurveda, physical, mental and spiritual well being of the patient is important, just like the World Health Organisation (WHO) which defines health in terms of physical, mental and spiritual well-being. They discussed about ayurvedic treatment in terms of two components: a) preventive and b) curative. Preventive aspect of Ayurveda includes personal hygiene, daily routines and appropriate social behaviour. The curative treatment consists of use of drugs and specific diets.

One can see that how ayurvedic doctors in both Berlin and Delhi have tried to view Ayurveda as a holistic medical system and this is where they made a difference between Ayurveda and western medicine. At the same time, there is a debate on whose Ayurveda is more authentic and purer.

In my interaction with two ayurvedic doctors in Charity medical hospital, they said over the last decade, Ayurveda in South Asia is seen in terms of 'Vital-herbal therapy' and panchakarma treatment-purification techniques, aausadhi section and not as a whole medical system approach. And from the structure of ayurvedic hospitals, the structure of the hospital seems to be very similar to western medicine hospital such as ward rooms, doctor's room. Instead of red pills you get green pills or powders, instead of ultra sound you will find Naadi pariskha. Instead of calory reduced foods, you get panchakarma foods. What is being done in Nepal, India and Sri Lanka, it is very much not in accordance with the traditional texts. The psycho-mental and spiritual aspects are not found in Ayurveda treatment centers in these countries. There are very few institutions which cover all these aspects, but majority institutions lack this. To put it in an extreme fashion, Ayurveda as an alternative system of medicine, alternate to allopathy, has adopted the methods and ways of western medicine for the treatment of patients. The whole medical system approach of Ayurveda somehow seems to be in defensive mode. These are the perceptions as western ayurvedic physicians (21st century) on South Asian Ayurveda.

They also said, in Germany, Switzerland, Austria and other European countries, they do whole system medical approach of Ayurveda than the countries of origin of Ayurveda like India. Ayurvedic physicians or physicians who are working with Ayurveda in Germany and other countries, vital therapy has minor importance in European countries. Panchakarma and herbal therapy are two aspects of Ayurveda. They also give importance to other factors like dietary advice, life style consultations, Sattva vijaya³ (psycho-mental treatment aspect), Daiva vyapasraya (spiritual way of healing), rituals, treatment with mantras, yoga are much more important in Ayurveda treatment in Germany and other European countries. Ayurveda has made its way since the eighties in certain European countries. It has considerably changed. Ayurvedic physicians said Ayurveda is being practiced in Charity hospital as a whole medical system. This is what the patients are seeking for in Ayurveda. If you look at the patients, they do not want only another pill, substituting conventional pills for Ayurveda pills or getting cleansing treatment. They want this to a certain extent but they just do not want this. They want the kind of holistic treatment which they do not find in western medicine. They are such as guidance for better life style, self treatment advice, inclusion of psycho-mental treatment aspect, yoga and meditation, guidance in the spiritual context, how to choose certain mantras, yagnas in a larger therapeutic context. They sometimes also

induce sweating by using steam of special herbs specific to the *dosha* and ailments of a person. This herbal steam bath opens the pores and flushes and cleanses the system through the skin.

³ Sattva Vijaya refers to the protocol, the ayurvedic therapies, which restore the connection between heart, mind and self.

Many Practices of Global Ayurveda: A Comparative Study of Delhi Government Hospital and Charity Hospital in Berlin

want cross references for other spiritual treatment options. So it is a wide mixture in terms of what they get from patient as wishes or questions. As a result, it includes all these tools mentioned in classical texts. Based on my observations in case of two in patients, they were diagnosed in a detailed manner and they received panchakarma treatment for 45 minutes each such as swedana and virachana. These two patients are privately insured patients and one patient (old lady) is suffering from fibromyalgia syndrome with anxiety and depression and the other patient (old man) is suffering from knee arthritis.

So, on the one hand, German ayurvedic doctors have made claims that they practice pure and authentic Ayurveda by giving emphasis on the spiritual and psycho mental aspects and practicing Ayurveda as per the classical texts and on the other hand, ayurvedic doctors in Delhi made a claim that they practice authentic and pure Ayurveda. For ayurvedic physicians in Delhi, German ayurvedic doctors are doing what a psychiatrist is doing and in Germany they use Ayurveda more in terms of extra-medication purposes by just focusing on massage and panchakarma. In India, they give emphasis on both medication and panchakarma. People in Germany get treated only for stress related disorders and psychosomatic disease conditions but people in India get treated for other disease situations like allergic and skin disorders, digestive disorders and surgical cases. Here in Delhi they use Ayurveda more in terms of medicine in which they also add panchakarma therapy but not only panchakarma and massage like German ayurvedic doctors.

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Determining Legal Parentage and Nationality of a Child Born Through Assisted Reproductive Technology: A Comparative Perspective



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ABSTRACT: While procreation through copulation has remained the conventional means for pregnancy and beginning the human family, advances in medical technology has now demonstrated that coitus is no more the absolute process for childbearing. Individuals like infertile couples, single persons, lesbians and gay partners have now resorted to assisted reproductive technology (ART) and surrogacy arrangements in order to start a family. Transcending the hope and joy it offers to these groups of individuals who may have been incapable of having children of their own, this new procreative technology has stirred up a number of ethical and legal questions. The focal aim of the article was to investigate the state of the law for ascertaining the legal parentage and nationality of a child born through ART. Determination of these sensitive issues is vital because of the possibility of a child conceived through ART having more than two parents, especially where surrogacy, donor sperm and donor eggs are involved. The article adopted desk-based and comparative research methods by relying on both primary and secondary sources of information. The various sources of information were appraised and deductions derived from them were presented descriptively. The article revealed inter alia, that in some of the countries examined, ART practice is regulated and the courts, in a number of instances, have been engaged to resolve controversies pertaining to the legal parentage and nationality of children born through ART procedure. But in Nigeria, the practice is unregulated by law and there is dearth of decided cases on the subject. The authors therefore, recommended that in view of the increasing number of individuals turning to ART in Nigeria, including cross-border surrogacy, to build families, there is need for definite ART legislation in Nigeria so as to assist in resolving these problems and other related ones. Nigerian lawmakers could examine similar laws from other foreign jurisdictions and use them as potential guide to fashion out a domestic legislation in Nigeria. The Nigerian courts could also learn from decisions from other jurisdictions so as to know how to determine related cases as they occur in Nigeria.

KEYWORDS: Assisted Reproductive Technology, In Vitro Fertilisation, Gamete Intrafallopian Transfer, Intracytoplasmic Sperm Injection, Intrauterine Insemination, Legal Parentage, Nationality, Surrogacy

I. INTRODUCTION

Evolvement in medical science and technology over the past few decades have made it easier for those who were once regarded as incapable of conceiving naturally and fulfilling their dreams of having their own children realise such dreams. This is made possible via the adoption of assisted reproductive technology (ART). ART is a term that is commonly used to refer to a variety of methods applied to attain pregnancy through agency aside from the conventional sexual union between a man and woman and it includes *in vitro* fertilisation, gamete donation, donor insemination, intracytoplasmic sperm injection and intrauterine insemination.¹ Another form of medical and technological innovation employed in assisting couples to procreate is by means of surrogacy procedure.² This involves the hiring of a third party to either altruistically or commercially carry pregnancy and give birth to a child on behalf of another and thereafter give up the child together with all the parental rights associated with the child to the intending parent(s) or commissioning couple.

¹ Alessandro Stasi, "Protection for Children Born through Assisted Reproductive Technologies Act, B. E. 2558: The Changing Profile of Surrogacy in Thailand" (2017) 11 *Clinical Medicine Insights Reproductive Health*, 1-7 at p. 1; DOI: 10.1177/1179558117749603; retrieved from <<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5753847/>> (accessed on 18 December 2022). See also, Lorraine Kelly, "In Vitro Fertilisation: The Science and Ethics in the 21st Century" (2001) 7(1) *Human Reproduction & Genetic Ethics*, 15-20; DOI: 10.1179/hrge.7.1.u384347k75617561.

² Kimberly D. Krawiec, "Altruism and Intermediation in the Market for Babies", (2009) 66 *Washington and Lee Law Review*, 203-257 at p. 224.

Determining Legal Parentage and Nationality of a Child Born Through Assisted Reproductive Technology: A Comparative Perspective

Utilising ART procedure to achieve conception has indeed helped infertile married couples, homosexual couples and single individuals, who would otherwise have remained unable to conceive their own babies and become parents.³As a matter of fact, it has been estimated that since the inception of ART procedure in 1978, over 10 million babies have been born using the practice worldwide.⁴ Given that many countries, like Nigeria, do not regulate ART practice and/or maintain registries for treatments and record births obtained through the technique, the number of babies born through the procedure is therefore, likely to be higher. In terms of financial gains, market analysts have reported that providers of IVF recorded a profit of USD 16.89 billion in 2018 with a projected profit of USD 36.39 billion in 2026.⁵ In USA alone, IVF market size for 2020 was valued at USD 4.90 billion with an expectation of increasing to USD 5.56 billion in 2027.⁶

However, these new conceptive methods are frequently far more complicated as they raise a number of intricate questions. This is because it is possible for babies conceived through assisted reproduction to have more than two parents, particularly if donor gametes are utilised.⁷ For instance, in a gestational surrogacy arrangement where a heterosexual married couple sperm and eggs are utilised, two women can probably make a biological contribution either by means of genetic structure or hormonal and other biological components⁸ thereby qualifying them as biological mothers.⁹ Also in a situation where donor egg and donor semen are applied by the intending parents, the child becomes biologically unconnected to both the intending parents and the surrogate. Thus, in such a case, the gestational mother, the commissioning mother and the genetic mother are three distinct individuals.¹⁰

Hence, it is not in doubt that utilising procreative technology to build a family can become considerably more complicated, evoking various moral and legal debates. Consequently, the primary focus of this article is to examine how the legal parentage and nationality of a child born through reproductive technique can be determined, comparatively illustrating with some countries like Thailand, United States of America (USA), United Kingdom (UK), and Nigeria.

II. RESEARCH METHODS

The article adopted desk-based and comparative research methods whereby we relied on both primary and secondary sources of information. The comparative research method helped in investigating the likely complexities relating to legal parentage and nationality of a child born through reproductive technology from the perspective of such countries like Thailand, USA, UK, and Nigeria. The various sources of information were evaluated and inferences drawn from them were presented descriptively.

III. RESULTS AND DISCUSSION

1. Meaning and Contributory Factors for Infertility

According to Anne Dana, infertility can be of two types, namely, functional infertility (FI) and structural infertility (SI).¹¹ Functional infertility is the inability to conceive after a year or more of regular unprotected sexual intercourse between a man and a woman

³ Anne R. Dana, "The State of Surrogacy Laws: Determining Legal Parentage for Gay Fathers" (2010) 18 *Duke Journal of Gender Law & Policy* 353-390.

⁴ European Society of Human Reproduction and Embryology (ESHRE) 2020, "ART Fact Sheet"; retrieved from <<https://www.eshre.eu/-/media/sitecore-files/Press-room/ESHREARTFactSheetv73.pdf?la=en&hash=361623B1FDF3E05140A0ABF13044104CE42CF595>> (accessed on 30 January 2023).

⁵ Fortune Business Insights 2021, "In Vitro Fertilisation Market Size, Share & Industry Analysis, 2019-2026"; retrieved from <<https://www.fortunebusinessinsights.com/in-vitro-fertilization-ivf-market-102189>> (accessed on 30 January 2023).

⁶ Allied Market Research, "U. S. In Vitro Fertilisation (IVF) Services Market"; retrieved from <<https://www.alliedmarketresearch.com/US-IVF-services-market>>(accessed on 30 January 2023).

⁷ Anne-Kristin Kuhnt & Jasmin Passet-Wittig, "Families Formed through Assisted Reproductive Technology: Causes, Experiences, and Consequences in an International Context" (2022) 14 *Reproductive BioMedicine and Society Online*, 289-296 at p. 289; DOI: <<https://doi.org/10.1016/j.rbms.2022.01.001>> (accessed 30 January 2023).

⁸ Ruth Macklin, "Artificial Means of Reproduction and our Understanding of the Family" (1991) 21(1) *The Hastings Center Report*, 5-11; DOI: <<https://doi.org/10.2307/3563339>>.

⁹ Ebrahim J. Kermani & Bonnie A. Weiss, "Biological Parents Regaining Their Rights: A Psycholegal Analysis of a New Era in Custody Disputes" (1995) 23(2) *The Bulletin of the American Academy of Psychiatry and the Law*, 261-267 at p. 264.

¹⁰ Helen Szoke, "Surrogacy: All the Features of a Relationship that Could Go Wrong" (2001) 28 *Melbourne Journal of Politics*, 55. In fact, the case of *In re-Marriage of Buzzanca* 72 Cal. Rptr. 2d 280 (Cal. Ct. App. 1998) clearly illustrates that the number of parents can even grow up to six adults.

¹¹ Anne R. Dana, "The State of Surrogacy Laws: Determining Legal Parentage for Gay Fathers", (2010) 18 *Duke Journal of Gender Law & Policy* 353-390 at p. 359.

Determining Legal Parentage and Nationality of a Child Born Through Assisted Reproductive Technology: A Comparative Perspective

without contraception or the failure of a woman to carry a pregnancy to term.¹² Greil and McQuillan considered (functional) infertility as a “disease” that is defined by inability to achieve a successful pregnancy after 12 months or more of normal unprotected coitus.¹³ In other words, FI is identified as the failure to become pregnant after a year of exposure to pregnancy risk or after a year of standard unprotected sexual intercourse in the absence of recognised reproductive pathology.¹⁴

FI can affect either male or female and can occur from a number of medical reasons such as “a low sperm count; having no viable eggs, or being unable to carry a baby to term.”¹⁵ Other factors that could have possible harmful consequences on reproductive health in both men and female couples and therefore, probably result in infertility include, erectile dysfunction (ED) in men, alcohol consumption, use of harmful drugs, history of sexually transmitted diseases (STDs), exposure to toxic elements, ovulatory disorder and other forms of cervical abnormalities, endometriosis, repeated abortions as well as advancement in age by women.¹⁶ SI on the other hand is not a product of medical stipulation. Instead, it relates to a case where a person is either single or in a relationship with a same-sex partner and by reason of such association needs a third party’s biological support to procreate.¹⁷ Single individuals and same-sex partners are considered as “dysfertile” or unsuitable for parenthood regardless their fertility status.¹⁸

Available data indicates that the worldwide prevalence rate of FI is estimated at approximately 17%¹⁹ with 1 in every 8 women and 1 in every 10 men reportedly facing infertility problem in the United Kingdom²⁰ and about 9% of men and 11 % of women of childbearing age in the US have infertility problems;²¹ whilst the infertility prevalence among couples in Nigeria ranges

¹² The Editors of Encyclopaedia Britannica, “Infertility: Medical Disorder”, *Britannica*; retrieved from <<https://www.britannica.com/science/infertility>> (accessed on 26 December 2022). See also Enobong Mbang Akpambang & Monica Amujo-Akomolafe, “Legal Position on Surrogacy Arrangements in Nigeria and Some Selected Jurisdictions,” (2020) 7(3) *International Journal of Research in Humanities and Social Studies*, 18-39 at p. 18.

¹³ Arthur L. Greil & Julia McQuillan, “Trying” Times: Medicalization, Intent, and Ambiguity in the Definition of Infertility” (2010) 24(2) *Medical Anthropology Quarterly*, 137-156 at p. 138; retrieved from DOI <<https://doi.org/10.1111/j.1548-1387.2010.01094.x>> (accessed on 30 December 2022).

¹⁴ T. Gerrits & M. Shaw, “Biomedical Infertility Care in sub-Saharan Africa: A Social Science Review of Current Practices, Experiences and View Points”, (2010) 2(3) *Facts, Views & Vision in ObyGyn*, 194-207.

¹⁵ Judith F. Daar, “Accessing Reproductive Technologies: Invisible Barriers, Indelible Harms”, (2008) 23(1) *Berkeley Journal of Gender, Law & Justice*, 18-82 at pp. 24-25.

¹⁶ The Editors of Encyclopaedia Britannica, “Infertility: Medical Disorder”, *Britannica*; retrieved from <<https://www.britannica.com/science/infertility>> (accessed on 26 December 2022). See also, Eunice Kennedy, “What are some possible causes of female infertility?” Retrieved from <<https://www.nichd.nih.gov/health/topics/infertility/conditioninfo/causes/causes-female#:~:text=Structural%20problems%20usually%20involve%20the,reach%20the%20egg%20for%20fertilization>>(accessed on 31 December 2022);

Alaina B. Jose-Miller, Jennifer W. Boyden & Keith A. Frey, “Infertility”, (2007) 75(6) *American Family Physician*, 849-856, PMID: 17390595.

¹⁷ Jessica Arons, *Future Choices: Assisted Reproductive Technologies and the Law*, (Washington DC: Center for American Progress, December 2007); retrieved from <<https://www.americanprogress.org/article/future-choices-assisted-reproductive-technologies-and-the-law>> (accessed on 30 December 2022).

¹⁸ Margarete Sandelowski and Sheryl de Lacey, “The Uses of a “Disease”: Infertility as Rhetorical Vehicle”, in Marcia C. Inhorn & Frank van Balen (eds.) *Infertility Around the Globe: New Thinking on Childlessness, Gender, and Reproductive Technologies*, (University of California Press, 2002), 33-51 at 35 (Chapter 2); retrieved from <<https://doi.org/10.1525/9780520927810-002>>; <<http://www.jstor.org/stable/10.1525/j.ctt1ppfk5.4>> (accessed on 30 December 2022). See also Anne R. Dana, “The State of Surrogacy Laws: Determining Legal Parentage for Gay Fathers”, (2010) 18 *Duke Journal of Gender Law & Policy* 353-390 at p. 359. See also Lisa C. Ikemoto, “The In/Fertile, the Too Fertile, and the Dysfertile” (1996) 47(4) *Hastings Law Journal*, 1007-1061 at pp. 1008-1009.

¹⁹ R. A. Ajayi & O. J. Dibosa-Osador, “Stakeholders’ Views on Ethical Issues in Practice of *In-Vitro* Fertilisation and Embryo Transfer in Nigeria” (2011)15(3) *African Journal of Journal of Reproductive Health*, 73-80 at p. 73.

²⁰ Kathryn Doyle, “One in eight women experience infertility,” (8 July 2016) *Health New*; retrieved from <<https://www.reuters.com/artocle/us-health-infertility-rates-idUKKCN0Z029J>> (accessed on 31 December 2022). However, Achilli, *et. al.*, argues that infertility affects about 10%-15% of couples in the UK warranting them to turn to ART- see Chiara Achilli, *et. al.*, “The Role of Immunotherapy in *In Vitro* Fertilisation and Recurrent Pregnancy Loss: A Systematic Review and Meta-Analysis” (2018) 110(6) *Fertility and Sterility*, 1089-1100 at p. 1089; <<https://doi.org/10.1016/j.fertnstert.2018.07.004>> (accessed on 2 January 2023).

²¹ CCRM Fertility, “Is Infertility Rising” (16 June 2022); retrieved from, <<https://www.ccrmivf.com/blog/is-infertility-on-the-rise/>> (accessed on 2 January 2023).

Determining Legal Parentage and Nationality of a Child Born Through Assisted Reproductive Technology: A Comparative Perspective

from 10-30%.²² Globally, the World Health Organisation (WHO) admits that about 60-80 million couples suffer from infertility and that resort to assisted reproductive technique has increased by 5%-10% yearly.²³

While there are obtainable data regarding FI, there is basically unavailable statistics regarding individuals that are confronted with SI. As a matter of fact, data relating to prevalence of infertility concentrates primarily on functional infertility, specifying the incidences of unintentional childlessness among heterosexual, mainly married couples.²⁴ With regard to structural infertility, Judith Daar admitted that even as a greater number of single women seek assisted insemination donor (AID) in order to procreate, it is however difficult to correctly assess the number of single women who utilise it because of absence of government surveys report figures on such women who seek the assistance of medical practitioners for insemination.²⁵ Robertson equally posits that as more gays and lesbians are entering into partnership arrangements, an increasing number will aspire to have children. To achieve such aspiration, they may have to resort to assisted reproductive technologies in order to procreate.²⁶ So, irrespective of what is the precise prevalence of a combined functional and structural infertility data, it is apparent that the utilisation of ART by these categories of persons is growing in the world today.²⁷

2. Kinds of ART

As explained earlier, ART is the utilisation of non-coital techniques to conceive a baby and start pregnancy. This may take any of the following forms:

a) In Vitro Fertilisation (IVF)

The birth of Louise Brown as the world's first test tube baby through the use of IVF in July 1978 in northwest England signalled the beginning of a success narrative of technologically assisted human procreation.²⁸ Ever since then, IVF has offered hope to millions of couples who could not conceive a child through a natural means.²⁹ IVF is the most common form of ART and it entails the fertilisation of the ova outside the womb and thereafter transferring the resultant embryos into the uterus. The woman whose ova are used is often treated with hormones and fertility drugs in order to boost egg production and through a minor surgery, known as follicular aspiration, the eggs are harvested from the woman's body.³⁰ The insemination and fertilisation may involve the incubation of the ovum in sperm or injecting a single sperm directly into the egg, a procedure known as intracytoplasmic sperm injection (ICSI). Most often 3-5 days after egg retrieval and fertilisation, the embryo/embryos would be transferred into the uterus; the precise number of embryos transferred is an intricate issue as it depends on several factors, including the age of the woman.³¹ Like other forms of ARTs, IVF is contentious because it challenges deeply rooted moral, ethical, and religious values, especially those values that pertain to family and relationships among its members as it entails the intentional "separation of reproduction from the act of human sexuality and from the human body."³² Actually, one of the ethical contentions against IVF is that the parents' desire to have a child did not allow them to have it through a likely unsafe means that might lead to a deformed baby.³³

²² Amina Mohammed-Durosinlorun, et. al., "Use and Pattern of Previous Care Received by Infertile Nigerian Women," (2019) 5(14) *Fertility Research and Practice*, 1-8 at p. 1; DOI: <<https://doi.org/10.1186/s40738-019-0068-6>> (accessed on 2 January 2023). See also, Nathan B. W. Chimbata & Chikondi Malimba, "Infertility in sub-Saharan Africa: A Woman's Issue for How Long? A Qualitative Review of Literature", (2016) 4 *Open Journal of Social Sciences*, 96-102 at p.97; DOI: <<https://dx.doi.org/10.4236/jss.2016.48012>> (accessed on 2 January 2023).

²³ CCRM Fertility, "Is Infertility Rising" (16 June 2022); retrieved from, <<https://www.ccrmivf.com/blog/is-infertility-on-the-rise/>> (accessed on 2 January 2023).

²⁴ Judith F. Daar, "Accessing Reproductive Technologies: Invisible Barriers, Indelible Harms", (2008) 23(1) *Berkeley Journal of Gender, Law & Justice*, 18-82 at p. 24.

²⁵ *Ibidem*, at p. 25.

²⁶ John A. Robertson, "Gay and Lesbian Access to Assisted Reproductive Technology" (2004) 55(2) *Case Western Reserve Law Review*, 323-372 at p. 324.

²⁷ Judith F. Daar, "Accessing Reproductive Technologies: Invisible Barriers, Indelible Harms" (2008) 23(1) *Berkeley Journal of Gender, Law & Justice*, 18-82 at p. 25.

²⁸ Katherine Dow, "Looking into the Test Tube: The Birth of IVF on British Television" (2019) 63(2) *Medical History*, 189-208 at p.189; DOI: <<https://doi.org/10.1017/mdh.2019.6>> (accessed on 2 January 2023).

²⁹ Rachael Gurevich, "The Past and Future of In Vitro Fertilisation"; retrieved from <<https://www.verywellfamily.com/what-does-in-vitro-mean-1960211>> (accessed on 2 January 2023).

³⁰ Simisola Akintola & Olohikhuae Egbokhare, "Parenthood: Is the Law in Nigeria Fit for Assisted Reproductive Technology" (2018) *Indian Journal of Medical Ethics Online*, 1-6; DOI: <<https://doi.org/10.20529/IJME.2018.012>> (accessed on 2 January 2023). See also MedlinePlus, "In Vitro Fertilisation (IVF)"; retrieved from <<https://medlineplus.gov/ency/article/007279.htm>> (2 January 2023).

³¹ *Ibidem*. See also, Elizabeth Brake & Joseph Millum, "Procreation and Parenthood" In: N. Edward (ed.) *Stanford Encyclopedia of Philosophy*; retrieved from <<https://plato.stanford.edu/entries/parenthood/>> (2 January 2023).

³² Suzanne Wymelenberg, "New Technologies: The Ethical and Social Issues," In: Suzanne Wymelenberg, et al. (eds.) *Science and Babies: Private Decisions, Public Dilemmas* (Washington DC: National Academies Press, 1990), Chapter 7; retrieved from <https://www.ncbi.nlm.nih.gov/books/NBK235272/#_NBK235272_pubdet_> (accessed on 2 January 2023).

³³ *Ibidem*.

Determining Legal Parentage and Nationality of a Child Born Through Assisted Reproductive Technology: A Comparative Perspective

b) Intra Cytoplasmic Sperm Injection (ICSI)

ICSI is a specialised kind of IVF that is used mainly for the treatment of serious cases of male-factor infertility³⁴ or for couples who have not been able to conceive in earlier IVF attempts.³⁵ It requires the injection of a single sperm straight into a fertilised egg. This is unlike the conventional IVF where thousands of sperms are positioned next to an egg on a laboratory dish and whether one of the sperm penetrates the egg to fertilise is left to chance.³⁶ The first successful live birth of using ICSI as a method of ART was reported in 1992 and ever since then, the procedure has become the mainstay for treatment of male-factor infertility and in overcoming fertilisation failure associated with the traditional IVF. A study has revealed that almost 66 percent of all assisted reproductive treatments globally were done through ICSI resulting in the births of millions of babies.³⁷ However, Tannus *et. al* have argued that ICSI procedure does not have an advantage over traditional IVF when it is used for non-male factor infertility in women of 40 years and above.³⁸

c) Intrauterine Insemination (IUI)

Sperm preparation techniques produced for IVF and embryo transfers and the use of density gradients resulted in the stimulation of interest in IUI.³⁹ IUI is a fertility treatment that entails the insertion of sperm into a woman's womb. The objective of an IUI fertility treatment is to enhance the likelihood of fertilisation by increasing the number of healthy sperm that gets to the fallopian tubes when the woman is most fertile.⁴⁰ Frozen sperm from a donor can also be used for IUI after a proper screening by a licensed fertility clinic for infections and inherited diseases. Whether IUI will increase the chances of pregnancy in situations regarding unexplained infertility, low sperm count or poor quality sperm and moderate endometriosis has been a debatable matter.⁴¹ However, Williem Ombelet *et al* have argued that generally, IUI should be preferred to more intrusive and costly forms of ARTs and should therefore, be provided as a first-line treatment in situations of sub-fertility including male sub-fertility and ovulatory dysfunction.⁴² IUI can also be useful for lesbian couples using donor sperm and single women who may desire to begin a family with donor sperm.⁴³

³⁴ City Fertility, "Intracytoplasmic Sperm Injection (ICSI) Fertility Treatment"; retrieved from <<https://www.cityfertility.com.au/fertility-services/ivf-treatment/intracytoplasmic-sperm-injection-icsi/>> (accessed on 2 January 2023).

³⁵ UCSF Health, "FAQ: Intracytoplasmic Sperm Injection"; retrieved from <<https://www.ucsfhealth.org/education/faq-intracytoplasmic-sperm-injection>> (accessed on 2 January 2022).

³⁶ Cleveland Clinic, "Intracytoplasmic Sperm Injection (ICSI)"; retrieved from <<https://my.clevelandclinic.aorg/health/treatments/22463-intracytoplasmic-sperm-injection>> (accessed on 2 January 2023).

³⁷ Zev Rosenwaks & Nigel Pereira, "The Pioneering of Intracytoplasmic Sperm Injection: Historical Perspectives" (2017)154(6) *Reproduction*, F71-F77; DOI: <<https://doi.org/10.1530/REP-17-0308>> (accessed on 2 January 2023).

³⁸ Samer Tannus *et. al.*, "The Role of Intracytoplasmic Sperm Injection in Non-Male Factor Infertility in Advanced Maternal Age" (2017) 32(1) *Human Reproduction*, 119-124; DOI: <<https://doi.org/10.1093/humrep/dew298>> (accessed on 2 January 2023).

³⁹ Peter R. Brinsden & Richard P. Dickey, "An overview of Intrauterine Insemination and Ovulation Induction", In: Richard P. Dickey, Peter R. Brinsden & Roman Pyrzak (eds.) *Manual of Intrauterine Insemination and Ovulation Induction* (Cambridge: Cambridge University Press, 2010), 1-6; DOI: <<https://doi.org/10.1017/CBO9780511642159.002>> (accessed on 2 January 2023).

⁴⁰ Johns Hopkins, "Intrauterine Insemination (IUI) Treatment," retrieved from <https://www.hopkinsmedicine.org/gynecology_obstetrics/specialty_areas/fertility-services/intrauterine-insemination.html> (accessed on 2 January 2023).

⁴¹ Aboubakar M. Elnashar, "Opinion: Intrauterine Insemination", (2004) 9(2) *Middle East Fertility Society Journal*, 101-106; NHS, "Intrauterine Insemination (IUI)"; retrieved from <<https://www.nhs.uk/conditions/artificial-insemination>> (accessed on 2 January 2023). Compare with: Johns Hopkins, "Intrauterine Insemination (IUI) Treatment"; retrieved from <https://www.hopkinsmedicine.org/gynecology_obstetrics/specialty_areas/fertility-services/intrauterine-insemination.html> (accessed on 2 January 2023).

⁴² Willem Ombelet, *et. al.*, "Intrauterine Insemination (IUI) as a First-line Treatment in Developing Countries and Methodological Aspects that Might Influence IUI Success" (2008) *Human Reproduction*, 64-72; DOI: <<https://doi.org/10.1093/humrep/den165>> (accessed on 2 January 2023).

⁴³ Johns Hopkins, "Intrauterine Insemination (IUI) Treatment"; retrieved from <https://www.hopkinsmedicine.org/gynecology_obstetrics/specialty_areas/fertility-services/intrauterine-insemination.html> (accessed on 2 January 2023).

Determining Legal Parentage and Nationality of a Child Born Through Assisted Reproductive Technology: A Comparative Perspective

d) Gamete Intrafallopian Transfer (GIFT)

The foremost pregnancy using GIFT was accomplished in a woman with unexplained infertility in 1984.⁴⁴ The growth of GIFT was based on the postulation that transfer of oocytes and spermatozoa to the fallopian tubes would produce optimised or improved conditions for fertilisation and early embryo growth, leading to “higher quality embryos with a higher implantation rate.”⁴⁵ GIFT is used for infertile women that are ovulating and have a healthy uterus⁴⁶ but encounter difficulties with their fallopian tubes or for infertile couples who, due to religious grounds may desire to avoid fertilisation outside human body.⁴⁷ Although this form of assisted reproductive technique was developed as a treatment for unexplained infertility, it was later to be explored for other kinds of infertility, inclusive of male-factor and sub-occlusive tubal disease, categories for which it has now been discovered that GIFT is inappropriate.⁴⁸

e) Zygote Intrafallopian Transfer (ZIFT)

ZIFT is a reproductive innovation that is similar to IVF and embryo transfer. Apparently, ZIFT is a hybrid ART that is derived from an arrangement of IVF and GIFT procedures and was first used in 1986⁴⁹ to assist infertile individuals towards conception.⁵⁰ However, it defers from IVF in that the fertilised embryo is transferred into the fallopian tube rather than the uterus with the aid of laparoscopic surgery.⁵¹ As a result of the direct transfer of the fertilised egg into the tubes, the ZIFT method is sometimes referred to as a tubal embryo transfer (TET).⁵² Unlike the GIFT procedure where there is no clear cut means of a physician knowing that fertilisation has occurred, in ZIFT, it would be obvious that the eggs has fertilised. Research findings have indicated that there is no therapeutic benefit of ZIFT over IVF-ET in male-factor infertility on the basis of reproductive outcome or economic advantage;⁵³ though ZIFT can be considered as a method of treatment for patients with recurring failure of implantation in IVF-ET and with tubal factor with established patency of one tube.⁵⁴

f) Surrogacy

This is conceivably the oldest form of ART as it dates back to biblical times where couples had used surrogates to give birth to children when the intended mother was incapable of conceiving or giving birth.⁵⁵ Also, in some Nigerian communities, it is not a

⁴⁴ R. H. Asch, *et. al.*, “Pregnancy after Translaparoscopic Gamete Intrafallopian Transfer” (1984) 2 *Lancet*, 1034-1036.

⁴⁵ J. M. De Bruijn, *et. al.*, “Factors Affecting Pregnancy Outcome in a Gamete Intrafallopian Transfer (GIFT) Programme” (2003) 93(7) *SAMJ*, 532-536 at p. 532

⁴⁶ Tolu Oyelowo, *Mosby’s Guide to Women’s Health: A Handbook for Health Professionals* (Missouri: Mosby, 2007), 138-146.

⁴⁷ Richard E. Jones & Kristin H. Lopez, *Human Reproductive Biology* (Fourth Edition, Academic Press, 2014), 283-299; DOI: <<https://doi.org/10.1016/B978-0-12-382184-3.00015-5>> (accessed on 2 January 2023).

⁴⁸ J. Yovich, “Transabdominal Gamete Intrafallopian Transfer,” In: J. G. Grudzinkas, *et. al.* (eds.) *The Fallopian Tube: Clinical and Surgical Aspects* (London: Springer-Verlag London Limited, 1994), 213-227 at p.213; DOI: <https://doi.org/10.1007/978-1-4471-1987-6_16> (accessed on 2 January 2023).

⁴⁹ P. Devroey, *et. al.*, “Pregnancy after Translaparoscopic Zygote Intrafallopian Transfer in a Patient with Sperm Antibodies (Letter)” (1986) 1 *Lancet*, 1329.

⁵⁰ Tian Zhu, “Zygote Intrafallopian Transfer” (2011) *Embryo Project Encyclopedia*; retrieved from <<https://embryo.asu.edu/pages/zygote-intrafallopian-transfer>> (accessed on 15 January 2023).

⁵¹ Healthwise, “Gamete and Zygote Intrafallopian Transfer (GIFT and ZIFT)”; retrieved from <<https://myhealth.alberta.ca/Health/pages/conditions.aspx?hwid=hw202763>> (accessed on 15 January 2023).

⁵² American Pregnancy Association, “Zygote Intrafallopian Transfer: ZIFT”; retrieved from <<https://americanpregnancy.org/getting-pregnant/infertility/zygote-intrafallopian-transfer/>> (accessed on 15 January 2023).

⁵³ Herman Tournaye, *et. al.*, “Zygote Intrafallopian Transfer or In Vitro Fertilisation and Embryo Transfer for the Treatment of Male-factor Infertility: A Prospective Randomised Trial” (1992) 58(2) *Fertility and Sterility*, 344-350 at p. 349; DOI: <[https://doi.org/10.1016/s0015-0282\(16\)55195-4](https://doi.org/10.1016/s0015-0282(16)55195-4)> (accessed on 2 January 2023).

⁵⁴ Jacob Farhi, *et. al.*, “Zygote Intrafallopian Transfer in Patients with Tubal Factor Infertility after Repeated Failure of Implantation with In Vitro Fertilisation-Embryo Transfer” (2000) 74(2) *Fertility and Sterility*, 390-393; DOI: <[https://doi.org/10.1016/s0015-0282\(00\)00610-5](https://doi.org/10.1016/s0015-0282(00)00610-5)> (accessed on 2 January 2023). See also Ariel Weissman *et. al.*, “Zygote Intrafallopian Transfer among Patients with Repeated Implantation Failure”, (2013) 120(1) *International Journal of Gynaecology and Obstetrics*, 70-73; DOI: <<https://doi.org/10.1016/j.ijgo.2012.07.018>> (accessed on 2 January 2023). For a fuller discussion on repeated or recurrent implantation failure (RIF), see Asher Bashiri, Katherine Ida Halper & Raoul Orvieto, “Recurrent Implantation Failure- Update Overview on Etiology, Diagnosis, Treatment and Future Directions” (2018) 16 *Reproductive Biology and Endocrinology*, 121-138; C. Coughlan, *et. al.*, “Recurrent Implantation Failure: Definition and Management” (2014) 28(1) *Reproductive BioMedicine Online*, 14-38; DOI: <<https://doi.org/10.1016/j.rbmo.2013.08.011>> (accessed on 2 January 2023).

⁵⁵ *The Holy Bible* in the Book of Genesis, Chapters 16: 1-4, 15 and 30: 1-8, respectively documented how Hagar’s surrogacy on behalf of her mistress, Sarah, resulted in the birth of Ishmael to Abraham; and how Bilhah also acted as a surrogate mother on behalf of her mistress, Rachael

Determining Legal Parentage and Nationality of a Child Born Through Assisted Reproductive Technology: A Comparative Perspective

strange idea to find that an infertile wife marries a younger woman for her husband with the primary objective of making the younger wife bear children for the husband. Usually, the child/children given birth to by such a junior wife would regard the elder wife as their “mother” while the biological mother may, out of respect for the elder wife, be referred to as “aunty.”⁵⁶ In contemporary times, after the birth of the child, the surrogate surrenders custody and guardianship of the baby to the prospective parent or parents.⁵⁷ Surrogacy has also been perceived as an arrangement whereby a woman agrees to a pregnancy reached at through ART and in which neither of the gametes belong to her or her husband and with the primary aim of carrying the pregnancy to term and upon the birth of the child give him/her to the individual or individuals for whom she was acting as a surrogate. Medically therefore, surrogacy involves the use of a surrogate or substitute mother to carry a pregnancy for another woman and after which she will hand over the child, along with any parental entitlement to the resultant child to the commissioning parents or commissioning mother.⁵⁸

Fundamentally, there are two kinds of surrogacy, namely, traditional surrogacy (TS) and gestational surrogacy (GS).⁵⁹ In the case of TS, the surrogate carrier is inseminated with the sperm of the intending father or husband of the commissioning couple, though at times, the semen of a donor could be used. Consequently, the surrogate mother is hereditarily linked to the resulting child since the egg of the surrogate mother is used for conception.⁶⁰ In contrast, under the GS procedure, the surrogate mother is not genetically connected to the child because eggs are extracted from the intended mother or an egg donor and mixed with the semen from the intended father or sperm donor through an IVF process. The embryos are thereafter removed and placed in the surrogate’s uterus. Thus, the introduction of IVF has positively assisted GS.⁶¹ Regardless the form it takes, surrogacy arrangement can be altruistically or commercially performed. Altruistic surrogacy involves a situation where the surrogate willingly accepts to carry the baby but not for payment unless reimbursement of medical and other reasonable expenses. On the other hand, in commercial surrogacy, the surrogate offers her services in exchange for payment. Commercial surrogacy has raised concerns regarding the “exploitation and commodification of woman’s bodies for client’s family building”⁶² as the surrogate mother is required to relinquish parental rights and entitlements for payment.⁶³

3. Determination of Legal Parentage and Nationality of ART Children

Indisputably, growth in medical sciences has offered to many people the joy of procreation through technologically regulated conception without necessarily relying on sexual intercourse to achieve pregnancy.⁶⁴ It is not surprising therefore, that reproductive care has received global interest⁶⁵ leading to cross-border movements by patients searching for family-building

to give birth to children for her husband, Jacob. See also Kimberly D. Krawiec, “Altruism and Intermediation in the Market for Babies” (2009) 66(1) *Washington and Lee Law Review*, 203-257 at p. 223; Debora L. Spar, *The Baby Business: How Money, Science, and Politics Drive the Commerce of Conception* (Boston, Massachusetts, USA: Harvard Business School Press, 2006), 72-73.

⁵⁶Chitu Womehoma Princewill & Ayodele Samuel Jegede, “Women’s Reproductive Autonomy and the Ethics of Baby Making: The Nigerian Case Study,” (2019) 7 *Journal of Health Science*, 327-336 at pp. 328, 332; DOI: <<https://doi.org/10.17265/2328-7136/2019.06.001>> (accessed on 2 January 2023).

⁵⁷Janice C. Ciccarelli & Linda J. Beckman, “Navigating Rough Waters: An Overview of Psychological Aspects of Surrogacy” (2005) 61 (1) *J. Soc. Issues*, 21-43; DOI: <<https://doi.org/10.1111/j.0022-4537.2005.00392.x>> (accessed on 2 January 2023).

⁵⁸Enobong Mbang Akpambang & Monica Amujo-Akomolafe, “Legal Position on Surrogacy Arrangements in Nigeria and Some Selected Jurisdictions” (2020) 7(3) *International Journal of Research in Humanities and Social Studies*, 18-39 at pp. 19-20.

⁵⁹Mark E. Lones, “A Christian Ethical Perspective on Surrogacy” (2016) 2(1) *Bioethics in Faith and Practice*, 21-33 at p. 23.

⁶⁰*Ibidem*.

⁶¹Tetsuya Ishii, “Global Changes in the Regulation of Reproductive Medicine,” In: Michael K. Skinner (ed.) *Encyclopedia of Reproduction*, Second Edition (Academic Press, 2018), 380-386; DOI: <<https://doi.org/10.1016/B978-0-12-801238-3.64907-3>> (accessed on 2 January 2023).

⁶²*Ibidem*.

⁶³Morgan Holcomb & Mary Patricia Byrn, “When Your Body is Your Business” (2010) 85(4) *Washington Law Review*, 647-686.

⁶⁴Alessandro Stasi, “Protection for Children Born Through Assisted Reproductive Technologies Act, B. E. 2558: The Changing Profile of Surrogacy in Thailand” (2017) 11 *Clinical Medicine Insights: Reproductive Health*, 1-7 at p. 1; Anne R. Dana, “The State of Surrogacy: Determining Legal Parentage for Gay Fathers” (2011) 18 *Duke Journal of Gender Law & Policy*, 353-390 at p. 353.

⁶⁵Susan L. Crockin, “Growing Families in a Shrinking World: Legal and Ethical Challenges in Cross-border Surrogacy” (2013) 27 *Reproductive BioMedicine Online*, 733-741 at pp. 733-734.

Determining Legal Parentage and Nationality of a Child Born Through Assisted Reproductive Technology: A Comparative Perspective

options.⁶⁶ Beyond giving assurance to infertile couples, older women, homosexual couples and single parents to have their babies, the same reproductive techniques have introduced confusion pertaining to the determination of the legal parentage⁶⁷ and nationality of a child procured through ART. Although it may once have been easier to establish the legal parentage of a child and who possessed the duties and claims regarding children, the separation of genetic, gestational and fostering functions now complicates who the real parent is.⁶⁸ The same difficulty besets the child's nationality where there arises a disagreement between gestational surrogates and commissioning couples, same sex partners and gamete donors. This section of the article seeks to address the possible challenges concerning the legal parentage and nationality of a child born via ART procedure. This would be done by using the examples in countries like Thailand, USA, UK, and Nigeria

a) The Position in Thailand

Prior to the enactment of the Protection of a Child Born by Medically Assisted Reproductive Technology Act, B.E. 2558 of 2015 (ART Act 2015) and as a result of the principle of *mater semper certa est*,⁶⁹ the surrogate was considered as the legal mother of the child irrespective of the lack of genetic connection between the woman and the child. This position was also statutorily reinforced by section 1546 of the Civil and Commercial Code (CCC) which provided that "a child born of a woman who is not married to a man shall be deemed to be the legitimate child of such a woman" except as may be otherwise stipulated by law. As a matter of fact, the father of a child that is born outside wedlock has no legal parentage right over the child even if it is apparent that his name appears on the child's birth certificate and DNA test confirms him as the biological father. In consequence, the commissioning couple was not categorically conferred with parental rights and obligations in relation to the surrogate child⁷⁰ though they may request and obtain a birth certificate from the Birth Registrar's Office irrespective of their nationality⁷¹ for purposes of adoption.

Under the new ART Act 2015, the legal status of the parents and the rights of related parties are expressly stated during and after the application of the ART procedure. The new law requires that at least one of the commissioning or intended parents must be genetically connected to the child. The law also contains clauses that settle the uncertainty over legal parentage of the child born through ART and removes the need for adoption of the child by the infertile couple. This is because the legislation mandates that the intended parents, who must be a married couple, will be the legal parents of a child born through ART procedure and consequently prohibits the intended parents from declining acceptance of their parentage.⁷² The new statutory provision overturns the earlier deeply entrenched private law principle of *mater semper certa est* and significantly alters the long established "cultural and legal traditions that define kinship through gestation."⁷³ The new law also protects the child's rights because by determining the parental legal position, it will also safeguard the child's entitlement to social and legal benefits.⁷⁴

With respect to the nationality issue of a child born through ART, it is worthy of note that Thai nationality is principally regulated by Thailand's Nationality Act 2508 (1965). Thai nationality by birth is open to a person born of a father⁷⁵ or mother of Thai nationality, whether within or outside the Thai Kingdom. A person born within the Thai Kingdom, unless the person under section 7 *bis* paragraph one, would also qualify as a Thai citizen by birth.⁷⁶ It must be stated that a person born within Thai Kingdom

⁶⁶ Andrea Whittaker, "Cross-border Assisted Reproduction Care in Asia: Implications for Access, Equity and Regulations" (2011) 19(37) *Reproductive Health Matters*, 107-116 at pp. 107-110; DOI: <[https://doi.org/10.1016/S0968-8080\(11\)37575-1](https://doi.org/10.1016/S0968-8080(11)37575-1)> (accessed on 2 January 2023).

⁶⁷ G. Fuscaldo, "What Makes a Parent? It's Not Black or White" (2003) 29 *Journal of Medical Ethics*, 66-67 at p. 66.

⁶⁸ *Ibidem*. See also Ruth Macklin, "Artificial Means of Reproduction and our Understanding of the Family" (1991) 21(1) *Hastings Center Report*, 5-11.

⁶⁹ This Roman private law principle implies that "the mother of the child is always known or certain" or "the mother is the person who gives birth to a child." See Henry Kha & Kelly Rankin, "Mater Semper Certa Est? Reconceiving Surrogacy Law in New Zealand" (2019) 9(12) *New Zealand Family Law Journal*, 172-178.

⁷⁰ Alessandro Stasi, "Maternal Surrogacy and Reproductive Tourism in Thailand: A Call for Legal Enforcement" (2015) 8 *Ubon Ratchathani Law Journal*, 17-36.

⁷¹ Alessandro Stasi, "Read the First Print of Thai Surrogacy Laws?" (17 October, 2015) *The Bangkok Post*, 4; see also Alessandro Stasi, "Protection for Children Born through Assisted Reproductive Technologies Act, B. E. 2558: The Changing Profile of Surrogacy in Thailand" (2017) 11 *Clinical Medicine Insights: Reproductive Health*, 1-7 at p. 3.

⁷² Protection of a Child Born by Medically Assisted Reproductive Technology Act, B.E. 2558 (2015), sections 29 and 33.

⁷³ Andrea Whittaker, "From "Mung Ming" to "Baby Gammy": A Local History of Assisted Reproduction in Thailand" (2016) 2 *Reproductive Biomedicine & Society Online*, 71-78; DOI: <<https://doi.org/10.1016/j.rbms.2016.05.005>> (accessed on 2 January 2023).

⁷⁴ W. Techagaisiyavanit, "Reproductive Justice Dilemma under the New Thai Law: Children Born out of Assisted Reproductive Technology Protection Act BE 2558" (2016) 45 *Law J Fac Law*, 201-214.

⁷⁵ "Father," in the sense used in the legislation, also means an individual who has been shown, in line with Ministerial Regulation, to be a biological father of the child although he did not register marriage with the mother of the child or failed to carry out a registration of legitimate child.

⁷⁶ Nationality Act as amended by the Nationality Act (No. 2) B. E. 2535 (1992), section 7.

Determining Legal Parentage and Nationality of a Child Born Through Assisted Reproductive Technology: A Comparative Perspective

but of alien parents does not acquire the Thai nationality if at the time of his/her birth, the lawful father or his father who did not marry his/her mother or the mother was: (i) the person having been specially granted clemency for temporary residence in the Kingdom; (ii) the person having been allowed to reside provisionally in the Kingdom; and (iii) the individual having entered and stayed in the Thai Kingdom without authorisation under immigration law.⁷⁷

However, in a situation where the Minister deems it proper, he may consider and grant an order for each particular case conferring Thai nationality to any person under paragraph one in compliance with the rules stipulated by the Cabinet.⁷⁸ A person, whose father or mother at the material time of his/her birth was a head or member of a diplomatic mission; head or member of a consular mission; an officer or expert of a global organisation and/or came as a member of family or servant of a person in diplomatic or consular mission in company of an official of a global organisation is exempted from acquiring Thai citizenship by birth.⁷⁹ A person who cannot acquire citizenship by birth can apply for citizenship by naturalisation, subject to satisfying the preconditions for such grant. The granting or refusal of permission for naturalisation is subject to the discretionary power of the appropriate Minister.⁸⁰

b) The Position in the United States of America

In the US, although there is absence of a central body regulating the practice of ART, there still exist essential laws, regulations and guidelines on reproductive technology.⁸¹ But despite a significant growth in procreation via the use of ART methods globally, the US statutes⁸² and courts⁸³ have persisted in grappling with the best manner in which to settle disputes that occur from the use of these new techniques. However, some major decided cases with considerable divergent decisions have aided in defining how the US courts settle legal parentage disagreements. In *Re Baby M*,⁸⁴ the plaintiff and his wife, who was infertile, entered into a traditional surrogacy contract with the defendant whereby it was agreed that the defendant would be artificially inseminated with the sperm of the plaintiff, carry the pregnancy to term and upon delivery of the baby, surrender custody of the child and her parental rights to the plaintiff's wife. Defendant failed to part with the baby after birth and sought to retain custody. The trial court ruled that the surrogacy contract was valid and awarded custody of the child to the plaintiff based on the best interests of the child.

On a subsequent appeal, the New Jersey Supreme Court agreed absolutely with the lower court on the issue of the baby's custody based on the child's best interests but differed in the analysis of the surrogacy agreement which the appellate court held to be invalid and unenforceable because it was in direct conflict with both extant statutes and public policy as expressed in laws and decisional law.⁸⁵ The defendant's parental right as non-custodial parent was restored. Though the ruling in *Baby M case* failed to differentiate between "gestational" carriers and "surrogate" mothers despite the fact that the court was fully aware of the preservation of sperm and eggs as well as embryo implantation,⁸⁶ yet the case helped shape and influence how both legislators and members of the public perceived surrogacy and the resulting legal questions.⁸⁷

Barely five years after the decision in *Baby M*, the California Supreme Court had an opportunity to rule on *Johnson v. Calvert*.⁸⁸ Mark and Crispina Calvert were childless married couple. They entered into a gestational surrogacy contract agreement which provided *inter alia*, that the embryo created by the gametes of the couple would be placed in the uterus of Anna Johnson as the surrogate mother;⁸⁹ after the child was born, the surrogate will surrender all parental rights regarding the child to the

⁷⁷ *Ibidem*, section 7 bis.

⁷⁸ See section 7(2) bis as amended by the Nationality Act (No. 4) B. E. 2551 (2008).

⁷⁹ Nationality Act B. E. 2508, section 8.

⁸⁰ Nationality Act B. E. 2508, sections 10-12. Under section 9 of the law, an alien woman who is married to a Thai nationality can apply to obtain Thai nationality.

⁸¹ Wendy Y. Chang & Alan H. DeCherney, "History of Regulation of Assisted Reproductive Technology (ART) in the USA: A Work in Progress" (2003) 6(2) *Human Fertility*, 64-70.

⁸² Richard F. Storrow, "Parenthood by Pure Intention: Assisted Reproduction and Functional Approach to Parentage" (2002) 53(2) *Hastings Law Journal*, 597-679 at p. 599.

⁸³ Anne R. Dana, "The State of Surrogacy Laws: Determining Legal Parentage for Gay Fathers" (2011) 18 *Duke Journal of Gender Law & Policy*, 353-390 at pp. 353-354.

⁸⁴ 109 N. J. 396; 537 A. 2d 1227 (1988).

⁸⁵ *Ibidem*, 109 N. J. 396 at pp. 421-422, 423, 428 & 433-434.

⁸⁶ *Ibidem*, 109 N. J. 396 at pp. 469.

⁸⁷ Elizabeth S. Scott, "Surrogacy and the Politics of Commodification" (2009) 72 *Law and Contemporary Problems*, 109-146 at p. 116.

⁸⁸ 19 Cal. Rptr. 2d 494 (1993); 851 P. 2d 776 (1993).

⁸⁹ *Ibidem*, 851 P. 2d 776 at 777-778 (1993).

Determining Legal Parentage and Nationality of a Child Born Through Assisted Reproductive Technology: A Comparative Perspective

couple in return for payment of fees and life insurance policy. When the surrogate declined to give up the child, the couple sued for a declaration that they were the legal parents.⁹⁰ Johnson counterclaimed to be declared as the mother of the child.

While the defendant contended that Crispina Calvert was the legal mother as she was both the genetic and intended mother of the child, it was submitted on behalf of the plaintiff that she was the legal mother since she gave birth to the child.⁹¹ Adopting the “intent test” or “but for” approach,⁹² the trial court ruled that the couple was the child’s genetic, biological and natural parents but gestated by the surrogate and that the latter had no parental rights to the child; that the contract was legal and enforceable against the surrogate. The ruling of the trial court was affirmed on a further appeal to the California Supreme Court.

After the decision in *Johnson’s case*, some writers suggested that the controversy relating to the determination of legal parentage in gestational surrogacy cases was over and archaic,⁹³ but such supposition has been shown to have been wrong and hasty. In *A. G. R. v. D R. H. & S. H.*,⁹⁴ the issues presented to the court for determination related to *inter alia*, the legal validity of a surrogacy contract agreement; plaintiff’s claim to the entitlement of the position of a parent; and plaintiff’s claim to have a right to a relationship with the children. The facts of the case disclosed that a legally married male gay couple entered into a contract of gestational surrogacy with the plaintiff (Angelia G. Robinson), who was a sister to the first defendant (Donald Robinson Hollingsworth). While the second defendant (Sean Hollingsworth) was to provide the sperm that would be used in fertilising eggs donated by an unknown donor; the plaintiff would be implanted with the fertilised embryo and would carry the pregnancy to term.

The subsequent implantation of the plaintiff with the fertilised embryo resulted in the birth of twin girls. Following the birth of the children, the surrogate mother refused to hand over the babies and claimed a legal right to be the children’s mother.⁹⁵ The court relied heavily on the far reaching public policy considerations itemised in the *Baby M case*, noting that the “lack of plaintiff’s genetic link to the twins is, under the circumstances, a distinction without a difference significant enough to take the instant matter out of *Baby M.*”⁹⁶ It appears that in the California Supreme Court case of *Johnson*, the “intentions as manifested in the surrogacy agreement” were of great weight on the mind of the court⁹⁷ whereas in *Baby M*, the voluntary nature of the contracting parties was of no significance.⁹⁸ The court therefore, ruled that the gestational carrier agreement was void;⁹⁹ the plaintiff (A. G. R.) had parental rights in respect of the twins, while the second defendant was the legal father of the children. The court went on to question if there would have been any distinction had the term, “gestational” been used as a replacement for the word, “surrogacy”:

“The surrogacy contract is based on, principles that are directly contrary to the objectives of our laws. It guarantees the separation of a child from its mother; it looks to adoption regardless of suitability; it totally ignores the child; it takes the child from the mother regardless of her wishes and her maternal fitness;” *Baby M, supra*, 109 N. J. at 441, 442. *Would it really make any difference if the word “gestational” was substituted for the word “surrogacy” in the above question? I think not.*¹⁰⁰

However, judicial attitude in the *A. G. R. case* have made some scholars to argue that courts in the US consider assisted reproduction cases relating to homosexual couples or partners in a different way from that pertaining to heterosexual couples.¹⁰¹

⁹⁰ *Ibidem*, 851 P. 2d 776 at 778 (1993).

⁹¹ *Ibidem*, 851 P. 2d 776 at 779 (1993).

⁹² *Ibidem*, 851 P. 2d 776 at 782 (1993) - the court reasoned that the intention of who should be the resulting legal parents could be determined by examining which of the parties was responsible for the initial fertilisation of the embryo and who was intended to raise the child. The court pointed out that “but for” the Calvert’s “acted on intention,” the child would not exist. Thus reaching the conclusion that since Crispina Calvert was the intended mother, she was also the legal mother.

⁹³ Elizabeth S. Scott, “Surrogacy and the Politics of Commodification” (2009) 72 *Law and Contemporary Problems*, 109-146 at pp. 122-123; John A. Robertson, “Gay and Lesbians Access to Assisted Reproductive Technology” (2004) 55(2) *Case Western Reserve Law Review*, 323-372 at p. 360; Carol Sanger, “Developing Markets in Baby-Making: In the Matter of Baby M” (2007) 30 *Harvard Journal of Law & Gender*, 67-97 at p. 72.

⁹⁴ Docket No. FD-09-001838-07, decided on 23 December 2009; available at <https://graphics8.nytimes.com/packages/pdf/national/20091231_SURROGACY.pdf> (accessed on 26 December 2022).

⁹⁵ Stephanie Saul, “New Jersey Judge Calls Surrogate Legal Mother of Twins” (30 December 2009) *The New York Times*; retrieved from <<https://www.nytimes.com/2009/12/31/us/31surrogate.html>> (accessed on 27 December 2023).

⁹⁶ *A. G. R. v. D R. H. & S. H.*, Docket No. FD-09-001838-07 (*supra*) at p. 5.

⁹⁷ 851 P. 2d 776 at p. 782 (1993).

⁹⁸ 109 N. J. 396 at pp. 440-441.

⁹⁹ *A. G. R. v. D R. H. & S. H.*, Docket No. FD-09-001838-07 (*supra*) at p. 3.

¹⁰⁰ *A. G. R. v. D R. H. & S. H.*, Docket No. FD-09-001838-07 (*supra*) at p. 5.

¹⁰¹ Anne R. Dana, “The State of Surrogacy Laws: Determining Legal Parentage for Gay Fathers” (2011) 18 *Duke Journal of Gender Law & Policy*, 353-390 at p. 356; Deborah H. Wald, “The Parentage Puzzle: The Interplay Between Genetic, Procreative Intent, and Parental Conduct in Determining Legal Parentage” (2007) 15(3) *American University Journal of Gender, Social Policy & the Law*, 379-411 at p. 392.

Determining Legal Parentage and Nationality of a Child Born Through Assisted Reproductive Technology: A Comparative Perspective

Admittedly, lesbian partners are equally confronted with challenges of proving legal parentage, but the requirements for establishing legal parenthood tilt unfavourable against male gay partners.¹⁰² As a result of dissimilarities in biological reproduction, gay male couples are incapable of exploiting escape clauses accessible to lesbians using a variety of reproductive techniques. Besides, since there is absence of a substitute mother to assert a rival right thereby creating a tiebreaker as is obtainable in heterosexual couples using gestational surrogacy, male gay couples tend to find it difficult to both be recognised as legal parents in the event of disputes with gestational carriers.¹⁰³

Again, in *K. M. v. E. G.*,¹⁰⁴ the court was called upon to determine the parental rights and responsibilities of a woman in relation to a child born to her partner in a lesbian romantic relationship. The plaintiff and defendant were lesbian couple who conceived twins using the plaintiff's eggs which was fertilised with an anonymous donor's sperm and same was artificially inseminated into the defendant through IVF procedure. At the time of donating her egg, the plaintiff executed a document indicating that she waived all parental rights to the resultant child¹⁰⁵ and the defendant's name was documented in the birth certificates of the children as the mother. The couple later ended the relationship and the plaintiff sued for custody and visitation rights. The trial court and the Court of Appeal ruled in favour of the defendant. On a further appeal to the California Supreme Court, it was held that where a lesbian couple elects to procreate and one partner supplies her ova while the other partner bears the child, both women are the legal parents.¹⁰⁶

Whether divorce between a couple can result in the termination of legal parentage over a child born through ART procedure became a subject of another litigation before the California Court of Appeal in the case of *In re-Marriage of Buzzanca*.¹⁰⁷ In that lawsuit, a gestational surrogate gestated a child created with gametes from unknown donors for an infertile married couple who were the intended parents. After separation, the husband attempted to decline parental responsibility for the child since he had no genetic link with the child (Jaycee). The argument was rejected outright by the court as it was firmly of the view that the married couple would be considered legal parents regardless of genetics since they had started and agreed to the ART that brought about the conception and birth of the child.¹⁰⁸

On the issue of nationality, the Immigration and Nationality Act (INA) provides that U.S. citizens may transmit citizenship to their children born abroad, including a child born through ART, if certain criteria are fulfilled.¹⁰⁹ Under the 2014 policy manual, the United States Citizenship and Immigration Services (USCIS) and the U. S. Department of Homeland Security explained that a non-genetic gestational mother who gave birth to a child and is equally the child's legal mother is regarded as a "natural mother" of the child and may pass on citizenship at birth or after birth of the child if other statutory conditions are fulfilled.¹¹⁰ Regardless of the policy manual guidance, there were instances where the USCIS and the State Department required, for instance, that a child must either be biologically linked to a U. S. citizen parent or to have been born by the legal gestational U. S. citizen parent before h/she could acquire citizenship at birth. This was in addition to a requirement that the child's genetic parents (or the legal gestational parents and at least one genetic parent) must be married to each other before the child could be regarded as being

¹⁰² Susan Frelich Appleton, "Presuming Women: Revisiting the Presumption of Legitimacy in the Same-Sex Couples Era" (2006) 86 *Boston University Law Review*, 227-294 at p. 267.

¹⁰³ Anne R. Dana, "The State of Surrogacy Laws: Determining Legal Parentage for Gay Fathers" (2011) 18 *Duke Journal of Gender Law & Policy*, 353-390 at p. 357. In fact, one of the reasons advanced by the court in *A.G.R. case* for its departure from following the ruling in *Johnson's case* was because the court did not require to "break a tie" between the intended mother and the birth mother since the intended parents were both male and consequently there was only a mother at issue- see *A. G. R. v. D R. H. & S. H.*, Docket No. FD-09-001838-07 (supra) at p. 5. Fred Bernstein has argued that where a surrogate breaks her contract and turns around to assert her claim for parental rights over the resulting child, gay male couples will face an uphill task in establishing legal parenthood unlike heterosexual couples- see Fred A. Bernstein, "This Child Does Have Two Mothers...And a Sperm Donor Visitation" (1996) 22(1) *N. Y. U. Review of Law & Social Change*, 1-58 at pp. 16-17.

¹⁰⁴ 117 P. 3d 673 (Cal. 2005); 33 Cal. Rptr. 3d 61 (2005).

¹⁰⁵ *Ibidem* at pp. 675-676.

¹⁰⁶ *Ibidem* at p. 675.

¹⁰⁷ 72 Cal. Rptr. 2d 280 (Cal. Ct. App. 1998).

¹⁰⁸ *Ibidem* at pp. 282-283 & 293. Compare with Tennessee Supreme Court ruling involving an unmarried heterosexual partner: *In re C.K. G., C. A. G. & C. L. G.*, 173 S. W. 3d 714 (Tenn. 2005). Also the Supreme Court of Pennsylvania decision in *T. B. v. L. R. M.* 786 A.2d 913 (Pa. 2001) concerning separation of former lesbian partner.

¹⁰⁹ See INA 301; 309 and 320, cited in See Policy Alert, "Assisted Reproductive Technology and In-Wedlock Determination for Immigration and Citizenship Purposes," PA-2021-17 dated 5 August 2021; retrieved from <<https://www.uscis.gov/sites/default/files/document/policy-manual-updates/20210805-AssistedReproductiveTechnology.pdf>> (accessed on 30 January 2023).

¹⁰⁹ *Ibidem*.

¹¹⁰ See Policy Alert, "Effect of Assisted Reproductive Technology (ART) on Immigration and Acquisition of Citizenship under the Immigration and Nationality Act (INA)," PA-2014-009 dated 28 October 2014; retrieved from <<https://www.uscis.gov/sites/default/files/document/policy-manual-updates/20141028-ART.pdf>> (accessed on 30 January 2023).

Determining Legal Parentage and Nationality of a Child Born Through Assisted Reproductive Technology: A Comparative Perspective

born “in wedlock.”¹¹¹ The action by the said relevant government agencies worked hardship and negatively impacted on a number of families, including same-sex couples, who had resorted to cross-border reproductive techniques in order to build a family; this led to federal litigations¹¹² and strong public condemnation.¹¹³

In an attempt to address the problem, the USCIS and the State Department issued a 2021 policy manual concerning whether a child born overseas, including one born through the utilisation of ART could be considered as being born in wedlock under the INA.¹¹⁴ The recently updated policy guidance now clarifies that a child is deemed to be born in wedlock when his/her legal parents are married to one another at the time of birth and a minimum of one of the legal parents has a genetic or gestational connection with the child. The policy further defined the term, “child” to include the child of a U. S. citizen parent who is married to the child’s genetic or legal gestational parent at the time of the birth of the child if both parents are recognised by the appropriate jurisdiction as the child’s parents.¹¹⁵ Thus, a child who has satisfied these conditions and whose application for a certificate of citizenship had earlier on been declined may file a fresh application for reopening or reconsideration of the rejection decision.¹¹⁶

c) Position in the United Kingdom

Under the Human Fertilisation and Embryology Act (HFEA) 2008,¹¹⁷ the legal status of a mother of a child is assigned to the person that carries the child by reason of the implantation of an embryo or of sperm and eggs in her.¹¹⁸ It is immaterial that the woman was within or outside the shores of the United Kingdom when the embryo, semen or eggs were inseminated in her;¹¹⁹ although if placed in her while outside the territory of UK, rules regarding conflicts of laws could lead to various individuals being considered as the mother.¹²⁰ Where the woman was married during the period of assisted reproductive technology treatment, the husband would be regarded as the legal father of the child unless they are judicially separated or he had protested against or withheld his consent to the placing in his wife of the embryo or sperm and eggs or the woman’s artificial insemination with a donor’s sperm.¹²¹ Similarly, where the woman is in a civil relationship at the time of using the ART procedure, the civil partner would qualify as the legal father except it is proved that she did not give consent to the artificial insemination.¹²²

It may also happen that the woman that is being artificially inseminated is either unmarried or is not in a civil partnership. In such a situation, determination of the parentage can be ascertained in two ways. First, if no individual is considered as a father under section 35 of the legislation, then the commissioning father will be deemed as the legal father on the condition that he is genetically linked to the child. Second, where the ART treatment took place in a recognised fertility clinic, then the surrogate mother can choose the commissioning mother or a non-biological father as the child’s second parent;¹²³ though the law prohibits a sperm donor from being treated as a legal father of the child.¹²⁴ Where sperm was used or the transfer of embryo or artificial insemination was performed after the death of the man who provided the semen and he had prior to his demise agreed in writing

¹¹¹ Elizabeth Carlson, “USCIS Policy Manual Updates on Assisted Reproductive Technology and In-Wedlock Determinations for Immigration and Citizenship Purposes”; retrieved from <<https://cliniclegal.org/resources/citizenship-and-naturalization/uscis-policy-manual-updates-assisted-reproductive>> (accessed on 30 January 2023).

¹¹² See for example, Michael Kunzelman, “Judge: Gay Couple’s Child was U. S. Citizen at Birth in Canada” (17 June 2020) *AP News*; retrieved from <<https://apnews.com/article/united-states-lifestyle-canada-us-news-immigration-a2b7137b9fe6fd91a307829cbdada825>> (accessed on 30 January 2023).

¹¹³ Elizabeth Carlson, “USCIS Policy Manual Updates on Assisted Reproductive Technology and In-Wedlock Determinations for Immigration and Citizenship Purposes”; retrieved from <<https://cliniclegal.org/resources/citizenship-and-naturalization/uscis-policy-manual-updates-assisted-reproductive>> (accessed on 30 January 2023).

¹¹⁴ See Policy Alert, “Assisted Reproductive Technology and In-Wedlock Determination for Immigration and Citizenship Purposes,” PA-2021-17 dated 5 August 2021; retrieved from <<https://www.uscis.gov/sites/default/files/document/policy-manual-updates/20210805-AssistedRproductiveTechnology.pdf>> (accessed on 30 January 2023).

¹¹⁵ *Ibidem*.

¹¹⁶ *Ibidem*. See also 8 CFR 103.5.

¹¹⁷ Chapter 22 of 2008. The precursors to the extant HFEA 2008 were the Surrogacy Arrangement Act (SAA) 1985 and the HFEA 1990. For detailed discussion on HFEA 2008, see J. McCandles & S. Sheldon, “The Human Fertilisation and Embryology Act 2008 and the Tenacity of Sexual Family Form” (2010) 73 *Modern Law Review* 175; Enobong Mbang Akpambang & Monica Amujo-Akomolafe, “Legal Position on Surrogacy Arrangements in Nigeria and Some Selected Jurisdictions,” (2020) 7(3) *International Journal of Research in Humanities and Social Studies*, 18-39 at pp. 20-22.

¹¹⁸ HFEA 2008, section 33(1).

¹¹⁹ *Ibidem*, HFEA 2008, section 33(2).

¹²⁰ Robert L. Stenger, “The Law and Assisted Reproduction in the United Kingdom and United States,” (1994-1995) 9(1) *Journal of Law and Health*, 135-161 at p. 154.

¹²¹ HFEA 2008, section 35(1).

¹²² *Ibidem*, HFEA 2008, section 42(1).

¹²³ *Ibidem*, HFEA 2008, sections 36 & 43.

¹²⁴ *Ibidem*, HFEA 2008, section 41.

Determining Legal Parentage and Nationality of a Child Born Through Assisted Reproductive Technology: A Comparative Perspective

for the use of the sperm after his death which resulted in the birth of the child, the deceased man would be regarded as the legal father of the ensuing child.¹²⁵

It is pertinent to add that in appropriate cases, parental obligations and legal parentage could be transferred by way of obtaining a parental order. Such order makes it possible for the commissioning couple to become the legal parents of the child and correspondingly ends the legal parentage by the surrogate mother and her husband over the child.¹²⁶ The criteria for eligibility to apply for parental order are stipulated in section 54 of the HFEA and has been expanded to cover persons on same sex relationship or “two persons who are living as partners in an enduring family relationship and are not within the prohibited degrees of relationship to each other.”¹²⁷ It appears that the condition that application for parental order must be made within six months of the birth of the child¹²⁸ may be relaxed by the court where it is successfully established that the applicants did not know that they ought to have applied for a parental order.¹²⁹ As a matter of fact, a parental order goes to the “most fundamental aspects of status and to the very identity of the child and have a transformative effect on the child’s legal relationships with the surrogate and commissioning parents and the practical and psychological realities of the child’s identity,...having an effect extending far beyond the merely legal, which is, for all practical purposes, irreversible.”¹³⁰ Nonetheless, it must be added that in applying the Human Fertilisation and Embryology (Parental Orders) Regulation 2010, the welfare of the child born through reproductive technique is of primary importance when determining an application for parental order.¹³¹

As the law stands under section 54 of the HFEA 2008, where a child is born through a reproductive technology, a couple can apply for a parental order within a stipulated period, provided *inter alia*, that the gametes of at least one of them were used in bringing about the creation of the embryo.¹³² There is no such opportunity for a single parent whose gametes were used to create an embryo that was placed in a surrogate mother resulting in the birth of a child. This position of the law, as it relates to single parents, has been strongly condemned and declared by the court to be discriminatory as it denies single parents the right to private and family life and non-discrimination guaranteed under the European Convention on Human Rights 1950.¹³³ The findings of the court resulted in the House of Lords and House of Commons Joint Committee on Human Rights proposing a draft of the Human Fertilisation and Embryology Acts 2008 (Remedial) Order 2018.¹³⁴

The aim of the draft Remedial Order was to remedy the incompatibility by introducing a new section 54A into the HFEA permitting a person to apply for a parental order on the condition that s/he is not in an enduring family relationship. By the proposed drafting, if that individual is deemed by the court to be in an enduring family relationship with a partner, then they can

¹²⁵ *Ibidem*, HFEA 2008, section 39. Compared with section 40 of the same statute which provides for embryo transferred after death of husband, etc who did not provide the sperm used for the insemination but had actually agreed in writing that the embryo should be placed inside his wife after his demise.

¹²⁶ Amel Alghrani & Danielle Griffiths, “The Regulation of Surrogacy in the United Kingdom for Reform,” (2017) 29(2) *Child and Family Law Quarterly*, 165-186 at p. 172. See also Peter Braude & Sadia Muhammed, “Assisted Conception and the Law in the United Kingdom,” (2005) 327 *BMJ Clinical Review*, 978-981 at p. 981.

¹²⁷ HFEA 2008, section 54(2)(c).

¹²⁸ HFEA 2008, section 54(3).

¹²⁹ In *Re X (A Child) (Surrogacy: Time Limit)* (2014) EWHC 3135, the application was brought after the statutory limited period by the commissioning parents in relation to a child that was born in an Indian clinic on 15 December 2011 and was subsequently brought into UK via a British passport on 6 July 2013. The court maintained that the commissioning parents should be allowed to pursue the application for parental orders regardless the delay in the presenting the application. The extant case overrules such earlier cases like: In *Re X (Children) (Parental Orders: Foreign Surrogacy)* (2009) Fam 71; *Re S (Parental Order)* (2010) 1 FLR 1156; *JP v. LP & Others* (2014) EWHC 595; and *Re WT (A Child)* (2014) EWHC 1303.

¹³⁰ Per Sir James Munby, P., in *Re X (A Child) (Surrogacy: Time Limit)* (2014) EWHC 3135; available at <<https://www.familylawweek.co.uk/site.aspx?i=ed133396>> (accessed on 23 January 2023). See also, *Re J (Adoption: Non-Patril)* (1998) INLR 424, (1998) 1 FLR 225; *Re A & B (No. 2 Parental Order)* (2015) EWHC 2080, where the court granted parental order application brought 17 months after the statutory period had elapsed.

¹³¹ *Re W* (2013) EWHC 3570 - the application related to triplets who were biological children of the applicants and were carried through a pregnancy by a surrogate mother vide a surrogacy agreement. The application was granted as the “welfare of each child overwhelmingly” demanded it.

¹³² HFEA 2008, section 54(1)(b).

¹³³ European Convention on Human Rights 1950, Articles 8 and 14. See, In *Re Z (A Child No. 2)* (2016) EWHC 1191 (Fam) - here, a single father applied to the Family Court for a parental order under section 54(1) of the HFEA 2008 but the section of the law required that the court should only grant an order for a request made by two persons who are living as partners in a continuing family relationship. Held: that the order could not be granted.

¹³⁴ Available at <www.parliament.uk/jchr> (accessed on 24 January 2023).

Determining Legal Parentage and Nationality of a Child Born Through Assisted Reproductive Technology: A Comparative Perspective

only apply for a parental order as part of a couple and the partner will then be identified as an equal parent of the child irrespective of whether the partner has any genetic link with the child.¹³⁵

d) The Position in Nigeria

In Nigeria, like most other African countries, where great importance is attached to childbearing, it is no wonder that many infertile couples in their desperation to have children fall back on ART formula, even though the exact number of babies conceived or born through IVF and other related ART procedures are difficult to authenticate. There is no explicit federal or state¹³⁶ legislation and/or regulatory institution controlling assisted reproductive technologies, despite the fact that there have been a number of recognised fertility clinics¹³⁷ and associations¹³⁸ in Nigeria. ART procedures in the country are mostly regulated by individual fertility clinic operator's discretion,¹³⁹ UK's Human Fertilisation and Embryology Authority Guidelines (HFEA Guidelines)¹⁴⁰ and private contractual agreements fashioned out by fertility clinics and executed by relevant parties.¹⁴¹ Thus, for instance, where disputes arise between the intended parents and the surrogate mother or gametes donor, it is not unlikely that parties may resort to the court to determine which of the parties should be assigned the legal parentage of the child.

But in 2016, a bill for national framework for regulation and supervision of reproductive technology and allied matters was presented at the National Assembly though it has not yet been passed into law. The framework, Assisted Reproductive Technology (Regulation) Bill 2016, considers assisted reproductive technology, along with its grammatical variations and cognate expressions, as all techniques that endeavour to achieve pregnancy by manipulating semen or the egg outside a human body and implanting the gamete or embryo into the uterus.¹⁴² The procedure is open to all individuals, including single persons, married couples and unmarried couples.¹⁴³ Where the ART procedure is utilised by a married or an unmarried couples, the informed authorisation of both couple must be obtained.¹⁴⁴

¹³⁵ House of Laws/House of Commons Joint Committee on Human Rights Proposal for a Draft Human Fertilisation and Embryology Acts 2008 (Remedial) Order 2018, Second Report of Session 2017-19, HL Paper 68 HC 645 of 2 March 2018, Summary para. 4, p. 3

¹³⁶ Meanwhile, Lagos State is the only State in Nigeria that formulated guidelines sometime in 2019 to regulate the practice of ART in the State. This it did in collaboration with the Association for Fertility and Reproductive Health (AFRH) and other collaborating agencies. See Preye Owen Fiebai & Kinikanwo Green, "Regulation of Assisted Reproductive Technology (ART) in Nigeria" (2019) 4(1) *African Journal for Infertility and Assisted Conception*, 1-2. See also, "LASG Unveils Guidelines to Regulate Assisted Reproductive Technology"; retrieved from <<https://lagosstate.gov.ng/blog/2019/05/09/lasg-unveils-guidelines-to-regulate-assisted-reproductive-technology/>> (accessed on 31 January 2023).

¹³⁷ Afolasade A. Adewumi, "The Need for Assisted Reproduction Technology in Nigeria" (2012) 2(1) *University of Ibadan Law Journal*, 19-41 at p. 28. In fact, Kehinde T. Bamgbopa *et. al.*, argues that as at 2018, there were an estimated 74 registered ART service providing centres in Nigeria, with about 24 of them located in Lagos, southwest of Nigeria. This is in addition to other unknown or unregistered ART practitioners in the country- see Kehinde T. Bamgbopa *et. al.*, "Public Perception on Ethics in the Practice of Assisted Reproductive Technologies in Nigeria" (2018) 3(3) *Global Reproductive Health*, e13 at p. 2; DOI: <<http://dx.doi.org/10.1097/GRH.000000000000013>> (accessed on 2 January 2023)

¹³⁸ For instance, the formation of the Association for Fertility and Reproductive Health in Nigeria (AFRH), which is the umbrella association of IVF practitioners in Nigeria, was registered in 2010. It replaced the initial organisation, Nigerian Fertility Society which was formed as far back as in 1992- see Kehinde T. Bamgbopa *et. al.*, *ibidem* at p.2.

¹³⁹ Kehinde T. Bamgbopa *et. al.*, *ibidem*.

¹⁴⁰ Olanike S. Adedokun, "The Concept of Surrogacy in Nigeria: Issues, Prospects and Challenges" (2018) 18 *African Human Rights Law Journal*, 605-624 at p. 614; DOI: <<http://dx.doi.org/10.17159/1996-2096/2018/v18n2a8>> (accessed on 2 January 2023). See also, J. O. Fadare & A. A. Adeniyi, "Ethical Issues in Newer Assisted Reproductive Technologies: A View from Nigeria" (2015) 18(7) *Nigeria Journal of Clinical Practice*, 57-61. See for example, the Human Fertilisation and Embryology Authority Code of Practice Update dated April 2017; retrieved from <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/708228/DH_HFEA_HFEA_Code_of_Practice_Update_April_2019.pdf> (accessed on 31 January 2023); with the latest being the Human Fertilisation and Embryology Authority Code of Practice, 9th edition and revised in October 2021; retrieved from <<https://www.hfea.gov.uk/about-us/news-and-press-releases/2021-news-and-press-releases/update-to-the-9th-edition-code-of-practice-is-now-available/>> (accessed on 31 January 2023).

¹⁴¹ Omolomo Adeife, "Nigeria: A Legal Perspective to the Law and Practice of Surrogacy"; retrieved from <<https://www.mondaq.com/nigeria/family-law/1280312/a-legal-perspective-to-the-law-and-practice-of-surrogacy-in-nigeria>> (accessed on 31 January 2023).

¹⁴² Assisted Reproductive Technology (Regulation) Bill 2016, section 2(b).

¹⁴³ *ibidem*, section 32(1). The bill defines an "unmarried couple" to imply a man and a woman, both of marriageable age, cohabiting together with mutual consent but without getting married- *ibidem*, section 2(w). But a definition proffered for a "couple" under the bill is rather confusing. It defines "couple" under its section 2(e) as "the persons living together and having a sexual relationship that is legal" in Nigeria or in "countries of which they are citizens or they are living in". Thus, while the term excludes same sex couples residing in Nigeria by reason of a ban on same sex relationship under the Same Sex Marriage (Prohibition) Act 2013, the ART bill indirectly admits gay/lesbian couples provided that in their countries of origin or residence, same sex marriage is legalised or recognised.

¹⁴⁴ Assisted Reproductive Technology (Regulation) Bill 2016, section 32(2).

Determining Legal Parentage and Nationality of a Child Born Through Assisted Reproductive Technology: A Comparative Perspective

In the case of surrogacy arrangement, the bill mandates the parties to enter into a surrogacy contract and same shall be legally enforceable. The surrogate mother under such situation is bound to surrender all parental rights over the resulting child.¹⁴⁵ Once the child is born, the intended parents cannot reject the child irrespective of birth abnormalities¹⁴⁶ and the birth certificate of the child shall bear the names of the “genetic parents/parent of the baby.”¹⁴⁷ But a surrogate mother is banned from donating an oocyte for the couple or person seeking surrogacy.¹⁴⁸ Likewise, a couple or individual is prohibited from either retaining multiple surrogates or transferring embryo in the “woman and in a surrogate” simultaneously.¹⁴⁹

Section 35(1) of the bill provides for the determination of the status of the baby. It states that a child born to a married couple through ART shall be presumed to be the legitimate child of the couple having been born in wedlock and with the approval of both spouses and shall possess identical legal rights as a legitimate child born through sexual intercourse.¹⁵⁰ In the case of a single parent, the child will be the legitimate child of the single man or woman¹⁵¹ and where a married couple or unmarried partners are either divorced or separated after both parties had agreed to the ART procedure but the separation happened prior to the birth of the child, the resulting child shall remain the legitimate child of the couple.¹⁵² Moreover, where a woman is artificially inseminated with the frozen sperm of a deceased husband, the child born through that process is deemed to be the child of the couple.¹⁵³

On the issue of determining the nationality of a child, the Constitution of the Federal Republic of Nigeria (CFRN), 1999 (as amended) provides that a person acquires a Nigerian citizenship by birth where his/her parents or grandparents is/was a citizen of Nigeria, including children born outside Nigeria “either of whose parents is a citizen of Nigeria.”¹⁵⁴ Given the stance of Nigerian laws on same sex marriage,¹⁵⁵ would a child born to a Nigerian gay/lesbian partner through ART treatment be regarded as a Nigerian citizen by birth? It is submitted that where there is a genetic link between such a partner and the resultant child, notwithstanding the ethical issues involved, the child would be recognised as a Nigerian citizen. This is because section 42(2) of the 1999 CFRN explicitly asserts that no Nigerian citizen “shall be subjected to any disability or deprivation merely by reason of the circumstances of his birth.”¹⁵⁶ Conversely and by extension of argument, adoption of children by individuals in a homosexual marriage or relationship is deemed prohibited in Nigeria. As a matter of fact, discussions on ART treatments in Nigeria by fertility clinic practitioners scarcely focus on the needs of same-sex partners as they consider such deliberations irrelevant since a statute outlaws same sex practice in the country.¹⁵⁷

IV. CONCLUSION

It is no longer news that conception through lovemaking is not the only medium for founding families. Advances in medical techniques have demonstrated that with the help of ART, heterosexual couples struggling with infertility, single persons, and homoerotic partners could now become parents and grow their own families. Considering the novel chances offered by the use

¹⁴⁵ *Ibidem*, section 34(1) & (4). A survey conducted by Bello *et al* indicated that in Ibadan, a community in southwest of Nigeria, about 37.8% of infertile women would accept surrogacy as a form of ART treatment, with most preferring strangers as surrogates- see Folasade A. Bello, Opeyemi R. Akinajo, & Oladapo Olayemi, “In Vitro Fertilisation, Gamete Donation and Surrogacy: Perceptions of Women Attending an Infertility Clinic in Ibadan, Nigeria” (2014) 18(2) *African Journal of Reproductive Health*, 127-133.

¹⁴⁶ *Ibidem*, section 34(11).

¹⁴⁷ *Ibidem*, section 34(10).

¹⁴⁸ *Ibidem*, section 34(13).

¹⁴⁹ *Ibidem*, section 34(20) & (21).

¹⁵⁰ The status remains the same in relation to unmarried partners- *ibidem*, section 35(2).

¹⁵¹ *Ibidem*, section 35(3).

¹⁵² *Ibidem*, section 35(4).

¹⁵³ *Ibidem*, section 35(5).

¹⁵⁴ Constitution of the Federal Republic of Nigeria (CFRN), 1999 (as amended), section 25. In *Abdulrahman Shugaba Darman v. Minister of Internal Affairs* (1981) 2 NCLR 459, the facts of the case disclosed that the plaintiff’s mother was a Nigerian citizen by birth though his father was a Chadian. The court held that the plaintiff was qualified to be a Nigerian citizen by birth and accordingly his purported deportation by the Nigerian government was unlawful and unconstitutional in the circumstances.

¹⁵⁵ See for example, Same Sex Marriage (Prohibition) Act 2013, section 1. Also the idea of marriage under the Marriage Act 2004,, and the Matrimonial Causes Act, Cap. M7, Laws of the Federation of Nigeria, 2004, is a voluntary union between a man and a woman; as such, same-sex marriage is barred. See also the definition of “monogamous marriage” under the Interpretation Act, No 1 of 1964 (now Laws of the Federation of Nigeria, 2004), section 18.

¹⁵⁶ See also, Simisola O. Akintola & Olohikhuae O. Egbokhare, “Parenthood: Is the Law in Nigeria Fit for Assisted Reproductive Technology” (2018) *Indian Journal of Medical Ethics Online*, 1-6 at p. 5; DOI: <<https://doi.org/10.20529/IJME.2018.012>> (accessed on 2 January 2023).

¹⁵⁷ Kehinde T. Bamgbopa *et al.*, “Public Perception on Ethics in the Practice of Assisted Reproductive Technologies in Nigeria” (2018) 3(3) *Global Reproductive Health*, e13 at p. 4.

Determining Legal Parentage and Nationality of a Child Born Through Assisted Reproductive Technology: A Comparative Perspective

of reproductive technologies, it is not surprising therefore, that reproductive care has received global interest¹⁵⁸ leading to cross-border movements by patients searching for family-building options.¹⁵⁹ This may warrant the travelling by “candidate service recipients from one institution, jurisdiction or country where treatment is not available to another institution, jurisdiction or country where they can obtain the kind of medically assisted reproduction they desire.”¹⁶⁰

Above the prospect provided by such “procreative tourism,”¹⁶¹ or “reproductive exile,”¹⁶² as some scholars tend to describe it, the innovative reproductive technology is certainly not without its own inherent problems and controversies. Because more than two adults, and possibly from different countries, may be involved in the conception and birth of a child via ART, the question of parenthood and nationality of the child become an issue. The study has revealed that in countries like Thailand, UK, and USA, the practice of ART is statutorily regulated and in appropriate cases, where parties have disagreements, they may approach the court for settlement. But even then, homosexual couples and single parents have been shown to be discriminatorily treated when it comes to issues of legal parentage and nationality of the child. However, in Nigeria, as the study shows, the practice of ART is legislatively unregulated despite the fact that there are various recognised fertility clinics in Nigeria and a 2016 bill on the subject is still pending before the National Assembly.

The authors therefore, recommend that considering the rising growth in the number of individuals utilising ART in Nigeria, including those crossing national borders to have babies, it is imperative for definite ART legislation to be enacted in Nigeria so as to assist in resolving these problems and other related ones. Since the 2016 ART bill is still before the National Assembly, the federal lawmakers could examine similar laws from other foreign jurisdictions and use them as potential guides to expeditiously fashion out appropriate domestic legislation in Nigeria. Following global gravitation towards ART practice, the Nigerian government must “take the bull by the horn” by legislating on the subject otherwise abuses by relevant stakeholders and practitioners in the sector would be inevitable.

The present state of absence of regulatory and institutional frameworks seems to provide a hotbed for exploitation of ignorant or unenlightened desperate infertile couples in Nigeria without offering them the standard services provided in other countries where the practice is regulated. Admitted that there is no perfect law anywhere; but then let’s get started. For illustration, UK began with the SAA 1985 and later followed by the HFEA 1990, which eighteen years after, was amended as HFEA 2008. The latter law itself was criticised by the court because of some of its discriminatory clauses, leading parliament to propose a draft Human Fertilisation and Embryology Acts 2008 (Remedial) Order 2018¹⁶³ to cure the defect complained about.

Similarly, for cross-pollination of ideas, the Nigerian courts could also learn some lessons from the decisions in other jurisdictions so as to know how to determine related cases as they occur in Nigeria. At the moment there seems to be dearth of judicial decisions in the area of ART, inclusive of the determination of legal parentage and nationality of children born through ART procedures in Nigeria. Pending the enactment of the ART legislation in Nigeria, we suggest further that Nigerian courts should recognise the validity of voluntarily executed contracts entered into by relevant parties engaged in ART arrangements as such contracts could reveal the intention of the parties. This will greatly assist intending parent(s) in situations where gestational surrogates may wish to unilaterally rescind their surrogacy contracts by withholding the child after birth.

CONFLICT OF INTEREST STATEMENT

The authors have no financial conflict of interest to declare in relation to this article.

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¹⁵⁸ Susan L. Crockin, “Growing Families in a Shrinking World: Legal and Ethical Challenges in Cross-border Surrogacy”(2013) 27 *Reproductive BioMedicine Online*, 733-741 at pp. 733-734.

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¹⁶⁰ Guido Pennings, “Reproductive Tourism as Moral Pluralism in Motion” (2002) 28 *Journal of Medical Ethics*, 337-341 at p. 337.

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Determining Legal Parentage and Nationality of a Child Born Through Assisted Reproductive Technology: A Comparative Perspective

Efforts to Improve Backhand Short-Serve Motion Ability in Badminton: Literature Review



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ABSTRACT: Service is a basic technique in starting a badminton game, not only that serve is also one of the initial attacks that starts in a match. Backhand short serve is a form of serve in badminton. The ability to move short-serve backhands is one of the basic techniques that are important to master in the game of badminton. This paper aims to examine efforts to improve the ability to move short service backhands in badminton. Data searches are carried out using Google, Google Scholar and Google Books search engines with keywords for efforts to reduce the short-serve movement of the backhand in badminton. Based on research studies, it is known that many factors affect the ability to move short service backhands in badminton games, both movement techniques and training and learning factors.

KEYWORDS: Improvement efforts, backhand short serve, badminton.

I. INTRODUCTION

Sport is an activity that is familiar in human life. In addition to being beneficial for health, sports are also referred to as a unifying tool for the nation, shaping individual character, and having the potential to dynamize other sectors of development (Utami, 2015). Sports can be classified based on their purpose, namely recreational sports, health sports, educational sports, achievement sports, and livelihood sports (Kusmaedi, 2002).

In this classification of sports, it is known that sports are also a form of game consisting of many sports. One such sport is badminton. The sport of badminton is one of the sports that is very common among the public. Currently, the sport of badminton is increasingly in demand and played by the public because the game of badminton can be said to be done by all ages. However, even so, to play badminton requires knowledge and mastery of basic techniques such as serving, smashing, backhand, and lob punching (Sugiarto, 2004).

Service is a basic technique in starting a badminton game, not only that serve is also one of the initial attacks that start in a match (Zarwan et al, 2018). Backhand short serves are one way of serving that can be used in double and singles category games. A short serve is a serve where the shuttlecock passes narrowly over the net, the shuttlecock must be hit with a relatively short racket swing and on the backhand serve the direction of the shuttlecock's fall is very close to the opposing player's attacking line (Saragih et al, 2022).

Although the backhand short serve looks simple, to perform a backhand short serve requires mastery of the service technique in order to get a good service result, not getting stuck in the net or out of the target field. Therefore, efforts are needed to improve the ability to move short-serve backhands in badminton.

II. METHOD

Data searches are carried out using Google, Google Scholar and Google Books search engines with keywords for efforts to reduce the short-serve movement of the backhand in badminton. The source or reference obtained is then established with exclusion and inclusion criteria. The determination of inclusion criteria is data in the form of journals both nationally and internationally, textbooks, scientific articles containing efforts to reduce the short-serve movement of backhands in badminton. While the exclusion criteria are data obtained from invalid sources, for example websites without authors or theses, journals both nationally and internationally, textbooks, published scientific articles.

Efforts to Improve Backhand Short-Serve Motion Ability in Badminton: Literature Review

III. RESULTS AND DISCUSSION

Improving the ability to move short serves in badminton is an important thing to get maximum service results. Therefore, a lot of effort has been made to improve the short-serve capabilities of the backhand, be it through exercise programs or the development of learning media. Efforts to improve the ability to move short serves backhands in badminton can be studied through the following studies.

A. Improved Short Servicing Ability Based on Racket Grip Training

How to hold a racket is one of the basic techniques in the game of badminton. Kurniadi et al (2021), conducted a study to determine the difference in the effect of service training using a combination of grip and service exercises using backhand grip on the short service ability of Extracurricular Students of SMPN 2 Kota Bangun Kaltim. The results showed that both forms of racket grip training had a significant influence on short service ability, but service training using backhand grip was better than service training using combined grips.

B. Improved Backhand Short Servicing Ability Based on Wrist Flexibility Level

One of the elements needed in servicing the badminton game is the element of flexibility. The more flexible the wrist movement, the easier it will be to perform short serves, on the other hand, if you do not have the flexibility of the wrist, you will be constrained in doing short services well. The results of a study conducted on Unsyiah Badminton UKM athletes in 2016, showed that wrist flexibility has a significant relationship with short service ability (Qalbi et al, 2017). Judging from the results of the study, wrist flexibility exercises can be recommended to improve the short-serve ability of the backhand.

C. Improved Backhand Short Service Capability Based on Hand-Eye Coordination

One of the factors of physical condition that affects the movement of the service is eye and hand coordination, with eye coordination to see the target of the service performed, the hand can direct the service blow in the direction it is going. It is proven through Kadir's research (2021) which shows the results of research that there is a very significant relationship between the eye and hand coordination ability of PJKR students of Muhammadiyah Luwuk University in badminton games with short service skills. Therefore, improved eye and hand coordination exercises are needed to improve the ability to serve short backhands in badminton.

D. Improved Backhand Short Service Accuracy

In general, the capabilities required in improving the accuracy of backhand short serves are concentration, calmness, and focus. This ability can be improved through target games training which is an exercise where players will get a score if a ball or other similar projectile is thrown or hit directionally hitting a predetermined target. Target games training is considered suitable for improving accuracy because it is almost the same as short serves, namely having a direction towards the target correctly, proven through the results of research by Ramadhan and Hidasari (2020), suggests that target games training has a significant influence on the accuracy of short service backhands, where after participating in target games training there was an increase in service accuracy in badminton extracurricular participants at SMP Negeri 7 Sungai Raya.

In addition to target game training, one of the exercises that can be done to improve accuracy during backhand short serves is training using arm swings. The results of Surendidila's research (2019), stated that there was a significant increase in service training using arm swings against the accuracy of backhand short serves at Club Maher Jatiwangi, Majalengka Regency. By using the athlete's arm swing easily to adjust the strength when hitting the shuttlecock and assisted by the treatment in improving the accuracy of the backhand short serve.

E. Improved Backhand Short Service Technique Through Team Games Tournament Learning Model

In the TGT learning model, the competition is carried out internally in the team to obtain rankings, as well as external competitions between teams. The application of the TGT model is considered to be able to help students in learning badminton on the basic technique of backhand service because students can correct each other's basic backhand service techniques by looking at their group mates in the correct service punch technique. It is proven through the results of research by Wahyudiantod et al (2019), there is an influence of the TGT learning model on badminton backhand service skills at SMK Yabujah Segeran Indramayu.

F. Improved Backhand Short Service Technique Through the Application of Audio Visual Media

In learning motion techniques, there are several kinds of media that can be applied, one of which is audio-visual media. Audio-visual media is a learning model that uses material and absorption through sight and hearing not entirely including the tools used can be in the form of video and computers. In Setiawan and Darmawan's research (2014), the audio-visual media used was in the form of a computer. The results of the study stated that the application of audio-visual media to short service techniques

Efforts to Improve Backhand Short-Serve Motion Ability in Badminton: Literature Review

backhand badminton extracurricular activities for students of SMP Intan Permata Hati Surabaya has increased. Based on these results, the application of audio-visual media can be one of the recommendations in an effort to improve the backhand short service technique.

IV. CONCLUSIONS

Based on several research studies, it can be concluded that many factors affect the ability to move short service backhands in badminton games. It was found that several elements such as how to hold the racket, wrist flexibility, accuracy, and coordination have an influence on the ability to perform backhand short serve movements. In addition, there are also several exercises and learning models that can be applied to improve the ability of the backhand short serve. Basically, to improve the ability of backhand short serves in badminton games is to do technical exercises and some of the necessary elements on the backhand short serve to get good serve results.

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Research, Direct Construction form Optical Characteristics – OCR using Department Technology



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ABSTRACT: Optical character recognition – using a deep learning technique that describes an overview of optical character recognition, the basic steps in the optical character recognition problem. At the same time, the thesis introduces in detail the Long short term memory (LSTM) deep learning method and its application in optical character recognition. Through testing on a dataset of 10,000 license plate photos, the thesis showed that the application of the LSTM method is quite effective in optical character recognition.

KEYWORDS: optical character, optical character recognition

1. INTRODUCTION

Optical Character Recognition is computer software created to convert handwritten or typed images into document documents.

Optical character recognition is formed from the fields of study of pattern recognition, artificial intelligence, and computer vision. Although academic research work continues, part of OCR's work has shifted to practical application with proven techniques. Nowadays, optical character recognition techniques have been widely used and applied in practice in parallel with theoretical research to improve recognition results.

Typically, optical character recognition systems are used in the form of software in computers or integrated in printers and scanners to perform character recognition. The most common example is scanning text images into documents stored on a computer.

Currently, optical character recognition solutions are thriving in terms of application and continuously have many new improvements to increase the applicability and efficiency of the output product. At the forefront of OCR technology are two companies that develop and improve character recognition software, Google and ABBYY.

+ Google on the Tesseract platform (Tesseract OCR engine) developed by HP Labs in the period 1985-1995, using open source, high accuracy recognition quality, with many image file formats and can recognize more than 60 different languages.

+ Meanwhile, ABBYY is considered a pioneer in the field of OCR. ABBYY released optical character recognition software called ABBYY capable of recognizing 190 languages. In particular, for Latin and Russian characters, ABBYY's OCR technology can achieve up to 99% recognition efficiency for a good quality image file.

+ However, the recognition of Vietnamese characters (the type of language with "accents") is still a challenge for the development of OCR technology in the world. Currently, ABBYY is conducting research and deploying Vietnamese recognition technology with over 90% accuracy for a good quality image file. However, it has only stopped at recognizing Vietnamese characters drafted by computers or the printing industry without being able to reach the types of handwriting, even the efficiency achieved is very modest for old documents, diverse fonts or using outdated printing techniques. In addition, ABBYY's OCR solution lacks competitiveness because of its high price, foreign packaged products, not really suitable for Vietnamese documents, as well as difficulties in integrating into other technologies.

- In Vietnam, there are also some software companies investing in building OCR technology, such as the following:

Research, Direct Construction form Optical Characteristics – OCR using Department Technology

+ VnDOCR 4.0 Professional software, a printed Vietnamese letter recognition program, developed by a team of software development experts of the Department of Identification and Knowledge Technology, Institute of Information Technology - Vietnam Institute of Science and Technology. VnDOCR uses a scanner control program, to scan images from printed documents as line art, Black and White - B&W, with a resolution of 300dpi (dots per inch), then switch to recognition mode. Vietnamese word recognition results are about 90% accurate depending on the quality of the scan.

+ VietOCR software is developed based on the open source Tesseract platform, with Java / .NET technology, supporting recognition for PDF, TIFF, JPEG, GIF, PNG, and BMP image formats. VietOCR's recognition ability can reach 95% for good quality image files.

2. LITERATURE REVIEW HISTORY OPTICAL CHARACTER RECOGNITION PROCESS

First, the recognition system requires training with specific character patterns. "Smart" systems with high recognition accuracy for most fonts are now commonplace. Some systems are also capable of reproducing the formatting of documents that closely resemble the original, including: images, columns, tables, non-text elements.

The input of this process is the image file and the output will be the text file containing the text text contained in that image.

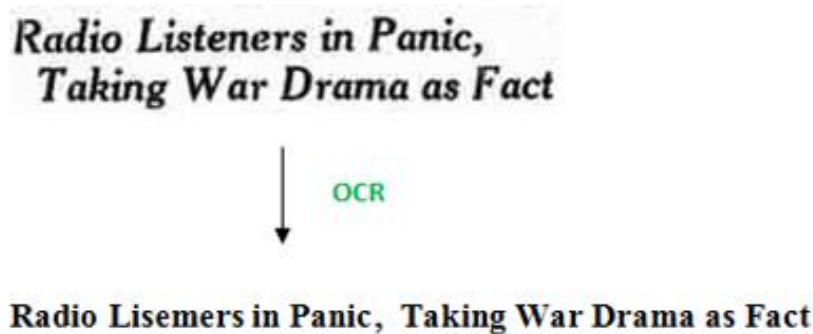


Figure 2. 1: OCR implementation process

Building an OCR tool is a step-by-step process. The development process usually consists of 6 steps necessary to train an algorithm to solve the problem effectively with the help of optical character recognition:

- + Image acquisition: The first step is to collect images of paper documents with the help of optical scanners. In this way, an original image can be captured and stored. Most paper documents are black and white and OCR scanners will be able to threshold images. In other words, it should replace each pixel in the photo with a black or white pixel. It's an image segmentation method.
- + Preprocessing: makes the raw data usable by computer. The level of noise on the image must be optimized and areas outside the text removed. Preprocessing is especially important for recognizing handwritten documents that are more sensitive to noise. Preprocessing allows to obtain a clean character image to deliver better image recognition results.
- + Segmentation: aims to group characters into meaningful blocks. There may be predefined classes for the characters. So images can be scanned for patterns that match the layers.
- + Feature mining: to divide the input data into a set of features, that is, to find essential characteristics that make one or another pattern recognizable. As a result, each character is classified in a specific class.
- + Train a neural network: Once all features are extracted, they can be fetched into the neural network (NN) to train it to recognize characters. A training dataset and the methods adopted to achieve the best output will depend on a problem that requires an OCR-based solution.
- + Post-processing: the screening process because an OCR model may require some modifications. However, 100% accuracy cannot be achieved. The identification of the characters depends a lot on the setting. Verifying the output requires a human loop approach.

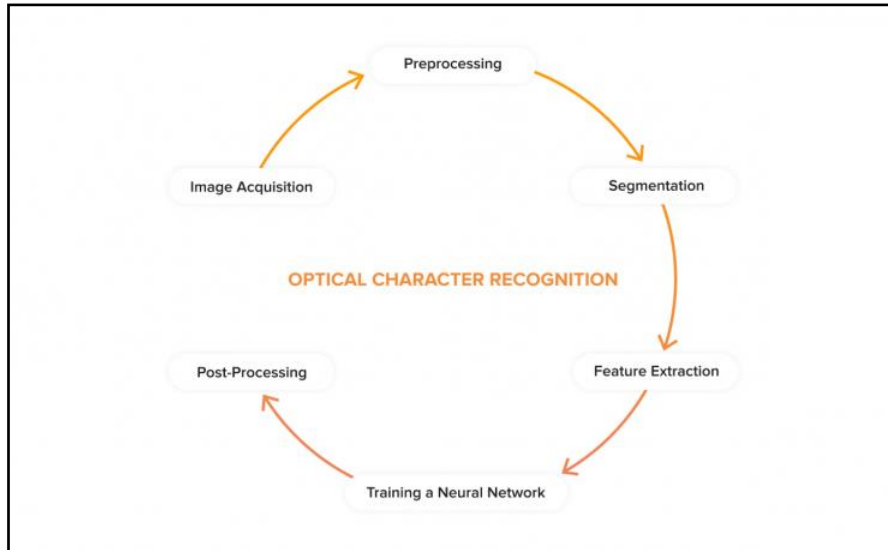


Figure 2. 2: Steps to build OCR master.

2.1. The main problems of optical character recognition:

Overall, OCR technology has created a new, groundbreaking technical solution for building electronic databases. However, current software only achieves high efficiency for good quality text files, along with some types of Latin languages.

The correct identification of typed Latin characters is considered a problem that has been solved. The actual accuracy rate reaches 99%, although some applications require even higher accuracy rates that require human error checking.

Hand-printed letter recognition, hand-written cursive, and even typed versions of some letters (especially those with large numbers of letters), remain a subject of study.

Handwritten character recognition systems have enjoyed great commercial success in recent years. Among them are imported devices for personal assistance devices (PDAs) such as those running on Palm OS and Apple Newton's pioneering technology. The algorithms used in these devices use the advantage that the order, speed, and direction of single lines are already known. Similarly, users may be required to use only certain types of typefaces.

These methods cannot be used in paper document scanning software, so accurate recognition of hand-printed text remains a major issue. With an accuracy of 80% to 90%, clean hand-printed characters can be recognized, but that accuracy still produces dozens of errors per page, making that technology only effective in certain cases. The variety of OCR is now known in the industry as ICR, (Intelligent Character Recognition).

Handwriting recognition is a vibrant field of study, with recognition rates even lower than hand-printed text. Higher recognition rates of generic manuscripts are virtually impossible without the use of grammatical and contextual information. For example, it's easier to identify an entire word from a dictionary than it is to try to extract discrete characters from that paragraph. Reading the total of a check (always written in numbers) is an example where using smaller dictionaries can greatly increase recognition rates. Knowledge of the grammar of a scanned language can also help identify whether a word may be a verb or noun, for example, which will allow for a more accurate 2/3 Optical Character Recognition (OCR). The shape of the handwriting itself did not contain enough information about it to accurately identify (more than 98%) all the handwriting fragments.

In short, identity problems that are more complex than neural networks are widely used because they can simplify both affine and nonlinear transformations.

3. DESCRIPTION OF THE PROBLEM

Currently, the need to extract words from images is growing. Convert images of handwriting or typing into characters that have been encoded in the computer. Let's say we need to edit some paper documents such as magazine articles, flyers, or an image PDF file. Obviously, we cannot use a scanner to convert these documents into text files that can be edited (e.g. Microsoft Word editor).

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3.1. Traditional methods

In addition to manual methods, there are now quite a few sets of optical character recognition libraries in the world with quite high accuracy. Using one of those libraries will save us quite a lot of effort. The following are some of the free optical character recognition suites and software that are widely used today:

- + Tesseract OCR: is a commercial optical character recognition unit originally developed at HP (Hewlett-Packard) between 1985 and 1995 and was awarded the top 3 most accurate optical character recognition software at the annual conference of UNLV (University of Nevada-Las Vegas). This identifier was later turned into open source on Google and continues to be developed to this day with the contributions of many professional programmers. The current head of the project is Ray Smith.
- + GOCR: Is an optical character recognition program developed under the GNU General Public License and started by Joerg Schulenberg in 2000.
- + FreeOCR: Considered one of the most accurate optical character recognition software because it uses HP's Tesseract engine.
- + JavaOCR: Is an optical character recognition software written entirely in Java library for image processing and character recognition. The advantage of this program is that it takes up little memory resources, is easy to implement on memory-limited mobile environments, and can only use the Java language.
- Among the above optical character recognition libraries, the Tesseract OCR is the most outstanding with the following advantages:
 - + Have a long development history and bring high accuracy right from the launch.
 - + Highly scalable and customizable and sponsored by Google and a large number of developers contributing to Tesseract.
 - + The version is updated regularly, supports more and more languages, has the ability to train on new languages and many different types of fonts.
 - + Some OCR software now uses this identifier for character recognition, so Tesseract has become more popular, and also has the ability to support on many different environments and platforms from computers to mobile devices.

3.2. Limitations and shortcomings of traditional methods

- According to a report by The Intersect Group, 60% of financial costs are tracked for labor such as manual data entry. Consider the data entry time for your business now and how much it would be worth if your organization eliminated that step.
- It takes time to manually type 1 physical text into text on an editable machine.
- It takes a lot of manpower and time to dissect form information, many errors.

3.3. Artificial intelligence, deep learning techniques

* Artificial Intelligence

- Introduction to artificial intelligence
- + Artificial Intelligence is a discipline in the field of Computer Science. It is human-programmed intelligence with the goal of helping computers automate intelligent behaviors like humans.
- + Artificial intelligence differs from logical programming in programming languages in the application of machine learning systems (Machine learning) to simulate human intelligence in processes that humans do better than computers. Specifically, artificial intelligence helps computers acquire human intelligence such as: Knowing how to think and reason to solve problems, know how to communicate by understanding language, speech, learning and self-adaptation.
- *The evolution and development of Artificial Intelligence:*

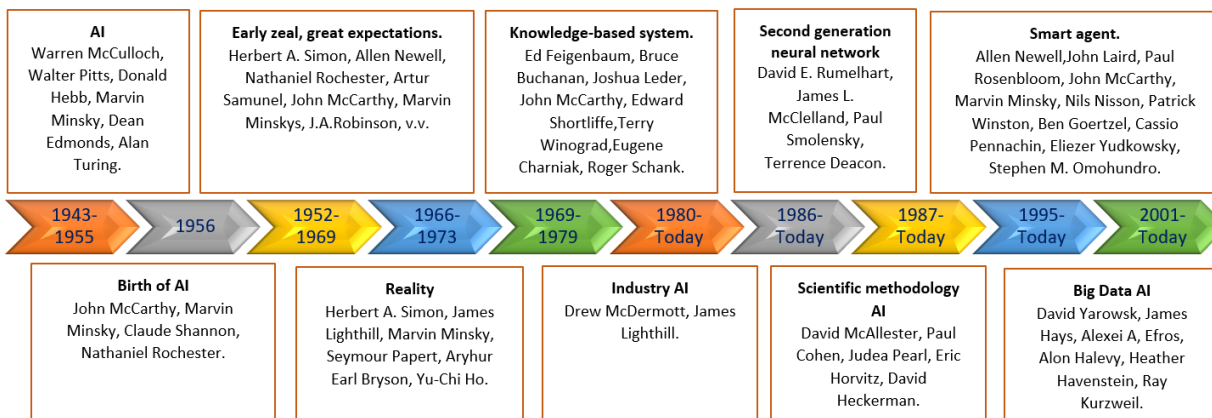


Figure 3. 1: Summary of the evolution of Artificial Intelligence In each stage there is a list of typical artificial intelligence scientists.

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Figure 3. 1 Summary of the evolution of artificial intelligence through ten stages from 1943 to the present, synthesized by S. Russell and P. Norvig. The expansion of artificial intelligence, which goes too far from its original origins, also made some artificial intelligence founders (John McCarthy, Marvin Minsky, ...) disgruntled, as they argue that artificial intelligence needs to focus on the original goal of creating "machines that think, learn and create". However, practice has demonstrated that this expansion, especially artificial intelligence with big data, has created exponential development artificial intelligence technologies and platforms in the current period.

S. Russell and P. Norvig argue that artificial intelligence has gone through cycles of success, which can lead to over-optimism leading to a decline in enthusiasm and funding, but at the same time, there are cycles with new creative approaches, to achieve greater achievements. S. Russell and P. Norvig list current artificial intelligence topics as self-driving cars, speech recognition, autonomous planning and scheduling, game consoles, anti-garbage, logistics planning, robotics, machine translation.

The evolution of artificial intelligence indicates that the achievement of each of the following stages is the result of inheritance, promotion of suitable parts and the reduction and correction of inappropriate parts from previous stages. One aspect of artificial intelligence has a qualitative change, aware that such a change is the result of a process of quantitative change.

- Key Areas of Artificial Intelligence:

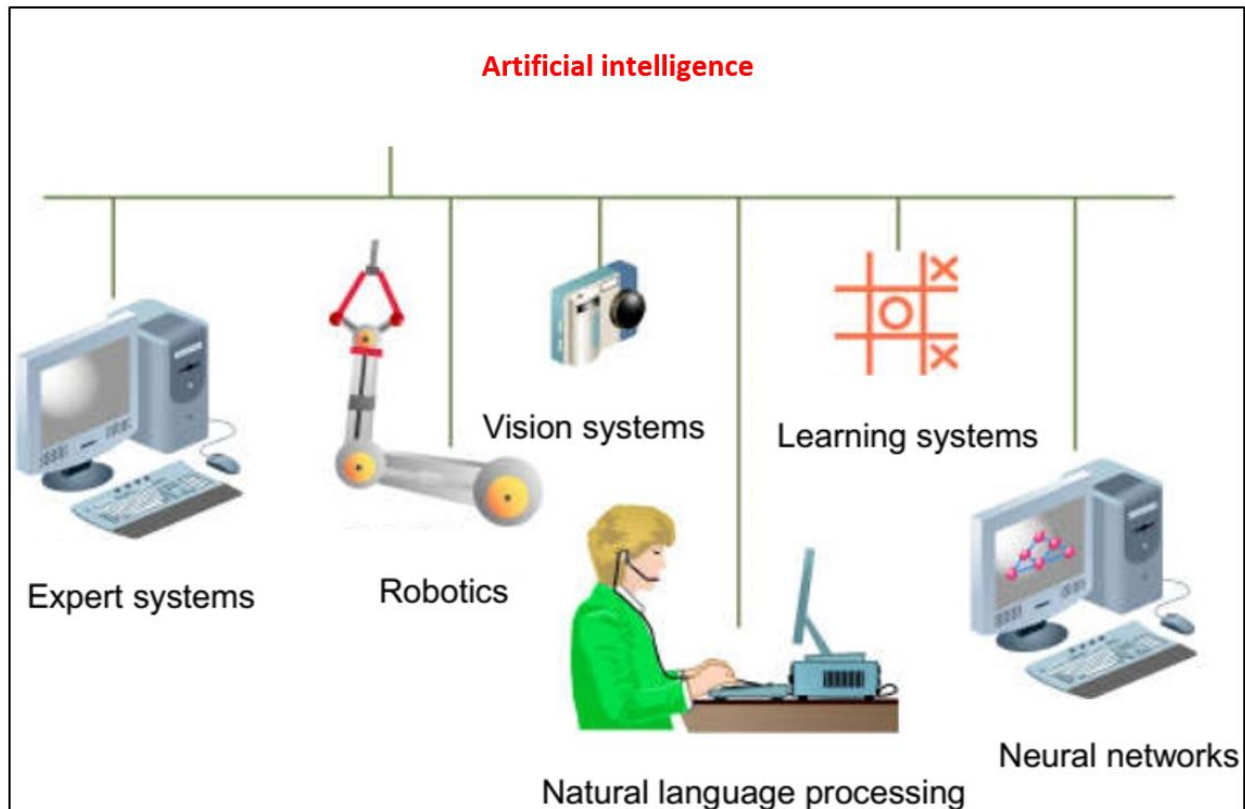


Figure 3. 2: Areas of Artificial Intelligence

Figure 3.2 shows the main areas of artificial intelligence as expert systems, robotics, machine vision systems, natural language processing systems, learning systems, and neural networks.

- The expert system handles consulting situations (identifying consulting problems, collecting data information, inferring problem solving, selecting appropriate solutions), similar to human experts in specific application domains.

- Artificial intelligence robots can perform behaviors with human-like intelligence, thanks to being equipped with software systems and artificial intelligence devices . To minimize the risks in the exploitation and use of artificial intelligence robots, Three laws of robot operation need to be followed:

- + Robots do not take actions that harm humans and need to act accordingly when humans are harmed;
- + Robots obey human commands, except for orders that harm humans (so as not to conflict with the first operational law);
- + Robots know how to protect themselves except in cases of conflict with the first operating law and the second operation law. It is necessary to distinguish artificial intelligence robots from industrial robots doing dull, toxic and dangerous jobs.

- Machine vision systems are capable of recognizing from images: objects, events, processes in the surrounding real world environment and establishing the location of these objects. The machine vision system has the following functions:

- + Object recognition;

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- + Locating objects in space;
- + Sticking, navigating, tracking moving objects;
- + Acknowledge the behavior of the subject.

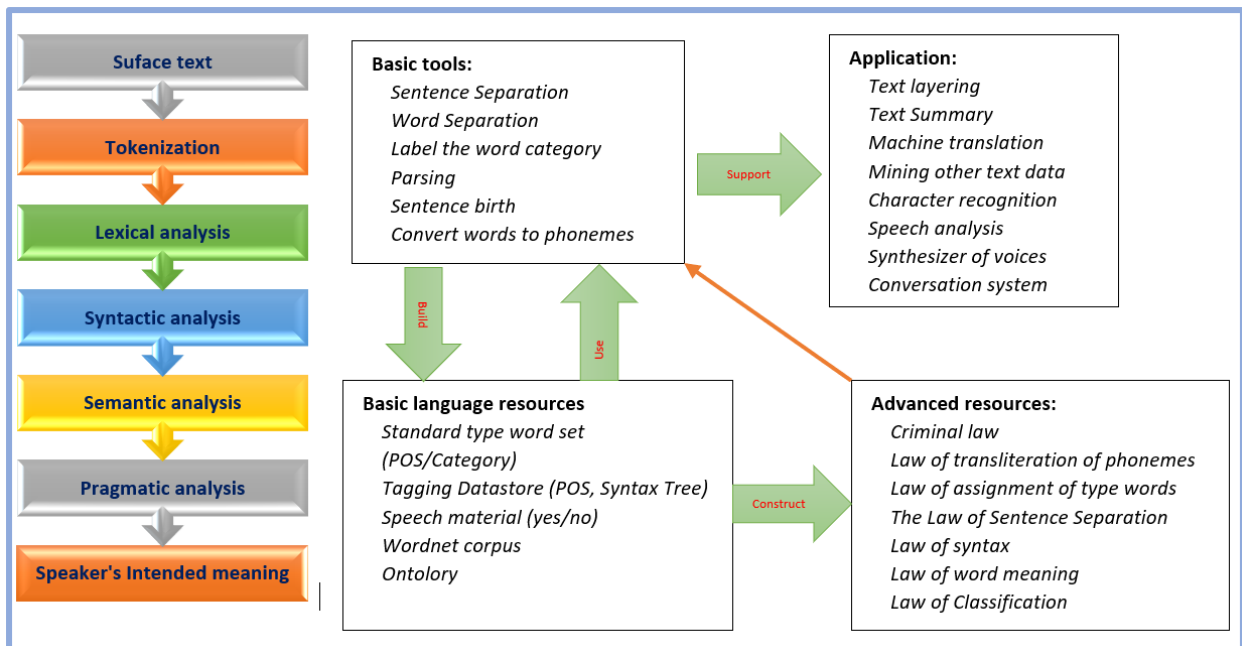


Figure 3. 3left), language tools and resources in natural language processing (right)

Natural language processing systems (Natural language processing, computational linguistics, human language technology, computer speech and language processing) make computers capable of understanding and reacting when receiving sentences and directives expressed in natural languages such as Vietnamese, English... Natural language processing is an artificial intelligence research area that has had a long development process of seven decades, attracting a large research community around the world and also in Vietnam. Natural language processing includes word processing, speech processing, and speech-text processing. Figure 3 gives a view of language tools and resources and their relationships in natural language processing.

- Human knowledge is obtained from three sources:

- + Biological continuation: through the evolution of human survival inherited through generations;
- + Cultural acquisition: acquired through language used by parents, families and teachers to pass on knowledge to the next generation;
- + Lifelong self-education: accumulation of knowledge and skills by individuals. Lifelong self-study helps people upgrade their learning capacity to learn faster and more effectively. Machine learning in artificial intelligence towards computers has the same "learning" (knowledge acquisition) capacity as humans, thanks to knowledge that improves the way it works, responding when receiving feedback from the external environment in situations. Statistical machine learning, especially deep learning, along with big data, is currently a key trend, creating the miraculous development of artificial intelligence for more than a decade. Transfer learning, deep transfer learning, lifelong machine learning are modern machine learning techniques that allow solving problems in situations where critical information is missing or handling new situations.

- Neural networks are areas of artificial intelligence that allow simulated computer systems to act like the human brain in learning data patterns and guessing input layers. Neural network systems typically use a parallel architecture of array processors based on a network structure similar to the human brain.

- Typical problems applying artificial intelligence methods

+ Pattern recognition

- *Optical character recognition*
- Handwriting recognition
- Speech recognition
- Get a face

+ Natural language processing, Automatic translation (machine translation) and Chatterbot

+ Nonlinear Control and Robotics

+ Computer vision, Virtual Reality and Image Processing

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+ Game theory and Strategic planning

+ Artificial intelligence games and Computer game bots

* Deep learning

Deep learning (also known as deep structured learning or hierarchical learning) is part of a broader group of machine learning methods based on representations of learning data, as opposed to task-specific algorithms. Learning can be supervised, semi-supervised or unsupervised.

+ Deep learning architectures such as deep neural networks, deep trust networks and recurrent neural networks have been applied to areas including computer vision, speech recognition, natural language processing, sound recognition, social network filtering, machine translation, bioinformatics, drug design, medical image analysis, material testing, and board game shows, where they have produced results comparable to and in some cases superior to human experts.

+ Deep learning is a class of machine learning algorithms that:

Use a multi-layered cascade of nonlinear processing units to extract characteristics and convert. Each successive class uses the output from the previous class as input. These algorithms can be monitored or unattended, and applications include analytical (unsupervised) and classification (monitoring) models.

Based on learning (without supervision) of multiple levels of characteristics or representations of data. High-end features originate from lower-level features to form a hierarchical representation.

As part of the broader field of machine learning of data representation.

Learn multiple levels of representation corresponding to different levels of abstraction; the levels form a hierarchy of concepts.

- History

Deep learning architectures, especially those built from artificial neural networks (ANN), dominated at least until Neocognitron introduced by Masahiko Fukushima in 1980. It was the ANNs who dominated for even longer. The challenge is how to train this network with multiple layers. In 1989, Yann Le Cun and colleagues were able to apply standard reverse transmission algorithms, dating back to 1974, to a deep neural network for the purpose of recognizing ZIP code handwriting in letters. Despite the success in applying this algorithm, the time to train the network based on this metric takes about 3 days, making it impractical to use it for normal purposes. In 1995, Brendan Frey demonstrated that it was possible to train a neural network consisting of a full six layers of connectivity and several hundred hidden units using a sleep-wake algorithm, which was developed in collaboration with Peter Dayan and Geoffrey Hinton. However, the training took two days.

Many factors contribute to the reason for the slow pace, one being the gradient disappearance problem analyzed in 1991 by Sepp Hochreiter.

In 1991 such neural networks were used to recognize isolated 2-D handwritten digits, 3-D object recognition was performed by combining 2-D images with a manual 3-D object model. Juyang Weng and colleagues proposed that a human brain does not use a monolithic 3-D object model, and in 1992 they published Cresceptron, a method for performing 3-D object recognition directly from cluttered backscenes. Cresceptron is a stratigraphic composite of layers similar to Neocognitron. But while Neocognitron requires a human programmer to intervene, Cresceptron automatically learns some unsupervised characteristics in each class, where each trait is represented by a convolutional multiplier. Cresceptron also segments each object learned from a messy background scene through the reverse analysis of that network. The max probe, now commonly adopted by deep neural networks (e.g., the ImageNet test), was first used in Cresceptron to reduce the position resolution by a factor (2x2) to 1 through better generalized cascading. Despite these advantages, simpler models using specific tasks with manual characteristics such as Gabor and SVM-support vector machines were popular choices in the 1990s and 2000s, because of the costs calculated by ANNs and because of a lack of understanding of how brains self-manage outcomes. its biological networking.

In the long history of speech recognition, both agrolearning and deep learning (e.g., recurrent networks) of artificial neural networks have been explored for many years. But these methods never won over the manual-internal Gaussian hidden markov modeling/mixed modeling (GMM-HMM) technology based on biophysical models of explicit speech recognition training. Some of the main difficulties have been methodically analyzed, including gradient reduction and weak time correlation structures and in neural predictive models. Additional difficulties were a lack of large training data and weak computing power in the initial period. So most speech recognition researchers who already understood such barriers moved away from neural networks to pursue a physical model, until a recent resurgence of deep learning overcame all these difficulties. Hinton and his colleagues and Dang and colleagues looked at part of this history in terms of how they collaborated with each other and then with colleagues between groups relaunched neuron network research and began deep learning research and speech recognition applications.

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- Conclude

Many of today's most advanced machine learning systems use neural networks to process data. Recent successes in the driverless car industry have been made possible by deep learning, while principles are also being implemented in the defense and aerospace sectors to identify objects from space, optical character recognition is also a very hot issue of deep learning.

While the potential of deep learning is huge, there are still limitations when it comes to performing human-like multitasking. Deep learning excels at pattern recognition, much like Go's complex but fixed rules. But the researchers point out that the vast amount of data needed to teach a machine is just a specific set of rules.

At the current stage of development, it is not yet possible to develop deep learning to perform complex, adaptive human thought processes, but this technology is still developing at a fairly high rate.

4. APPLICATION OF DEEP LEARNING TECHNIQUES IN OPTICAL CHARACTER RECOGNITION

4.1. Long Short Term Memory Method:

- Long Short Term Memory networks, commonly known as LSTMs, are a special form of RNN, capable of learning distant dependencies.
- LSTM is designed to avoid the problem of long-term dependency. Remembering information for long periods of time is their default feature, but we don't need to train it to remember it. That is, its very essence can be remembered without any intervention.
- LSTM - is a special form of RNN: The main idea of RNN (Recurrent Neural Network) is to use strings of information. In traditional neural networks all inputs and outputs are independent of each other. That is, they are not linked in chains with each other. But these models are not suitable in a lot of problems. For example, if we want to guess how the next word may appear in a sentence, we also need to know how the previous words appear one after the other, right? RNNs are called recurrent because they perform the same task for all elements of a sequence whose output depends on previous calculations. In other words, the RNN is capable of remembering previously calculated information. In theory, the RNN can use the information of a very long text, but in reality it can only remember a few previous steps. Basically an RNN network looks like this:

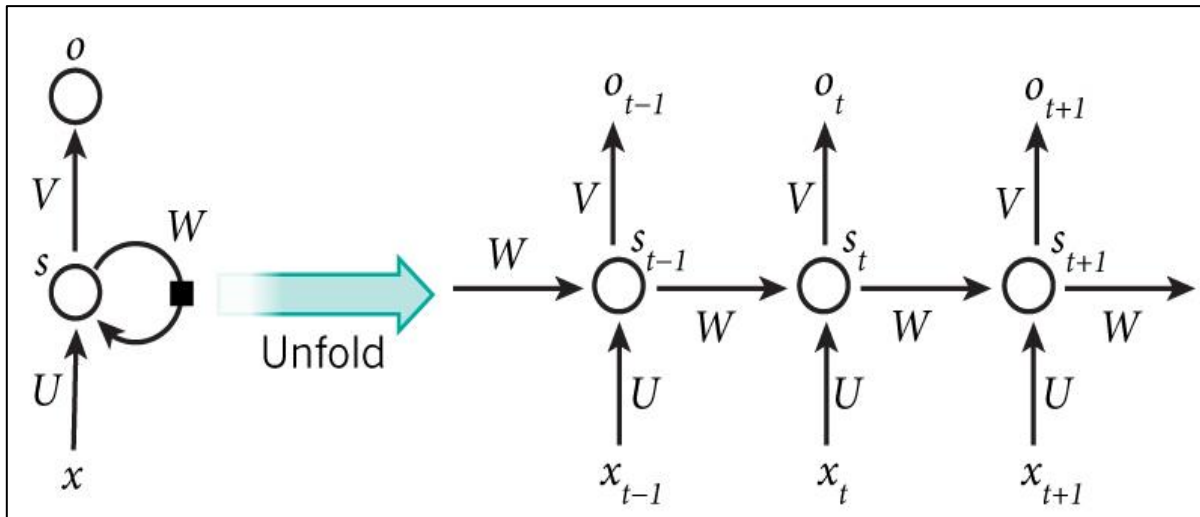


Figure 4. 1: RNN Network

The above model describes the content deployment of an RNN. Implementing here can be understood simply as drawing a sequential neural network. For example, if we have a sentence consisting of 5 words "Very handsome", the deployed neural network will consist of 5 layers of neurons corresponding to each letter. At that time the calculation inside the RNN is carried out as follows:

+ x_t is the input at step t. For example, x_1 is a one-hot vector corresponding to the 2nd word of the sentence (*tra*).

+ s_t is the hidden state at step t. It is the *memory* of the network s_t calculated based on both the hidden states ahead and the input at that step: $s_t = f(Ux_t + Ws_{t-1})$. The function f is usually a non-linear function such as hyperbolic (fishy) tang or ReLU. To do the math for the first hidden element we need to initialize s_{-1} , usually the initialization value is appended to 0.

+ o_t is the output at step t. For example, if we want to predict the next word that might appear in a sentence, o_t is a vector that determines the words in our vocabulary list: $o_t = \text{softmax}(Vs_t)$.

- About LSTM

Every regression network takes the form of a sequence of repeated modules of a neural network. With standard RNN networks, these modules have a very simple structure, usually a fishy layer. LSTM also has such a chain architecture, but the modules in it have a different

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structure than the standard RNN network. Instead of having only one layer of neural networks, they have up to 4 layers that interact with each other in a very special way.

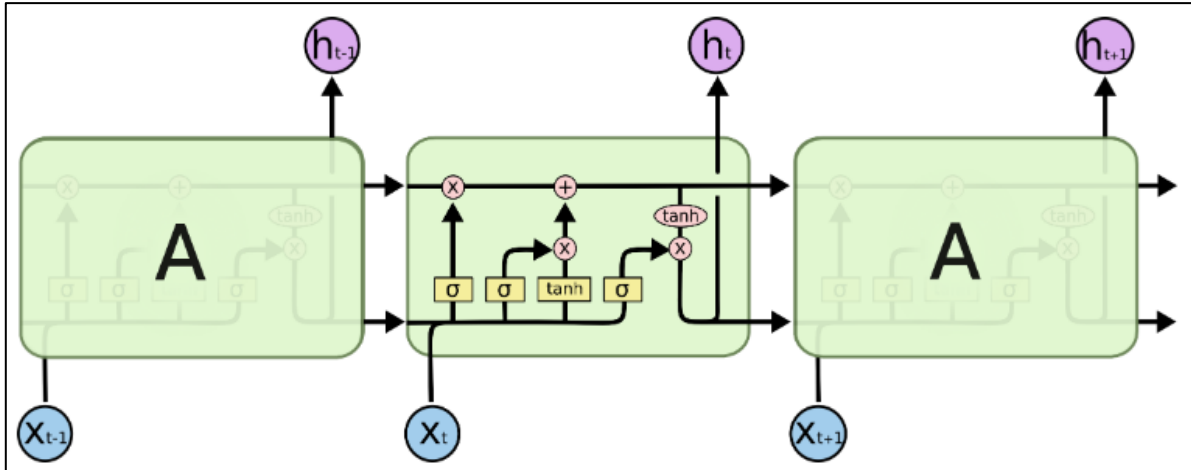


Figure 4. 2: LSTM structure

There is a repositioned LSTM database of a cell, an import port, an export port, and a forgetting port. The feature remembers the overtime, "time" time, and "time notifications" that determine the flow of information into and out of the database.

The LSTM system does not have enough LSTMs that have been implemented to work with the freeing and disappearing slope problems that have been encountered when working learning RNNs. Are defining modes to length, not the favorable time of LSTM on RNNs, unknown patterns and other character methods in other applications.

- History:

LSTM was proposed in 1997 by Sepp Hochreiter and Jürgen Schmidhuber. By introducing Constant Error Carousel (CEC) units, LSTM handles explosive and disappearing problems. The initial version of the LSTM block consisted of cells, input and output ports.

In 1999, Felix Gers and his advisors, Jürgen Schmidhuber and Fred Cummins introduced the forgetting gate (also known as the Gate Keeper) into the LSTM architecture, allowing LSTM to reset its own state.

In 2000, Gers & Schmidhuber & Cummins added peephole connections (cell-to-gate connections) to the architecture. In addition, the output trigger function has been omitted.

In 2014, Kyunghyun Cho et al. came up with a simplified variant called the Gated periodic unit (GRU).

Among other successes, LSTM achieved record results in natural language text compression, undifferentiated connected handwriting recognition, and won ICDAR's handwriting competition (2009). The LSTM network is a key component of the network achieving a record phonemic error rate of 17.7% on the classic natural speech dataset TIMIT (2013).

Since 2016, major tech companies including Google, Apple, and Microsoft have been using LSTM as a basic component in new products. For example, Google used LSTM for voice recognition on smartphones, for the Allo smart assistant, and for Google Translate. Apple used LSTM for the "Quicktype" function on the iPhone and for Siri. Amazon uses LSTM for Amazon Alexa.

In 2017, Facebook performed about 4.5 billion automated translations per day using short-term memory networks.

In 2017, researchers from Michigan State University, IBM Research, and Cornell University published a study during the Knowledge Discovery and Data Mining (KDD) workshop. Their study describes a new neural network, which works better on certain data sets than the widely used short-term memory neural network.

Furthermore, in 2017, Microsoft reported 95.1% recognition accuracy across the call center, incorporating a vocabulary of 165,000 words. The approach used "session-based long-term memory."

- LSTM's core ideas:

The key to LSTM is the cell state - the main horizontal line at the top of the diagram.

The cell state is a tape-like form. It runs through all the links (network nodes) and only interacts linearly slightly. Therefore, information can be easily transmitted smoothly without fear of being changed.

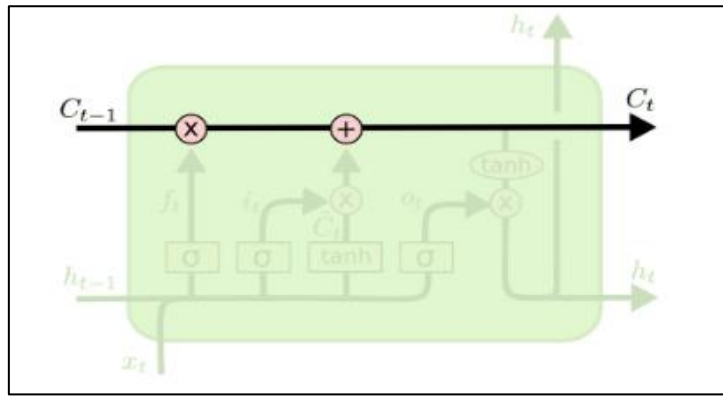


Figure 4. 3: Cell state

LSTM has the ability to remove or add information necessary for the state of affairs, which is carefully adjusted by groups called gates. Ports are where information screens pass through it, they are combined by a sigmoid network layer and a multiplication.

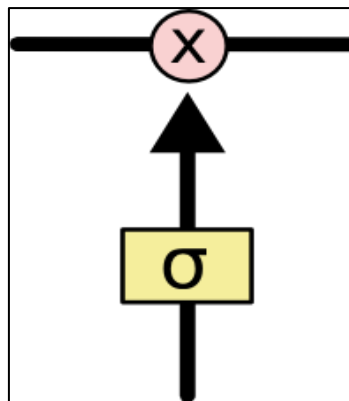


Figure 4. 4: Forgotten port

The sigmoid layer will give an output of a number in clause $[0,1][0,1]$, describing how much information can be passed. When the output is 0 0, it means that no information passes through at all, and when it is 1 1, it means that all information passes through it.

An LSTM consists of 3 such gates to maintain and administer the state of the cell.

- Inside the LSTM:

The first step of LSTM is to decide what information to discard from the cell state. This decision is made by the sigmoid layer, called the "forget gate layer." It will take inputs of h_{t-1} and x_t and result in a number in the range $[0,1][0,1]$ for each number in the cell state C_{t-1} . The output is 1 1 indicating that it holds all the information, while 0 0 indicates that all the information will be discarded.

Going back to the example of a language model that predicts the next word based on all previous words, with such problems, the cell state will probably carry information about the gender of a certain character that helps us use the correct personal pronouns. However, when referring to another person, we don't want to remember the gender of the character anymore, because it no longer works for this new subject.

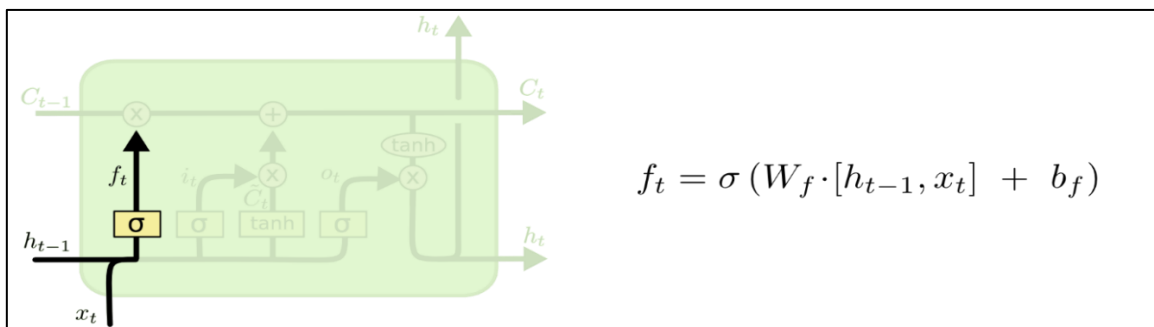


Figure 4. 5: Forgotten gate floor

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The next step is to decide which new information we will save to the cell state. This consists of 2 parts. The first is to use a sigmoid layer called an "input gate layer" to decide which values we will update. This is followed by a fishy layer that creates a vector for the new value C_t to add to the state. In the next step, we will combine those 2 values to create an update to the state.

For example, with our language model example, we would want to add the gender of this new character to the cellular state and replace the gender of the previous character.

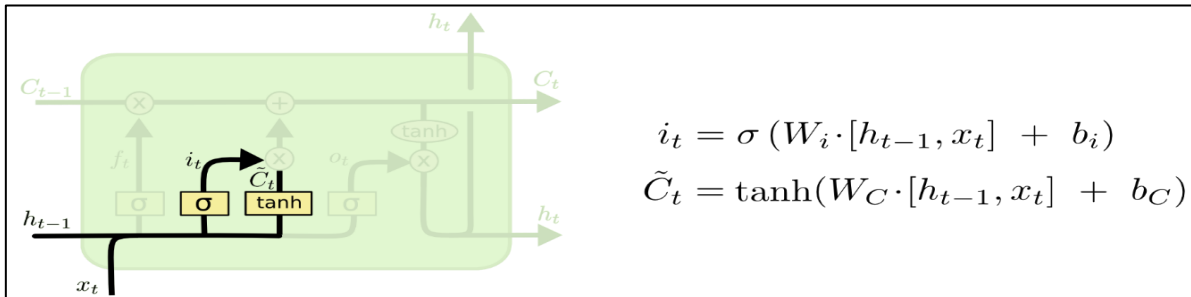


Figure 4. 6: Entrance floor

Now it's time to update the old cell state C_{t-1} to the new state C_t . In the previous steps, we have decided what to do, so now we just need to do it.

We'll use the old state with f_t to get rid of the information we decided to forget earlier. Then add $i_t * C_t$. This newly acquired state depends on how we decide to update each state value.

With the language model article, it is about removing information about the gender of the old character, and adding information about the gender of the new character as we decided in the previous steps.

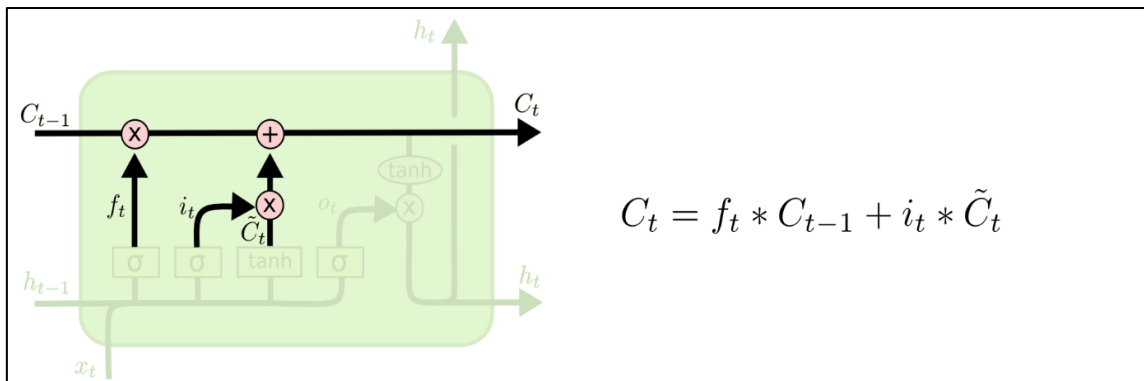


Figure 4. 7: Status updates

Ultimately, we need to decide what we want the output to be. The output value will be based on the cell state, but will be further screened. First, we run a sigmoid layer to decide which part of the cell state we want to output. We then take the cell state through a fishy function to get its value to about $[-1,1]$, and multiply it by the output of the sigmoid gate to get the desired output value.

With the example of a language model, just look at the subject where we can give information about an adverb that follows. For example, if the subject's output is singular or plural, we can tell what the form of the adverb that follows it should be.

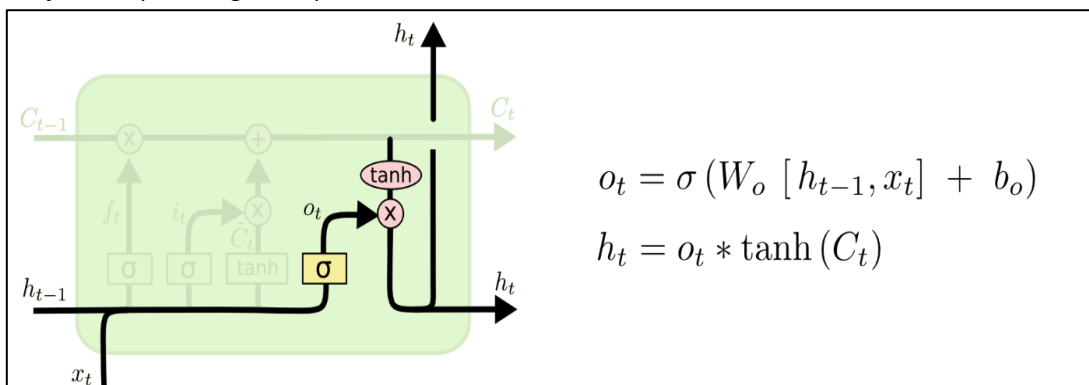


Figure 4. 8: Determine the output

5. EXPERIMENTAL RESULTS

LSTM is a big step in the use of RNNs. Its idea makes it possible for all RNN steps to query information from a larger set of information. For example, if you use RNN to create a description for a photo, it can take a portion of the photo to predict the description from all the input words. Xu, et al. (2015) have done exactly this. There have also been many really interesting results to be noticed and there seem to be more results than we know.

- Application

- Control the robot
- Time series prediction
- Speech recognition
- Rhythmology
- Musical composition
- Learn grammar
- Handwriting recognition
- Recognition of human actions
- Sign language translation
- Protein homologous detection
- Prediction of protein localization
- Detection of time series anomalies
- Some predictive tasks in the field of business process management
- Predictions in the path of medical care
- Semantic analysis
- Audience segmentation

5. 1. Solution Model

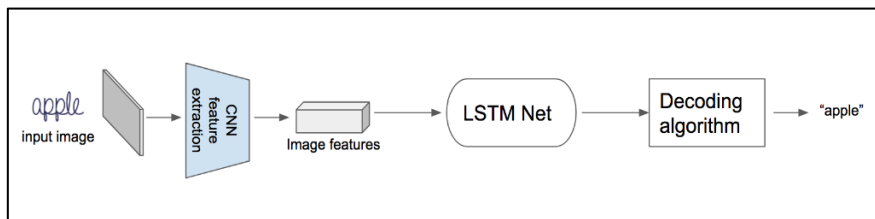


Figure 5.1: Solution model

First, the image is taken to CNN to extract the image features. The next step is to apply Recurrent Neural Network to these features followed by a special decoding algorithm. This decoding algorithm receives LSTM outputs from each time step and generates the final label.

The detailed architecture will be as follows: FC - fully connected layer, SM - softmax layer.

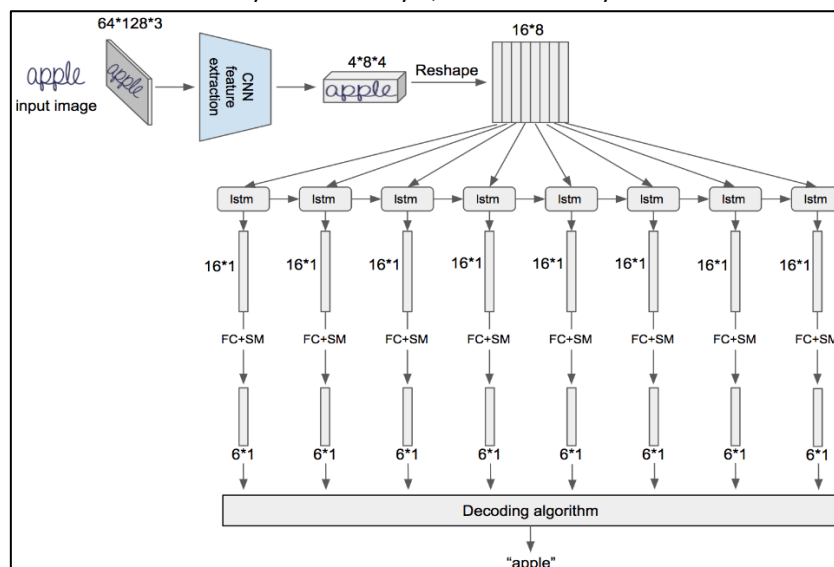


Figure 5. 2: Detailed architecture

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The image has the following shape: height equals 64, width equals 128, and channel number equals 3.

The extracted input image featured CNN with a size of $4 \times 8 \times 4$. Use the image of "apple" into the tensor application for easy understanding. The height is 4, the width is 8 (these are spatial elements), and the number of channels is equal to 4. Therefore, it is necessary to convert the image from 3 channels to 4 channels.

Next is the step of performing a reshaping of the operation. The sequence of 8 vectors of 16 elements will then be obtained. Then these 8 vectors are fed to the LSTM algorithm and receive its output - which are also vectors of 16 elements. Then it is applied the fully connected layer followed by the softmax layer and takes the vector of 6 elements. This vector contains the observed probability distribution of alphabetical symbols at each LSTM step.

On the diagram above, there are 8 probability vectors at each LSTM time step. Let's trick the most probable symbol at each time step. The result is obtained a sequence of 8 characters - the most probable one letter at each step. Then, paste all consecutive repeating characters into one. In this example, two letters "e" are pasted into one letter. Special blank characters allow the separation of symbols repeated in the original labeling. Empty characters have been added to the alphabet to teach our neural networks to predict the space between such case symbols. Then remove all blank icons. Look at the illustration below:

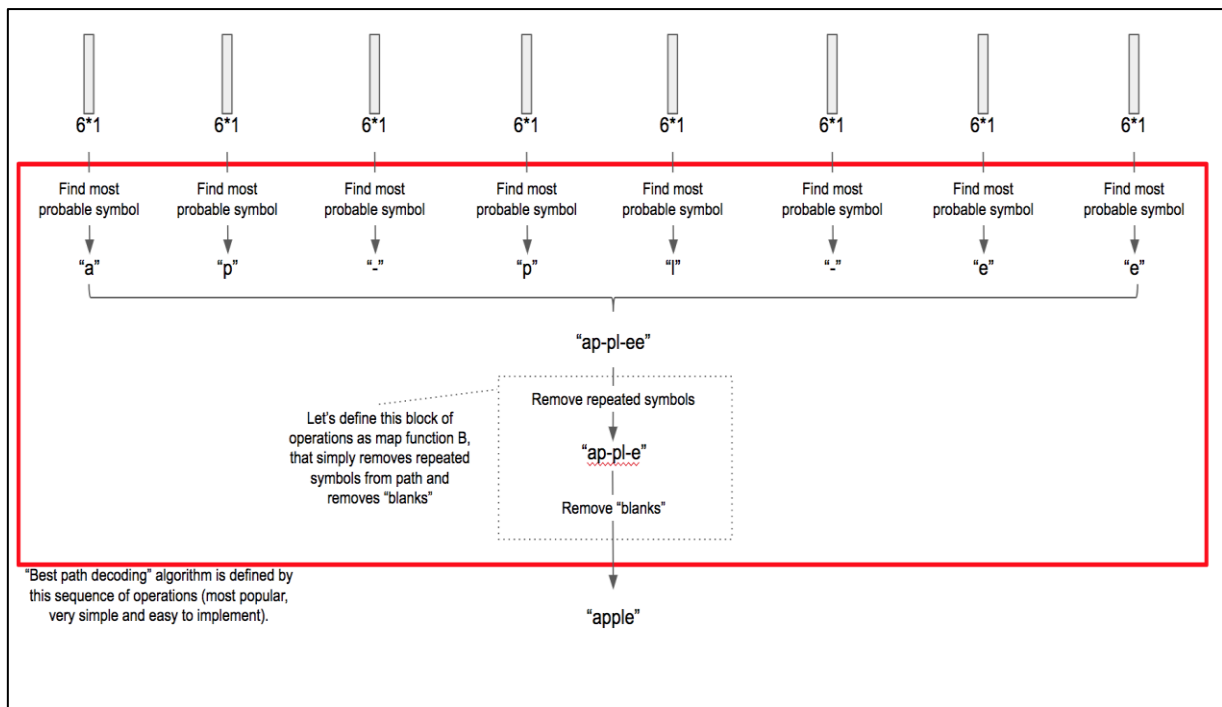


Figure 5. 3: Separate each word

When it came to the network, it replaced the decryption algorithm with the CTC Loss layer.

A slightly complex Neural Network architecture is used in the implementation. The architecture is as follows, but the main principles remain the same.

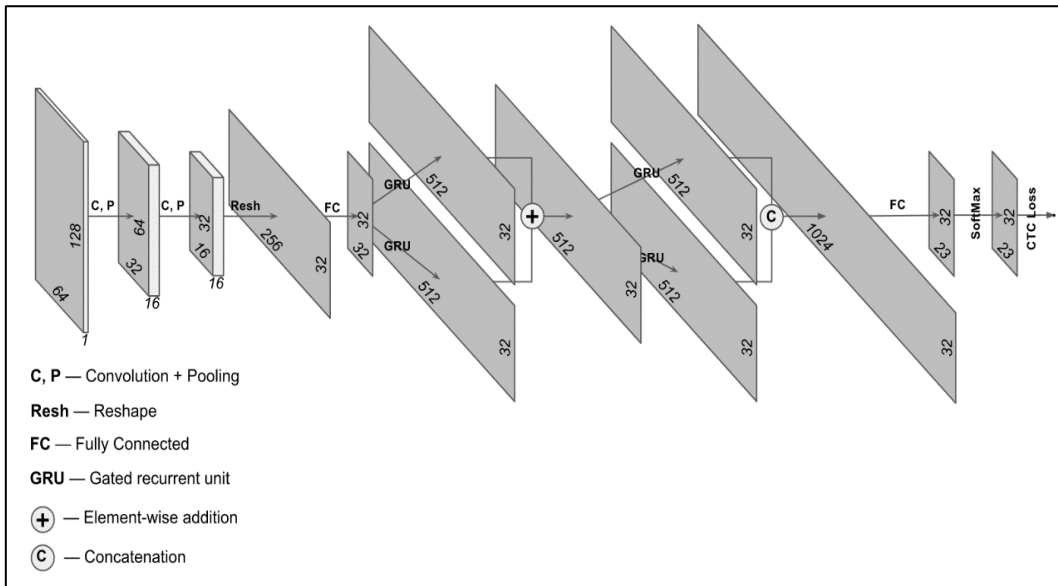


Figure 5. 4: Neural Network architecture

After training the model, it is applied on images from the test suite and has really high accuracy. It is visualized the probability distribution from each RNN step as a matrix. Here's an example.

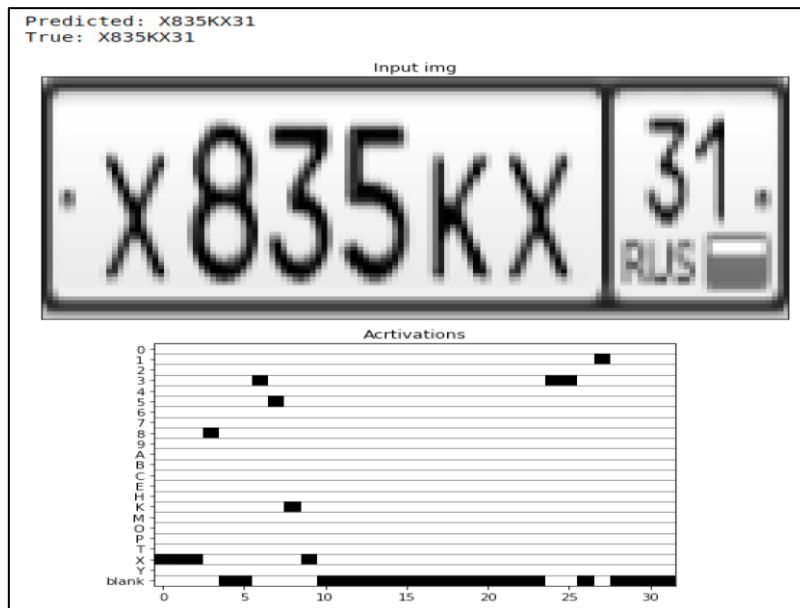


Figure 5. 5: Input image and probability distribution from each step

The rows of this matrix correspond to all alphabetic symbols plus "blank". The column corresponds to the RNN steps.

6. EXPERIMENT

6.1. Installation

Software requirements: Components: Ubuntu, GPU, Python, libraries such as keras, tensorflow, opencv, matplotlib,...

Test database: a dataset of 10,000 images identical to real number plates - from Supervisely where 95% of the dataset is for trains and 5% of the dataset is for testing.

Train consists of 10. 821 entries in each of the ANN and IMG folders.

The test consists of 561 entries in each ann and img directory.

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The structure of the items will be as follows:

```
. ├── data | ├── test
  | | ├── ann
  | | ├── img
  | ├── train
  | ├── ann
  | ├── img
  └── img_ocr.py
```

Testing (the code will be detailed in the appendix):

+ Check the version of the keras and tensorflow libraries

+ Declare the necessary library

+ Get the alphabet: The machine will receive the alphabet in the training dataset. The license plate number in the training dataset consists of 8 letters and digits.

result:

Max plate length in "anpr_ocr__train": 8

Max plate length in "anpr_ocr__train": 8

Letters in train and val do match

Letters: 0 1 2 3 4 5 6 7 8 9 A B C E H K M O P T X Y

+ Input data generator:

result:

Text generator output (data which will be fed into the neural network):

1) the_input (image)



Figure 6.1: Input image

2) the_labels (plate number): K062ME84 is encoded as [15,0,6,2,16,13,8,4]

3) input_length (width of image that is fed to the loss function): 30 == 128 / 4 - 2

4) label_length (length of plate number): 8

+ Error calculation function and data set, neural network model

+ Describe and train models

+ This block will take about 30 minutes.

result:

Layer (type) Output Shape Param # Connected to

the_input (InputLayer) (None, 128, 64, 1) 0

conv1 (Conv2D) (None, 128, 64, 16) 160 the_input[0][0]

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max1 (MaxPooling2D) (None, 64, 32, 16) 0 conv1[0][0]

conv2 (Conv2D) (None, 64, 32, 16) 2320 max1[0][0]

max2 (MaxPooling2D) (None, 32, 16, 16) 0 conv2[0][0]

reshape (Reshape) (None, 32, 256) 0 max2[0][0]

dense1 (Dense) (None, 32, 32) 8224 reshape[0][0]

gru1 (GRU) (None, 32, 512) 83712001[0][0]

gru1_b (GRU) (None, 32, 512) 83712001[0][0]

add_1 (Add) (None, 32, 512) 0.1[0][0]
gru1_b[0][0]

gru2 (GRU) (None, 32, 512) 1574400 add_1[0][0]

gru2_b (GRU) (None, 32, 512) 1574400 add_1[0][0]

concatenate_1 (Concatenate)(None, 32, 1024) 0-2
gru2_b[0][0]

dense2 (Dense) (None, 32, 23) 23575 concatenate_1[0][0]

softmax (Activation) (None, 32, 23) 0.2

=====
Total params: 4,857,319

Trainable params: 4,857,319

Non-trainable params: 0

Epoch 1/1

10298/10298 [=====] - 1219s 118ms/step - loss: 0.3557 - val_loss: 1.7434e-04

+ Neural network output decoding function

+ Test test

Result:

Prediction: B331EC36

Fact: B331EC36

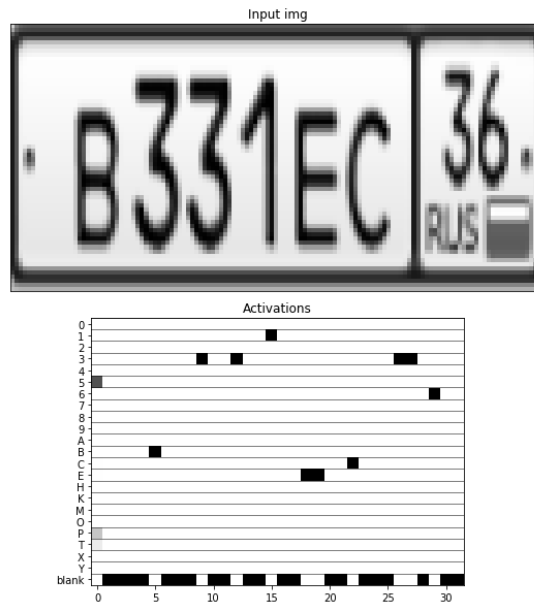


Figure 6.2: Image of input and probability distribution from each step

Prediction: K122CA31

True: K122CA31

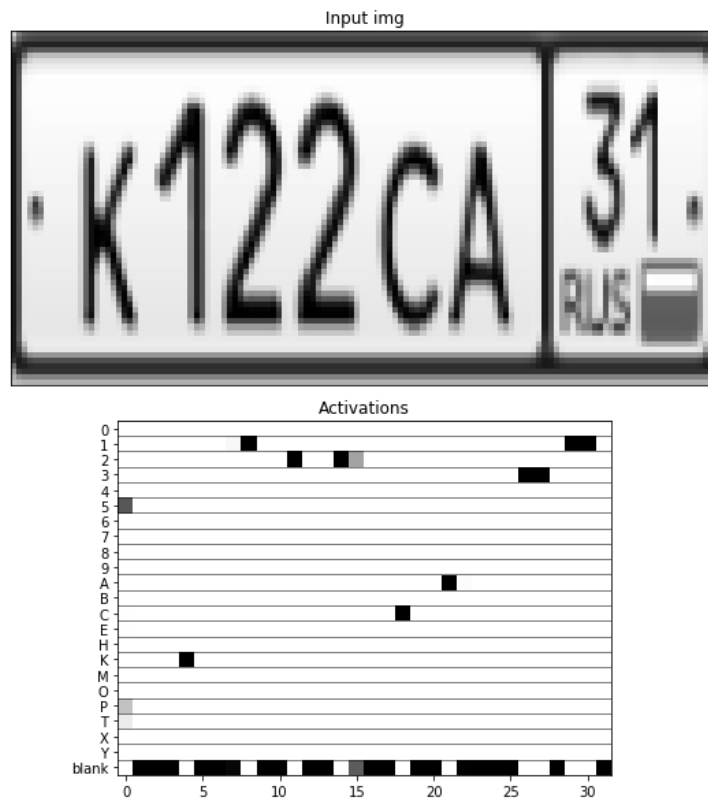


Figure 6.3: Image of input and probability distribution from each step

Prediction: M202XP51

Fact: M202XP51

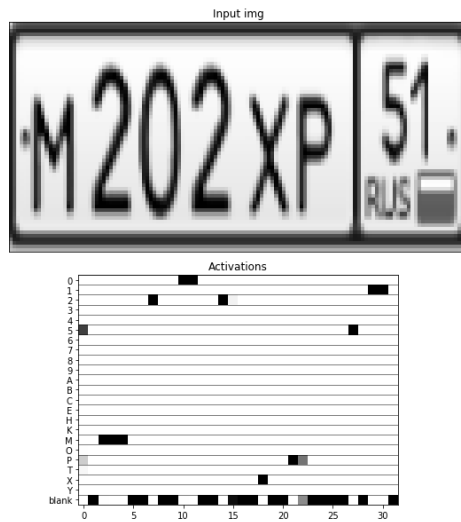


Figure 6.4: Image of input and probability distribution from each step

Prediction: T431KA04

Fact: T431KA04

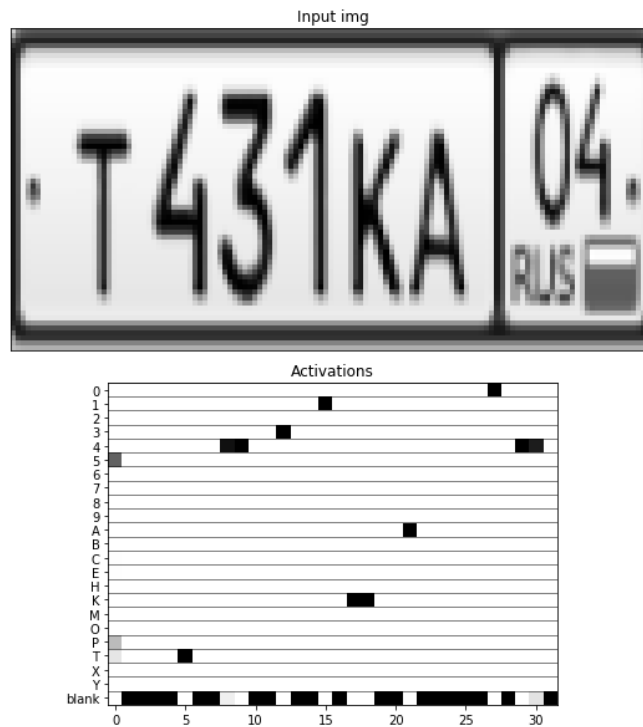


Figure 6.5: Image of input and probability distribution from each step

As a result, the sequence predicts with high accuracy.

6.2 Result of evaluation

- 95% train, 5% test result loss: 0.9749% - val_loss: 4.0664e-04
- 90% train, 10% test result loss: 1.0664% - val_loss: 5.1062e-04
- 85% train, 15% test result loss: 1.1132% - val_loss: 5.7124e-04
- * Conclusion, comparison:

From the above results, it can be seen that with a data set of 95% train, 5% of tests give less loss recognition results as well as higher accuracy than other tests. Tests using deep learning techniques in optical character recognition showed better results (98%-99%) than the Support vector classifier (70% accuracy), Navier Bayes (40-70% accuracy), and C4.5 (60-70% accuracy) in some previous publications.

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CONCLUDE

The problem of optical character recognition is always interested and developed by the ability to apply widely, especially in the digitization of data, storing documents dating back to ancient times, supporting the visually impaired or converting handwritten books into digital documents, After a period of research to solve the problem of optical character recognition, The thesis has achieved some results as follows:

- The thesis introduced the problem of optical character recognition, listing the applications of the problem with many different fields such as information storage, security, banking. At the same time, the thesis introduces the basic steps in the problem of optical character recognition. The main problems in optical character recognition when solving practical problems such as digitizing ancient texts.

- The thesis explores some popular optical character recognition solutions and software such as: Tesseract OCR, GOCR, FreeOCR, JavaOCR.

- At the same time, the thesis introduces basic knowledge about artificial intelligence, deep learning. The special thesis introduces in detail the Long short term memory (LSTM) deep learning method and the application of LSTM deep learning techniques in optical character recognition. The thesis was tested on a database of 10,000 photographs of license plates.

- Through testing, the thesis showed that the application of the LSTM method is quite effective in optical character recognition. However, experimentally there are some limitations such as it is more difficult to recognize smaller characters written on the same line.

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Meaning and Message of Communication Behaviour of Javanese Ethnic Traders to Prospective Buyers



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ABSTRACT: The phenomenon about the communication behavior of Javanese ethnic traders to prospective buyers at Manonda market, Palu has its own meaning and message because it contains variations in communication practices based on cultural values and habits that are still inherent to a Javanese ethnic trader. These communication practices have an effect on the meaning of the message itself to prospective buyers. The purpose of this study is to determine the meaning of the message caused by the variations of expressions (speech acts) in the communication behavior of Javanese ethnic traders to prospective buyers. This study used a descriptive-qualitative method by taking 5 (five) Javanese ethnic traders as informants who trade at Manonda market, Palu. The informants' criteria have been previously determined by using purposive sampling. Collecting data through participatory observation, interviews, listening, and note-taking. The results of this study revealed that the meaning of message expressed by the Javanese ethnic traders to prospective buyers is more connotative, poetic, metaphorical, and ambiguous. The expression used is a form of euphemism – has a polite meaning, not too sharp but the aim is to disguise the true meaning. The Javanese ethnic traders often express high context culture to prospective buyers.

KEYWORDS: Communication behavior; Javanese ethnic; meaning; message.

INTRODUCTION

Palu City is a small city. This city is the capital of the Province of Central Sulawesi, Indonesia. In this city there are several traditional markets, including Masomba market, Ujuna market, and Manonda market. Manonda Market is the biggest traditional market in Palu city. In this study, researchers took the location of the Manonda traditional market because it is the largest traditional market in Palu City. Another reason is because this market consists of various tribes and ethnicities who sell daily needs of the local society. The buyers also come from various tribes and ethnicities. Assimilation of various tribes and ethnicities in this market create various kinds of social communication behavior in social interaction. Smiles that contain meaning, body language movements that are full of meaning, distinctive voices and tones from both traders and buyers make this condition become interesting to know. If you look at it at a glance, the conditions and behavior of communication both the traders and the buyers are different from the daily conditions in the modern market where the speech and behavior of communication between traders and prospective buyers are limited.

Communication behavior that is practiced in bargaining merchandise is able to have a psychological impact on every potential buyer. This condition is interesting because there are various types of ethnicity, where each ethnic has its own style and character of communication behavior when doing interaction so that it creates to the meaning of messages and social behavior of its own. This situation also happens because it cannot be separated from the existence of various kinds of cultural dimensions, norms, customs, habits, and variations in speech of each individual, consciously or unconsciously bringing a uniqueness in communication between traders and prospective buyers.

Sometimes traders and prospective buyers touch each other and measure the depth of each other's hearts through communicative interactions so that sometimes attitudes arise in the form of joy, laughter, and even the possibility of emotional attitudes from both parties. Apart from that, communication behavior can also lead to closer, and mutually respectful in social relationships which can ultimately create to an understanding that is mutually beneficial socially and economically.

The Manonda traditional market, Palu has a unique culture because it is caused by various ethnicities and races who come to buy and likewise the traders in this market sometimes produce social communication habits and behaviors that are still attached to the culture and habits of each individual. This is where the importance of understanding the meaning of an expression and communication behavior of each individual who is different from ethnicity and race. In the interaction, traders and prospective

Meaning and Message of Communication Behavior of Javanese Ethnic Traders to Prospective Buyers

buyers often use two or three types (variations) of language at once in interacting. The use of language variations is not only influenced by the linguistic factor itself, but can also be influenced by social factors and the situation in which social communication occurs. In the communication behavior expressed by both parties (both traders and prospective buyers) of course there is language in the form of expressions or dictions and the accompanying meanings. Thus, language and meaning are actually two different things, both in terms of meaning and substance.

In terms of substance, language is only a symbol used in the communication process. As a symbol, language is 'arbitrary' and 'irreversible' (Ibrahim, 2005). Furthermore, Deddy Mulyana (2002) explains that 'arbitrary' is a feature of language as something that is diffuse, arbitrary, and varied according to the agreement of the person who uses it for the meaning he wants. Therefore, we get many words or terms in the same language, but they have different meanings. It is further explained that 'irreversibility' is a characteristic of language as something that always has a certain influence in every communication. This means that every language and communication behavior that we do always has an influence or effect on other people.

Realizing that language is only a symbol used in the communication process (transmission of communication), then the language or symbol is not actually what is to be exchanged in communication, but the substance that is exchanged is actually the meaning behind the symbol. If meaning is a substance in communication, then meaning must be obtained from the communication process carried out by someone. 'Words don't mean people's means', such a communication is expressed to remind us about language and meaning in communication (Ibrahim: 2005). These words reminds us that words (language) actually have no meaning, but it is humans or people who give meaning to the language or the words that sound through the communication behavior they play. When communication takes place, at least two people give meaning to the communication, namely the 'sender' (communicator/sender of the message), and the 'receiver' or communicant/message recipient.

Communication behavior in the form of verbal communication and forms of nonverbal communication create to linguistic symbols in the form of variations and dialects, of course it will also create to its own meaning at certain area which can lead to various understandings and interpretations because it is influenced by differences in culture, norms and customs of each ethnic group. Language and communication behavior between individuals and individuals can cause mutual influence both in the form of language variants (code) in speech acts which have implications for the function and meaning generated. Everyone who lives in a different socio-cultural environment always has a different way/ability to communicate with one another. Therefore, the way humans communicate also shapes culture as in the view of Edward T. Hall (1979) 'communication is culture and culture is communication'. Thus, culture, norms, and habits have an influence in all aspects of human life. Poetic and metaphorical speech acts (characterized by parables of words that contain meanings that are not true) are widely practiced in communication behavior in the form of interactions where more connotative meanings (Jamiluddin, 2019)

The use of the meaning of the word is also related to the style of speech. This style or distinctiveness of speech by Edward T. Hall (1976) and Mulyana (2008) is called high context culture and low context culture. Low context culture is defined by verbal messages that are explicit, direct, straightforward, and frank. The principle is the same as what is said, for example 'yeah', 'yes', 'ye', and so on, means „agree“. In the context of high culture, Mulyana (2008) explains that by using contextual communication (situation), the verbal message is implicit, vague, and ambiguous, for example 'cheap ma'am', 'different elsewhere', 'special prices', and so on. The speech act expressed contains connotative meaning. It is different with using a low context culture, communication behavior that is practiced in interacting uses short, dense, and clear speech that leads to a message meaning. The speech act that is expressed contains denotative meaning, which is directly related to the actual meaning.

Widel Johnson in Devito (1997) describes there are several theories of meaning that must be understood properly. First, meaning does not lie in words but in humans (words don't mean people's mean). The words that someone uses in communicating are actually only as a means to convey certain meanings that they want to be exchanged. Second, meaning is always changing while words are relatively static. Therefore, we can see the different meanings of the same word (term) at different times and places. Third, meaning always needs a reference. Fourth, the meaning is not limited in number, while the words in a language are very limited. Fifth, meaning is only partially communicated. This is because there are many aspects that accompany the interactive communication process that takes place.

In this study, the researchers analyzes and describes qualitatively about the meaning and message caused by the variation of speech acts in the communication behavior of Javanese ethnic traders to prospective buyers at Manonda Palu Market. These types of speech acts can be interpreted based on the understanding and interpretation between the communicator and the communicant. This study is in the perspective of the sociology of communication that deals with social factors that are reciprocal with language, such as social behavior, individual communication behavior, social adaptation, and speech act behavior in interacting. In the sociology of communication, communication behavior in interacting is influenced by socio-economic aspects, culture, norms, and customs so as to create to individual communication behavior that varies both from the linguistic aspect and its variations as well as in the meaning of messages contained in speech acts in a speech event. . Likewise, Purwadi (2011) states

Meaning and Message of Communication Behavior of Javanese Ethnic Traders to Prospective Buyers

nonverbal communication behavior in the form of body language can also create to the meaning of its own message because it is influenced by culture, norms, and habits of a person in behaving to others.

METHODS

This research was descriptive-qualitative. It is in the form of written description and oral utterances of people and the observed behavior, namely the communication behavior of Javanese ethnic traders to prospective buyers in Manonda market, Palu, Central Sulawesi. Therefore, this type of research study was an ethnographic study of communication. Kuswarno (2008) states that the ethnographic study of communication is a study that can describe, explain and build relationships from the categories of data found. Spradly (1997) suggests that the essence of this study is an effort to understand the meaning of an action or social behavior of people who communicate/interact. Furthermore, it is stated that this understanding of meaning can be obtained through communication between one another and the behavior caused. The research steps carried out and used were a library research and a field research. The location of this research is in Manonda Market, Palu, Central Sulawesi and its surroundings. Although the traders in this market are multi-ethnic, the researchers only took Javanese ethnic traders as informants of this research study. The determination of informants was carried out purposively, which was carried out with certain purposes by selecting and assigning 5 (five) informants of Javanese ethnic traders in Manonda Market, Palu and its surroundings. In determining who the 5 informants are, the researcher first determined the first informant in the field as a "gatekeeper", namely someone who is recognized as part of the Javanese ethnic traders community who trades in this market. Therefore, this 'gatekeeper' is an ethnic Javanese who really knows the condition of other informants in Manonda Market, Palu. This 'gatekeeper' has requirements where he has been selling for a long time (approximately 6 years), uses Javanese language in his daily life with his family, and is approximately 30-50 years old. He has a great influence on fellow Javanese ethnic traders, and he is communicative. Before the 'gatekeeper' looks for and determines the other 4 informants, the researcher has provided criteria that must be met to select and determine other informants to the 'gatekeeper', namely Javanese ethnic traders who have been selling at Manonda Market for about 6 years, the place is relatively crowded, and the informant at least graduated from junior high school and communicative.

Data collection techniques was carried out in natural conditions (not artificial), holistic and integrative, therefore the main data collection techniques used the instruments of observation, interviews, listening, and taking notes. Data analysis technique used inductive/qualitative data analysis triangulation from the selected data results.

Therefore, the researchers used ethnographic study of communication.

FINDINGS AND DISCUSSION

The researcher explained the results of the study and discussed simultaneously them, then analyzed and described in order to get a clear description of the results of this study.

Meaning and Message of Utterances Produced by Javanese Ethnic Traders to Prospective Buyers

The informants of this research are Javanese ethnic traders who sell vegetables and the like as well as fruit sellers at Manonda Market, Palu. Javanese ethnic traders who sell these types relatively many compared with Javanese ethnic traders who sell other types of merchandise. In their daily communication behavior in the market, they use verbal types of communication and nonverbal types of communication.

The results of the study found that in verbal communication, ethnic Javanese traders use Indonesian to prospective buyers with Javanese accentuation and sometimes use Kaili and Bugis languages, but only in two or three words. In nonverbal communication always shows a happy, cheerful face with a smile symbol and respect for anyone, especially to prospective buyers. Respect is the Javanese way of carrying themselves, always shows respect for others.

The result of the study found that when prospective buyers came from the same ethnic, they generally chose the same language in interaction, but if the prospective buyers came from other ethnicities, the traders sometimes used code mixing and code switching in interaction. The traders are accommodating, flexible, and informative, and show a sense of familiarity to potential buyers. In the process of this interaction, verbal and nonverbal communication behaviors that are practiced and creates a cheerful atmosphere.

The result of the study reveal that the poetic speech acts used are characterized by figurative meanings or not actual meanings. The utterances used, like "*Seandainya aku punya kebun dan sayap sendiri, saya akan kasih murah...bu!*" (In English: *If I had my own garden and wings, I would give it cheap.....mom!*), "*Ini bu!., segar, sesegar bunga melati, hee*" (In English: *This..mom, fresh as fresh as jasmine flowers, hee*). Typical figurative words are generally in the form of special expressions or utterances that are deliberately embellished through word choices (diction). However, the research findings also obtained data that words or poetic speech acts do not only have good intentions. Ethnic Javanese traders also often use the beauty of language or speech acts

Meaning and Message of Communication Behavior of Javanese Ethnic Traders to Prospective Buyers

to insinuate and criticize potential buyers with metaphorical expressions. Variations in the expressions found in this study, among others,

Wah, wa... tidak bisa bu, bisa-bisa saya gulung tikar, bu" (In English: 'wow, can go out of business, ma'am!, 'waah...can I go bankrupt ma'am!'), „*carilah di-tempat-tempat lain, bu!*" (In English: 'other places can be found .. ma'am"), and others

The result of the study revealed that ethnic Javanese informants were friendly to anyone. This friendliness is social capital when communicating and interacting with potential buyers. Based on the results of the research, the Javanese ethnic traders (informants) always smile at their prospective buyers, even though the potential buyers in bidding for merchandise are too low and sometimes potential buyers make unfavorable expressions, such as 'waaah! mas... sayuran tidak segar lagi, mas'" (In English: *Waaa, mas..the vegetables aren't fresh anymore!!*), „*sayur kemarin yach mas!*), (In English: "yesterday's vegetables.... sir!!), and so on. Such a phrase of course makes it uncomfortable, but the Javanese ethnic trader informant still answered with a smile to the prospective buyer and responded with the phrase 'Besok aja bu, aku akan datangkan seuntai yang segar dan harum mewangi. Tunggu aku disini bu, yach besok!' (In English: „tomorrow, ma'am!!!, I'll bring you a fresh and fragrant strand, wait for me, ma'am!here), „*Saya akan buat mimpi bu jadi kenyataan bu, sedihlah aku kasihan dengarnya*" (In English: *I'll make a dream mom'..don't worry..I'm sad to hear that*'). Trader informants interpret that the buyer is a king who must be served with patience and smile in the face of unfavorable expressions.

The results of the study found that in communication, many expressions are humorous and full of deep meanings. Traders interspersed with speech acts that entertain potential buyers by using *euphemistic expressions* with the intention of joking, so that a cheerful and relaxed communication process occurs. However, sometimes it is difficult to interpret the expressions used by the Javanese ethnic traders (informants) because they contain vague and even ambiguous meanings. The utterances expressed are "*mari-mari bu yang baik hati*" (In English: *Lets be kind mother*), "*Pasti bu senang beli lombok ini, murah disana-sini*" (In English: *You must be happy to buy this Lombok . it's cheap here and there*)

Based on the results of observations and interviews, information was also obtained that the communication behavior applied was *accommodative* and *persuasive*. Accommodative is interpreted as the attitude of a trader who is very easy to adapt himself to the wishes of prospective buyers in interacting, while persuasive is interpreted as an utterance that is expressed that is convincing and persuading potential buyers to follow and want to buy the goods offered by the merchant. Therefore, traders must balance it with good, accommodating, and persuasive ways of communicating behavior to potential buyers, both in the form of verbal communication and nonverbal communication. The utterances expressed were "*Wah, pasti murahlah, „berapa kilo ibu?, „Bisa juga satu, atau perkilo*" „*yang ini biasanya manis*" „*masak semua ibu*" (In English: *That must be cheap!*, „*How many kilo mom?*"), "*Could be one" or per kilo*", „*This one is usually sweet*", „*ripe all, mom!*).

Data from interviews and direct observations of traders, the study revealed that communication behavior in the view of prospective buyers says that the Javanese are flexible, friendly, gentle, easy to get along with, and easy to talk to. Prospective buyers already know based on this ethnic 'prior knowledge' from the culture and habits that are practiced by the Javanese in communicating to potential buyers, which are soft-spoken, polite, always use pseudo-language, disguised and full of meaning in interacting. This is in accordance with the research findings of Titis Gandariani (2017) which states that the communication behavior of Javanese ethnic traders likes to speak softly, politely, but their expressions are always vague and full of meaning. For the Javanese themselves, the most important use of language is to keep prioritizing how communication can remain smooth, so that the use of soft language is not a problem, especially to the interlocutor (prospective buyers)

Ethnic Javanese traders like to speak softly in communicating not without reason because it is inherent in their culture and philosophy of life which is influenced by the attitude of life of the ancient Javanese (traditional Javanese) who often actualize their attitudes and life behavior in communicating in a disguised form, which is more states something indirectly so that it is difficult to know what is really meant and desired from the speech. One example of research results revealed in interacting, namely the speech '*iyah*', '*nggih*', '*yah*', '*enggeh*'" (In Bahasa: *iyah, nggih, yah, enggeh*), and so on. The expressions or utterances spoken by these Javanese ethnic traders in interacting are sometimes misinterpreted by prospective buyers which are often interpreted as '*agree*', but have other meanings.

The findings of this study revealed that *locutionary acts* (motivational words), or *illocutionary acts* (acts of communicating through empathic expressions, such as praising) and *perlocutionary acts* (words giving directions) are always practiced by Javanese traders in interacting with prospective buyers. All types of actions that have a positive impact on the decision to take the merchandise. For the Javanese, according to Titis Gandariani (2017), language is like a verbal art, namely a creative work that uses aesthetics orally. Javanese traders love to use beautiful words eventually become a tradition of polishing, changing, and sometimes also blurring meaning, adding to the language spoken looks like a style of language that is disguised and full of

Meaning and Message of Communication Behavior of Javanese Ethnic Traders to Prospective Buyers

meanings. These are traditions and customs of Javanese ethnics in their daily communication behavior, which also seem to be practiced by them in interacting with prospective buyers.

In nonverbal communication behavior, many traders practice body language that shows friendliness and courtesy in introducing and offering their wares. A smile accompanied by a lowered body movement (body language) that hints at directing prospective buyers is a form of nonverbal communication in interacting. However, both verbal communication and nonverbal communication are practiced simultaneously to prospective buyers. Communication behavior in this kind of interaction is a form of appreciation to prospective buyers, so that prospective buyers feel valued and happy.

Speech acts tend to be individual symptoms, psychological in nature and determined by the speaker's language in dealing with certain situations. These speech acts are part forms or variants in language that still have a pattern that resembles the general pattern of the induction language. Sumarsono (2004) explains that a speech act is a piece of speech that is produced as part of social interaction. The variety of speech or language variety already exists to fulfill its function as a means of communication and interaction in diverse community activities.

The results of the study obtained the fact that the speech acts conveyed by Javanese traders to prospective buyers from the data obtained in interacting were rather *vague* and *ambiguous* which contained many *connotative meanings* in the perspective of understanding prospective buyers. But behind that, the trader actually intended the speech as a form of 'joke' so that prospective buyers were more relaxed and felt close and familiar with the trader. The speech act expressed by this Javanese trader when interacting is a form of communication that is beautified in meaning so that the other party (prospective buyer) feels happy. The communication behavior of Javanese ethnic traders always pays attention to the interlocutor so that the speech acts that are practiced must be beautiful and contain humor.

The research findings also revealed that the variation of Javanese ethnic traders' speech acts is like managing verbal art, namely in *poetic* form and in many *metaphorical* forms. If it is related to the research findings above, it can be stated that Javanese ethnic traders apply a '*high context culture*'. According to Edward T. Hall (1976) and Mulyana (2008) what is called a high context culture is verbal messages are implicit, vague, and ambiguous. The utterances expressed by the traders contain connotative meanings that are *poetic* and *metaphorical*.

Djajasudarma (2009) states that the meaning of a sentence often does not depend on the grammatical and lexical system, but depends on the rules of discourse. The meaning of a sentence, both its choice of diction and its grammatical arrangement often cannot be understood without considering its relationship with other sentences in a discourse. Likewise, in variations of the language of buying and selling interactions, many prospective buyers do not understand the speech or sentences spoken by traders in the market, even though the purpose of the speech or expression of the sentence has a specific purpose. However, in the later process, the meaning of words and communication symbols will gradually be able to be interpreted by potential buyers, as LittleJohn (2008) states that meaning is an important communication result. A person's meaning is the result of interaction with other people. Stewart L. Tubbs and Sylvia Moss (2008) simply divide the meaning of the speech act into two, namely denotative meaning and connotative meaning. Denotative meaning is the primary association that a word has for most members of a particular linguistic society. While connotative meaning is secondary that a word has for one or more members of society. Meanwhile, Mulyana (2008) revealed that the denotative meaning is the actual or actual (factual) meaning as in the dictionary. Therefore, denotative meaning is more public. Many words that have multiple meanings or connotative meanings are subjective.

The results of the study also reveal that the language and speech acts used to motivate prospective buyers to buy merchandise from Javanese ethnic traders often use *euphemisms*. According to Tubbs and Moss (2008), euphemisms are words with wings (full of meaning) so that they sound more polite, and their meanings are not too sharp. Traders use euphemistic speech, generally to disguise the real meaning so that there is a shift in the degree of the word.

CONCLUSION

The conclusion of the research is that the meaning of the message expressed by Javanese ethnic traders to prospective buyers is more connotative, poetic (characterized by word play that is processed to be beautiful and humanist), metaphorical, and ambiguous. The expression used is a form of euphemism - has a polite meaning, not too sharp but the aim is to disguise the true meaning and Javanese ethnic traders often apply high context culture of communication behavior to potential buyers. Based on the conclusion, the researcher suggests to other researchers to focus more on communication behavior towards certain community groups at different loci. This kind of research is important to do to eliminate community complications caused by communication behavior.

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Gingerol and Shogaol Nanoemulsion of Ginger Extract-based Subcritical Water Extraction



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ABSTRACT: The aim of the present study was determine optimum processing conditions and nanoemulsion formulation for the preparation of gingerol and shogaol nanoemulsion from ginger extract-based subcritical water. For this purpose, nanoemulsions were prepared with rotor-stator homogenizer and varied surfactant and cosurfactant concentrations (24%, 26% and 28% v/v), and stirring speed (22,000 rpm, 24,000 rpm). The stirring time is adjusted to 30 minutes. The density, viscosity, pH, % transmittance, nanoemulsion type test, centrifugation test, particle size, zeta potential, and polydispersion index was observed. Nanoemulsion with 28% emulsifier has a % transmittance value closest to 100% indicating that the particle size is estimated at nanometers. The results of test showed that the formed ginger extract nanoemulsion was unstable. Therefore, further studies are needed to find the optimum process conditions and nanoemulsion formulations to form stable

KEYWORDS: Emulsifier; Ginger extract; Nanoemulsion; Stability; Subcritical Water Extraction.

1. INTRODUCTION

Cancer is a non-communicable disease (NCDs) with huge negative effects on the world population. This is caused by increased abnormal body cells which lead to the formation of tumors with the possibility of metastases (migrating to other body tissues) [1]. Several treatments have been developed such as chemotherapy, radiotherapy, synthetic medicine, etc., but they have a toxic effect on non-target tissues that impact patients' quality of life [1,3] Therefore, it is necessary for alternative treatment such as using the medical plant.

Ginger has been used as a traditional drug because it has nutraceutical effects from the bioactive compound in ginger i.e. gingerol, zingiberene dan shogaol [4,5]. In the delivery of a traditional drug, the drug is distributed into the body, and the targeted cells only absorb part of the drug, depending on the location cells. However, the important part of the drug is excreted from the body without being used, leading to drug wastage [6]. According to Indonesian Ministry of Industry data, imported pharmaceutical raw materials are still more than 90 %. In addition, drug production also requires production costs such as raw material costs, operating costs, marketing, and advertising costs, distribution costs, and others (administration) which leads to expensive drug costs [7]. So it is necessary to develop traditional medicine from ginger.

Ginger is a medicinal plant with excellent prophylactic and curative anti-cancer properties. 6-shogaol, 8-shogaol, 10-shogaols, 6-gingerol, 6-paradol, dan zingerone in ginger shown activity anticancer in the lung, colon, colorectal, ovary, prostate [1]. However, 6-gingerol (6G), 8-gingerol (8G), 10-gingerol, and 6-shogaol (6S), have low water solubility and low oral bioavailability, resulting in limited nutraceutical effects [8]. In addition, these compounds are also sensitive to light, heat, and oxygen, causing the degradation of bioactive compounds [9]. This can be overcome with nanoemulsions because nanotechnology can be an alternative to increase the stability of bioactive compounds and increase bioavailability, water solubility, and absorption of bioactive compounds [9,10].

Nanoemulsion oil in water (O/W) has been used for a pharmaceutical compound with hydrophobic properties, encapsulation as well as delivery of active compounds, especially in the biomedical industry [11]. They consist core-shell structure, where the core (oil) internal phase contains nonpolar molecules, and this internal phase is stabilized by the shell external phase which is a surfactant [12,13]. There have been several studies to prepare ginger extract nanoemulsions using the high-energy approach method. [14] used an Ultra Turrax T8 homogenizer at 22,000 rpm for 10 minutes to make nano gingerol. [9] also used Ultra Turrax T8 homogenizer at 7,200 rpm for 3 minutes to make ginger extract nanoemulsion-based maceration extraction. [15] made a ginger

Gingerol and Shogaol Nanoemulsion of Ginger Extract-based Subcritical Water Extraction

extract nanoemulsion based on enzymatic extraction using ng Ultra Turrax homogenizer with a stirring speed of 22000 rpm and a time of 15-25 minutes. The previous study is limited to selecting the optimal conditions of operation in prepared nanoemulsions (stirring speed) and nanoemulsion formulations. However, the main challenge in developing nanoemulsion is the selection of optimal processing conditions and formulation of nanoemulsion that can produce nanoemulsion with great stabilization and afford bioactive compound delivery into cell target, have good solubility and absorption.

Preliminary research has been carried out in the preparation of gingerol and shogaol nanoemulsions without using co-surfactants. However, the result was that the ginger extract in the nanoemulsion precipitated after 3 days of storage. Therefore the use of cosurfactants is important to stabilize the film on nanoemulsion globules [16]. The combination of surfactants and cosurfactants used in the preparation of nanoemulsions is necessary to produce the very low interfacial tension required to reduce droplet size down to the nanometer range. HLB calculation also has a necessary position in the preparation of nanoemulsions. The HLB value takes parts of the hydrophilic and lipophilic of the surfactant molecule, so it will promote the formation of a physically stable NE [17].

This study aims to determine optimum processing conditions and nanoemulsion formulation for the preparation of gingerol and shogaol nanoemulsion from ginger extract-based subcritical water extraction with the smallest particle size and zeta potential value.

2. RESEARCH METHOD

2.1. Ginger Extraction

Ginger extract was obtained through subcritical water extraction. 300 gr ginger dreg powder was added into 7-liter aquadest. The mixture was put in stainless tube cells with a lid. Nitrogen gas was entered into the cell for 2 minutes to remove oxygen. The temperature was set to 130°C and the pressure was 2 bar. The heating process takes 3 - 5 minutes to reach the desired temperature. Extraction was carried out for 20 minutes. The extract was cooled in a cooling cell at 25°C and 1 MPa for 1 min [18].

2.2. Preparation Gingerol and shogaol Nanoemulsion

The preparation of gingerol and shogaol nanoemulsion was referred to research by [19] with modification. 1% v/v ginger extract, tween 80, and PEG 400 were varied into 24% v/v, 26% v/v, and 18% v/v, and 2% VCO were mixed as the oil phase and stirred continuously. Aquadest was added to obtain 100% of the mixture. The nanoemulsion was formed using homogenizer D-500 with the speed 20.000 rpm and 24.000 rpm, with stirring time adjusted to 30 minutes.

2.3. Viscosity

Viscometer Ostwald was used to determine the viscosity value [20]. Low viscosity indicates that the formed nanoemulsion is oil in water and high viscosity indicates that the formed nanoemulsion is water in oil [21].

2.4. Density

Density analysis on the nanoemulsion is carried out using a pycnometer to measure the density of the nanoemulsion formed [22].

2.5. pH

pH value was determined using a pH meter at room temperature. pH value was measured Repeat three times to get accurate results [23].

2.6. Transmittant Test

The test was carried out by spectrophotometry UV-VIS with wavelength 650 nm and aquadest as a blank solution. This test aims to measure the clarity of the nanoemulsion. A good nanoemulsion has a transmittance value close to that of water (100%) [24].

2.7. Nanoemulsion type test

This test was used to determine the type of nanoemulsion. The test of nanoemulsion type was performed by placing nanoemulsion on object glass and adding a tiny bit of methylene blue. If nanoemulsion is in type o/w, the methylene blue will be dissolved and dispersed in it. If the nanoemulsion is type w/o, the methylene blue will form a blue spot in it [25].

2.8. Centrifugation Test

Nanoemulsion was centrifuged at 3000 rpm for 30 minutes [26]. The result of the test is said to be good and stable if there is no separation after centrifugation [27]

2.9. Particle size, zeta potential, and Polydispersion Index Test

The measurement particle size, zeta potential, and Polydispersion Index of nanoemulsion were determined using a particle size analyzer with triplicate replication [28].

3. RESULTS AND ANALYSIS

3.1 Effect of Stirring Speed and Emulsifier Concentration of Ginger Extract Nanoemulsion

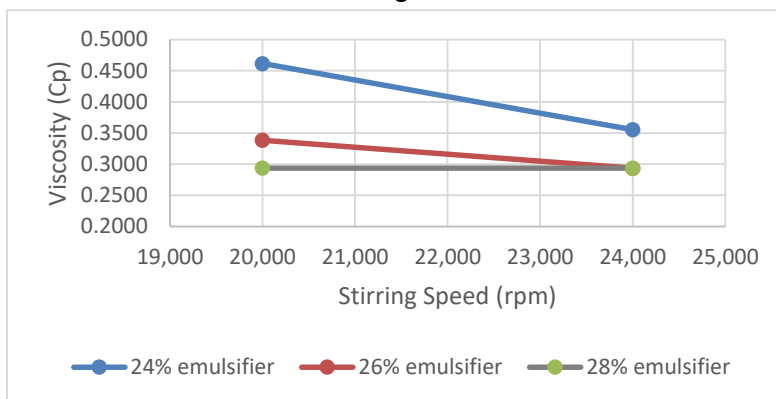


Figure 1. Effect of Stirring Speed and Emulsifier Concentration on Viscosity of Ginger Extract Nanoemulsion

Viscosity affects the release of the active substance, if the viscosity value is high it can make it difficult to release the active substance, and vice versa [29]. Figure 1 presents the effect of stirring speed and emulsifier concentration on the viscosity of ginger extract nanoemulsion and figure 2 presents the effect of stirring speed and emulsifier concentration on the density of ginger extract nanoemulsion. A faster stirring speed for nanoemulsion produces a smaller viscosity and density of the nanoemulsion. It is in line with [22], the faster stirring speed can reduce the viscosity of the nanoemulsion but also increase the separation time of the oil emulsion in water. The density value is directly proportional to the viscosity. So, when the viscosity decreases, the density will also decrease.

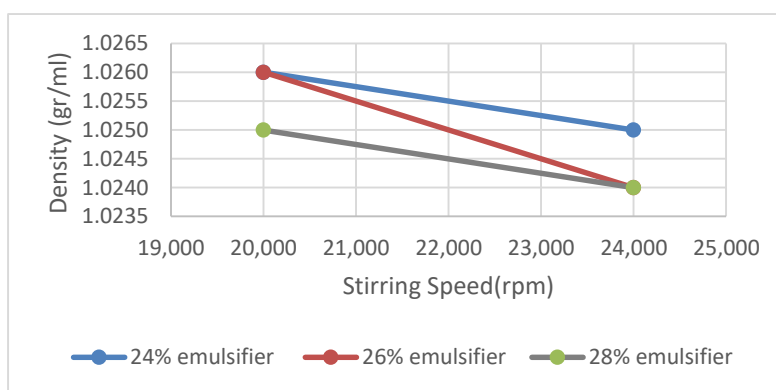


Figure 2. . Effect of Stirring Speed and Emulsifier Concentration on Density of Ginger Extract Nanoemulsion

Emulsion separation is influenced by viscosity. Viscosity affects the emulsion separation rate. The higher the viscosity, the smaller the separation rate. The viscosity of the continuous phase will prevent the flocculation and/or coalescence of the dispersion phase. With the intention that, the emulsion separation speed is reduced [22]. [30] stated that decreasing the number of surfactants and cosurfactants will increase the interfacial tension between water and oil so that the viscosity increases[30]. In other words, the higher the concentration of surfactants and cosurfactants used, the lower the viscosity value

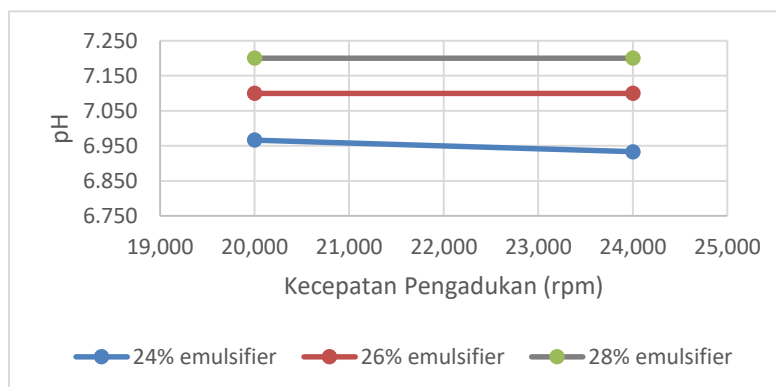


Figure 3. Effect of Stirring Speed and Emulsifier Concentration on pH of Ginger Extract Nanoemulsion

Gingerol and Shogaol Nanoemulsion of Ginger Extract-based Subcritical Water Extraction

Figure 3. shows the effect of stirring speed and emulsifier Concentration on the pH of ginger extract nanoemulsion. It can be seen that the speed of stirring does not affect the pH of the nanoemulsion. [31] reported that with various variations of stirring speed, there has been a change in the pH of the emulsion, but the change is not very significant. However, the higher the surfactant/emulsifier used the pH of the nanoemulsion decreased. When adding 24%, 26%, and 28% emulsifier, the pH of the nanoemulsion was 7.2; 7.1; and 6.9. This is in accordance with the research of [32], the higher the surfactant concentration, the pH of the emulsion also decreases. According to [33], pH 6-8 O/W nanoemulsion using surfactants will produce a large negative charge, so it can prevent adjacent droplets and form particle aggregation.

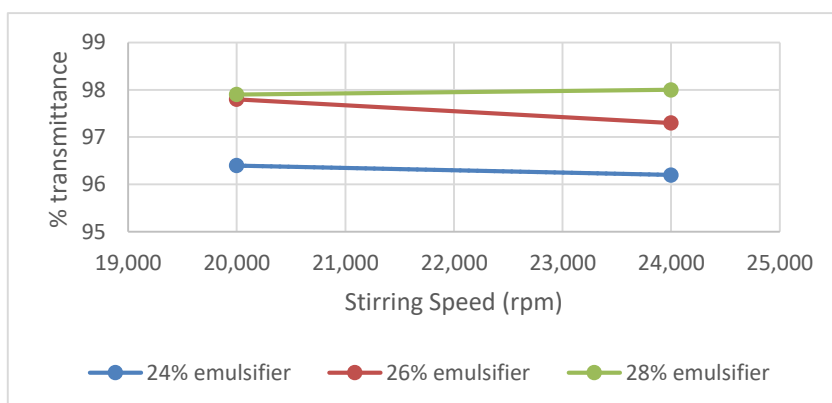


Figure 4. Effect of Stirring Speed and Emulsifier Concentration on % transmittance of Ginger Extract Nanoemulsion

Figure 4 are shown that increasing the concentration of the emulsifier will increase the percent transmittance. Higher concentrations of tween 80 lead to a large drop in surface tension leading to the spontaneous generation of interfacial turbulence droplets. Increasing the concentration of tween 80 results in a stable interface between oil and water and particle size is smaller. PEG as a cosurfactant reduces the interfacial tension. In this study, the cosurfactant concentration was lower than the surfactant used. Cosurfactants with high levels of concentration produce nanoemulsions with lower transmittance percentages [29].

The transmittance percentage indicates the level of clarity of the formed nanoemulsion. The transmittance percentage close to 100% indicates that the nanoemulsion formula produces a clear and transparent dispersion with a droplet size estimated at nanometers. Nanoemulsion with 28% concentration emulsifier had a transmittance value closest to 100% with a value of 98%. Therefore, the sample was further tested with a Particle Size Analyzer to determine particle size, PDI, and zeta potential, and its stability was tested using centrifugation to determine the occurrence of phase separation.

3.2 Analysis of Particle Size, Zeta Potential, and PDI Nanoemulsion of Ginger Extract

The particle size value of ginger extract nanoemulsion is 617 nm. According to [34], nanoemulsion is an emulsion with droplet sizes ranging from 20 to 500 nm. In other words, the nanoemulsion ginger extracts with a 28% concentration emulsifier do not include the nanoemulsion size range, because the particle size of the nanoemulsion in this study is more than 500 nm. The droplet size distribution of the emulsion is affected by the composition of the nanoemulsion system and/or the modification of the homogenization conditions [34]. There is a homogenization condition called "over-processing", which means that the energy input is too high to the emulsion system, such as too long homogenization time. The additional input of kinetic energy into the maximum dispersed emulsion will cause the particle movement faster, which enables overcoming steric or electrostatic barriers. According to the DLVO theory, over-processing promotes coalescence and the growth of droplet size [35]. This study used a stirring time of 30 minutes. A stirring process time of 10 minutes is included in the over-processing category [35]. Therefore, this study has experienced the phenomenon of over-processing. Based on the DLVO theory, this phenomenon will encourage coalescence and droplet size growth and make the function of the emulsifier to get poorer, an increase in Brownian motion which lead to a higher probability of collisions and mergers when input energy is high in the nanoemulsion system [35,36].

Table 1. Results of Analysis of Particle Size, Zeta Potential, and PDI Nanoemulsion of Ginger Extract

Particle Size (nm)	Zeta Potential (mV)	Polydispersity index
617	0,4	0.383

The zeta potential value generated from ginger extract nanoemulsion with 28% emulsifier concentration is 0.4 mV. The higher the surface charge material, the more stable the resulting nanoemulsion will be. In the case of low particle charge, the droplets tend

Gingerol and Shogaol Nanoemulsion of Ginger Extract-based Subcritical Water Extraction

to be attracted to each other and leading to increasing droplet size, which causes a decrease in the nanoemulsion stability [34]. [23] stated that a good zeta potential value to produce a stable preparation is less than -30 mV or more than +30 mV. However, the results of the analysis, the zeta potential value of the nanoemulsion in this study is 0.4 mV, so the nanoemulsion was less stable. Nanoemulsion may experience very large particle aggregation and flocculation due to van der Waals forces which result in physical instability in the nanoemulsion preparation. This is caused by the surfactants and the amount of surfactants added to the nanoemulsion formulation [23]. In further research, it is necessary to determine the type and amount of surfactants to produce stable ginger extract nanoemulsions.

Polydispersity is defined as the ratio of standard deviation to the average droplet size which implies the uniformity of droplet size in a nanoemulsion formulation. For a higher uniform droplet size in a nanoemulsion, the polydispersity in the formulation must be lower. The stable nanoemulsion has a PDI value between 0.2 and 0.5. A higher PDI value indicates a more dispersed particle size distribution which can make the nanoemulsion susceptible to delamination or precipitation [34]. The polydispersity index value of the resulting ginger extract nanoemulsion was 0.383, in other words, the nanoemulsion in this study had a uniform size distribution.

3.3 Nanoemulsion Type Test



Figure 5. The result of nanoemulsion type test

This test shows that the type of nanoemulsion is an oil in water, by dripping methylene blue, the methylene blue dissolves and diffuses into the nanoemulsion sample. [17] stated that oil-in-water (o/w) nanoemulsions are more likely to form in the HLB range of 8-18. Tween 80 has an HLB value of 15 and PEG 400 has a value of 13.1, so the nanoemulsion is an oil-in-water type.

3.4 Centrifuge Test

The results of the centrifugation test at 3000 rpm for 30 minutes, the nanoemulsion with 28% emulsifier precipitation occurred. The particle size of the nanoemulsion is 617 nm which is larger than the nanoemulsion criteria, which is below 500 nm [34]. This is in accordance with research [37] which states that the smaller the particle size, the smaller the sedimentation rate, therefore at the same centrifugation rate and the same centrifugation time, a suspension with a much smaller particle size will have a much lower sedimentation rate than a suspension with a larger particle size.

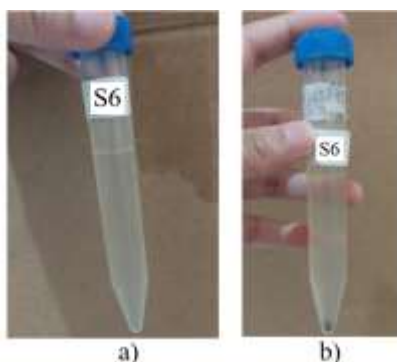


Figure 6 The result of the centrifugation test, (a) before centrifugation (b) after centrifugation

4. CONCLUSION

The formed nanoemulsion is O/W type. The stirring speed of ginger extract nanoemulsion has affect to viscosity and density. Emulsifier concentration of ginger extract nanoemulsion has affect to viscosity, density, transmittan, and pH of the nanoemulsion. The nanoemulsion with 28% emulsifier has % transmittan value closest to 100% whis is indicate that the particle size estimated at nanometers. The result of particle size, zeta potential, except PDI test shown that the formed nanoemulsion is unstable, and

Gingerol and Shogaol Nanoemulsion of Ginger Extract-based Subcritical Water Extraction

sedimentation after centrifugation occurred. It is necessary to find optimum processing conditions and nanoemulsion formulation for the nanoemulsion from the ginger extract in future research to form a stable nanoemulsion.

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A Systematic Mapping Study on Green Purchase Intention



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ABSTRACT: The purpose of this research is to analyze and identify research that has been conducted within green purchase intention, and to classify the characteristics of this research. The researcher conducted a structured study to search and analyze literature related to this topic. The researcher found 67 primary studies published between 2000-2020 and classified them based on the year of the study, the country of publication, the focus of the research, the locus of the research, the type of research, and the research method. This mapping study provides the first systematic review of the current state of research on green purchase intention. However, the number of high-quality studies available is still limited.

KEYWORDS: purchase intention, green purchase intention, systematic mapping study

I. INTRODUCTION

Consumers have adapted to green company practices and green purchasing habits, according to earlier surveys. The threat presented by the loss of natural resources and the environment has been recognized by nations all over the world. According to Biswas and Roy (2015), the effects of environmental harm include global reliance, environmental degradation (soil, water, and air), ozone layer depletion, diminished quality of social life, and poorer health. The two causes that harm the environment are nature and humanity (Muliaman, 2015). Environmental damage can result from human actions that don't take environmental health into consideration. Because of the substantial damage, the environment is less healthy, which increases the risk of natural disasters including landslides, forest fires, floods, and clean water shortages..

People need to be more wise in how they conduct their activities because there are many issues that arise from human acts that harm the environment. People frequently use items without thinking about how they might affect the environment. The amount of waste produced is not surprising given that the modern way of life frequently uses plastic materials in packaging.

Due to the waste issue, businesses have begun developing business strategies that focus on environmental development and protection in order to lessen the impact of their operations on the environment (Joshi & Rahman, 2015; Wu, 2015). Buying items that lessen negative environmental effects is related to buying ecologically friendly goods (Chan, 2001). Customers will be drawn to businesses, goods, or services that care about the environment if they are aware of how important the idea of environmental sustainability is (Mas'od & Chin, 2014). Environmental concerns have a positive impact on businesses that care about the environment as well as the development of environmentally friendly products..

If the products are accompanied by sufficient and trustworthy information, people are more likely to purchase environmentally friendly products. This means that businesses must give consumers accurate information in order to improve customer perceptions of the risks associated with utilizing these items (Peattie, 1992). Environmental ideas have become far more significant in emerging nations in recent years (Arli, Tan, Tjiptono, & Yang, 2018)..

Reduced non-recyclable trash output in all activities is one way the community can demonstrate its concern for the environment. Today, an increasing number of producers offer ecologically friendly goods. Environmentally conscious products are those that take the environment into account at every stage of production, including raw material selection, manufacturing, transportation, and product use (Lestari, 2019)..

Utilizing green products is a development that can significantly affect the environment. In order for businesses to encourage the usage of environmentally friendly products, it is necessary for the public to be aware of the value of doing so. With this understanding, it is hoped that they will produce and sell their products in a way that is ecologically friendly.

Numerous studies have discovered an association between green purchase intention and green purchase behavior that is both favorable and significant (Akehurst et al., 2012; Kanchanapibul, Lacka, Wang, & Chan, 2014; Kumar et al., 2017; Lai & Cheng,

A Systematic Mapping Study on Green Purchase Intention

2016; Yadav & Pathak, 2016). However, according to certain studies, there is no correlation between the intention to make green purchases and the actual behavior of making green purchases (Chan and Yam, 1995). (Wong et al., 1996; Crane, 2000; Chan, 2001). According to Akehurst, Afonso, and Martins Gonçalves' (2012) study, consumers who were more environmentally conscious had higher intentions to make green purchases. Environment-Related Issues More so than the mediating factor of green purchase intention, consumer behavior affects green purchase behavior.

II. LITERATURE REVIEW

According to the theory developed by Azjen (1991), there are three concepts that influence a person's formation of intentions or intentions to perform a behavior. These concepts are attitudes, subjective norms, and perceived behavioral control. Intention is considered a prerequisite for carrying out the actual behavior. The main factor in the theory of planned behavior (TPB) is the individual's intention or desire to perform a certain behavior. Intention shows how strongly a person wants to try and act in order to perform a behavior. In other words, the stronger a person's intention to engage in a particular behavior, the more likely the actual behavior will be carried out (Azjen, 1991). According to Yadav and Pathak (2016), intention also refers to an individual's readiness to perform a certain behavior.

Growing environmental consciousness among the general population affects consumer behavior, especially in terms of developing green purchase intentions (Aekhurst et al., 2012). "Green purchase intention" refers to customers' desire to acquire environmentally friendly goods and their motivation to do so because they not only pay attention to a product's ecological qualities but also take the environment's effects into account while making these purchases (Jaiswal and Kant, 2018). Green purchase intention can alternatively be understood as a person's opportunity and desire to think carefully about his purchasing decisions and favor ecologically friendly products over conventional ones (Rashid, 2009).

III. RESEARCH METHODS

The purpose of this study is to better understand the Green Purchase Intention study and lay a solid foundation for future research. Researchers looked for articles that covered green purchase intentions in an international internet database called Scopus. A literature study technique that uses a systematic mapping study (SMS) is appropriate because it is backed up by 2,511 publications about purchase intention that were found in the Scopus electronic database (Kitchenham, 2011; Petersen et al., 2008).

In order to find reliable and pertinent results in electronic databases, broader research questions must be devised to meet the study's aims. In his analysis, the researcher assesses search outcomes that are pertinent to the Green Purchase Intention study based on the formulation of the key questions, which are as follows:

RQ1: On what area of the study's topic is the research focused?

RQ2: What kinds of research techniques and articles were used?

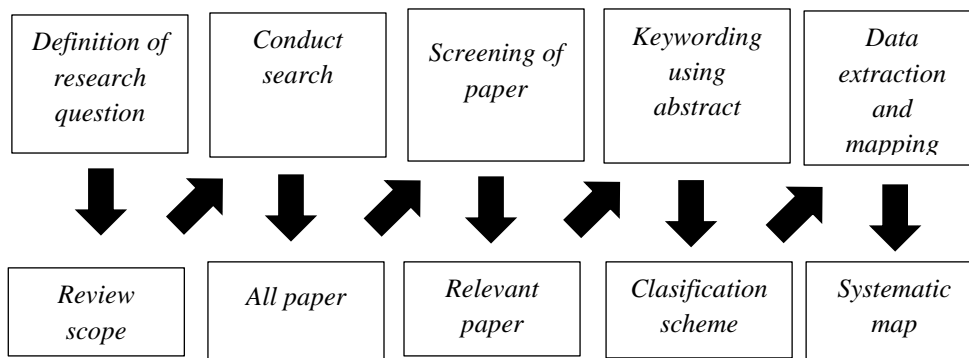
RQ3: How has the subject changed over time in each nation?

This study used the Systematic Mapping Study (SMS) method, which is a secondary study. SMS has its roots in Study Literature Review (SLR), which is a method used in information technology research (Kitchenham, 2011). Research with the SLR approach aims to identify, evaluate, and interpret all available and relevant literature sources related to the research questions that have been formulated (Kitchenham, 2011; Petersen et al., 2008; Barbosa and Alves, 2011; Banaeianjahromi & Smolander, 2016). SLR is typically performed to first reach a conclusion about the topic; second, to identify gaps in the research and make recommendations for future studies; and third, to position new research activities by providing context (Kitchenham, 2011). The type of research activity that has been conducted in this study is referred to as SMS. SMS gives a high-level summary of a particular field of research without going into much detail about the research problems (Petersen et al., 2008). To put it another way, SMS research can be seen as a strategy to acquire an overview of a specific research area (Kitchenham et al., 2011).

Search Process

The search and analysis techniques must be as precise as feasible in order to increase the accuracy of SMS studies. As a result, this part goes over how to choose data sources, use search-string methods, and establish exclusion and inclusion criteria. The search methodology from Petersen et al. (2008) and Banaeianjahromi and Smolander (2016) is used in this work. As a result, this part goes over how to choose data sources, use search-string methods, and establish exclusion and inclusion criteria. The search methodology from Petersen et al. (2008) and Banaeianjahromi and Smolander (2016) is used in this work. Every step in this process has an effect, and the mapping process ends with a systematic map (systematic mapping). With reference to the research carried out and in accordance with guidelines from Kitchenham (2011) and Petersen et al., the researcher outlines the entire SMS method employed in this study in Figure of SMS Process (2008). The Scopus electronic database was searched online by researchers.

A Systematic Mapping Study on Green Purchase Intention



SMS Process (Petersen et al, 2008)

Using a technique described by Banaeianjahromi and Smolander (2016), who make reference to the work of Barbosa and Alves, search strings, or search keywords, were constructed (2011). Defining the primary keyword is the first stage. Examining well-known studies in the area of intended green purchases is the second step. Finding alternate keyword forms to employ in the search process is the third stage. The final step, according to Banaeianjahromi and Smolander (2016), is to create a single search string using Boolean operators. The search terms "purchase intention" and "green purchase intention" yield 67 results when used with the Boolean AND operator. The number of articles returned by the search string "Purchase Intention" will reach 2,511 if the Boolean operator is not used. In the Scopus electronic database, the search string is used to do searches on all aspects of the article, including the title, abstract, and keywords. One of the mapping study's actions is to identify the category of excluded articles (also known as exclusion criteria) and article inclusion in order to prevent irrelevant articles from being included and relevant articles from being included in the analysis (Petersen et al., 2008). The researcher now decides the inclusion and exclusion criteria in accordance with the objectives and study questions. Articles that did not discuss buying intentions or had no connection to the research question were excluded. While articles addressing excellent corporate governance and being pertinent to the study issue are the admission criteria.

Classification Step

The researcher divides the articles into three specified components as part of the systematic mapping procedure in order to examine and categorize articles that have been filtered based on criteria. According to Petersen et al. (2008), the first grouping of publications is according to research focus/procedure in order to examine and categorize articles that have been filtered based on criteria. According to Petersen et al. (2008), the first grouping of publications is according to research focus. Second, according to Wieringa et al.'s classification, papers are categorized according to their type (paper type) (2005). Third, papers are arranged using references from the research and the research techniques. The three categories used in this study's classification procedure are described in Table of Inclusion and Exclusion Criteria.

Inclusion	Exclusion
<p>Studies that concentrate on competitive advantage</p> <p>English</p> <p>Only academic journals and articles</p> <p>Peer-reviewed papers that have been completed</p>	<p>Articles that do not discuss competitive advantage</p> <p>Languages other than English</p> <p>Dissertations, theses, book chapters, product specifications, presentations, work reports, trade literature, editorial notes, and esoteric</p> <p>Manuscripts that have not undergone peer review</p> <p>Repetition of research</p>

Table of Inclusion and Exclusion Criteria

Paper Type	Explanation
Validation Research	The investigative technique is novel and has not been used in actual investigations (experimental or observational).
Evaluation Research	The evaluation approach includes the investigative method and puts it into practice.
Solution Proposal	It is suggested that problems be solved; these suggested solutions may be brand new, useful, or pre-existing.
Philosophical Paper	By utilizing a taxonomy or conceptual framework, this research offers a fresh viewpoint on an already existing topic.

A Systematic Mapping Study on Green Purchase Intention

Methods	Information
Quantitative Method	The Rapid Assessment Process, secondary data, ethnography, focus groups, in-depth interviews, diaries, and language analysis are examples of qualitative approaches.
Qualitative Method	Sample designs, hypotheses, and tests—all statistical formulations—are presented via the quantitative approach.
Mix Methods	At every stage of the research process, mixed-model studies and methodologies that integrate qualitative and quantitative techniques in their methodology (such as during the data gathering stage) blend the two approaches.

Table of Classification Category

RESULT AND DISCUSSION

Scopus has released the findings of a systematic mapping of 67 papers covering green purchasing intentions in this area. These articles were mapped according to the categories of research focus, research locus, techniques, paper type, and research method in various parts of the world. The outcomes of this mapping provide responses to earlier-posed research questions.

No.	Category	Information	Total
1	Year	2000 – 2005	3
		2006 – 2010	1
		2011 – 2015	12
		2016 – 2020	51
2	Country of Origin of Publication	Denmark	1
		Egypt	1
		China	12
		Germany	1
		Nigeria	1
		Vietnam	3
		Korea	1
		Malaysia	8
		Iran	3
		Taiwan	4
		Turkey	4
		Indonesia	5
		USA	6
		India	9
		Slovenia	1
		Ghana	1
3	Research Focus	<i>Marketing Mix</i>	1
		<i>Green Purchase Acceptance Scale</i>	1
		<i>Actual Green Purchase</i>	1
		<i>Willingness to Buy</i>	1
		<i>Environmental Advertising</i>	1
		<i>Green Purchase Intention</i>	34
		<i>Behavioral Intention</i>	1
		<i>Purchase Intention</i>	9
		<i>Green Market Performance</i>	1
		<i>Green Brand Evangelism</i>	1

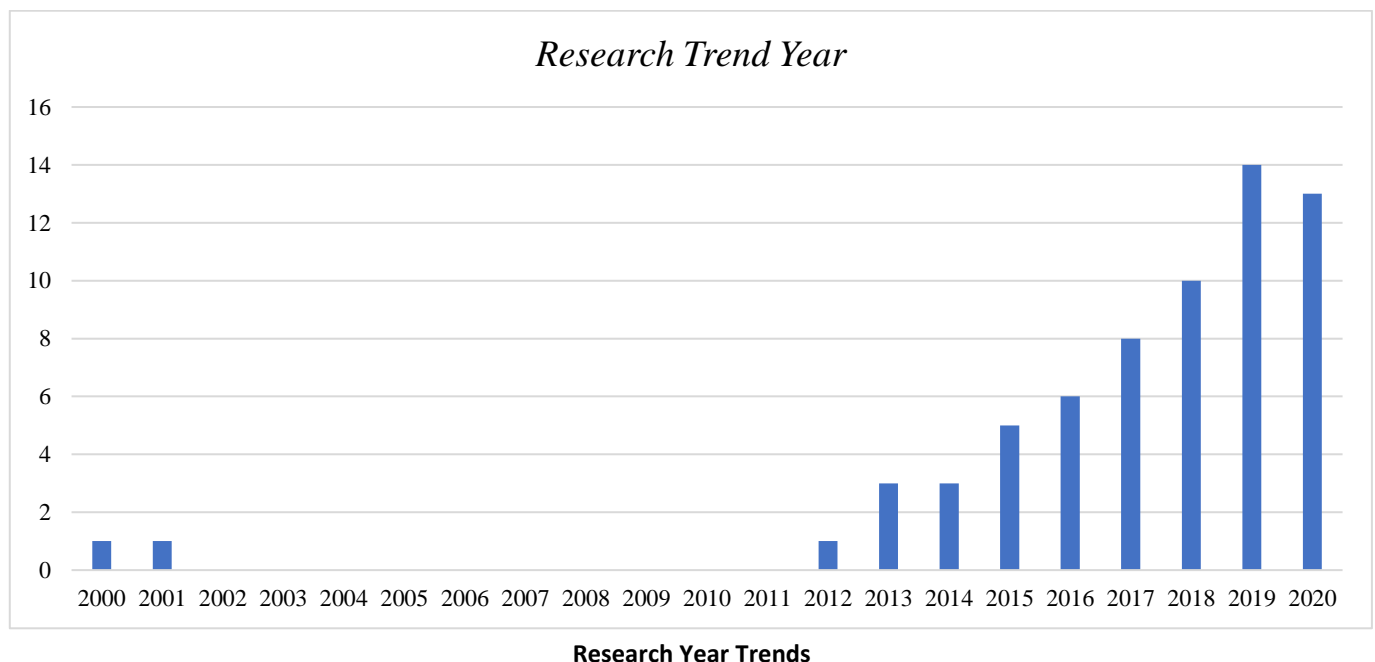
A Systematic Mapping Study on Green Purchase Intention

		<i>Green Consumerism</i>	1
		<i>Loyalty</i>	1
		<i>Green Behavior</i>	1
		<i>Green Purchase Behavior</i>	12
4	Research Locus	<i>Academic</i>	1
		<i>Consumer</i>	54
		<i>University Student</i>	4
		<i>Students</i>	4
		<i>Worker/Entrepreneur</i>	1
		<i>Employee</i>	3
5	<i>Paper Type</i>	<i>Validation Research</i>	60
		<i>Evaluation Research</i>	5
		<i>Solution Research</i>	0
		<i>Philosophical Paper</i>	0
		<i>Experience Paper</i>	2
6	<i>Method</i>	<i>Mix Method</i>	7
		<i>Qualitative</i>	1
		<i>Quantitative</i>	59

Table of Results of Green Purchase Intention Systematic Mapping

Research Focus (RQ1)

We categorized 67 articles according to the study topic area researched in order to respond to the first research focus question. The percentage of topics studied is shown in Figure of Research Trend Year, with the most researched topics having a research focus of 34 articles on green purchase intention, 12 articles on green purchase behavior, 9 articles on purchase intention, and 1 article from each of the following topics: marketing mix, green purchase acceptance scale, willingness to buy, environmental advertising, behavioral intention, green market performance, green brand evangelism, green consumerism, loyalty, and green behavior.



Types of Articles and Research Methods (RQ2)

Based on the type of publication, research is divided into five categories: validation research, evaluation research, solution proposal, philosophical paper, and experience paper (Petersen et al. 2008). Here is an explanation of each of these groups:

- a) Validation research: Applying a novel technique that has not yet been used in actual practice.
- b) Evaluation research: The approach has been used in practice, and its effectiveness has been assessed.

A Systematic Mapping Study on Green Purchase Intention

- c) Solution Proposal: giving a solution to an issue, whether it be a fresh idea or a tried-and-true method.
- d) Philosophical paper: Integrating fresh perspectives with existing conceptual or ethical frameworks.
- e) Experience paper: Express the author's personal insight into what is being done in practice.

According to this classification, it is known that validation research makes up 90% of the field, evaluation research makes up 7%, solution proposal make up 0%, philosophical papers make up 0%, and experience papers make up 3%.

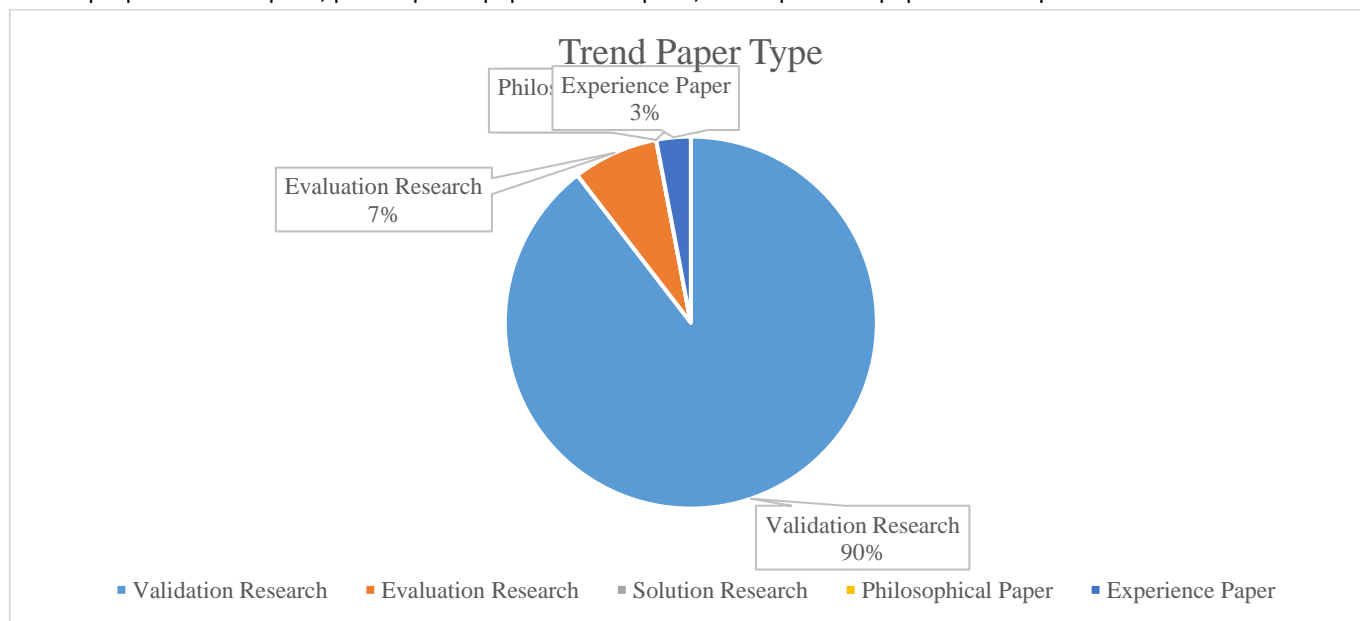


Figure of Trend Paper Types

In addition, prior research is categorized according to the research methodology, citing the views of B. A. Kitchenham (2007), Petersen et al. (2008), and Wieringa et al. (2006). Based on Figure of Trend Research Methods, a quantitative, qualitative, and mixed methodology approach was applied for this systematic mapping. Because this strategy intends to test and assess intent, quantitative research on green purchase intention is the most frequently conducted. 73% of the articles make use of quantitative methodology. Additionally, there are articles that employ the mixed-techniques approach in up to 23% of cases and qualitative approaches in up to 4% of cases.



Figure of Trends in Research Methods

Publication Trends in Each Country Over Time (RQ3)

According to the information that is currently accessible, 67 articles from 20 different countries have examined the subject of green purchase intention. China, India, and Malaysia were the nations that did the most research, each with 12 studies each. In

A Systematic Mapping Study on Green Purchase Intention

contrast, there are still only a few research from 17 other nations. For instance, there are only five reported studies from Indonesia. The average number of articles per country is still only a tiny amount, despite the fact that the number of articles is quite dispersed. Researchers and academics in Indonesia can take use of this circumstance to study consumers' intentions to make green purchases.

According to the grouping of articles by year of publication, the period between 2016 and 2020 is when there is an increase in scientific publications. With 14 articles in 2019 and 13 in 2020, there was a notable rise in research. This circumstance demonstrates that academics and marketing professionals have been paying attention to research on green purchase intention, a topic that is currently in demand.

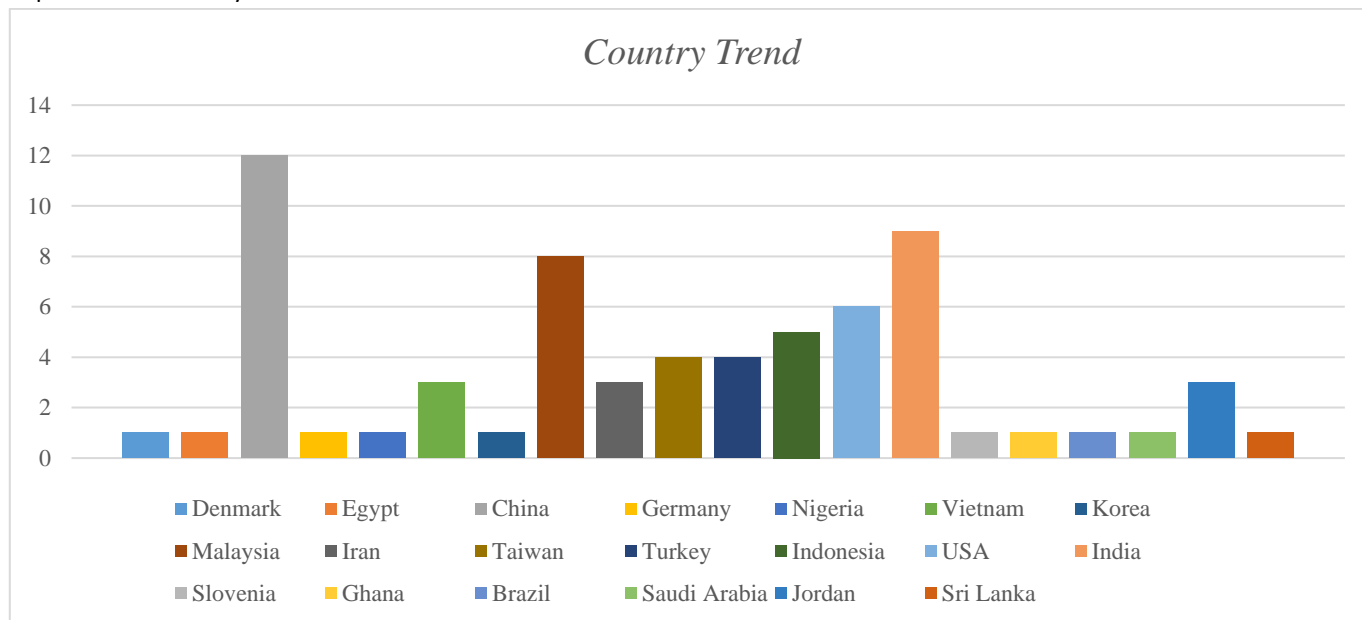


Figure of Country Trends

CONCLUSIONS

Being conscious of the significance of getting back in touch with nature can impact your decision to make green purchases. This implies that people are more likely to pay attention to goods or services that have a smaller negative impact on the environment. They tend to favor goods and services that are environmentally responsible and support morals that are in line with nature's restoration.

This study maps the literature on green purchase intentions found in the Scopus scientific database. The major goal of this study is to give a summary of the literature on green purchasing intentions as a way to boost corporate competitiveness. The results of this study are anticipated to help firms manage and grow using a green purchase intention approach.

To identify the research emphasis that has been examined in that location, researchers in this study used the systematic mapping study approach (Kitchenham, 2011; Petersen et al., 2008; Banaeianjahromi and Smolander, 2016). Following a rigorous mapping of 67 research publications, the researchers came to the following conclusions:

1. The focus on the green purchasing intention study, which has been covered in 30 articles, has received extensive research.
2. A validation study is the article type that is most frequently employed, accounting for 60 articles.
3. China, with a total of 12 papers, generates the most research on consumers' intentions to make green purchases.

The Systematic Mapping Study (SMS) research method is an efficient way to find relevant study topics and regions that require more investigation. By highlighting current research gaps, the study's findings offer advice to other academics planning their own future research. Researchers can use SMS to better grasp the state of a field of study and choose how to proceed with additional study.

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Relationship Between Arm Muscle Strength and Leg Muscle Explosiveness Against Smash Volleyball Athletes: A Literature Study



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ABSTRACT: The game of volleyball is one of the many sports that is growing rapidly among the general public, schools and clubs, this is because volleyball only uses simple equipment and can bring pleasure when playing it. This study aims to determine the relationship between arm muscle strength and leg muscle explosive power against smash volleyball athletes. This type of research uses literature studies. The database in this study with the criteria of the article comes from Sinta. In this study, 4 articles were used which became a reference for researchers to conduct a review. Characteristics of the 4 articles, 1). Issues from the last 6 years, 2). The articles reviewed are related to the focus of this research. Then the procedure for searching the articles needed in this research is based on the Google engine: 1). Google scholar and 2). Google Chrome. The analysis of this study is the relationship between arm muscle strength and leg muscle explosive power against smash volleyball athletes

KEYWORDS: Athletes, Arm Muscle Strength, and Leg Muscle Explosiveness, Smash Volleyball

I. INTRODUCTION

In the current development of the world, sport has become one of the most popular, because sport is an important aspect of life (Nugroho, Yuliandra, Gumantan, & Mahfud, 2021). Sport is an activity of bodily movement that always keeps humans in a healthy state of mind and body, it is in this state that humans can develop creativity to achieve dreams and a bright future, moreover to carve out goals through sports certainly requires a healthy and strong body (Pratomo & Iqbal, 2020). In Indonesia there are many highly developed sports, one of which is volleyball and one of the most popular sports is volleyball (Nugroho et al., 2021).

William B. Morgan is the originator of the volleyball game in 1895 in Holyoke, United States. William B. Morgan himself was a physical education coach at the Young Men's Christian Association (YMCA), because of the rapid development of the volleyball game, the YMCA began holding volleyball championships nationally and then this volleyball game spread throughout the world and in 1974, the first time volleyball was contested in Poland with quite a lot of participants. In 1984 the International Volleyball Federation (IVBF) was founded, which at that time consisted of 15 countries and was based in Paris (Shaik Mannan, 2015).

Volleyball is one of the many sports that is growing rapidly among the general public, schools and clubs, this is because volleyball only uses simple equipment and can bring pleasure when playing it (Shaik Mannan, 2015). Volleyball is a sport that is played by 2 teams, each team consisting of 6 people whose aim is to drop the ball into the opponent's area. A branch of sport which is played by volleying the ball over the net, with the intent and purpose of being able to drop the ball into the opponent's field and to seek victory in playing (Srianto, 2018). The game of volleyball has basic techniques that must be mastered by the following techniques, including: overhand serve, underhand serve, overpass, underpass, block, and smash (Oktariana & Hardiyono, 2020). To achieve maximum performance in volleyball, the physical condition that is ready to do the exercises plays an important role, because every training program that is made must always cover several aspects such as: physical condition, technique, tactics and psychological factors of athletes, these are the basic factors of performance. an athlete who is interconnected with others to achieve achievements (Anggara & Alex., 2019). For good results in smashing, high achievement and high jumping ability are needed, smashes can be divided into several types, namely: Normal smash (open smash), Smash pull (quick), Smash cekis (drive smash), Smash semi, smash push (Oktariana & Hardiyono, 2020). There are three dominant physical elements that influence the results

Relationship Between Arm Muscle Strength and Leg Muscle Explosiveness Against Smash Volleyball Athletes: A Literature Study

of high school, namely: the explosive power of the arm muscles, the explosive power of the leg muscles, and the strength of the abdominal muscles (Kustiawan, 2015).

Arm muscle strength and leg muscle explosive power are physical conditions that support good smash mastery where arm muscle strength is the ability of a person's muscles to overcome loads while working, while leg muscle explosive power is a person's ability to use maximum strength in a short time so that from smash can get points (Hermanzoni, 2020). Research conducted by (Ardiansyah Prasetiadi, 2016) found that there was a significant relationship between arm length, arm muscle strength, eye-hand coordination and leg muscle power on the smash ability of male volleyball extracurricular participants at SMA Negeri 8 Purworejo, coefficient the determination obtained is 0.600 meaning $(0.600 \times 100\%) = 60\%$.

II. RESEARCH METHODS

This study uses the literature review method. Literature review is a literature review that forms the basis of the researcher's reasons decided to choose a particular theme or title that collected from several previous studies (Ridwan, Ulum, Muhammad, Indragiri, & Sulthan Thaha Saifuddin Jambi, 2021). 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 for articles relevant to this research uses the sinta database with the help of the Google Chrome and Google Scholar engines. The article search system uses keywords derived from the title of this research. As many as 50 articles were found during the article search process, but of the 50 articles found, only 4 articles were used as a reference for researchers to conduct a review. This is because 46 articles were not included or not needed in this study. The researcher also emphasized that all data used for this research was sourced from the national database or sinta with the provisions of the last 6 years so that it is still relevant today.

III. RESULT

Table 1 below is the four articles which are the main references or sources for the authors in completing this research. Because the research database is sourced from the articles listed in the table below. These four have several components that need to be listed in the table below, namely 1). Author's name, 2). Article title, 3). Journal name, 4). Research results which include, a. the variable being measured, b. number of samples and c. The following statistical test is used in detail 4 articles that are relevant to this research as follows.

Table 1. List of Articles That Become References

No	Writer's name And Year Rise	Title	Journal Name	Research result
1	(Yulifri, Sepriadi, & Wahyuri, 2018)	Connection Explosion power Leg Muscles And Muscles Arm With Accuracy Smash Athlete Volleyball Uproar Regency West Passage	Journal Mensana	The results showed that the explosive power of the leg muscles had a significant relationship with smash accuracy, because r_{count} was $0.455 > r_{table}$ 0.396 . The explosive power of the arm muscles has a significant relationship with smash accuracy, because r_{count} is $0.406 > r_{table}$ is 0.396 . the explosive power of the leg muscles and arm muscles together has a significant relationship with the accuracy of the Gepar volleyball smash in West Pasaman Regency, because $R_{count} = 0.523 > R_{table}$ 0.396 and the truth is accepted empirically.
2	(Maifa, 2018)	Connection Between Muscle Strength Dan's arm Explosion power Leg Muscles With Ability Smash In Game Volleyball for Students	CENDEKIA: Educational Scientific Journal	The results of this study can simply be broken down as follows: (1) Yes there is a significant relationship between arm muscle strength and smash ability in volleyball for Physical Education students class of 2017/2018 STKIP Paris Barantai Kotabaru. (2) There is a significant relationship between the explosive power of the leg muscles and the ability to smash in

Relationship Between Arm Muscle Strength and Leg Muscle Explosiveness Against Smash Volleyball Athletes: A Literature Study

		Force Penjaskesrek 2017/2018 Stkip Paris Chain New city		the volleyball sport of Physical Education students class of 2017/2018 STKIP Paris Barantai Kotabaru. (3) There is a significant relationship between the strength of the arm muscles and the explosive power of the leg muscles on the ability to smash in volleyball for Physical Education students class of 2017/2018 STKIP Paris Barantai Kotabaru
3	(Asnaldi, 2020)	Connection flexibility and Power Muscle Blast Arm To Accuracy Smash Volleyball	Physical Activity Journal	The results of research from data analysis can be obtained results: (1) Flexibility has a significant contribution to the accuracy of the smash students of SMKN 1 South Solok by 29.70%. (2) The explosive power of the arm muscles has a significant contribution to the smash accuracy of students at SMKN 1 Solok-Selatan by 41.22%. (3) Flexibility and explosive power of the arm muscles have a significant contribution together to the smash accuracy of students at SMKN 1 Solok South of 60.99%.
4	(Isabella & Bakti, 2021)	Connection Explosion power Leg Muscles And Arm Muscle Strength To Accuracy Smash Volleyball	Journal Health Sport	The results of the study can be concluded that the strength of the arm muscles and the explosive power of the leg muscles are components of the physical condition that greatly influence the accuracy of the smash. Good mastery of basic techniques can also improve an athlete's ability to smash volleyball.

IV. DISCUSSION

In addition to the preparation of physical conditions, an athlete is required to be skilled in mastering volleyball game techniques such as passing, service, smash and block, all of which are basic technical movements that have goals, different movement functions and in different implementations which physical conditions are needed (Yulifri et al., 2018). Mastery of the basic techniques of playing volleyball is one of the elements that can determine the win or loss of a team in a volleyball game and when smashing, the players make jumps to hit, block and serve. This clearly shows that volleyball players need greater explosive power in the extremities to perform jumps and punches at greater speeds (Shaik Mannan, 2015).

In addition to the element of explosive power, arm muscle strength, good eye and hand coordination are also beneficial for being able to direct the ball with the desired hand reach in smashing (Ardyansyah Prasetiadi, 2016). Leg muscle explosive power is also known as explosive power, which is very necessary in various sports. In line with the description above, the research conducted (Maifa, 2018) found a relationship between arm muscle strength and leg muscle explosive power with the ability to smash in volleyball games for Physical Education and Health Education students class of 2017/2018, Paris chain, Kotabaru. Smash is the most important part in the game of volleyball, because smash is one of the most widely used forms of attack for attacks to get points or points (Srianto, 2018). The ability to smash is done by changing the distance of the jump height by maximizing the explosive power of the leg muscles, one form of exercise that can be applied in maximizing the jump height is plyometric training, because plyometric training aims to maximize the explosive power of the leg muscles so that they will be able to make jumps smash well, a volleyball player will easily do a smash if having a maximum jump height and good leg muscle explosive power, with the application of this form of plyometric training it is hoped that athletes will be even better at smashing (Anggara & Alex., 2019). The characteristics of volleyball games really need biomotor components such as strength (power), speed (speed), agility (agility), and durability (endurance). Related to the explosive power of the leg muscles, what is very influential in its development is the leg muscles and is very influential for smashes in volleyball games (Isabella & Bakti, 2021)

V. CONCLUSIONS

From the results of the discussion and review of the articles carried out that there is a relationship between the strength of the arm muscles and the explosive power of the leg muscles on the smashes of volleyball athletes

Relationship Between Arm Muscle Strength and Leg Muscle Explosiveness Against Smash Volleyball Athletes: A Literature Study

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Evaluation of Physical Activity Learning in State Kindergarten Kulon Progo Regency



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ABSTRACT: This study aims to evaluate the planning and learning process of physical activity at kindergarten in kulon progo regency, Indonesia. Physical activity learning in kindergarten is very influential on the development of children not only focused on psychomotor development, but also on cognitive and social development. Methods: The evaluation model used in this study is the Discrepancy model. The subjects of this research were the principal and the teachers of the State Kindergarten in Kulon Progo Regency. The sampling technique uses a total of sampling which aimed at 1 principal and 1 teacher in each State Kindergarten in Kulon Progo Regency. The sample in this study included 12 Principals and 12 Kindergarten teachers. Data collection techniques use interview methods, questionnaires, and documentation. The data analysis technique in this study is quantitative and qualitative descriptive analysis. Results: The results showed that the evaluation of physical activity learning programs in State Kindergartens of Kulon Progo Regency was 2.45 so that it was included in the less category. Based on each evaluation stages, which include (1) The design of physical activity learning programs in Kindergartens of Kulon Progo Regency amounted to 2.45, with details on the indicators of understanding about physical activity learning in Kindergartens of 2.42 included in the less category and indicators of learning objectives of 2.48 included in the less category, (2) Program planning or installation of physical activity learning programs in Kindergartens of Kulon Progo Regency amounted to 2.43, with details on the indicators of learning implementation plans of 2.36 included in the less category, learning material preparation indicators of 2.49 are included in the less category, and learning media preparation of 2.46 is included in the less category, (3) Implementation of physical activity programs or learning processes in Kindergartens of Kulon Progo Regency is 2.45, with details on material delivery indicators of 2.50 are included in the good category, learning activity indicators of 2.46 are included in the less category, and learning media use indicators of 2.38 are included in the less category, and (4) Products of physical activity learning programs in Kindergartens of Kulon Progo Regency of 2.49, with details on the learning evaluation indicator of 2.49 included in the less category

KEYWORDS: Evaluation, Discrepancy, learning, physical activity.

INTRODUCTION

The early childhood is also called as the golden age and critical period. This period is very strategic to lay the foundation for the development of all aspects of development in children including cognitive, physical, language, social emotional, self-concept, art, moral, and religious values [1]. This golden age is the main basis for how important education is for childhood as well as at the stages of child development [2].

Nugraha [3] states that the process of effective physical education will encourage the speed of physical education goals that have been designed, such as physical and movement development, movement skills, as well as cognitive, affective, social, and emotional development. The development of movement is one of the most important parts of the goal of physical education, especially aimed at the growth and development of childhood.

As Solihin, Faisal, and Dadang explain [4] that physical education learning begins from an early age to fulfil and stimulate organic, motor, intellectual, and emotional growth. At an early age, physical education has very important role for the growth and development of students. In this period, the child is faster in developing fundamental movements in various motor movements such as jumping, hopping, and running. Learning in Kindergartens is grouped into several development programs, one of them is a physical-motor development program. The scope of the physical-motor program in childhood learning is to increase physical

Evaluation of Physical Activity Learning in State Kindergarten Kulon Progo Regency

potential and instill sportsmanship and awareness of healthy and clean living. The content of physical or physical-motor activity learning materials in Kindergartens includes moving the limbs to train basic motor movement skills.

In his research, Siregar [5] stated that the application of physical activity learning in children aged 4-5 years in Kindergarten is an effort to improve interpersonal intelligence towards children. This must be supported by special approach to children and the physical activity provided must be varied and interesting. The enhancement of interpersonal intelligence that is enhanced through physical activity basically refers to the child's ability to interact, convey perception, have tolerance, and can have a good sense of empathy.

In children there are nine common indicators associated with physical activity that have been identified by the global value matrix. The indicators meant include the following five factors (1) overall physical activity, (2) organized sports participation, (3) active play, (4) active transport, (5) sedentary behavior; and the four main influences as follows (1) family and peers, (2) schools, (3) communities and the built environment, and (4) government strategies and investments [6].

Janssen [7] argues that active play, sedentary behavior, and the time with family and peers have often been studied. Physical activity has been achieved in real terms through active play. Active play has been reported to increase physical activity and prevent childhood obesity. Through several studies above, physical activity of childhood, especially at the Kindergarten level has an important influence on child development. Physical activity for kindergarten-age children can be provided through fun models or play methods so that the child can be stimulated to move. The benefits obtained from learning physical activity in childhood are not only focused on psychomotor development, but also on cognitive, affective, and social development.

Learning of physical activity motor physical development program in its application of course it is experiencing the obstacles or problems. Alim [8] states that in implementing the PAUD curriculum, teachers often force children to do physical activities that are not in accordance with the abilities of early childhood. Such actions of teachers are violation of the principle towards developmentally appropriate practice, because the results obtained will endanger the physical health of children in the future. Paramitha & Anggara [9] also explained that the practice of learning physical activities in Kindergarten or Early Childhood Education Programs (PAUD) is still centered on teachers, since it is resulting (1) less variety of learning activities as a whole, (2) no material is conveyed about the importance of healthy life, (3) the development of affective aspects that are not able to develop social skills, cooperation, and children's interest in the physical education process, (4) teachers cannot feel the emotional state of children in physical learning, (5) children are easily saturated in doing the learning process, (6) the activity of children in learning is deficient. Kamelia, et al [10] in her research stated that early childhood education which experiences many obstacles is still limited mastery of educational knowledge by students, still limited funds for the purchase of educational playground equipment (APE), and still limited evaluation of the PAUD program. The implementation of education in PAUD is caused by educators who have not mastered education for early childhood. Many educators are already patterned with the learning found in elementary school or junior high school, it is learning that is carried out in the room. In fact, the learning process can be done anywhere, including outdoors or nature, so that it can explore the child's abilities to the fullest.

An *et al.*,^[11] argued that effective sports activities must be supported by adequate facilities, but the problem of early childhood education facilities today indicates a lack of play facilities for children. This results in the interest of children to do movement activities to be reduced, so that the achievement of physical fitness of early childhood becomes very difficult.

The problems above show that the learning of physical activities in Kindergarten is still not able to run optimally. Learning physical activities in Kindergarten should be done with a fun and interesting method of play for learners. Play is the primary model through which children can learn to recognize their bodies and movement abilities. It also serves as a facilitator of cognitive and affective development, as well as a means of developing soft and gross motor skills [12].

In the research of Maria & Flora [13], all activities which carried out for early childhood should be modified so it produces a fun activity to make it easier for children to understand and comprehend all the activities given. All physical activities that are fun and varied can cause pleasure. Based on the problems, an evaluation research will be conducted which entitled "Evaluation of Physical Activity Learning in State Kindergartens of Kulon Progo Regency".

MATERIALS AND METHODS

This research uses a descriptive mix method approach combining quantitative and qualitative research to obtain comprehensive, valid, reliable, and objective data. This research aims to evaluate the learning of physical activities in State Kindergartens of Kulon Progo Regency. This research was conducted at 12 kindergartens in kulon progo regency, 3-5 August 2022

Evaluation of Physical Activity Learning in State Kindergarten Kulon Progo Regency

Table 1. Kindergartens List

Number	Kindergartens List
1	State Kindergarten of Pembina Panjatan
2	PKK Eka Prasetya Galur Kindergarten
3	Trukan Temon State Kindergarten
4	Pembina Wates State Kindergarten
5	Kalipetir Pengasih State Kindergarten
6	Pedesaan Blubuk Pengasih State Kindergarten
7	Pedesaan Banyuroto Nanggulan State Kindergarten
8	Pembina Nanggulan State Kindergarten
9	Pringtali Girimulyo State Kindergarten
10	Sokomoyo Girimulyo State Kindergarten
11	Pedesaan Banjarsari Samigaluh State Kindergarten
12	Pedesaan Ngargosari Samigaluh State Kindergarten

The research instrument is a tool that is used to measure observed natural and social phenomena [14]. The data collection instrument in the evaluation research of the physical activity learning program in Kulon Progo Kindergartens includes interview guidelines, questionnaires, and documentation guidelines.

The collecting data technique is a way that researchers use to obtain the data needed [15]. The data collection in this research consists of quantitative and qualitative data collection. Quantitative data were obtained from the scores of documentation and questionnaires from Kindergarten teachers. Qualitative data were obtained from the results of interviews with the principals.

The calculation of data analysis by finding the magnitude of the relative frequency of percentages. With the following formula [16]:

$$P = \frac{F}{N} \times 100\%$$

Description:

P= Percentage sought (Relative Frequency)

F= Frequency

n = number of respondents

The qualitative data analysis technique used in this research, Miles & Huberman [17] explained that the data analysis technique used to analyze the data in this research is the qualitative analysis of interactive models: (1) Data collection; (2) Data reduction; (3) Data display and (4) Conclusions

The determination of success criteria using the Sturges Formula, where the highest score in questionnaire 4 and the lowest score of 1, so that it can be calculated:

Length of interval class = (highest score (4)-lowest score (1))/(interval class (4)) The results of quantitative data on each aspect are then converted in the success criteria table as follows.

Table 2: Table of Success Criteria

No	Interval	Kriteria
1.	3,26-4,00	Very good
2.	2,51-3,25	good
3.	1,76-2.50	less
4.	1,75-1,0	Very less

(Source: Sugiyono, 2015: 148)

The design stage in the process of evaluating the learning of physical activities in Kindergartens of Kulon Progo Regency is focused on providing program input which includes program objectives, personnel, staff, and other resources that must be provided before the program can be realized, as well as performance assessments to support the achievement of the program [18].

Table 3: Average Results of Evaluation Design of Physical Activity Learning in Kindergartens of Kulon Progo Regency

No	Indicators	Mean	Category
1.	The understanding of physical activity learning in kindergarten	2,42	Deficient
2.	Learning Objectives	2,48	Deficient
	Average	2,45	Deficient

Evaluation of Physical Activity Learning in State Kindergarten Kulon Progo Regency

Based on the table above, the average learning evaluation design of physical activities at kindergarten in kulonprogo regency is 2,45 so that it is included in the less category.

Table 4: Learning Objectives Indicator Results

No	Statement	Mean	Category
1.	Arranging the learning objectives in accordance with learning competencies/outcomes.	2,75	Good
2.	Arranging the learning objectives using observable and measurable operational verbs	2,58	Good
3.	Arranging the learning objectives by paying attention to the ABCD component.	2,33	Deficient
4.	Arranging the learning objectives by including elements from KI 1 and KI 2.	2,42	Deficient
5.	Arranging the learning objectives by including elements from KI 3 and KI 4	2,33	Deficient
Average		2,48	Deficient

Based on the results of the analysis above, it reveals that learning objectives are included in the less category.

Table 5: Average Results of Physical Activity Learning Installations at State Kindergartens of Kulon Progo Regency

No	Indicators	Mean	Category
1.	Lesson Plan	2,36	Deficient
2.	The Preparation of Learning Materials	2,49	Deficient
3.	The Learning Media Preparation	2,46	Deficient
Average		2,43	Deficient

Based on the table above, the average results of the stages of learning installation of physical activities a kindergartens of kulon progo regency are 2,43 so that they are included in the less category.

Table 6: Results of Learning Media Preparation Indicators

No	Statement	Mean	Category
1.	Before conducting physical activity learning activities, teachers are already adept at operating media/ <i>platforms</i> that support the learning process.	2,50	Good
2.	To own, create or design learning media and tools which appropriate with the material, objectives, and learning models of physical activity of motor physical development programs.	2,42	Deficient
Average		2,49	Deficient

Based on the results of the analysis, it shows the results of learning media indicators in the category were less than 2,49.

Table 7: Average Results of Implementation of Kindergarten Physical Activity Learning Program in Kulon Progo Regency

No	Indicators	Mean	Category
1.	The Delivery of Learning Materials	2,50	Good
2.	Learning Activities	2,46	Deficient
3.	The Use of Learning Media	2,38	Deficient
Average		2,45	Deficient

Based on the analysis of the data above, it reveals that the average results of the implementation of the physical activity learning program in state kindergartens of Kulon Progo regency are 2.45, so it is included in the less category.

Table 8: Learning Evaluation Indicator Results

No	Statement	Mean	Category
1.	To select and determine the type of learning evaluation (<i>assessment</i>) which is suitable with the indicators/basic competencies (KD).	2,50	Good
2.	To prepare various learning evaluation tools /instruments in accordance with the basic competency indicators (KD).	2,42	Deficient
Average		2,49	Deficient

Evaluation of Physical Activity Learning in State Kindergarten Kulon Progo Regency

From the results of the analysis above, it shows that the learning evaluation is included in the category of less than 2,49

DISCUSSION

The evaluation is a systematic and subjective assessment of an object, program or policy that is in progress or has been completed, both in the design of implementation and the results, where the purpose of program evaluation is to determine the relevance and achievement of goals, efficiency, effectiveness, impact and sustainability, where an evaluation must provide reliable and useful information to be able to take lessons for the decision-making process.

The design stage of the physical activity learning program in Kindergartens of Kulon Progo Regency on the indicators of understanding about learning physical activity in Kindergartens by 2,42 is included in the less category. Every teacher needs to understand and be skilled in formulating learning objectives, because a clear formulation of objectives can be used to evaluate the effectiveness of the success of the learning process. A learning process is said to be successful when students can achieve their goals optimally. In order for teachers are able to carry out the tasks and responsibilities above, the teachers are required to have certain abilities and skills. Abilities and skills are part of the teacher's professionalism competence [19]. The competence is an ability that is absolutely owned by the teachers, so that their work as an educator can be done well. The task of teachers is closely related to the improvement of human resources through the education sector [20].

Learning Objectives Indicators of 2,48 are in the less category, Learning Materials of 2,49 are in the less category. The aim of physical education includes four aspects, such as (1) physical development. This goal is related to the ability performing activities that involve the physical strength of several organs of one's body (physical fitness). (2) Development of movement. This goal is related to the ability performing movements effectively, efficiently, smooth, fine, perfect (skillful). (3) Mental development. This objective is related to the ability to think and interpret the entire knowledge of physical education into its environment. (4) Social development. This goal is related to the ability of students to adjust towards a group or community [21].

The planning stage of the physical activity learning program in Kindergartens of Kulon Progo Regency on the indicators of understanding about learning physical activity in Kindergartens by 2,42 is included in the less category. Every teacher needs to understand and be skilled in formulating learning objectives, since a clear formulation of objectives can be used to evaluate the effectiveness of the learning process success. A learning process is said to be successful when students can achieve their goals optimally. In order for teachers are able to carry out the tasks and responsibilities above, the teachers are required to have certain abilities and skills. Abilities and skills are part of the teacher's professionalism competence [19].

The learning process for kindergarten physical activity in Kulon Progo Regency is based on an indicator of learning material of 2,50 in the good category. Physical learning that is directed and adjusted to the level of development of students' abilities will provide positive results for students, both in the development of motor skills and student personality [22]. In addition, physical learning is supported by innovation and appropriate learning modifications, especially by modifying the game sport, it can contribute well to the learning process.

The Learning Activity Indicator was 2,46 in the less category. The contribution of physical education will only be meaningful when the experiences in physical education relate to the whole process of one's life. Whereas the experience of physical education does not contribute to other educational experiences, there must be errors in the implementation of the physical education program [23]. Learning Evaluation Indicators of 2,38 are included in the less category. The evaluation of learning outcomes is a process to determine the learning value of learners through assessment activities and/or measurement of learning outcomes. The main goal is to determine the level of success that is achieved by students after participating in a learning activity, where the level of success is then marked by a scale of grades in the form of letters, words or symbols [24].

CONCLUSION

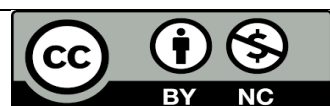
The conclusion of the average score of all aspects and categories shows the less category, so that the learning model for kindergarten students need to be corrected.

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Factors affecting Tourist Experience Expectations: Evidence in the Central Highlands of Vietnam



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ABSTRACT: This study examines the factors affecting tourist experience expectations in the Central Highlands of Vietnam. A survey questionnaire and focus group discussion were used to gather data from tourists visiting the region. This study was conducted through a cross-sectional survey using purposeful sampling (n=200). Multivariable linear regression analysis techniques and moderator regression were applied to prove the proposed hypotheses. The results of the study revealed that psychological factors, such as motivation and perception, were also identified as important determinants of experience expectations. Socio-cultural factors, such as cultural values and norms, were found to play a role in shaping experience expectations, while economic factors, such as budget and exchange rate, were found to be critical in determining experience expectations. Environmental factors, such as climate and environmental quality, were also found to have a significant impact on experience expectations. The findings of this study contribute to our understanding of the factors influencing tourist experience expectations and have implications for tourism stakeholders in the Central Highlands of Vietnam.

KEYWORDS: psychological; socio-cultural; economic; environmental; tourist; experience; expectations; highlands, Vietnam

INTRODUCTION

Tourist experience refers to the overall perceptions, feelings, and emotions that a traveler has while visiting a destination. It includes all aspects of the travel experience, such as the sights, sounds, and activities encountered during a trip (Gallarza & Gil, 2008). Tourist experience expectations play a crucial role in determining the success of a travel destination (Chen & Chen, 2010). If tourists have high expectations for their travel experience and these expectations are not met, they are likely to be dissatisfied with their trip. On the other hand, if their expectations are exceeded, they are more likely to have a positive travel experience and recommend the destination to others (Jin, Lee, & Lee, 2015; Chen & Chen, 2010). Local communities' active participation and support are essential for sustainable tourism development in the Central Highlands of Vietnam (Nguyen, Ngo, Do, & Nguyen, 2020; Nguyen, Hoang, Nguyen, FumikazuVo, & Nguyen, 2022). The cultural and natural heritage of the Central Highlands is a valuable resource for sustainable tourism development (Tran, 2022; Simons, 2009). Local communities should play a role in preserving and promoting the cultural and natural heritage of the region, including through the development of sustainable tourism products and services (Lan, Tien, Van Tho, & Uyen, 2022).

The purpose of this study is to examine the factors affecting tourist experience expectations in the Central Highlands of Vietnam. The study will help to understand the psychological, socio-cultural, economic, and environmental factors that shape tourists' expectations and inform the development of strategies to improve the tourist experience in the Central Highlands of Vietnam. The research question for this study is: What are the key factors affecting tourist experience expectations in the Central Highlands of Vietnam? This study will focus on tourists visiting the Central Highlands of Vietnam and will include domestic tourists. The study will use a quantitative research method to collect data through a survey questionnaire. The survey will focus on the psychological, socio-cultural, economic, and environmental factors affecting tourist experience expectations. The data collected will be analyzed using exploratory factor analysis to identify the key factors affecting tourist experience expectations in the Central Highlands of Vietnam.

LITERATURE REVIEW

Tourist experience has become a critical aspect of travel and tourism, with researchers and practitioners alike recognizing its importance (Blain, Levy, & Ritchie, 2005). Tourist experience can shape the success of a travel destination and impact the decision

Factors affecting Tourist Experience Expectations: Evidence in the Central Highlands of Vietnam

to return to the destination or recommend it to others (Humphreys, 2014). The overall tourist experience is influenced by various factors, including the destination, the activities and services offered, and the traveler's expectations.

Factors affecting tourist experience expectations:

Psychological factors

Psychological factors such as motivation, personality, and values can also impact tourist experience expectations (Gnoth, 1997). Travelers may be motivated by a desire for adventure, relaxation, or cultural experiences, and these motivations can shape their expectations for their travel experience (Gnoth, 1997; Çelik & Dedeoğlu, 2019). Psychological factors play a crucial role in shaping tourist experience expectations. Tourists are motivated to travel for various reasons, such as seeking adventure, relaxation, cultural experiences, or to escape their daily routines (Larsen, 2007). Their motivations shape their travel plans and expectations, and drive their decision-making process when choosing destinations and travel activities (Chen, Wang, & Morrison, 2021; Juvan, Omerzel, & Maravić, 2017). Positive attitudes tend to lead to higher expectations for a positive experience, while negative attitudes can lower expectations and lead to disappointment (Kilavuz & Sumaktoyo, 2020; Hooghe, Marien, & Oser, 2017). Tourists' personality traits, such as extraversion, openness, and agreeableness, have been shown to influence their travel behavior and experience expectations (Yoo & Gretzel, 2011; Çelik & Dedeoğlu, 2019). For example, extroverted individuals may be more likely to seek out social experiences, while introverted individuals may prefer solitude and quiet activities (Zafar & Meenakshi, 2012). The level of perceived risk associated with travel can also affect tourist experience expectations

Socio-cultural factors

Socio-cultural factors, such as cultural background, beliefs, and attitudes, can also impact tourist experience expectations (Kirchberg & Tröndle, 2012). For example, travelers from different cultural backgrounds may have different preferences for travel activities and experiences (Chang, Kivela, & Mak, 2011). Socio-cultural factors refer to the cultural, social, and personal background of tourists, and how these factors shape their experiences and expectations (Chang, 2006). Tourists' cultural background, values, and beliefs can significantly impact their experience expectations and preferences (Reisinger & Turner, 2012). For example, some cultures may place a greater emphasis on respect for local customs and traditions, while others may prioritize personal comfort and convenience (Calhoun, 2003; Lingenfelter & Mayers, 2003). Social norms and expectations, such as the expectations of family, friends, and travel companions, can also affect tourist experience expectations (Bowie & Chang, 2005; Cohen, Prayag, & Moital, 2014). Tourists may feel pressure to conform to these expectations, or they may seek to differentiate themselves and have unique experiences (Wearing, 2001; Gnoth, 1997). Personal values and beliefs, such as environmental awareness or ethical considerations, can also influence tourist experience expectations (Wheeler, 1995; Kronlid & Öhman, 2013; Žeber-Dzikowska, Chmielewski, & Wojciechowska, 2016). For example, environmentally conscious tourists may seek out eco-friendly travel experiences and accommodations (Žeber-Dzikowska, Chmielewski, & Wojciechowska, 2016). Tourists' prior travel experiences can shape their experience expectations and preferences. For example, a tourist who has previously had a positive experience with a particular destination or activity may have higher expectations for their next visit (Gnoth, 1997; Bowie & Chang, 2005). Tourists may also be influenced by reference groups, such as friends, family, or travel influencers, whose opinions and recommendations can impact their experience expectations (Hsu, Kang, & Lam, 2006; Kristiningsih, Soebandhi, & Suryasaputra, 2022).

Economic factors

Economic factors, such as income and spending patterns, can also impact tourist experience expectations (Uysal, 1998; Mortazavi, 2021). Higher income travelers may be more likely to spend more on travel services and experiences, which can shape their expectations for their trip (Uysal, 1998; Wang & Davidson, 2010). Economic factors refer to the financial and economic conditions that influence tourist behavior and experience expectations (Moutinho, 1987). Tourists' financial constraints play a significant role in shaping their experience expectations. Tourists with limited budgets may have lower expectations for luxury experiences, while those with larger budgets may expect a higher standard of service and comfort (Uysal, 1998; Mortazavi, 2021). Exchange rate fluctuations can also impact tourist experience expectations, as they affect the cost of travel and the purchasing power of tourists (Papatheodorou, Rosselló, & Xiao, 2010; Smeral, 2009). For example, tourists from countries with a stronger currency may have higher expectations for their travel experience (Uysal, 1998; Saha & Yap, 2014). Tourists' personal income levels can also impact their experience expectations, as higher-income individuals may have greater financial resources for travel and be more likely to seek out luxury experiences (Bhandari & Heshmati, 2010; Hsu, Cai, & Wong, 2007). The overall economic conditions in the destination country can also affect tourist experience expectations (Manente & Minghetti, 2006; Kivela & Crotts, 2006). For example, a destination experiencing economic growth may offer more opportunities for tourist experiences, while a destination experiencing economic decline may offer fewer options and lower quality experiences (Piramanayagam, Rathore, & Seal, 2021; Stolarick, Denstedt, Donald, & Spencer, 2010). Tourists' price sensitivity can also impact their experience expectations, as they

Factors affecting Tourist Experience Expectations: Evidence in the Central Highlands of Vietnam

may be more or less willing to pay premium prices for certain experiences and accommodations based on their budget and economic considerations (Masiero & Nicolau, 2012; Chua, Lee, Goh, & Han, 2015).

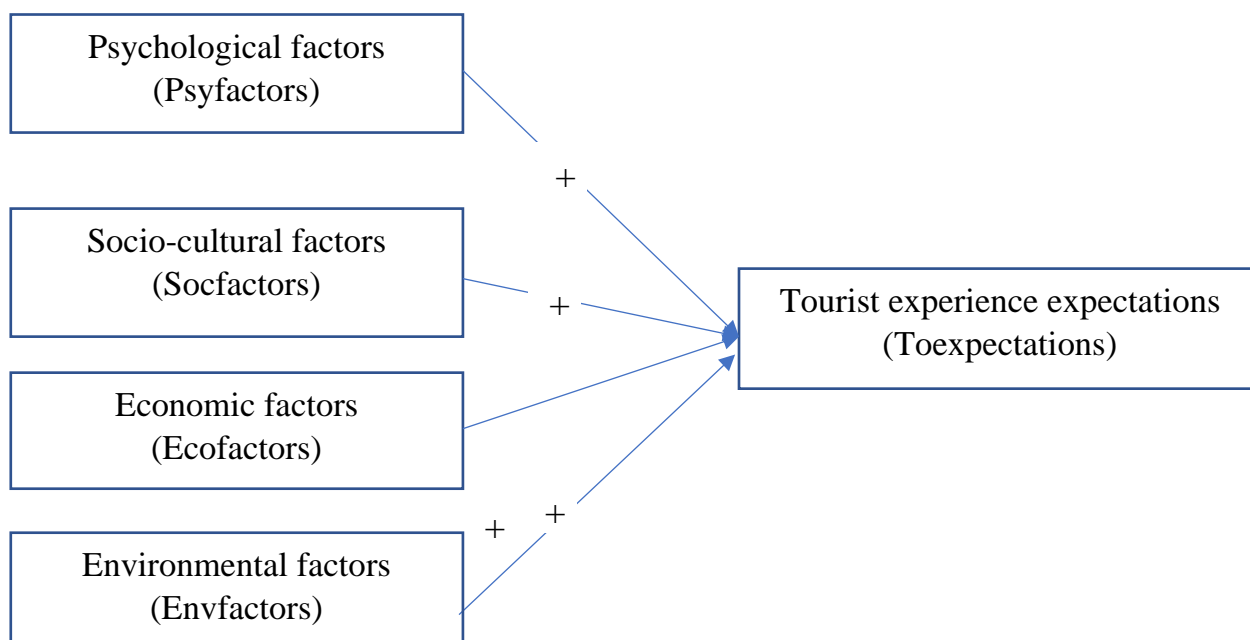
Environmental factors

Environmental factors, such as the physical and social environment of the destination, can also impact tourist experience expectations (Cutler & Carmichael, 2010). For example, travelers may have different expectations for their travel experience depending on the level of development, safety, and cleanliness of the destination (Susilo & Cats, 2014). Environmental factors refer to the physical, geographical, and climatic conditions in the destination, and how they influence the tourist experience (Martín, 2005; de Freitas, 2003; Mihalič, 2000). The physical and geographical characteristics of the destination, such as its natural beauty, climate, and accessibility, can greatly impact tourist experience expectations (Coban, 2012). For example, tourists visiting a tropical beach destination may expect warm weather, crystal-clear waters, and pristine beaches. Climate conditions, such as the temperature, rainfall, and wind patterns, can also affect tourist experience expectations (Marzuki, Hussin, Badaruddin, Othman, & Som, 2011). Tourists visiting a destination during its peak season may expect optimal weather conditions, while those visiting during the off-season may expect less favorable conditions (Kozak & Rimmington, 2000; Amelung, Nicholls, & Viner, 2007). The risk of natural disasters, such as hurricanes, earthquakes, or tsunamis, can also impact tourist experience expectations, as tourists may be more or less willing to visit a destination based on the perceived risk of such events (Nguyen, Esteban, & Iuchi, 2022). The quality of the environment, such as air and water quality, can also impact tourist experience expectations (Deng, King, & Bauer, 2002). Tourists visiting a destination with poor environmental quality may have lower expectations for their experience, while those visiting a destination with high environmental quality may expect a more enjoyable experience (Mihalič, 2000). The sustainability of the destination, including its environmental impact, resource management, and conservation efforts, can also impact tourist experience expectations (Chin, Moore, Wallington, & Dowling, 2000). Tourists who value sustainability may expect a destination to have eco-friendly practices and may seek out experiences that support sustainable tourism.

Previous studies have explored the factors affecting tourist experience expectations and have identified a range of demographic, psychological, socio-cultural, economic, and environmental factors that play a role. Some studies have focused on specific destinations or groups of travelers, while others have taken a broader perspective.

While previous studies have provided insights into the factors affecting tourist experience expectations, there is still a gap in the literature regarding the specific factors that are most influential in the Central Highlands of Vietnam. This study aims to address this gap by examining the key factors affecting tourist experience expectations in the Central Highlands of Vietnam.

We build a research model from the literature reviews above (Figure 1).



Based on the research model, we propose the following research hypotheses:

Hypothesis 1 (H1): Psychological factors has a positive and significant effect on tourist experience expectations.

Hypothesis 2 (H2): Socio-cultural factors has a positive and significant effect on tourist experience expectations.

Hypothesis 3 (H3): Economic factors has a positive and significant effect on tourist experience expectations.

Hypothesis 4 (H4): Environmental factors has a positive and significant effect on tourist experience expectations.

Factors affecting Tourist Experience Expectations: Evidence in the Central Highlands of Vietnam

METHODOLOGY

Construction and participant

We conducted this study in the Central Highlands provinces of Vietnam, including Đak Lak and Lam Dong province, in early 2022. This time is very suitable to attract tourists for many purposes such as scenic experience, cuisine, music, adventure discovery, ... This study will use a quantitative research design, which will involve collecting data through a survey questionnaire. The survey questionnaire will be designed to elicit information about the psychological, socio-cultural, economic, and environmental factors affecting tourist experience expectations in the Central Highlands of Vietnam. The survey questionnaire will be the primary data collection method used in this study (Hafekost et al, 2016; Thanh, Tung, Nguyen, Pham, & Nguyen, 2021). The questionnaire will be designed to capture information about the demographic characteristics of the participants, as well as their expectations for their travel experience in the Central Highlands of Vietnam. The questionnaire will also include questions about the factors affecting their expectations, including psychological, socio-cultural, economic, and environmental factors.

In addition to the survey questionnaire, a focus group discussion will be conducted with a small number of participants (Nguyen, Tran, & Tran, 2022). The focus group discussion will provide an opportunity to delve more deeply into the factors affecting tourist experience expectations and to gain a deeper understanding of the experiences and perspectives of travelers visiting the Central Highlands of Vietnam. This process is carried out according to the rules to adapt between Vietnamese cultures. Then, after a final discussion between the translator and the principal investigator, we created a Vietnamese version. A professional bilingual sociology expert contributed to this edition with minor adjustments. This final version was pre-tested on 40 participants representing age, sex, education, and occupation demographics. Participants for this study will be selected through a convenience sampling method, and will include both domestic and international tourists visiting the Central Highlands of Vietnam. The sample size will be determined based on the availability

The data collected through the survey questionnaire and focus group discussion will be analyzed using exploratory factor analysis. This method will be used to identify the key factors affecting tourist experience expectations in the Central Highlands of Vietnam. The results of the factor analysis will be used to provide insights into the factors that are most important to tourists visiting the Central Highlands of Vietnam and to inform the development of strategies to improve the tourist experience in the region. The questionnaire was sent directly to the respondents by the purposeful sampling method. As a result, 200 questionnaires were distributed, all of them returned. Table 1 shows the demographic information of the study participants.

		Education					
		<i>Bachelor's degree</i>		<i>High school diploma</i>		<i>Master's degree</i>	
		Count	Row N %	Count	Row N %	Count	Row N %
Gender	Female	43	71.7%	9	15.0%	8	13.3%
	Male	97	69.3%	25	17.9%	18	12.9%
Age	20-25 years	54	68.4%	14	17.7%	11	13.9%
	26-30 years	17	56.7%	9	30.0%	4	13.3%
	31-35 years	30	83.3%	3	8.3%	3	8.3%
	36-40 years	22	68.8%	5	15.6%	5	15.6%
	Over 40 years old	17	73.9%	3	13.0%	3	13.0%
Occupation	student	19	63.3%	8	26.7%	3	10.0%
	worker	19	73.1%	5	19.2%	2	7.7%
	business	38	71.7%	7	13.2%	8	15.1%
	officer	20	66.7%	5	16.7%	5	16.7%
	student	22	73.3%	2	6.7%	6	20.0%
	teacher	22	71.0%	7	22.6%	2	6.5%

Analyzing the Reliability of the Scales

Reliability refers to the consistency and stability of measurement. When it comes to scales, reliability is a crucial aspect as it determines the accuracy and dependability of the results obtained from the scale. It is important to note that no single method can provide a complete assessment of the reliability of a scale, and a combination of methods is often used to get a comprehensive understanding of the reliability of a scale. Additionally, it is also important to consider the context in which the scale is being used, as the reliability of a scale may vary depending on the population being tested and the specific purpose for which the scale is being

Factors affecting Tourist Experience Expectations: Evidence in the Central Highlands of Vietnam

used. In this research, using methods such as Cronbach's alpha, which is a statistical measure of the reliability of a scale. We analyze Cronbach's Alpha to identify and remove garbage variables to avoid creating biased factors when analyzing exploratory factor analysis. Cronbach's Alpha coefficient has a variable value in the interval [0,1]. Therefore, a measurement variable has Reliability coefficients ≥ 0.3 , that variable meets the requirements (Cronbach, 1951; Taber, 2018). The criterion of Cronbach's Alpha coefficient > 0.6 , and the correlation coefficient of the sum variable in each scale > 0.3 (Hair, Black, Babin, & Anderson, 2010). Table 2 shows that all items meet the standards and ensure the validity of the exploratory factor analysis in the next step.

Table 2. Summary of Reliability and Relative Minimum Variables of Scales

Scales	Number of variables observed	of Reliability (Cronbach Alpha)	The correlation coefficient of the smallest total variable
Psyfactors	4	0.779	0.508
Socfactors	3	0.741	0.514
Ecofactors	3	0.744	0.560
Envfactors	4	0.779	0.567
Toexpectations	4	0.809	0.699

Exploratory factor analysis

Exploratory Factor Analysis (EFA) is a statistical technique used in the social sciences, particularly in psychology and sociology, to analyze the relationships between a set of variables. It is used to identify underlying factors or dimensions that explain the variation in the data. In an EFA, a large number of variables are reduced to a smaller set of factors, which are interpreted as representing the underlying dimensions or constructs of interest. This reduction in the number of variables makes it easier to understand the relationships between the variables and to identify patterns in the data (Cudeck, 2000; Fabrigar & Wegener, 2011). EFA is considered an "exploratory" technique because it is used to generate hypotheses about the relationships between variables, rather than to test specific hypotheses (Fabrigar, Wegener, MacCallum, & Strahan, 1999). The results of an EFA can be used to guide the development of more focused and precise measurements in future studies.

Table 3. Exploratory factor analysis

Principal Components Analysis

Call: principal(r = da1, nfactors = 5, rotate = "varimax")

Standardized loadings (pattern matrix) based upon correlation matrix

item	RC4	RC1	RC2	RC3	RC5	h2	u2	com
Question18	18	0.79			0.68	0.32	1.2	
Question15	15	0.76			0.66	0.34	1.3	
Question16	16	0.74			0.64	0.36	1.4	
Question17	17	0.67			0.60	0.40	1.7	
Question11	11	0.79			0.67	0.33	1.2	
Question12	12	0.72			0.65	0.35	1.5	
Question14	14	0.68			0.56	0.44	1.5	
Question13	13	0.65			0.57	0.43	1.7	
Question4	4	0.78			0.67	0.33	1.2	
Question3	3	0.76			0.62	0.38	1.1	
Question2	2	0.76			0.69	0.31	1.4	
Question1	1	0.63			0.52	0.48	1.6	
Question6	6		0.80		0.70	0.30	1.2	
Question7	7		0.80		0.72	0.28	1.3	
Question5	5		0.72		0.60	0.40	1.3	
Question10	10			0.79	0.71	0.29	1.3	
Question9	9			0.71	0.68	0.32	1.7	
Question8	8			0.67	0.65	0.35	1.9	

RC4 RC1 RC2 RC3 RC5

Factors affecting Tourist Experience Expectations: Evidence in the Central Highlands of Vietnam

SS loadings 2.61 2.49 2.47 2.08 1.93
 Proportion Var 0.15 0.14 0.14 0.12 0.11
 Cumulative Var 0.15 0.28 0.42 0.54 0.64
 Proportion Explained 0.23 0.21 0.21 0.18 0.17
 Cumulative Proportion 0.23 0.44 0.65 0.83 1.00
 Mean item complexity = 1.4

Test of the hypothesis that 5 components are sufficient.

The root mean square of the residuals (RMSR) is 0.06
 with the empirical chi square 211.44 with prob < 2.1e-15

Fit based upon off diagonal values = 0.97

After Cronbach's Alpha analysis, an exploratory factor analysis extracts principal components and varimax rotation to group factors. With a sample size of 200, the factor loading of the observed variables > 0.5, and variables in the research model converge on the same element, distinguished from other factors. In addition, the Kaiser-Meyer-Olkin coefficient (KMO) must be in the range of $0.5 \leq KMO \leq 1$ (Cerny & Kaiser, 1977; Kaiser, 1974; Snedecor, George, Cochran & William, 1989). Table 3 shows that all factor loading coefficients of the observed variables > 0.5; Bartlett test with Sig meaning. = 0.000 with KMO coefficient = 0.880. All 18 items were extracted into 5 factors with Eigenvalues > 1 and cumulative variance percent = 64.3107%. Thus, the research model consisting of 4 independent variables and 1 dependent variable is used for multivariable linear regression analysis and moderator regression analysis to test the proposed hypothesis.

Pearson correlation analysis

Pearson's correlation coefficient, also known as Pearson's r, is a measure of the linear relationship between two variables. It ranges from -1 to 1, where -1 indicates a perfect negative correlation, 1 indicates a perfect positive correlation, and 0 indicates no correlation (Mansson, Tsapogas, Akerlund, Lagergren, Gisler, & Sigvardsson, 2004; Sensuse, Cahyaningsih, & Wibowo, 2015). Pearson's correlation analysis is a statistical method that is used to assess the strength and direction of the relationship between two continuous variables (Yang, Kang, Huang, Cui, Bai, & Wei, 2021). The purpose of this analysis is to determine if there is a relationship between two variables and, if so, to describe the nature of that relationship.

Pearson correlation measures the statistical relationship, or association, between quantitative variables. Figure 2 shows that the correlation coefficient of the relationship between the dependent and independent variables is statistically significant (Sig. < 0.05). Thus, the variables used to analyze the multiple linear regression and the moderator regression in the next step.

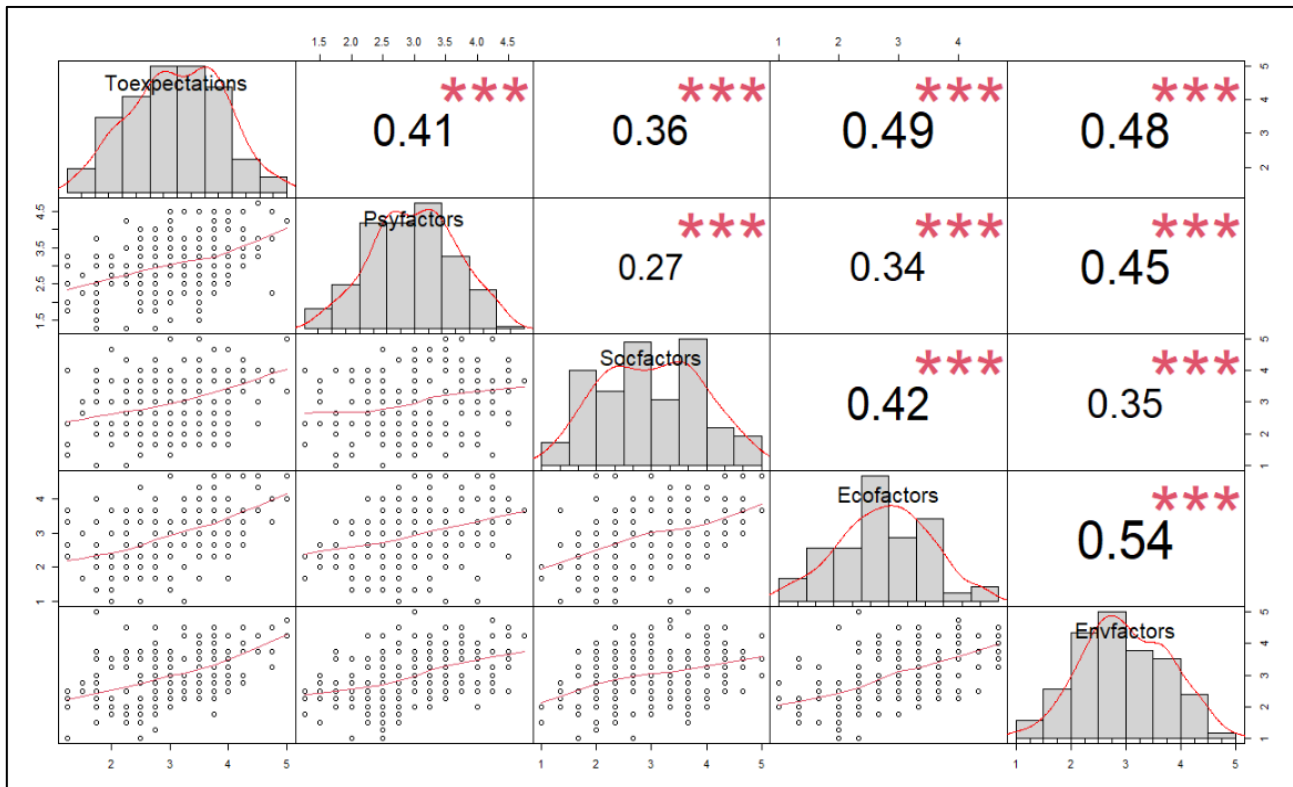


Figure 2. Pearson correlation analysis results

Factors affecting Tourist Experience Expectations: Evidence in the Central Highlands of Vietnam

Linear regression analysis and Moderation regression

Multivariable linear regression determines the relationship between 4 independent variables, including Psyfactors, Socfactors, Ecofactors, Envfactors and a dependent variable: Toexpectations. Table 4 shows that the research model has a coefficient of determination ($R^2 = 0.353$), means that the linear regression model fit the data set = 0.353% The F-test of overall significance indicates is 95% significance level (p.value = 0.000), showing that the regression analysis model is valid.

Table 4. The results of multiple linear regression analysis

Dependent variable:	
Toexpectations	
Psyfactors	0.208*** (0.072)
Socfactors	0.120** (0.059)
Ecofactors	0.257*** (0.073)
Envfactors	0.230*** (0.078)
Constant	0.584** (0.246)
Observations	200
R2	0.353
Adjusted R2	0.340
Residual Std. Error	0.683 (df = 195)
F Statistic	26.616*** (df = 4; 195)
Note:	*p<0.1; **p<0.05; ***p<0.01

RESULTS

Factors affecting tourist experience expectations: The results of the exploratory factor analysis will identify the key factors affecting tourist experience expectations in the Central Highlands of Vietnam. These factors will be grouped into five categories: demographic factors, psychological factors, socio-cultural factors, economic factors, and environmental factors.

Firstly, research results (Table 4) show that hypothesis H1 is accepted. In the context of Vietnam, there is a positive and significant relationship between of psychological factors, such as motivation, personality, and values, on tourist experience expectations in the Central Highlands of Vietnam. with regression weight ($\beta = 0.208$) and the reliability of 95% (p.value = 0.000) This information will provide insight into the motivations and preferences of travelers and inform the development of strategies to meet their expectations and needs (Gnoth, 1997; Çelik & Dedeoğlu, 2019; Park & Yoon, 2009).

Secondly, the research results (Table 4) show that hypothesis H2 is accepted. In the context of Vietnam, there is a positive and significant relationship between of socio-cultural factors, such as cultural background, beliefs, and attitudes, on tourist experience expectations in the Central Highlands of Vietnam. with regression weight ($\beta = 0.157$) and the reliability of 95% (p.value = 0.001). This information will provide insight into the cultural differences among travelers and inform the development of culturally-sensitive strategies to improve the tourist experience in the region (Donohoe, 2011; Duxbury, 2021).

Thirdly, research results (Table 4) show that hypothesis H3 is accepted. There is a positive and significant relationship between of economic factors, such as income and spending patterns, on tourist experience expectations in the Central Highlands

Factors affecting Tourist Experience Expectations: Evidence in the Central Highlands of Vietnam

of Vietnam. with regression weight ($\beta = 0.257$) and the reliability of 95% ($p.value = 0.000$). This information will provide insight into the budgeting and spending behaviors of travelers and inform the development of strategies to provide affordable travel options that meet their needs and expectations (Chang, 2009; Kozak & Martin, 2012).

Finally, the research results (Table 4) show that hypothesis H5 is accepted. In the context of Vietnam, there is a positive and significant relationship between of environmental factors, such as the physical and social environment of the destination, on tourist experience expectations in the Central Highlands of Vietnam. with regression weight ($\beta = 0.230$) and the reliability of 95% ($p.value = 0.000$). This information will provide insight into the preferences of travelers for different types of environments and inform the development of strategies to improve the overall quality of the tourist environment in the region (Kiper, 2013; Formica & Kothari, 2008).

The results of the study will provide evidence on the factors affecting tourist experience expectations in the Central Highlands of Vietnam. This evidence will be used to inform the development of strategies to improve the tourist experience in the region, and to provide insights into the preferences and expectations of travelers visiting the Central Highlands of Vietnam.

DISCUSSION

This research provide an overview of the key findings of the study and their implications for the tourist experience in the Central Highlands of Vietnam, focus on the five factors affecting tourist experience expectations and the evidence of their impact on the region and explore the implications of the findings for various tourism stakeholders, including tourist boards, tour operators, accommodation providers, and tourist attractions.

The findings will inform the development of strategies by tourist boards to improve the overall tourist experience in the Central Highlands of Vietnam. For example, the results may suggest the need for tourist boards to provide more information on cultural and environmental factors to attract travelers with specific preferences and expectations.

The findings will inform the development of strategies by tour operators to improve the quality of their services and to meet the expectations of travelers. For example, the results may suggest the need for tour operators to provide a range of tour options to cater to the different preferences of travelers.

The findings will inform the development of strategies by accommodation providers to improve the quality of their services and to meet the expectations of travelers. For example, the results may suggest the need for accommodation providers to offer a range of options to cater to different budgets and preferences.

The findings will inform the development of strategies by tourist attractions to improve the quality of their services and to meet the expectations of travelers. For example, the results may suggest the need for tourist attractions to provide more information on the cultural and environmental factors of the attractions to attract travelers with specific preferences and expectations.

The discussion will highlight the limitations of the study, such as the small sample size, the limited geographical scope, and the potential for self-reported bias in the survey data.

The discussion will suggest areas for future research, such as exploring the impact of factors such as technology and social media on tourist experience expectations, and the need for further studies in other regions of Vietnam. The discussion will also suggest the need for longitudinal studies to explore changes in tourist experience expectations over time and the potential impact of these changes on the tourist industry in the Central Highlands of Vietnam (Chien & Thanh, 2022).

CONCLUSION

The research summarizes the study's key findings and implications for the tourist experience in the Central Highlands of Vietnam. The conclusion highlights the five factors affecting tourist experience expectations and the evidence of their impact on the region, discusses the study's contribution to the existing literature on tourist experience expectations, and highlights the importance of considering psychological, sociocultural, economic, and environmental factors. This research also discusses the significance of the study for developing strategies by tourism stakeholders in the Central Highlands of Vietnam.

The research provides final thoughts on the importance of understanding tourist experience expectations and the need for further research in this area; it also provides suggestions for future studies in different regions of Vietnam, highlighting the importance of considering the unique cultural, economic, and environmental factors of each area, and also emphasize the importance of understanding tourist experience expectations for the overall development of the tourist industry in Vietnam. As with other empirical studies, there are limitations to this study that should be considered when discussing the results. First, our survey method reflects the subjective perception of the respondents toward the questions being investigated. Personal data has inherent disadvantages that are hard to avoid in surveys (Pakpour, Gellert, Asefzadeh, Updegraff, Molloy, & Sniehotta, 2016). Our data is collected over a single period, so there are certain limitations in analyzing and evaluating the

Factors affecting Tourist Experience Expectations: Evidence in the Central Highlands of Vietnam

results (Xin & Zhanyou, 2019; Chien & Thanh, 2022). Future research should combine cross-sectional and longitudinal studies.

The purposeful sampling method has certain limitations, not fully reflecting population characteristics (Lin et al., 2016; Strong et al., 2018; Thanh, Tung, Nguyen, Pham, & Nguyen, 2021). In addition, our survey was conducted in a Vietnamese cultural context. Therefore, more general statements are needed than could be made by applying the development research model and research conclusions to other countries. Other countries and cultures (Sun et al., 2012; Thanh, Hiep, & Tung, 2021).

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CONFLICT OF INTEREST

All authors declare that there is no conflict of interest.

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Developing Website for Taekwondo Learning Media to Junior High School Students



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ABSTRACT: This study aims to produce a learning product in a form of website as Taekwondo learning media for eighth-grade students, which can also be used to help teachers in teaching. It is expected that this product can be used as a learning media. This study uses the Research and Development method. The development of this website media went through the stages developed by Nur Rohmah: Introduction, general design development, multimedia design development, product evaluation, and final results. The initial product was evaluated by material experts and then media experts. After getting evaluated by experts, the trial was conducted on the eighth-grade students of Junior High School 1 Godean through two stages: small-scale tests and large-scale tests. The data analysis techniques used were quantitative and qualitative. The results of the study produced a website-based learning media product for eighth graders of junior high school. Media product quality: "excellent" based on media experts validation and "excellent" based on material experts validation. Assessments from small-scale students were "excellent", and from large-scale students were also "excellent". Thus, it can be concluded that website-based media should be used to help educators in delivering materials.

KEYWORDS: website, development, martial arts, taekwondo

I. INTRODUCTION

One of the knowledge of physical skills taught in Junior High School is Taekwondo. Some forms of skill in Taekwondo include stances, strikes, punches, kicks, slashes, and punctures. By learning Taekwondo, students will get various positive benefits, which can be in the form of courage, body attitude, confidence, and new experiences so that the students will be more developed.

Activities in Taekwondo learning for some students are challenging. Students who like challenges will be interested in Taekwondo materials, but there are also students who are less interested in learning Taekwondo. According to Mahendra (2017: 87) "there are no children who are alike in every way. They are usually different in physical terms, as well as in terms of personality and other individual differences. What one child or another enjoys can be boring or frightening to another."

Learning using media has the advantage of repetition of motion that can help students in learning motion. The media also provides indirect encouragement to students. Media can make learning effective because with learning media, the lesson can be repeated, for example, in its movement. In physical education, the existence of media is very important to help the learning process of the student movement. Direct examples from teachers are important, but through the media, teachers can provide examples sparingly, and with the media, teachers can play an active role in corrections. Hurlock (2011: 157) states, "to be able to imitate a model correctly, students need guidance. The guidance also helps them to correct mistakes before they are learned so well that they will be difficult to correct again". Media also plays an important role in helping students who are weak in understanding and capturing learning verbally (talking teachers). Examples of movement will be visible so that learners can have an alike understanding among other learners. On the other hand, the media also has a function when teachers are constrained to provide examples of movement.

Martial arts learning, especially Taekwondo, is one of the subjects taught in junior high schools, but not all schools teach Taekwondo. It is because Taekwondo learning is considered uncommon, in contrast to big and small ball games, and teachers are also not all competent in teaching Taekwondo learning materials, so they are reluctant to teach the material. However, it can be replaced by learning media such as watching videos or providing students with an overview of basic Taekwondo techniques. In responding to this issue, this study creates a website about learning media. It can help teachers in teaching material about

Developing Website for Taekwondo Learning Media to Junior High School Students

Taekwondo learning. With learning media, students will also be more enthusiastic and not bored in learning it, and it can be accessed anywhere at any time.

During the Covid-19 pandemic, teachers are required to provide different learning. Face-to-face learning is limited and even eliminated to reduce the transmission of Covid-19. Therefore, sports teachers must provide sports learning online. Currently, online learning for Taekwondo is still lacking. However, with learning media, teacher can easily provide material about Taekwondo through the website. Through the learning media, teachers can provide an overview of the basic techniques in Taekwondo even though the teacher can no longer practice but can show the learning media to students through a simple website. Students can access the website easily and anywhere. Learning Taekwondo online during the Covid-19 pandemic makes learning independent. Therefore, students are required to learn independently, but for Taekwondo, learning materials are not all available on the internet.

The role of media is very important for teachers in helping the teaching and learning process. Through the media, learners can learn more easily by capturing the material presented. With the media, the purpose of offline learning can be conveyed so that students are expected to apply the knowledge or material that has been taught in everyday life. Increasingly, more and more media can be reached through internet access, and the right learning media is expected to achieve the learning goals.

II. METHOD

The type of research was research and development. This research used the stages of design and development. According to Brog and Gall (1983), development research procedures consist of two main objectives, namely : (1) developing the product and (2) testing the effectiveness of the product in achieving the goal. The data source or subjects of this study were students in one class of eighth grade (VIII) of Junior High School 1 Godean Sleman. The test subjects were 94 students from classes VIII A, VIII B, and VIII C. The data were collected in the form of quantitative and qualitative data. Quantitative data is data in numbers (primary data), while qualitative data is in the form of inputs or suggestions as additional data. The data obtained through the assessment instrument at the time of the tests was then analyzed using qualitative descriptive statistics. This analysis aimed to describe the characteristics of the data in each variable. Quantitative data obtained from the assessment questionnaire were then analyzed using a scale of 5 using the conversion reference from Sukarjo, which was quoted by Nur Rohmah Muktiani (2008: 78). The research period was carried out starting in November 2021.

III. DISCUSSION

Material experts used as validators in this study have several conditions that must be owned, namely: Lecturers of the Faculty of Sports Science, have competence in Taekwondo, teach or have taught about Taekwondo, and have also done or been active in research

Table 1. The Distribution of Frequency Assessment of Learning Aspects by Material Experts in Stage I

Criteria	Frequency	%
Very Good	9	75
Good	3	25
Fair	0	0
Poor	0	0
Very Poor	0	0
Total	12	100

Developing Website for Taekwondo Learning Media to Junior High School Students

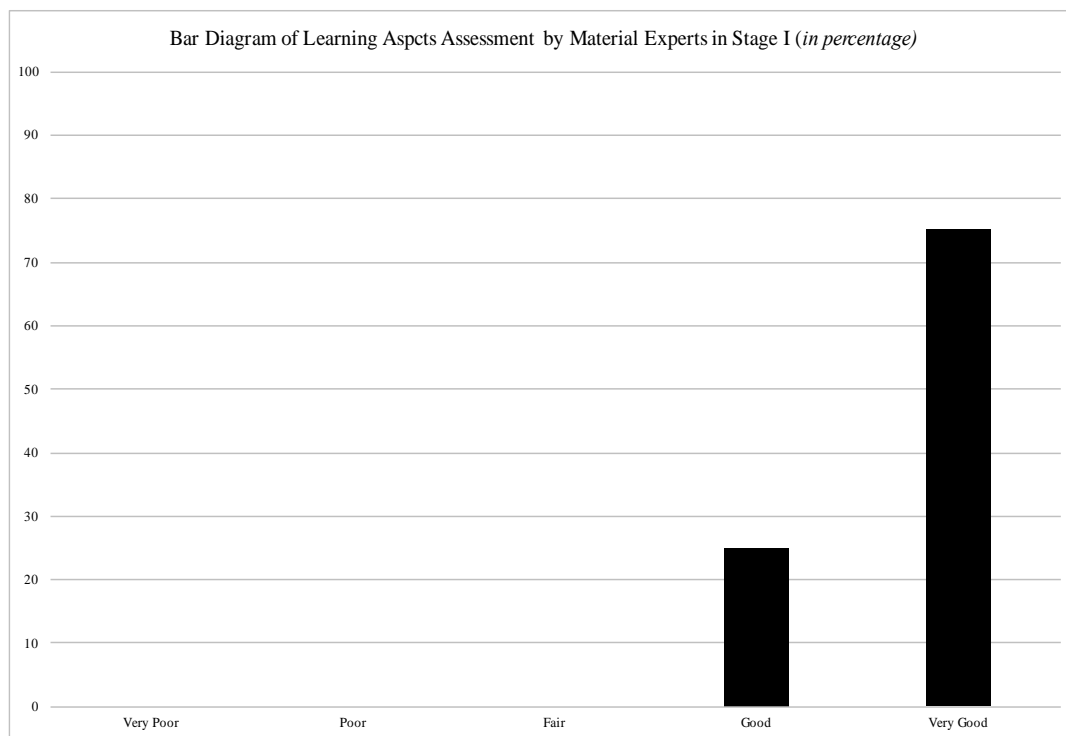


Figure 1. Validation bar diagram of learning aspects by material experts in stage I

From the data above, it can be concluded that in the validation of stage I by material experts for learning media that researchers develop, the results for the learning aspect got the following values: very poor received percentage of 0%, poor obtained percentage of 0%, 0% is also included in the category of fair, 25% is included in the good category, and 75% is included in the very good category. Then the overall average was obtained that the assessment of aspects of stage I learning was included in the “very good” category.

Table 2. Frequency Distribution of Content/Material Aspect Assessment by Material Experts in Stage I

Criteria	Frequency	%
Very Good	8	61,54
Good	5	38,46
Fair	0	0
Poor	0	0
Very Poor	0	0
Total	13	100

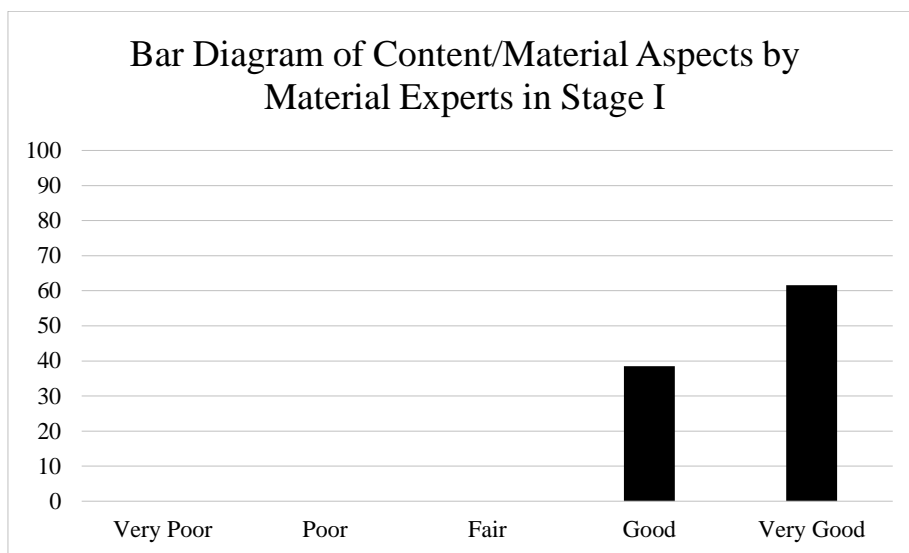


Figure 2. Table of Contents/Material Aspect Assessment Bar by Material Experts

From the data above, it can be concluded that in the validation of stage I, material experts for learning media products that researchers are developing, the material aspect obtained a rating of 0% in the “very poor” category, 0% included in the “poor” category, 0% included in the “fair” category, 38.46% included in the “good” category, and 61.54% included in the “very good” category. Then, an overall average of assessment of material aspects by material experts in stage I has been obtained, which is included in the “very good” category with an average score of 4.5.

Table 3. Quality of learning media products validation results in stage 1 by media experts

Assessment Aspects	Average Score	Criteria
Learning Aspects	4.50	Very Good
Material Aspects	4.61	Very Good
Rerata	4.5	Very Good

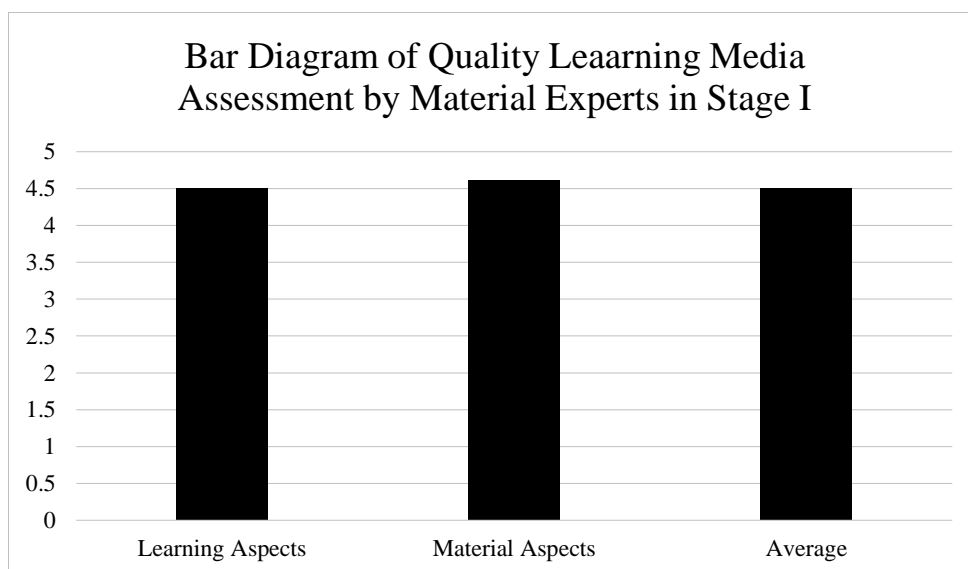


Figure 3. Product Quality Learning Media Validation Results of Material Aspects in Stage I

From the data above, it has been clearly illustrated that the average assessment in the validation of stage I that material experts had carried out regarding the quality of learning media products is included in the “very good” category, with an average score of 4.5 from the two aspects that have been evaluated, namely material aspects and learning aspects.

Table 4. Quality of Learning Media Products in Stage I by Media Experts

Assessment Aspects	Average Score	Criteria
Display Aspects	4.76	Very Good
Programming Aspects	4.85	Very Good
Average	4.85	Very Good

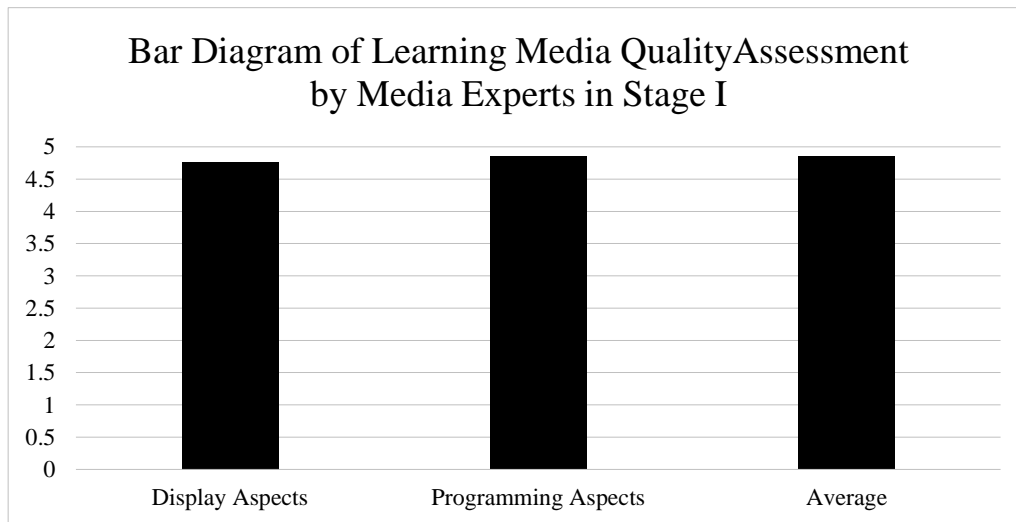


Figure 4. The quality of learning media products by media experts in stage 1

From the data above, it has been clearly illustrated that the average assessment in stage I validation carried out by media experts regarding the quality of learning media products was included in the “very good” category with an average score of 4.85. Then the two aspects are evaluated, namely the aspect of display and the aspect of programming. For the validation of media experts only one questionnaire, because media experts have stated that the media is feasible to be tested on students or test subjects.

Table 5. Frequency Distribution of Assessment of Display Aspects in Small-Scale Tests

Criteria	Frequency	%
Very Good	19	59.37
Good	13	40.63
Fair	0	0
Poor	0	0
Very Poor	0	0
Total	32	100

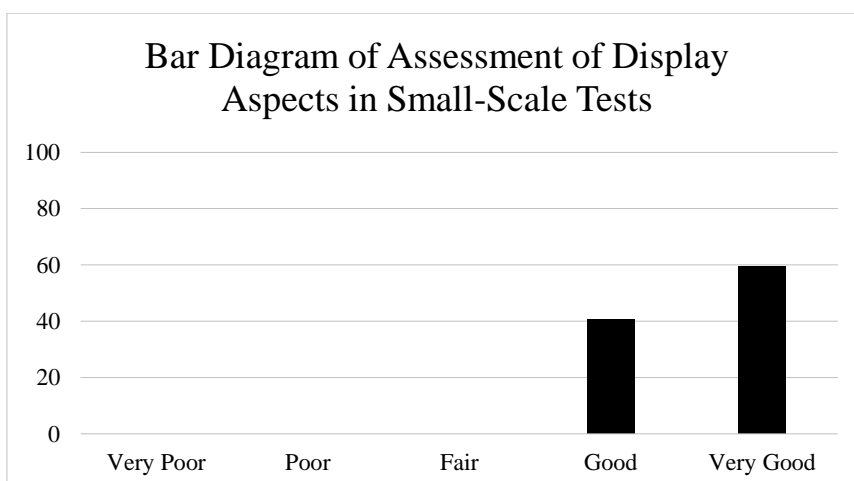


Figure 5. Bar Diagram of Assessment of Display Aspects in Small-Scale Tests by Students

Developing Website for Taekwondo Learning Media to Junior High School Students

The table and diagram above have explained in detail that the results of the study of the display of website based learning media (website product) in small-scale tests by respondents got an average score of 4.3, with 59.37% falling into the “very good” category and 40.63% falling into the “good” category.

The average score for the content/material aspect assessment was 4.4, with 87.50% included in the “very good” category and 12.50% included in the “good” category. Here is a summary of the assessment data on the small-scale tests.

Table 6. The quality of learning media products results in small-scale tests

Assessment Aspects	Average Score	Criteria
Display Aspects	4.3	Very Good
Material Aspects	4.4	Very Good
Learning Aspects	4.4	Very Good
Average	4.36	Very Good

Table 6 with the assessment of the quality of learning media products showed that the small-scale tests results got a “very good” in average score, with the display aspect was 4.3 in very good criteria, the material aspect was 4.4 with very good criteria, and the learning aspect with an average score of 4.4 which is very good criteria too. The average of all the aspect components scored 4.36, with very good criteria.

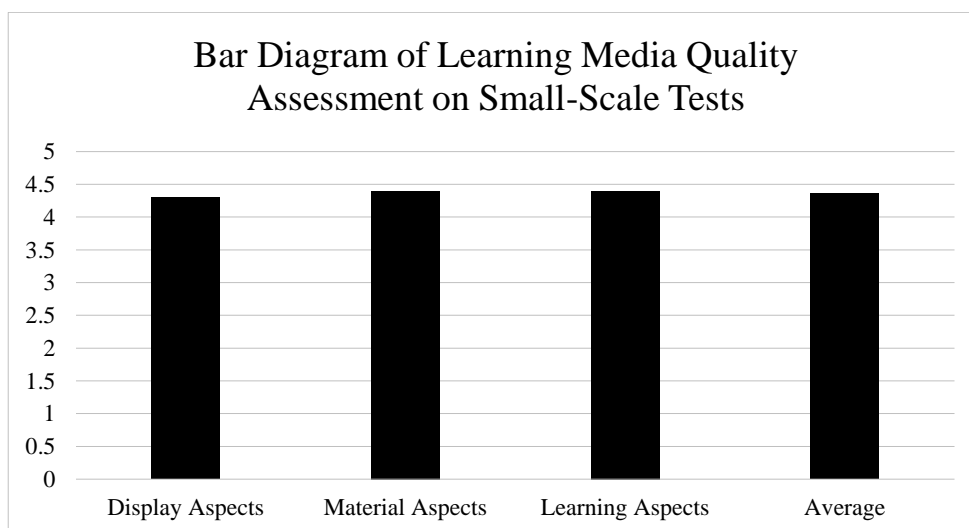


Figure 6. Learning Media Quality Assessment Bar Diagram on Small-Scale Tests

Assessment Aspects	Average Score	Criteria
Display Aspects	4.37	Very Good
Material Aspects	4.4	Very Good
Learning Aspects	4.4	Very Good
Average	4.4	Very Good

Table 7. The quality of learning media products results on large-scale tests

In the aspect of average display assessment, the average score was 4.37, with very good criteria. The material aspect, with an average score of 4.4, is included in the very good criteria, and the learning aspect has a score of 4.4 with very good criteria too. To sum up, all aspects were in very good criteria with an average of 4.4.

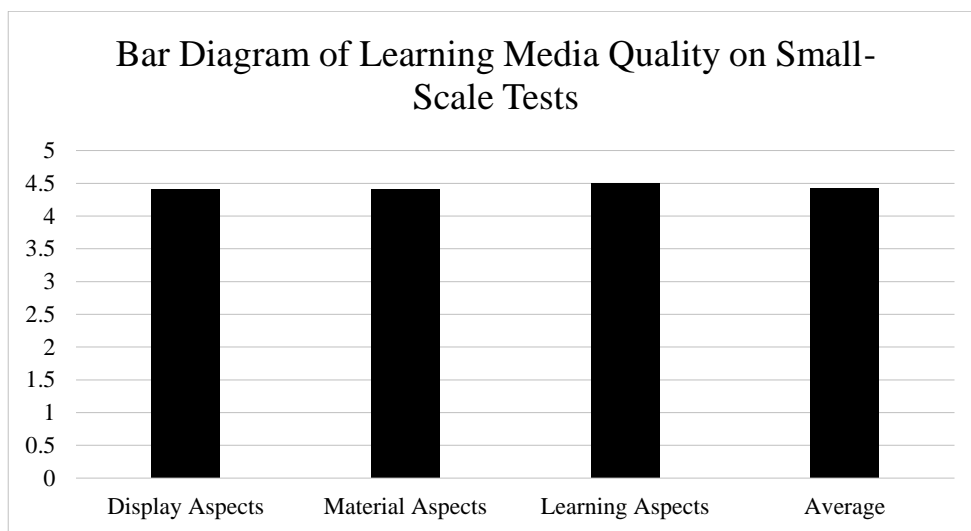


Figure 7. Learning Media Quality Assessment Bar Diagram on Small-Scale Tests

IV. CONCLUSION

Based on research and development of website learning media for students in eighth grade of junior high school, media is useful to help educators/teachers explain the material from Taekwondo martial arts with limitations of giving examples and distance learning due to the Covid-19 Pandemic. More completely, it can be concluded as follows:

1. Creating a website media for Taekwondo learning goes through several stages. The stages of media creation start from the introduction, development of media design, production, and product evaluation. In the preliminary stage, the researcher determines the subjects, identifies the needs, and determines the material to be included in the website media. The next stage is to identify basic competencies, develop materials, develop test items, compile manuscripts, collect materials, and continue making learning media. Creating learning media includes creating websites, Taekwondo learning videos, and creating pdf formats. The production process of early-stage learning media is completed. The final stage is product evaluation using validation by media experts, material experts, and one-on-one trials and large-scale trials by the eighth class students
2. The assessment results by material experts regarding the quality of learning media are included in the “very good” category. Furthermore, the assessment, according to media experts, is included also in “very good” category. Aside from material and media experts, the assessment by learners is broken down as follows. Assessments on small-scale tests fall into the “very good” category, and assessments on large-scale tests fall into the “very good” category too. In the validation of learning material experts, the average score of 4.5 was included in the “very good” category. In the content/material aspects, the average score of 4.61 was included in the “very good” category. In the validation of media experts on the display aspect, the average score of 4.76 was included in the “very good” category, and the programming aspect, the average score of 4.85, was included in the “very good” category. Assessment on small-scale tests obtained an average score of 4.42 in all aspects and was included in the “very good” category. Then in a large-scale tests, the average score of 4.43 overall on aspects of the display, aspects of content/material, and aspects of learning, and included in the category of “very good”.

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Company Performance and Financial Distress in Automotive and Component Companies Listed on the Indonesia Stock Exchange



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ABSTRACT: One of the company's efforts is to avoid financial distress which can result in the closure of the company. The purpose of this study was to examine the effect of financial performance on financial distress. Financial distress is measured using Altman's discriminatory theory or often referred to as the Altman Z-score, while company performance consists of profitability as measured by return on assets (ROA), liquidity is measured by current ratio (CR), leverage is measured by debt to equity ratio (DER), and sales growth. The population of this study were 13 automotive and component companies listed on the Indonesia Stock Exchange (IDX) and 12 companies were taken as a sample because one company had incomplete data. Hypothesis testing using multiple regression analysis with a significance level of 0.05. The results showed that profitability (ROA) and liquidity (CR) had a positive and significant effect on financial distress, while leverage (DER) had a significant but negative effect on financial distress. Other results show that free cash flow and sales growth have no significant effect on financial distress.

KEYWORDS: financial distress, profitability, liquidity, leverage, free cash flow, sales growth

INTRODUCTION

Changes in economic conditions have affected company performance (Septiani & Dana, 2019). This causes increasingly intense competition between companies in maintaining its existence. In this condition, if the company is not able to compete, the company will experience losses that lead to bankruptcy. Therefore, analysis in assessing bankruptcy is considered very important to anticipate bankruptcy in the future. This bankruptcy analysis can be started from a risk analysis that can be seen from the company's internal and external conditions. A company that can understand the condition of its company tends to be better able to analyze possible risks that will occur in the internal environment. While external risk is a condition that comes from outside the company where this condition is more difficult to predict and has a sizeable impact on the company. The Covid-19 pandemic is proof that external conditions affect company performance. These external conditions are also supported by several other factors such as industry trends, political circumstances, natural disasters, etc. which can lead to bankruptcy (Dwiantari & Artini, 2021). The initial indicator of company bankruptcy is the occurrence of financial distress. Financial distress is considered as a signal regarding the health condition of the company so that it is necessary to find the root of the problem so that the company can develop fast and appropriate handling steps.

Financial distress is a broad concept used to describe a situation when a company faces financial difficulties (John & Ogechukwu, 2018). According to Wangsih et al (2021) companies that are in a state of financial distress can be seen through several signs, such as decreased sales volume, decreased company ability to generate profits or operating profits which are in negative numbers, and companies that have large debts. These things show that the company's financial condition is not healthy, but it has not yet experienced bankruptcy. These financial problems are common in companies because they have a big influence, not only on the company side but also on the stakeholders.

Financial distress can be measured using financial reports issued by the company. The company's financial statements are a source of information regarding the company's financial condition and company performance where changes in the company's financial position are very useful to support decision making (Arifin et al, 2021). In its implementation, the information presented in financial reports must be converted first so that it is more valid in making decisions, namely by analyzing company financial ratios with certain models (Asfali, 2019). The financial ratios in this study are the profitability ratio, liquidity ratio, and leverage. In addition to using financial performance indicators, this research also includes other factors, namely cash flow and sales growth.

Profitability is a company's ability to earn profits (Purwanto & Putra, 2022). Profit is one indicator to measure how well a company is performing. Profitability includes the accumulation of all income and costs incurred by the company as the use of

Company Performance and Financial Distress in Automotive and Component Companies Listed on the Indonesia Stock Exchange

assets and liabilities in a certain period. The company's main goal is to earn high profits. High profits will increase the welfare of shareholders and will increase investor interest in investing their funds in the company. In addition, high profits will also describe the company's level of success in managing operational activities. Profitability ratios in this study are measured by proxy Return on Assets (ROA). ROA is used to measure overall asset efficiency and assess a company's ability to generate profits through invested capital. A company with a high ROA level shows that the company is able to properly utilize its assets to earn profits.

According to research conducted by Afiezan et al (2021) and Asfali (2019) states that profitability has a direct positive and significant effect on financial distress. Meanwhile, research conducted by Arifin et al (2021) and Dwiantari (2021) states that profitability proxied by ROA has a significant negative effect on financial distress. This is in contrast to research conducted by Susanti & Takarini (2022) which states that profitability has no significant effect on financial distress.

In addition to profitability, financial distress can also be predicted through liquidity. Liquidity is a company's ability to meet short-term obligations when they fall due. In this study, the liquidity ratio was measured by proxy Current Ratio (CR). CR is used to analyze how much influence the availability of current assets has on fulfilling company obligations. Short-term creditors are very concerned about this CR because the conversion of inventories and accounts receivable into cash is the company's main source of paying short-term creditors. In the view of short-term creditors, the higher the company's CR, the higher the protection (Dirman, 2020).

Based on research conducted by Adiyanto (2021), Syuhada et al (2020), and Diyanto (2020) stated that liquidity has a positive and significant influence on financial distress. However, this research is in contrast to research conducted by Erayanti (2019), Larasati & Wahyudin (2019), and Saputri & Asrori (2019) which state that liquidity has no significant effect on financial distress. This is different from the results of research and Dwiantari & Artini (2021), Purwaningsih & Safitri (2022), and Susanti & Takarini (2022) which state that liquidity has a negative effect on financial distress.

In addition, financial distress can also be predicted through leverage. Leverage is a ratio used to measure how much of a company's activities and assets are financed by debt. If the company uses too much debt in its funding, it will result in long-term debt in the future so that it will increase the possibility of the company experiencing financial distress (Wangsih et al, 2021). Creditors and investors consider this ratio very important to determine the soundness of a company. The leverage ratio in this study is measured by the Debt to Equity Ratio (DER) proxy. DER compares long-term debt with own capital, to show the amount of debt used compared to own capital (Anggraeni & Rahyuda, 2020).

Based on research conducted by Saputri & Asrori (2019), Erayanti (2019), and Afiezan et al (2021) revealed that leverage with the DER proxy has no effect on financial distress. However, it is different from the research conducted by Dwiantari & Artini (2021) and Fatimah, Toha, & Prakoso (2019) which states that leverage has a positive and significant effect on leverage. On the other hand, Christine et al (2019) stated that leverage by proxy Debt to Equity Ratio (DER) has a negative and significant effect on financial distress.

Cash flow is also a variable that can affect a company's financial distress. Sayari & Mugan (2017) say that the information contained in cash flows can be used to identify the financial health or decline of a company. Companies that have high free cash flow indicate that the company has sufficient sources of funds to fund operating activities and capital expenditures such as paying off debt, maintaining the company's operating capabilities, paying dividends to investors, and making new investments without relying on other sources of funding (Syuhada et al. al, 2020).

In research conducted by Isdina & Putri (2021) states that cash flow has a negative and significant impact on the company's financial distress. In contrast, research conducted by Dirman (2020) states that cash flow does not have a significant effect on the company's financial distress. This is because the amount of cash flow is considered to be very volatile so it is not a factor that can affect financial distress.

The last independent variable that can be used to predict financial distress is sales growth. According to Wangsih (2021), sales growth is a ratio used to measure the stability of sales and the level of success of a company from one period to the next. The higher the level of sales growth, it shows that the company is successful in carrying out its business strategy and maintaining the company's performance so that it will reduce the percentage of the possibility that the company will experience financial distress. Conversely, when sales growth declines, the potential for a company to experience financial distress increases.

Research conducted by Asfali (2019) found that sales growth has a positive and significant effect on financial distress. Meanwhile, according to research conducted by Giarto & Fachrurrozie (2020) states that the sales growth variable has a negative and significant effect on financial distress. In contrast to previous research, research conducted by Nabawi (2020) and Wangsih et al (2021) states that sales growth has no significant effect on financial distress.

This research is a replication of Diyanto's research (2020) which analyzes the effects of liquidity, leverage, and profitability on financial distress for manufacturing companies. In this study, researchers added an independent variable, namely cash flow

Company Performance and Financial Distress in Automotive and Component Companies Listed on the Indonesia Stock Exchange

which refers to Isdina & Putri's research (2021) and sales growth variable which refers to Giarto & Fachrurrozie's research (2020). The addition of cash flow variables is done because these variables can be used to analyze the financial health or decline of a company. Meanwhile, the sales growth variable or commonly called sales growth is a ratio that will show an increase or decrease in a company's sales in a certain year so that capital owners can use this as a guide to assess the company's opportunities in the future. So, these two variables will affect the condition of financial distress.

This research also has a different object from previous studies. If in previous studies most of the companies studied were manufacturing companies engaged in the chemical sector, property and real estate companies, and retail trade sub-sector companies listed on the IDX, in this study the companies to be studied were automotive and component companies listed on the Indonesian Stock Exchange. This is because global conditions are uncertain and difficult to predict, causing the rupiah exchange rate to fluctuate. The rupiah exchange rate which tends to weaken will have an impact on the automotive business because this industry still uses a lot of imported components. An exchange rate that is too weak will increase the cost of importing components while companies will find it difficult to raise selling prices due to declining public purchasing power. This condition will trigger an increase in the company's operational costs so that it can cause losses to the company. If the company does not immediately find the right alternative solutions, the company will experience financial distress. The period to be used in this study is the period 2017-2021 respectively.

This research is very important to do because in several previous studies the results shown were different. With this inconsistency, researchers want to re-examine research on the topic of the effect of profitability, liquidity, leverage, cash flow, and sales growth on financial distress with firm size as the control variable. This aims to increase understanding, knowledge, and insight for researchers regarding financial distress conditions, and curiosity about what factors might affect a company's financial distress.

HYPOTHESIS DEVELOPMENT

Effect of Profitability on Financial Distress

The profitability ratio is a ratio that is useful for assessing the capacity of an issuer to earn profits over a certain period. In this study, profitability is proxied by Return on Assets or ROA. ROA has a positive influence on profit growth. This is because ROA can estimate a company's capacity to generate net profit. The higher the level of profit or profit obtained by the company, the better the company's financial performance so that the possibility of the company being in a condition of financial distress will be smaller (Syuhada et al, 2020).

According to research conducted by Hastiarto et al (2021) states that profitability proxied by Return on Assets (ROA) has a negative effect on financial distress. This study shows that companies with high profitability have high profits. Thus, the possibility for a company to experience financial distress is very small. This research is supported by Moch et al (2019) and Andika & Nuryaman (2022) which state that profitability has a significant negative effect on financial distress.

H₁: Profitability has a negative effect on financial distress

The Effect of Liquidity on Financial Distress

Liquidity describes the company's ability to pay its short-term obligations or debts that are due. This ratio is required for credit analysis or financial risk analysis. A company is said to be in a state of financial distress if it has problems related to liquidity. To maintain a company in a liquid condition, the company must have larger current assets compared to current liabilities (Aisyah et al, 2017). The more liquid the company, the less likely the company will experience financial distress.

According to research conducted by Restianti & Agustina (2018) states that liquidity proxied by the current ratio (CR) has a negative and significant effect on the company's financial distress. This is because the liquidity value is thought to not reflect the condition of the company in good or bad condition. This research is supported by Sugiharto et al (2021) which states that the liquidity ratio has a significant negative effect on financial distress. This shows that the higher the level of company liquidity, the more capable the company is of paying short-term debt at maturity so that the company will avoid financial distress.

H₂: Liquidity has a negative effect on financial distress

Effect of Leverage on Financial Distress

Leverage is a ratio that shows how much debt a company uses to finance its operations. If the leverage value is high, it means that the company has high debt. This results in the company facing financial problems where it will be difficult for the company to make payments in the future due to the amount of debt that is greater than the amount of assets it owns. If this condition is not handled properly, the potential for financial distress will be even greater so that it can increase the threat of bankruptcy (Septiani & Dana, 2019).

Company Performance and Financial Distress in Automotive and Component Companies Listed on the Indonesia Stock Exchange

Research conducted by Purba & Muslih (2018) states that leverage proxied by the Debt to Equity Ratio or DER has a significant positive effect on financial distress. This research is supported by Wahyuningtyas & Retnani (2020) which state that leverage has a positive and significant effect on financial distress. That is, the greater the amount of debt owned by the company and not accompanied by high sales results, the higher the potential for failure to pay debts, causing the company to experience financial distress.

H₃: Leverage has a positive effect on financial distress

The Effect of Cash Flow on Financial Distress

Free cash flow is excess cash owned by a company that can be used to pay creditors or shareholders as dividends. If the company has a good amount of cash flow, the welfare of shareholders will increase because they believe that the company will be able to pay its obligations and the company will avoid financial distress (Dirman, 2020). Although free cash flow can increase the welfare of shareholders, it often creates a conflict between the two, where managers tend to use cash that can benefit themselves. To monitor the use of free cash flow, good internal control is needed in the company to avoid agency costs, namely costs incurred by shareholders to monitor managers.

According to research conducted by Ramadhanti & Subagyo (2022) states that cash flow has a negative and significant effect on financial distress. Companies with good cash flow indicate that the company's finances are in good condition too. That is, the higher the cash flow generated by the company, the smaller the percentage of possible financial distress. This research is supported by Giarto & Fachrurrozie (2020) which states that cash flow has a negative and significant effect on financial distress.

H₄: Cash flow has a negative effect on financial distress

Effect of Sales Growth on Financial Distress

Sales growth is the ratio used by the company to measure the development of the company's sales by looking at its growth. The greater the volume of sales of a company, indicating an increase in the performance of the company's management so that sales growth or sales growth will also increase. Increased sales growth will also increase company profits so that the possibility of companies experiencing financial distress will be smaller (Afrianti et al, 2022).

Based on research conducted by Purwanti & Syarif (2022) states that the sales growth variable has a positive and significant influence on financial distress. This is because a high number of sales will cause the company to earn higher profits so that the financial condition becomes more stable and reduces the potential for the company to experience financial distress. This research is supported by Rochend & Nuryaman (2022) which states that sales growth has a positive and significant effect on financial distress.

H₅: Sales growth has a positive effect on financial distress

METHOD

Population and sample

The population in this study are all automotive and component companies listed on the Indonesia Stock Exchange or IDX. This research is included in the time series data with a research period of 5 years from 2017-2021. And it was found that there were 13 companies in the automotive sector listed on the IDX. The sample is part of the population that is used as a research subject which is considered to represent all the population studied. This study used a purposive sampling technique, namely sampling through predetermined standards. The reason for using a purposive sampling technique is to obtain a representative sample or represent the population under study according to the wishes of the author.

Variables

In this research, there is one dependent variable, namely financial distress and five independent variables consisting of profitability (return on assets), liquidity (current ratio), leverage (debt to equity ratio, free cash flow, and sales growth).

Measurement of financial distress using Altman's discrimination analysis is commonly known as the Z-score (Rudianto, 2013), with the following formulation.

$$Z = 1,2 X_1 + 1,4 X_2 + 3,3 X_3 + 0,6 X_4 + 1,0 X_5$$

Where

Z = Z-score

X₁ = Working capital/Total assets

X₂ = Retained Earning/Total assets

Company Performance and Financial Distress in Automotive and Component Companies Listed on the Indonesia Stock Exchange

X_3 = EBIT/Total assets

X_4 = Market value of stock/Total debt

X_5 = Sales/Total assets

Thus if summarized, the dependent and independent variables and their measurements are as follows:

Table 1: Variable and Measurement

variabel	Symbol	Measurement
Financial distress	FD	Altman Z-score
Profitability	ROA	Earning After Tax/Total Assets
Liquidity	CR	Current Assets/Current Liability
Leverage	DER	Total Debt/Total Equity
Free cash flow	FCF	Operastional Cah Flow - Capital Expenditure
Sales growth	SG	(Sales _t - Sales _{t-1})/Sales _{t-1}

Data analysis

The multiple linear regression analysis model in this study is used to examine how much influence profitability, liquidity, leverage, cash flow, and sales growth have on financial distress. The multiple linear regression equation model is as follows:

$$FD = a + \beta_1ROA + \beta_2CR + \beta_3DER + \beta_4FCF + \beta_5SG + e$$

RESULTS

Descriptive statistics

From the results of the data tabulation, the description of the data can be seen from the descriptive statistics as follows.

Table 2: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	60	-7,91	72	5,1322	10,98511
CR	60	0,6	13	2,602	2,3989
DER	60	0,07	3,75	1,0025	0,88372
FCF	60	-16,46	16,94	5,2403	11,12518
SG	60	-0,4076	0,6497	0,06069	0,230081
FD	60	0,23	10,38	3,1652	2,42529
Valid N (listwise)	60				

Source: Data processed

Based on table 2, it can be seen that the results of the descriptive statistical test of the variables used in the study, namely profitability proxied by Return on Assets (ROA) as a whole, obtained a minimum value of -7.91 (MASA in 2020) and a maximum value of 72 (LPIN in 2017). The difference between the maximum value and the minimum value is 79.91. This profitability variable has an average value (mean) of 5.1322 and a standard deviation value of 10.98511. The standard deviation value is greater than the average value so it can be concluded that the distribution of the data is even.

The liquidity variable proxied by the Current Ratio (CR) as a whole obtained a minimum value of 0.6 (PRAS in 2019) and a maximum value of 13 (LPIN in 2019), so that the difference between the maximum and minimum values is 12.4. This variable has an average value (mean) of 2.602 which indicates that every Rp. 1 current debt can be met with Rp. 2.602 current assets owned by the company, as well as a standard deviation value of 2.3989, which means the standard deviation value < the average value so that it can be concluded that the distribution of the data is uneven or collects at the average value.

The leverage variable proxied by the Debt to Equity Ratio (DER) as a whole obtained a minimum value of 0.07 (LPIN in 2019) and a maximum value of 3.75 (IMAS in 2019), so that the difference between the maximum and minimum values is 3.68. This

Company Performance and Financial Distress in Automotive and Component Companies Listed on the Indonesia Stock Exchange

leverage variable has an average value (mean) of 1.0025 and a standard deviation value of 0.88372. The standard deviation value is smaller than the average value so it can be concluded that the distribution of the data is uneven or collects at the average value.

The free cash flow variable as a whole obtained a minimum value of -16.46 (ASII in 2018) and a maximum value of 16.94 (ASII in 2020). The difference between the maximum value and the minimum value is 33.4. The free cash flow variable has an average (mean) value of 5.2403 and a standard deviation or standard deviation of 11.12518. The standard deviation value is greater than the average value, which means that the 2017-2021 research period has an even distribution of data.

The sales growth variable as a whole obtained a minimum value of -0.4076 (PRAS in 2019) and a maximum value of 0.6497 (PRAS in 2018), so that the difference between the maximum and minimum values is 1.0573. In this variable the average value (mean) is 0.06069 with a standard deviation value of 0.230081. The standard deviation value > the average value so that it can be concluded that the distribution of the data is even.

The overall financial distress variable obtained a minimum value of 0.23 (PRAS in 2019) and a maximum value of 10.38 (LPIN in 2019). The difference between the maximum and minimum values is 10.61. The financial distress variable has an average value (mean) of 3.1652, with a standard deviation or standard deviation of 2.42529, which means the standard deviation value < the average value so it can be concluded that the distribution of the data is uneven or collects at a mean value.

Hypothesis results

Multiple linear regression analysis is used to examine how much influence profitability, liquidity, leverage, cash flow, and sales growth have on financial distress. With a significance level of 0.05, it means that the variable will be said to have a significant effect if the significance result is less than 0.05. From the research results, the results of hypothesis testing using multiple linear regression are as follows:

Table 3: Hypothesis Result

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	1,954	0,228		8,561	0,000
ROA	0,032	0,008	0,146	3,982	0,000
CR	0,714	0,042	0,706	17,163	0,000
DER	-0,805	0,117	-0,293	-6,898	0,000
FCF	-0,004	0,007	-0,017	-0,504	0,616
SGR	0,27	0,353	0,026	0,764	0,448

Source: Data processed

DISCUSSION

Effect of Profitability on Financial Distress

Based on the results of the hypothesis testing above, it shows that profitability proxied by Return on Assets (ROA) has a positive and significant impact on the financial distress rating. The results found are not in accordance with the first hypothesis which states that profitability has a negative effect on financial distress, so the H1 hypothesis is rejected. Profitability is a ratio used to measure how effective a company is in generating profits or profits through existing resources. Companies with high profits show that the company has a good ability to use existing assets to produce optimally. The more influential and efficient the company's asset management, the higher the profit that will be obtained by the company so that it can use the funds optimally. However, there are several companies that are able to generate high profits but are unable to control the use of existing funds to finance their business activities, so that the company will experience financial distress. According to Dirman (2020), an increased ROA does not necessarily mean that a company avoids financial distress. This is because the company can see the income and the amount of funds spent. The amount of company expenses that increase but are not accompanied by adequate income from year to year can result in losses that increase every year so that it puts the company in a state of financial distress.

This research supports research conducted by Asfali (2019) and Dirman (2020) which states that profitability has a significant positive effect on financial distress. However, these results are in contrast to research conducted by Hastiarto et al (2021), Moch et al (2019), and Andika & Nuryaman (2022) which state that profitability has a negative effect on financial distress. Company profits tend to fluctuate making it difficult to assess the risk of financial distress if only from the level of profitability.

Company Performance and Financial Distress in Automotive and Component Companies Listed on the Indonesia Stock Exchange

The Effect of Liquidity on Financial Distress

The results of the second hypothesis test show that liquidity proxied by the Current Ratio (CR) has a positive and significant effect on the financial distress rating. This result is also inconsistent with the second hypothesis which states that liquidity has a negative effect on financial distress, so the H2 hypothesis is rejected. Liquidity is a ratio used to measure a company's ability to pay off short-term obligations or debts that are due. The more liquid a company is, the more capable the company is of paying its maturing short-term debt. However, Diyanto (2020) states that there are several companies that only have a small amount of current assets that can be used to pay off the company's current debt before maturity. At the same time, the company has a large amount of current debt so that the current asset funds owned are not sufficient to pay off all of the company's debts. In addition, the company does not guarantee to be able to pay the remaining debt at maturity. This is what makes the company experience financial distress.

From the results found, this research is in line with research conducted by Adiyanto (2021), Diyanto (2020), and Syuhada et al (2020) which state that liquidity proxied by the current ratio has a positive effect on financial distress. However, on the other hand, these results are not in line with research conducted by Restianti & Agustina (2018) and Sugiharto et al (2021) which state that liquidity has a significant negative effect on financial distress.

Effect of Leverage on Financial Distress

The results of the third hypothesis test show that leverage proxied by the Debt to Equity Ratio (DER) has a negative and significant effect on the financial distress rating. The results found are inconsistent with the third hypothesis which states that leverage has a positive effect on financial distress, so the H3 hypothesis is rejected. Leverage is a ratio used to measure how much a company uses debt to fund its operational activities. The higher the company's leverage value, it shows that the company has a large amount of debt. According to Suryani (2020), companies that have large amounts of debt are indeed quite risky because these companies also have to bear quite high interest costs. However, if the company can use the funds originating from the debt properly and effectively, such as developing business, increasing product promotions, or making other new innovations, it will be able to improve the company's performance so that the possibility that the company will experience financial distress is getting smaller.

The results of this study are in line with research conducted by Christine et al (2019) which states that leverage has a significant negative effect on financial distress. However, these results are not in line with research conducted by Purba & Muslih (2018) and Wahyuningtyas & Retnani (2020) which state that leverage has a positive and significant effect on financial distress.

The Effect of Cash Flow on Financial Distress

The fourth hypothesis test shows that cash flows have an influence on the financial distress rating. The results found are not in accordance with the fourth hypothesis which states that cash flow has a negative effect on financial distress, so the H4 hypothesis is rejected. Free cash flow is a reserve fund owned by the company after it has finished financing operational and capital activities. The greater the company's free cash flow, the greater the interest of creditors to invest their capital, making it easier for the company to finance its business activities. However, the results in this study indicate that cash flow has no effect on financial distress. In his research, Zees & Kawatu (2022) stated that the value of cash flows in a company tends to fluctuate while conditions of financial distress tend to be stable. Fluctuating cash flow conditions can occur in extremes, where in a certain period the company will experience profits and then suffer losses or vice versa. Such extreme conditions cannot be used as an indicator to measure the occurrence of financial distress.

The results of this study support research conducted by Liahmad et al (2021) which states that cash flow has no effect on financial distress. However, the results of this study are not in accordance with research conducted by Ramadhanti & Subagyo (2022) and Giarto & Fachrurrozie (2020) which states that cash flow has a negative effect on free cash flow.

Effect of Sales Growth on Financial Distress

The results of the fifth hypothesis test show that sales growth has no effect on the financial distress rating. The results found are not in accordance with the fifth hypothesis which states that profitability has a positive effect on financial distress, so the H5 hypothesis is rejected. Sales growth is the ratio used by the company to measure the development of the company's sales by looking at its growth every year. The company's sales that are getting bigger make the company generate big profits as well. However, sales growth cannot be used as an indicator to predict financial distress. This is because when the company's sales decline in a certain year, it will not have a direct impact at that time, it's just that the company will experience a decrease in net profit. The percentage value of sales growth will fluctuate every year, so that a decrease in company profits during the year will not cause the company to experience financial distress because it is helped by the sales volume in the previous year which was relatively stable or even higher (Wangsih et al, 2021). This means that even though the company's sales have decreased in a certain

Company Performance and Financial Distress in Automotive and Component Companies Listed on the Indonesia Stock Exchange

time, the profit earned by the company is still able to cover the costs needed so that the company does not experience financial distress.

The results of this study are in line with research conducted by Nabawi (2020) and Wangsih et al (2021) which state that sales growth has no effect on financial distress. However, this research is in contrast to research conducted by Purwanti & Syarif (2022) and Rochend & Nuryaman (2022) which states that sales growth has a positive and significant effect on financial distress.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of hypothesis testing, it can be concluded that profitability has a positive and significant effect on financial distress, but contrary to the proposed hypothesis, so the hypothesis is rejected. Liquidity also has a positive and significant effect on financial distress but is contrary to the hypothesis proposed so that the hypothesis is rejected. Leverage also has a significant and negative effect but the hypothesis is rejected because it is contrary to the results. While the variable free cash flow and sales growth have no effect on financial distress.

These results, of course, still have weaknesses, such as only researching in one industrial sector, namely automotive and component companies, so it is hoped that this can be continued with research that uses more samples by future researchers.

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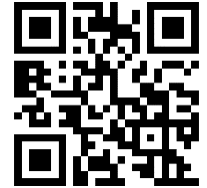
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Educational Leadership Management and its Contribution to School Organization and Success



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ABSTRACT: The paper investigates the educational leadership management and its contribution to school organization and success as to respondents' profile and leadership style.

Descriptive correlation research design employs in the study to quantify and measure the profile of the respondents and contribution of educational leadership management and its success to school organization. Likewise, purposive sampling is utilized in the study. The study comprised fifty (50) respondents only.

Results show that the contribution of educational leadership management and its success to school organization among the respondents involves democratic leaders where they yield with a high morale environment to generate and motivate creative solution of effective leadership style in school organization, show that instructional leadership is involved in planning practice, coordination, evaluation, and teaching improvement learning, show that authoritative leaders ensure that 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 transformational leaderships are essential elements in the organization to be imposed for good, better, and best because all employees are determinant for the process.

KEYWORDS: Educational leadership Management, school organization success, effective leadership style

INTRODUCTION

The perceived gaps, challenges, and issues in educational leadership management and its contribution to school organization success provide perspective transformation with school partners to tackle the toughest challenges in educational leadership management. This can build a better relationship in educational organization and level (Mallillin, & Mallillin, 2019). Different ideas and exchange of thoughts that bring confusion due to personal interest where it doesn't help in educational leadership management practices and success. The work is necessary in building and understanding priorities, issues, and challenges that a leader may face in various groups and large systems of organization and educational leadership management contribution. A leader in the classroom is able to diagnose the challenges and issues of the organization which can improve adaptive change and needs. Managing a school organization is a big challenge and issues in school management success in educational leadership. It transforms the system in school organization with support and tools of technology process to make things easy (Mallillin, & Paraiso, 2022). To succeed there must be emerging demand in educational leadership management and success in the school organization. It explores the success and challenges of a leader in the management process. The educational leadership management and its contribution to school success deals with proper utilization of strategies to analyze the challenges and mindset of the framework pedagogy in the approach of school educational leadership and management practices. The challenges and issues can be professional development, skills in leadership, and adjustment in school culture and community (Tirri, et al., 2021).

Likewise, the importance of educational management and leadership in the school system involves building process or setting. It provides features in management and leadership direction systematic approach. It develops educational management and leadership skills and role acquisition. The educational teachers take leadership formal positions. The skills and acquisition of leadership may enhance and serve the classroom performance (Mallillin, 2021). It is a development systematic approach and necessary skills assumed in the management of leadership roles to be utilized as guides among them. Improving performance and

Educational Leadership Management and its Contribution to School Organization and Success

leadership skills condition the educational management among teachers. Educational leadership management practices influence people and need information. The importance of educational leadership and management accumulate the knowledge and purpose of the school system. It identifies and seeks contribution to distinct educational leadership and management. It analyzes and assesses educational management and leadership. It strengthens educational leadership and management function and status in the school system. It analyzes the strength and affirms contributions and concepts in educational management and leadership. It highlights function and contribution on the impact of educational management and leadership growth (Hallinger, & Kovačević, 2022, pp. 192-216). The significance is systematic in function to identify the trends in educational management and leadership and knowledge. It focuses on trends, distributions, kinds, methods, and techniques in educational management and leadership success. It highlights patterns and knowledge in the importance and significance of educational leadership and management resources. It reflects the importance of educational leadership management characteristics and features in the school organization. It provides support and improves the importance of educational leadership management practice in leadership administration concerted effort. It enhances relevant increase and quality policy of educational leadership management practice and ability (Hammad, et al., 2022, pp. 6-25).

Notably, a good educational leadership management and its contribution to school success in transformation of prospective organization is necessary in learning improvement of the school system. It boosts the capacity of a school leader to improve achievement for effective educational leadership and practice. There is a link or connection between educational leadership management and practice to positive outcome learning of students (Mallillin, 2022). They will be guided through policies and guidelines set in school and students to comply. This is a proof of good leadership in the educational system that directs and makes experiences for student impact and performance. A good leadership in school enables better practice in a school wide expertise in teaching to achieve the order of progress among students. It is a driven leadership principle that defines its roles in educational leadership. Educational leadership is essential in benchmarking and understanding effective good leadership lasting change (Luedi, 2022).

Likewise, the educational transformation perspective management success prevails a systematic change in educational model. It distinguishes innovation transformation of education in maintaining the model of educational management system and leadership. It reforms traditional teaching and substance learning process structure of educational organization. It stresses educational transformation to determine sustainable strategy in educational leadership and management success in school organization. It advocates development of educational transformation that focuses on building competency and utilization advantage in the school system. It builds an advantage to competency concept that evolves relative formation strategy in the educational system, (Mallillin, et al., 2021). It provides a notion in building transformation perspective educational leadership and management on challenges to competitive advantage and phenomena. It is a transformative perspective in education exchange information in the globe. It is a collective process and contextual change transformation perspective practice in education. It evolves educational leadership transformation in the impact of determining the empirical insights of school change evolution and learning. It develops and stresses essential model transformation perspective practice in the educational organization. It supports the decision and model transformation perspective leadership to regulate expectations and experiences of the student school system. It provides insights and impacts transformation leadership in school perspective and advantage. It develops a design for transformation in education roadmap to regulate and integrate necessary change evolution of leadership learning and strategies (Mohamed Hashim, et al., 2022, 3171-3195). Hence, educational transformation in leadership perspective reflects stem in school system and concrete consideration practice in teaching. It revitalizes the transformation leadership perspective in understanding and developing the focus and reflection on the structure teaching practice and change. It investigates professional development and transformation leadership perspective competency to promote better management school organization. It interfaces transformation in leadership practice, perspective condition, experiences, function of educational leader reflection, and framework (Mälkki, et al., 2022, pp. 301-331).

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?

Educational Leadership Management and its Contribution to School Organization and Success

2 What is the contribution of educational leadership management school organizational success among 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 Is there a significant correlation between the profile of the respondents and the contribution of educational leadership management school organizational success among the respondents?

HYPOTHESIS

There is no significant correlation between the profile of the respondents and the contribution of educational leadership management school organizational success among the respondents.

RESEARCH DESIGN

The researcher utilized the Correlational Research Design in order to assess the educational leadership management and its contribution to school success. It correlates the profile of the respondents and the contribution of educational leadership management and its success to the school system in the area of democratic leadership style, instructional leadership style, authoritative leadership style, coaching leadership style, and transformational leadership style. It improves individual conscientiousness in the accuracy of educational leadership management and practices (Möttus, 2021).

RESPONDENTS OF THE STUDY

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.

SAMPLING TECHNIQUES

The research utilizes purposive and quota sampling techniques. Purposive sampling is subjective sampling in identifying the sample size of the study for the set criteria on the selected educational leadership management practice and its contribution to school organization success. 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 method and prior knowledge approach eligible platform of the study. Purposive sampling accesses the subset participants in particular profile. It provides purposive sampling in antecedent and analysis of the impact on educational leadership (Lubis, et al., 2021, pp. 41-57).

RESULTS AND DISCUSSION

1. On the Profile of the Respondents

Table 1. Profile of the Respondents

Profile	Frequency	Percentage	Ranking
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
Gender:			
male	34	68	1
female	16	32	2
Marital Status:			
single	10	20	2
married	33	66	1
widow/er	2	4	4

Educational Leadership Management and its Contribution to School Organization and Success

single parent	5	10	3
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
Current Position in School:			
Head/Master Teacher	8	16	3.5
Assistant Principal/Principal	19	38	1
Assistant Professor/Professor	15	30	2
Administrator/Heads/Deans/Director	8	16	3.5
Number of Years in Service:			
5 years and below	1	2	5
6-10 years	8	16	3.5
11-15 years	8	16	3.5
16-20 years	13	26	2
21 years and above	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 experienced 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 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 for promotion 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 leaders 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 educational leadership management and its contribution to the success of school organization among the respondents

Table 2. Contribution of Educational Leadership Management and Its Success to School Organization in the Area of Democratic Leadership among the Respondents

Indicators	WM	I	R
The decision making in democratic leadership strategy is heavily influenced in the implementation of leadership style in the school.	4.10	A	2
The democratic leadership style implements the range and wide outcome to participate in the school system.	3.98	A	5
It motivates in promoting and assessing the school affairs and innovation creativity.	4.04	A	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
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
It provides opportunities for leaders 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		

Educational Leadership Management and its Contribution to School Organization and Success

Table 2 presents the weighted mean and the corresponding interpretation on the contribution of educational leadership management and its success to school organization in the area of democratic leadership style among the respondents.

As glimpsed in the table, rank 1 is “Democratic leaders yield with 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 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 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 practice. Rank 3 is “It provides opportunities for a leader to develop job satisfaction, and a sense of personal growth to encourage team building and collaboration”, with a weighted mean of 4.08 or Agree which means that colleagues are given freedom and a sense of responsibility to develop job satisfaction performance where they can learn from their own actions. 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, et al., 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 educational leadership management and its success to school organization in the area of democratic leadership style as observed among the respondents.

Table 3. Contribution of Educational Leadership Management and Its Success to School Organization in the Area of Instructional Leadership Style among the Respondents

Indicators	WM	I	R
It explores instructional leadership perception of a novice teacher that influences the management team intended for teachers in school.	4.14	A	2.5
It displays teachers with a tendency to exercise leadership in school instruction, support, trust, and clear instruction system in the organization.	4.10	A	4
Instructional leaders are expected to focus on management of school in student learning and improvement.	4.14	A	2.5
It employs a leadership model to communicate regarding related goals and achievement of students.	3.10	MA	6
It provides a positive effect that strengthens instructional leadership, school culture and organization.	4.06	A	5
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 educational leadership management and its success to school organization 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 reminder 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 novice teacher that influences the management team intended 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 practice must be fully enforced which is needed and is expected among educational leadership. 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 tendency to

Educational Leadership Management and its Contribution to School Organization and Success

exercise leadership in school instruction, support, trust, and clear instruction system in an 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 provide output. Clear dissemination and clear instruction is important to be practiced among educational leadership for proper implementation. They will see the perfect example and follow. The least in rank is “It employs a leadership model to communicate regarding related goals and achievement of students”, with a weighted mean of 3.10 or Moderately Agree (Lazcano, et al., 2022, pp. 1-19) influences the leader and retention in school instructional leadership. It represents instructional leaders 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 educational leadership management and its success to school organization in the area of instructional leadership style as observed among the respondents.

Table 4. Contribution of Educational Leadership Management and Its Success to School Organization in the Area of Authoritative Leadership Style among the Respondents

Indicators	WM	I	R
It defines the purpose of authoritative leadership in the school organization.	3.82	A	5
It identifies assessment of the weakness and strength of authoritative leadership role and function in the school system.	4.02	A	2
It provides parameters regarding accountabilities and boundaries of authoritative leadership style.	2.82	MA	6
It determines organizational goals and parameters to address standards in moving a better educational system in school.	3.98	A	3.5
It helps to ensure the system is in order, and quick in the decision process and controls the system.	4.04	A	1
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 educational leadership management and its success to school organization 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 control 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 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 need 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 organizational goals and parameters to address standard in moving to a better educational system in school”, and “It determines leadership role especially in authoritative function to enhance performance of school employees and organization”, with a weighted mean of 3.98 or Agree. Being an authoritative leader would mean knowing the situation and parameters of the educational system and determining the process of educational leadership management and practice. It also determines the function as authoritative leadership pertains to the function process in the improved 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 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 the limitation and boundary principle of leadership (Luedi, 2022) stressed that 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 educational leadership management and its success to school organization in the area of authoritative leadership style as observed among the respondents.

Educational Leadership Management and its Contribution to School Organization and Success

Table 5. Contribution of Educational Leadership Management and Its Success to School Organization in the Area of Coaching Leadership Style among the Respondents

Indicators	WM	1	R
It influences and explores mechanism of coaching leadership among colleagues to gain work sensitivity.	2.52	D	5
It indicates standard feelings, reflections, benefits of various work, and effectiveness.	3.00	MA	3.5
It describes aspects of perceived emotional experienced positivity of employees in the school system.	3.00	MA	3.5
Coaching styles provide self-esteem and self-belonging for employees in the level of needs.	2.22	D	6
It provides positive behavior leadership to influence facilitation and inspiration of employees, work guidance, behavior, attitude, and feelings.	3.32	MA	2
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 educational leadership management and its success to school organization 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 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 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 mechanism in leadership effectiveness on behavior and work. It influences and explores mechanisms 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 educational leadership management and its success to school organization in the area of coaching leadership style as observed among the respondents.

Table 6. Contribution of Educational Leadership Management and Its Success to School Organization in the Area of Transformational Leadership Style among the Respondents

Indicators	WM	I	R
It provides quality education in the organization of school through implementation of transformation needed for the improved process of school.	4.02	A	2
The transformation performance is measured by the quality system on knowledge, skills, attitude, and behavior.	3.90	A	3.5
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
Transformational leadership style provides positive direction in the organizational goals and achievement.	3.58	A	6

Educational Leadership Management and its Contribution to School Organization and Success

It determines the style of transformational leadership effect in the work performance of employees in school and work discipline.	3.64	A	5
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	

Table 6 presents the weighted mean and the corresponding interpretation on the contribution of educational leadership management and its success to school organization 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 that 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 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 responsibility 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 educational leadership management and its success to school organization in the area of transformational leadership style as observed among the respondents.

3. On the test of significant correlation between the profile of the respondents and the contribution of educational leadership management and its success to school organization among the respondents

Table 7. Test of Significant Correlation between the Profile of the Respondents and the Contribution of Educational Leadership Management and Its success to School Organization among the Respondents

Variables	Computed r values	Relationships *significant *not significant	Hypotheses *accepted *rejected
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
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
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

Educational Leadership Management and its Contribution to School Organization and Success

coaching leadership style	0.0003926	not significant	accepted
transformational leadership style	0.0003405	not significant	accepted
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
transformational leadership style	0.0003053	not significant	accepted
Current Position:			
democratic leadership style	0.0003153	not significant	accepted
instructional leadership style	0.0003149	not significant	accepted
authoritative leadership style	0.0003226	not significant	accepted
coaching leadership style	0.0003680	not significant	accepted
transformational leadership style	0.0003191	not significant	accepted
No. of Years in Service:			
democratic leadership style	0.0002985	not significant	accepted
instructional leadership style	0.0002982	not significant	accepted
authoritative leadership style	0.0003054	not significant	accepted
coaching leadership style	0.0003484	not significant	accepted
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 7 presents the test of significant correlation between the profile of the respondents and the contribution of educational leadership management and its success to school organization 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.

CONCLUSION

It shows that the 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 contribution of educational leadership management and its success to school organization among the respondents involves democratic leaders where they yield with a high morale environment to generate and motivate creative solutions to 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 of 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.

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Tax Management System for Local Government Unit with SMS Notification



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ABSTRACT: This study aimed to design and develop a Tax Management System for Local Government Unit with SMS Notification and evaluate the degree of acceptability and performance efficiency in the perception of the respondents. It is a computer-based information system aimed at providing information of the tax payers and their payment history in fast and easy manner. Developmental and descriptive research design was employed in this study. A system prototype was developed to implement the core functionalities as required by the target users to meet design specification. This study was conducted at the Treasurer Office in the Municipality of Estancia, Iloilo with a total of 50 respondents. When respondents were asked as to the degree of acceptability of the developed system in terms of security, it yielded a response of strongly agree. In terms of confidentiality, the developed system was described as strongly agree. The result showed that the performance efficiency of the developed system in terms of time behavior was also described as strongly agree. In terms of responsiveness, the developed system was also described as strongly agree. From the results stated above, this simply showed that the respondents were very much contented with the security, confidentiality, and efficiency of the developed system.

1. INTRODUCTION

Economic management specifically tax management relates to management of finances for payment of tax, assessing the advance tax liability to pay tax in time [1]. It has nothing to do with planning to save tax, it is just related with operational aspect of payment of tax while managing his taxes a person ensures that he or she is making timely payment of taxes without running out of the money and he is complying with all the provisions of the law [2]. The objective of Tax Management is to comply with the provisions of Income Tax Law and its allied rules. Tax Management deals with filing of Return in time, getting the accounts audited, and deducting of tax at source[3]. The main purpose of tax management system is to inform the lessee about the monthly tax and date of last payment. Lessee are also be updated of the payment status and penalty if they cannot meet the due date. In [4][5][6], uses electronic tax filing E-Filing and payment which resulted to the tax growth of their country.[7] Argued that tax is an important stream of revenue for government's development projects and therefore all efforts must be made by governments to ensure that it is accurately and efficiently collected so as to facilitate the government's operations. In [8]used ICT in property tax administration to solve their problem in revenue leakages, corruption, and under-collection

On the other hand, in the northern part of the province of Iloilo, there is a second class municipality named Estancia which is known around the country as the center for commercial fishing and said to be the "Little Alaska of the Philippines" [9].The Treasurer's Office in the Municipality of Estancia is using the manual process to serve the needs of their tax payers in keeping of tax payer's information and also of their payment history. Hence, to improve these processes, an alternative solution was proposed to employ information technology. The Tax Management System with SMS Notification for Local Government Unit is a web-based management information system that will provide efficient and reliable information for the Municipal Treasurer Staff, employees and tax payers. The purpose of this system was to design and develop an Economic Enterprise Management System for Local Government Unit with SMS Notification for the Treasurer Office, Determine the degree of acceptability of the developed system as perceived by the personnel of the Treasurer Office and tax payers in terms of security and confidentiality, and Evaluate the performance of the developed system as perceived by the expert evaluators in terms of time behaviour and responsiveness.

This study was conceptualized to design and developed a computer-based information system that would provide real-time information to the users. The input phase requires tax payer's information and business information. The process phase included the development of the Economic Enterprise Management System with SMS Notification for Local Government Unit while the output phase of this study determined the confidentiality and acceptability characteristics of the developed system.

Tax Management System for Local Government Unit with SMS Notification

2. METHODOLOGY

2.1 Research Design

In this study, developmental research and descriptive research designs were employed. Developmental research is defined as the systematic study of designing, developing and evaluating instructional programs, processes and products that must meet criteria of eternal consistency and effectiveness [10]. As such, developmental research design was used in the design and development of the system prototype. On the other hand, descriptive research was also used. Descriptive research is a study designed to depict the participants in an accurate way. More simply put, descriptive research is all about describing people who take part in the study[11].

Software Development Life Cycle (SDLC) is a process used by the software industry to design, develop and test high quality software. The SDLC aims to produce a high-quality software that meets or exceeds customer expectations, reaches completion within times and cost estimates [12].

The researcher used the Rapid Application Development Model (RAD) model as the software development life cycle for the software development activities. With rapid application development, developers can make multiple iterations and updates to software rapidly without needing to start a development schedule from scratch each time[13].



Figure 1: The Rapid Application Development Model

2.2 Process Model

The next task under this phase was to develop the system structure in terms of the automated and manual functions that comprise the system. The developed system is composed of the three core modules namely Lessee Information module, Business Information module, and the SMS Notification module. The Lessee Information Module contained the basic information about the lessee's personal information. The Business Information Module is responsible for all rents about the business. The SMS Module will handle the SMS related activity to SMS notification. Figure 4 shows the decomposition data flow diagram for the developed system.

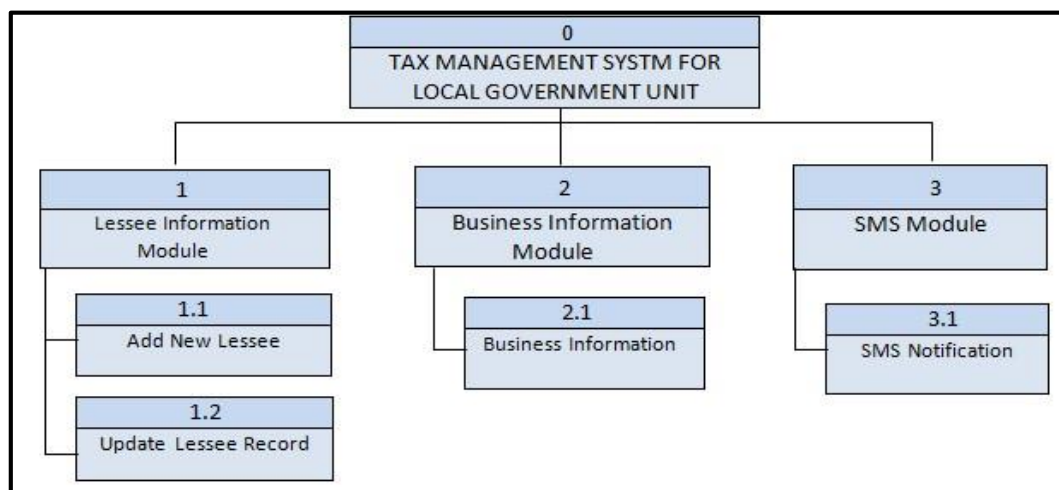


Figure 2. The Decomposition Data Flow Diagram Depicting the Process Model of the develop System.

Tax Management System for Local Government Unit with SMS Notification

2.3 Logical Architecture Design

The next task was to develop proposed layout for the core functions. The layout depicted the hierarchy of major logical components comprising the developed system. The Logical grouping of components into separate layers that communicate with each other and with other clients and applications. Figure 5 shows the logical architecture design of the developed system. The model, which is multitier architecture, is a client-server architecture combined with the layered architecture. These are the presentation layer, application and logic layers also known as the business layer, the data manipulation layer and database layer.

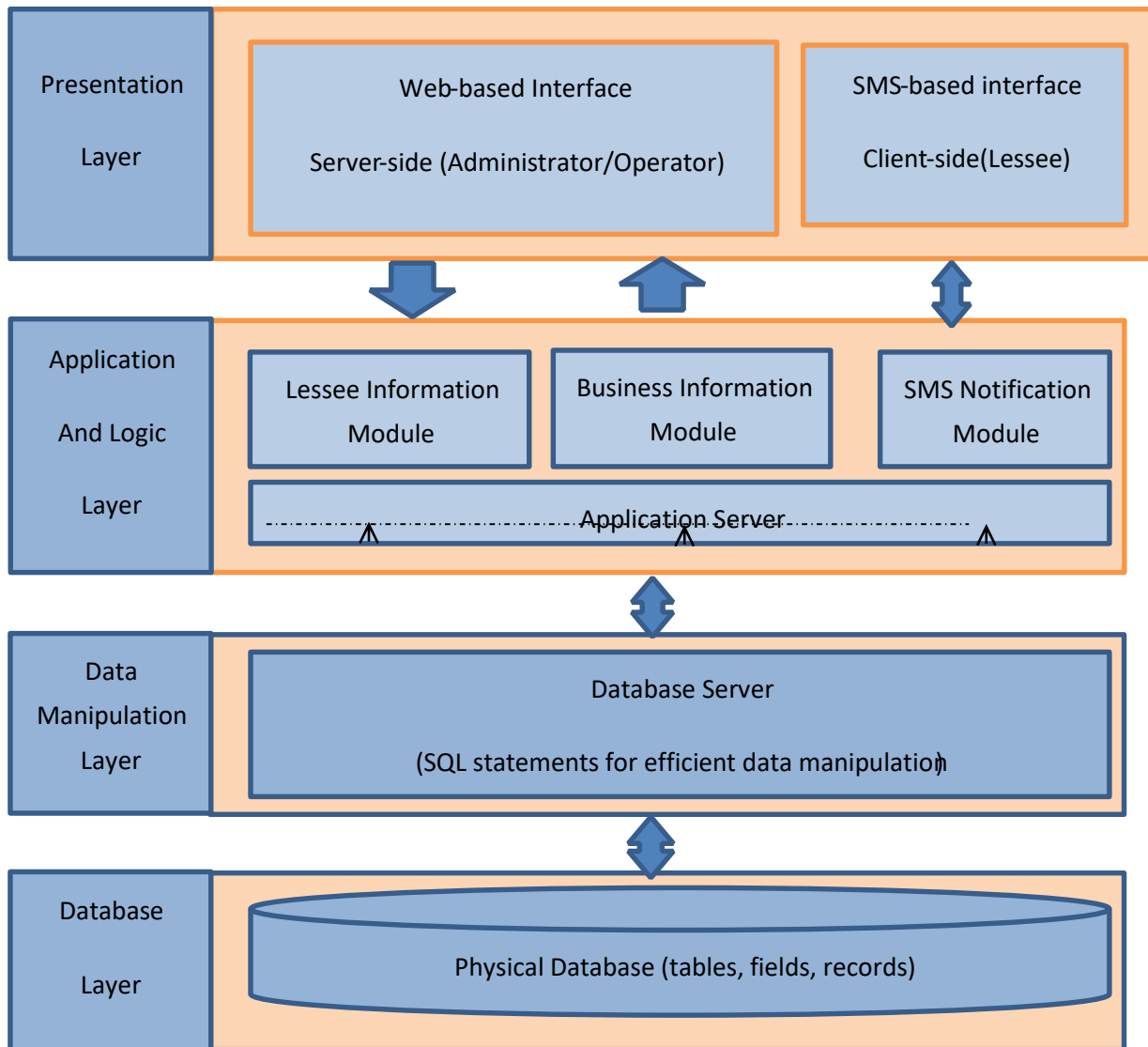


Figure 3. The logical Architectural Design for the Developed System

2.4 Physical Network Topology

Selecting the appropriate construction approach for the developed system is the last objective of the UD phase. Thus, the final task was to present a model that showed the physical network topology that visualized the communication schemes of physical networks arrangement. The physical network topology depicted the placement of the components in the network. It showed the configuration of cables, computers, and other devices.

Since the developed system would be implemented through SMS technology, it made use of the existing infrastructure of the telecommunication companies as carrier of the notification. A GSM-capable modem was attached to the server computer to facilitate transaction such as sending of SMS notification to the taxpayers. The Taxpayer who are the clients of the developed system would only need a GSM-capable phones to receive SMS notifications. Figure 6 shows the physical network topology of the developed system.

Tax Management System for Local Government Unit with SMS Notification

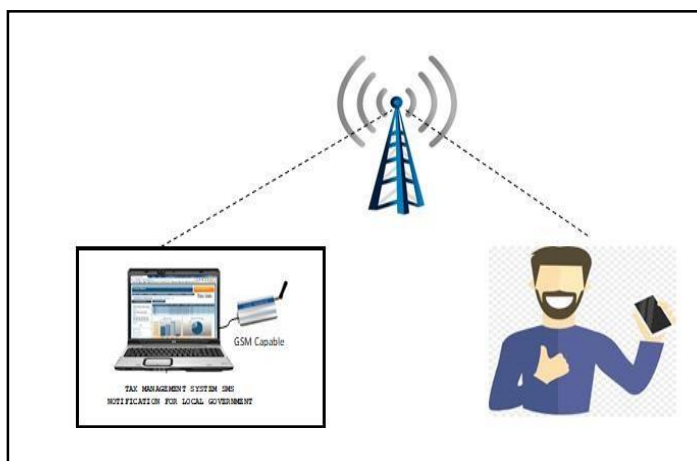


Figure 4. Physical Network Topology of the developed System.

2.5 System Prototype

After series of phases undergone in this study, prototyping is one of the most critical factors leading to successful development [14]. In this page, the user needs to input username and password to gain access into the system. If the username or the password is not correct the user cannot proceed to the next level, otherwise will be prompted such his user account is invalid. Figure 7 shows the main page of the developed system.

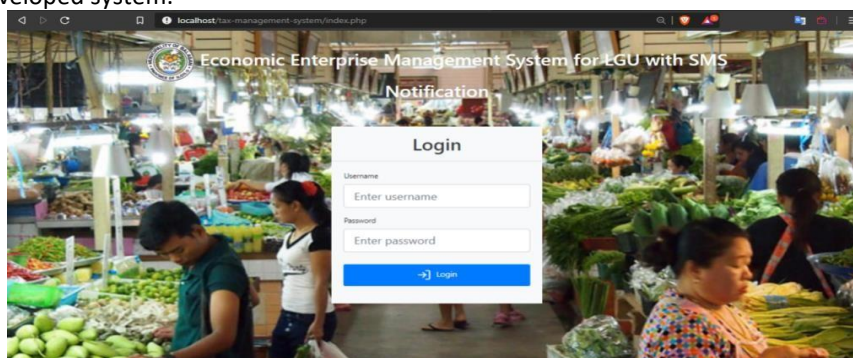


Figure 5. The log-in Page of the Developed System.

3. RESULTS AND DISCUSSION

Degree of Acceptability of the Developed System as Perceived by the Personnel of the Treasurer Office in Terms of Security and Confidentiality

Acceptability refers to the quality of being acceptable-of someone's needs adequately. The confidentiality of information obtained in the course of a tax official's duties is a crucial issue within a tax administration. Failure to properly manage the responsibility of confidentiality can challenge the integrity of the Host Administration, whose audit capacity the Expert is working to build. Additionally, breaches of confidentiality may potentially give rise to litigation by taxpayers for (alleged) breach of the obligation. When respondents were asked as to the degree of acceptability of the developed system, the overall mean was 4.08 and was interpreted as "agree". In terms of security, it yielded a mean score of 4.17 which is interpreted as "agree". In terms of confidentiality, the degree of acceptability of the developed system was computed at 4.0 which was described as "agree". Table 1 shows the data.

Table 1. Degree of Acceptability of the Developed system in terms of security and confidentiality.

Implementation Indicators	Mean	Verbal Interpretation
Degree of acceptability	4.08	Agree
a. Confidentiality	4.00	Agree
b. Security	4.17	Agree

Legend: 1.00-1.80(Strongly Disagree; 1.81-2.60(Disagree)2.61- 3.40(Undecided); 3.41-4.20 (Agree;4.21-5.00(Strongly Agree)

Degree of Performance Efficiency of the Developed System as Perceived by the Expert Evaluators in terms of Time Behavior and Responsiveness.

This exploratory study investigates how increasing tax rates result in individual taxpayers' altering their fiscal behavior in an experimental setting. Maximum output occurred at the lowest tax rate for five of the 17 subjects, at the second lowest tax rate

Tax Management System for Local Government Unit with SMS Notification

for seven subjects, at the median tax rate for three subjects, and at the highest tax rate for two subjects. Tax payments were maximized at the highest tax rate for seven subjects, at the second highest rate for eight subjects, and at the median tax rate for two subjects. The results generally support supply-side and neoclassical economic theories of taxpayer behavior, which is important since these theories underpin current tax policy.

The result showed that the performance efficiency of the developed system has an overall mean of at 3.72 which described as “agree”. In terms of time behavior the mean was 3.67 which was interpreted as “agree”. In terms of responsiveness, the mean was 3.78 which was interpreted as “agree”.

Table 2. Degree of Performance Efficiency of the Developed System as Perceived by the Expert Evaluators in terms of time behavior and responsiveness

Implementation Indicators	Mean	Verbal Interpretation
Degree of Performance efficiency	3.72	Agree
a. Time Behavior	3.67	Agree
b. Responsiveness	3.78	Agree

Legend: 1.00-1.80(Strongly Disagree; 1.81-2.60(Disagree)2.61- 3.40(Undecided); 3.41-4.20 (Agree;4.21-5.00(Strongly Agree)

4. CONCLUSION

For the acceptability characteristics in terms of confidentiality and security, the results revealed that the respondents viewed the developed system as agree. The findings implied that using Economic Enterprise Tax Management System for Local Government Unit with SMS Notification is very acceptable. The users believed that through confidentiality and security of the system, The Office of Treasurer of Estancia, staff and lessee can trust the system the developed system in keeping information.

The developed system is time efficient, reliable, confidential, and secured for the ease of the Office of the treasurer and staff, and reducing work time in paper works. The findings implied that the system can be operated only by the Estancia treasurer and staff of The Office of the treasurer and is very greatly needed in keeping track of Economic Enterprise Tax Management System. For the performance efficiency characteristics in terms of time and behavior and reliability, the results revealed that the provided an interpretation as strongly agreed. The result implied that using Economic Enterprise Tax Management System is very useful because it is very efficient and reliable. The users believed that keeping track of Economic Enterprise Tax Management System is more efficient when using the proposed system.

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- 12)
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Research on Factors Affecting the Working Motivation of Insurance Agent Employees of Baoviet Life Corporation



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SUMMARY: The research results of the topic have clarified the concepts related to motivation and work motivation. The classification of motivation, the role of work motivation for employees, businesses, society or ways to increase work motivation are also presented in detail in this chapter. The study also presented the background theories and research models of domestic and foreign authors from which to draw a research model for the topic. Accordingly, 6 factors were applied by the research team to build a research model, including the factor of nature of work; Salary and benefits; Train; Advancement; Immediate superior; Business image. From the proposed research model, the research team also proposes research hypotheses with these 6 factors on the working motivation of insurance agent employees.

KEYWORDS: Work motivation; Insurance agent; Life Insurance Corporation

1. THE PROBLEM

Agents are the traditional distribution channel and the main distribution channel of life insurance markets in the world and in Vietnam. Although the distribution channel through bancassurance banks and direct channels is growing strongly, insurance agents are still the main channel to bring in insurance revenue. for insurance enterprises. However, it is a fact of the life insurance market in the world and Vietnam that the life insurance agent staff lack motivation to work, the quit rate is high. Motivating and retaining insurance agents is a difficult problem, but in Vietnam, research on this content is still limited and not specifically studied at Baoviet Life Corporation. The research contents mainly focus on assessing the working situation or the current human resource status of the insurance enterprises without going into the assessment of the factors affecting the employee's work motivation. Conduct research at Bao Viet life insurance enterprise to identify and specify specific factors and levels of impact of each factor on the working motivation of life insurance agents. What solutions should be applied to improve working motivation for insurance agent employees of Baoviet Life Corporation?

2. BACKGROUND THEORY

2.1. Some concepts

Motivation

Motivation is a term that refers to the process from which we initiate, direct, and sustain purposeful behaviors that help us achieve our goals. The factors constituting motivation are related to instincts, emotions, physiological and social needs. According to Vroom (1964), motivation is the state formed when employees expect that they will receive the desired results and rewards if they work hard to perform the job.

Motivation to work

Labor motivation is the voluntariness, desire, and oriented efforts to achieve each individual's goals. In other words, a motivated person will perceive that there is a specific goal to be achieved and will direct his or her efforts towards achieving that goal. According to Vigoda-Gadot & Angert (2007) and Latham & Yukl (1975), job goals are factors contributing to motivating employees' work motivation. This means that when goals are clearly defined, employees can rely on them to determine the necessary tasks or specific behaviors to promote efficiency and performance; Conversely, if the goal is not focused and unclear, employees can quickly lose their motivation to work.

Research on Factors Affecting the Working Motivation of Insurance Agent Employees of Baoviet Life Corporation

Insurance agent

According to the Law on Insurance Business, "An insurance agent is a person who is paid to work for a business that sells the company's products to buyers".

2.2. Classification of work motivation

There are many classifications of work motivation such as classification according to positive and negative effects or classification according to internal and external influences.

Sort by positive and negative effects

Positive motivation or reward-based incentive. Employees are encouraged to achieve desired goals. Incentives can be higher pay, promotion, recognition, etc. Employees are offered incentives and try to improve their performance voluntarily.

Negative motivation is based on fear. Fear causes employees to act a certain way. In the event that they do not act appropriately, they may be subject to dismissal or dismissal. Fear acts as a motivating mechanism. Employees are not willing to cooperate, but they do well because they want to avoid punishment.

Classification according to internal and external impact

Extrinsic Motivation: These are external motivations that affect an individual and the origin of this type of motivation usually involves rewards or punishments.

Intrinsic Motivation: the motivations that come from within each individual, often stemming from the love, passion, enjoyment of working and the desire to contribute and contribute to the company where they are working job.

2.3. Some background theory

Maslow's Hierarchy of Needs (1943)

According to Maslow, people's needs for satisfaction are divided into 5 levels, when people have satisfied a certain level, they continue to want to be satisfied at a higher level. Maslow's hierarchy of needs consists of 5 levels from low to high.

Victor Vroom's Expectation Theory (1964)

Victor Vroom (1964) said that the main factors to motivate employees to actively work and stick with the organization include 3 factors. The first is an expectation of what is desired when there is a work effort; the second is a means to actively complete work with worthy rewards; The third is the reward value.

Frederick Herzberg's Two Factor Theory (1959)

Through a study by Herzberg about the things that make employees excited about work, most of the respondents believe that it is related to the nature of the work, Herzberg calls these factors the factors of the job. satisfy.

Adams' equity theory (1963)

This theory is based on the view that the inequality of interest becomes a motivator to satisfaction, when people are treated unfairly, an incentive will work, reduce that inequality and create a greater sense of equality.

2.4. Factors affecting work motivation of insurance agent employees of Baoviet Life Corporation

Because the assessment of factors affecting work motivation is affected by many factors such as economic situation or cultural factors or the performance of each study, it is possible for each topic to be different factors studied more or less. From the theory, theoretical model, and based on the Human Resource Management textbook, the research team has applied 6 factors to build a model of factors affecting the working motivation of insurance agent employees. insurance under Bao Viet Life Corporation.

Nature of work

The suitability of the job with the employee is reflected in many aspects of the nature of the job such as: whether the job is suitable for the employee's capacity and expertise, whether the employee clearly understands about the work they perform, whether the work brings the motivations of dedication and creativity of the employees, does the work bring challenges and promote the individual capacities of the employees.

Salary and benefits

Wages and benefits are the money an employee earns when he/she completes a job. In the context of developing countries like Vietnam, salary or other income is still an important factor affecting employee motivation (Tran Kim Dung, 2005).

Research on Factors Affecting the Working Motivation of Insurance Agent Employees of Baoviet Life Corporation

Train

Training helps employees to change in their desires, knowledge, skills and abilities, motivation to help employees achieve efficiency at work and affirm their position in the organization. This success helps employees become more attached to the business, increase their work motivation and dedication to the business.

Advancement

In Vietnam, studies by Tran Kim Dung (2005), Chau Van Toan (2009) in office workers in Ho Chi Minh City. Ho Chi Minh City also shows that promotion opportunities have a positive effect on job satisfaction. Promotion opportunity factors are considered under such aspects as: professional training, personal development opportunities, opportunities for capable people, fairness of personnel development policy, creating opportunities to improve the professional skills of workers.

Immediate superior

Leader is understood as the direct superior of employees. Leadership brings satisfaction to employees through creating fair treatment, showing concern for subordinates, having competence, vision and operating ability as well as supporting employees in their work. work (Robins et al, 2002).

Business image

According to research by Dowling (1986), corporate image is the overall characteristic impression of the business that leaves in the customer's mind. Corporate image depends on individual's beliefs, feelings and impressions about the business and is influenced by media information, as well as the attitude, behavior and philosophy of the business. To build the desired image, businesses need to combine communication with the outside and organize activities within the business."

2.5. Building research models and research hypotheses

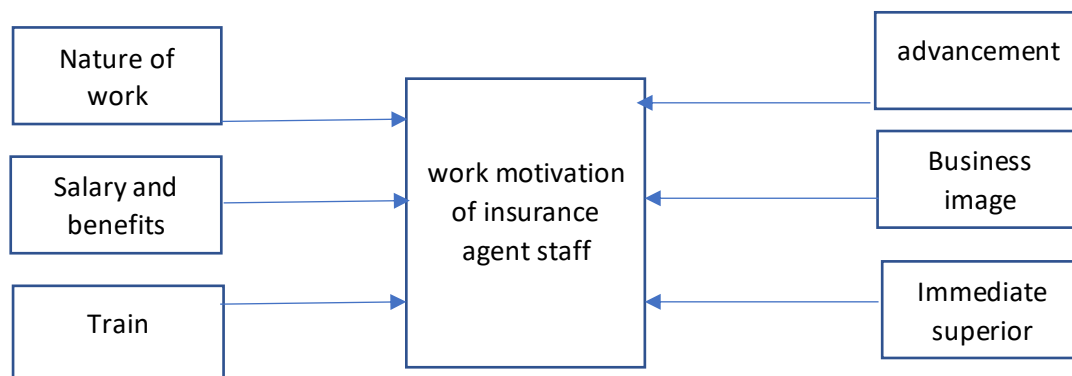


Figure 1. Conceptual framework

Source: The research team

The research hypotheses are as follows:

Hypothesis H1: Nature of work

H1: The nature of work is a factor that has a positive impact on the working motivation of insurance agent employees of Baoviet Life Corporation. If the nature of the work is highly appreciated by the agent, the more motivated the employee will be.

Hypothesis H2: Salary and benefits

H2: Salary and benefits are a factor that has a positive impact on the working motivation of insurance agent employees of Baoviet Life Corporation. The higher the salary and benefits are appreciated by the agent staff, the higher the employee's motivation will be.

Hypothesis H3: Training

H3: Training is a factor that has a positive impact on the working motivation of insurance agent employees of Baoviet Life Corporation. If an organization provides good employee training, it will increase employee motivation.

Hypothesis

H4: Advancement

H4: Promotion is a factor that has a positive impact on the working motivation of insurance agent employees of Baoviet Life Corporation. If the insurance agent evaluates the promotion factor well, it will increase the agent's work motivation.

Hypothesis

Research on Factors Affecting the Working Motivation of Insurance Agent Employees of Baoviet Life Corporation

H5: Direct superiors

H5: Direct superiors are a factor that has a positive impact on the working motivation of insurance agent employees of Baoviet Life Corporation. If the insurance agent evaluates the direct superior factor well, it will increase the agent's work motivation.

Hypothesis

H6: Corporate image

H6: Corporate image is a factor that has a positive impact on the working motivation of insurance agent employees of Baoviet Life Corporation. If the insurance agent evaluates the corporate image factor better, the motivation of the agent's employees will be increased.

3. RESEARCH METHODS

The study used a combination of general methods such as: information collection, analysis, synthesis, statistics, comparison comparison to analyze:

Document research method: Collect and research relevant research works that have been carried out in the country and abroad to draw and develop the theoretical basis for the topic. The theoretical content is selectively inherited from the research results of published scientific works on the contents related to work motivation from which the research team draws unique theoretical problems. scientific arguments on assessing the work motivation of insurance agent employees of Baoviet Life Corporation.

Descriptive statistical method: Using primary and secondary information to make assessment and data system of recruitment, training, agent support process... at Baoviet Life Corporation.

Interview method: Conduct survey with agent staff of Baoviet Life Corporation. From primary data, the research team used data processing software in SPSS to determine the factors affecting the work motivation of insurance agent employees of Baoviet Life Corporation.

Methods of analysis and synthesis: Analyze and synthesize data collected from primary and secondary data sources. Processing data to calculate relative numerical indicators to indicate the working motivation of insurance agent employees of Baoviet Life Corporation.

4. DISCUSSING RESEARCH RESULTS

Through the above analysis with suitable methods and sample size, the research objectives were 191 samples and 25 observed variables. The study conducted to test the reliability of the scales, analyze the EFA exploratory factors to evaluate the influence of factors affecting the working motivation of insurance agent employees of Baoviet Life Corporation. Through analysis of Cronbach's alpha coefficient, the discovery factor without observed variables was removed. All 25 observed variables measuring 6 factors (Nature of work, salary and benefits, training, promotion, immediate superiors, corporate image) are the subject of multivariate regression analysis. The results of multivariate regression and ANOVA test show that all 6 components above affect the working motivation of insurance agent employees of Baoviet Life Corporation. Through the analysis results, the research team has also identified the factors that have a positive impact on the working motivation of insurance agent employees of Baoviet Life Corporation.

Specifically, the first is the Corporate Image component that has the most influence, the second is the Nature of Work component, and the third is the Training component. The promotion component has the 4th greatest influence on work motivation, the fifth is the direct superior and the last is the salary and benefits component, this is also the component that has the lowest influence on work motivation. agent work. Next, the research team tested the impact of sample characteristics on employee motivation. The results of these tests show that two characteristics, gender and seniority, have an impact on the work motivation of agent staff.

The rate of leaving the insurance business of agent employees is a dilemma for insurance companies not only Baoviet Life Corporation. Leaving agents leads to many consequences for businesses, not only costly in terms of recruitment and new training, but also can affect the reputation of the business because customers are not supported and cared for in a timely manner. Therefore, improving the working motivation of insurance agent employees will help the business develop sustainably and in the long term. The research team based on the research results and proposed a number of solutions to improve working motivation with insurance agent employees of Baoviet Life Corporation. From the existing aspects in the work of motivating agent staff, the research team has come up with groups of solutions to support increasing work motivation for agent staff. In each group of solutions, each specific solution will help increase work motivation for insurance agent employees.

Research on Factors Affecting the Working Motivation of Insurance Agent Employees of Baoviet Life Corporation

The solution group focuses on the element of corporate image: Enhancing the position and reputation of the business; Build organizational culture.

The solution group focuses on the nature of work: Provide clear job descriptions and responsibilities for employees; Show trust, empower employees; Receive feedback from agents on sales policies and make appropriate adjustments

The solution group focuses on the Training factor: Training skills suitable to the reality of each agent; Strengthen the organization of training and professional development for on-site staff; Dealer orientation follows the agency's standards.

The solution group focuses on the promotion factor: Building a professional working environment with fair and suitable promotion opportunities; Update information timely and clearly; Building a fair reward and punishment system; Carry out supervision and management of insurance agents.

The solution group focuses on the element of direct superiors: Create interactions between business leaders and agents; Listen to and respect the needs of employees; Motivate and motivate employees.

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Constructing a Model for Assessment of Factors Affecting the Efficiency of Internal Control System in Businesses in Vietnam



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SUMMARY: The article has provided a theoretical basis for internal control, internal control system in general and internal control system in enterprises in Vietnam. This study also presents the background theories as a basis to explain the impact of factors on the effectiveness of the internal control system, which are: Theory of regulation; delegation theory; institutional theory, uncertainty theory of organizations, and psychosocial theory of organizations. Based on the theoretical basis system that has been built and the underlying theories, the research team has built a proposed research model on the factors affecting the effectiveness of the internal control system in the company. Vietnamese life insurers, including: control environment, risk assessment, control activities, information and communication, and supervision.

KEYWORDS: Model; Effective; Internal control; Enterprise; Vietnam

1. THE PROBLEM

Internal control is the establishment of regulations, procedures and business operations in order to improve the efficiency of business operations. Internal control helps enterprises comply with the laws and regulations of the organization, identify and eliminate risks, create trust and transparency in the financial statements of the enterprise. The internal control system is a combination of plans, control measures, viewpoints and operational directions to help an enterprise achieve its development goals. This system does not measure results based on growth numbers, but only performs the function of monitoring the operation of the business through evaluation of employees and departments. However, this activity is not really effective in enterprises, financial statements still contain many errors and frauds. Many businesses still lack legal compliance, causing damage to both businesses and regulators. Therefore, the research team builds a model to evaluate the factors affecting the effectiveness of the internal control system in enterprises, the research results will provide the theoretical basis and research model a group of factors affecting the effectiveness of internal control in enterprises.

2. THEORETICAL BACKGROUND

2.1. Some concepts

Control

According to Henri Fayol (1949), Control is checking to confirm that things are done according to plan or established instructions and principles, thereby pointing out weaknesses and mistakes. offenders need to be corrected, find out the causes to prevent them from happening again.

Internal control

Article 39, Law on Accounting of Vietnam (2015), Internal control is the establishment and organization of internal implementation of internal mechanisms, policies, processes and regulations in accordance with regulations. provisions of the law to ensure timely prevention, detection and handling of risks and to meet the set requirements.

According to COSO (1992), Internal control is a process, governed by an entity's management, board of directors and employees, that is designed to provide reasonable assurance to achieve the following objectives: to ensure the reliability of financial statements; ensure compliance with regulations and laws; ensure operations are carried out efficiently.

Constructing a Model for Assessment of Factors Affecting the Efficiency of Internal Control System in Businesses in Vietnam

Internal control system

According to Vietnam Auditing Standard No. 315 (2012), replacing the previous Vietnamese Auditing Standard No. 400, the term internal control was defined instead of the system of internal control as before as follows: Internal control is the process implemented and maintained by those charged with governance, management, and other individuals within an entity to provide reasonable assurance about the entity's ability to achieve the entity's objectives. ensure the reliability of financial statements, ensure the efficiency and performance of operations, and comply with relevant laws and regulations".

The effectiveness of the internal control system

According to Unegbu & Obi (2007), the effectiveness of internal control is analyzed and evaluated as an effective control tool established by management to ensure a smooth management process, control the Minimize costs, ensure maximum capacity and benefits.

2.2. Background theory

Regulatory theory

There are many basic representations of the theory of regularity, but it is most common in the following three main theories:

Social utility theory: The main content of this theory states that in order to meet society's requirements in correcting the injustice or inefficiencies of market prices, thereby protecting the common interests of society. associations, regulations need to be established.

Holding theory also known as interest group theory: The main content of this theory shows that interest groups in society often require the establishment of rules to maximize the benefits of group members.

Self-interest theory: The main body of this theory assumes that those in charge in regulatory organizations often behave based on their own self-interest.

Regulation theory explains the legal supervision mechanisms of the insurance business system and the operating mechanism of the internal control system in each enterprise in particular. This theory explains the foundation of self-interest through profiteering and insurance fraud. Applying this theory in the research is expected that cross-checking and monitoring will help reduce self-seeking and group interests in insurance enterprises.

Agency theory

In 1976, two authors Michael C. Jensen and William H. Meckling developed the theory of delegation. This theory focuses on the problem through which delegation creates the relationship between the principal and the delegate. Delegate problems often occur when the principal hires the delegate to do some work. The mandated party is entitled to represent the principal to decide on the authorized matters. In insurance activities, especially the relationship between the insurance company and the customer is the proxy relationship. Insurance enterprises use financial funds from insurance contracts to make investments or make decisions related to the interests of insurance customers. Therefore, managers themselves must control well the activities inside the insurance business they manage to ensure the interests of customers by creating a professional control environment, performing other tasks. assess risks, implement control activities, and ensure complete, reliable and timely information and communication.

Institutional theory

Authors studying institutional theory point out that an organization will be affected by two factors: "technical factors related to how day-to-day operations are handled in order to make it effective. high performance and institutional factors related to expectations and values from the external environment rather than from the entity itself".

When applying the content of institutional theory in the research, we can see that this is the theory that explains the impact of regulatory organizations and supervisory organizations on each other in the operational organizational model. insurance businesses. In addition, the public and society always expect regulatory and supervisory organizations in countries to want to promulgate a legal system as a legal foundation for insurance business activities. harmonize in the integration conditions to enhance the position and prestige of that regulation-making and monitoring organization. In this study, this theory explains the supervisory mechanism factor that affects the effectiveness of the internal control system.

Contingency theory of Organizations

This theory is based on the argument that: "There is no single effective management system that is suitable for all organizations and suitable for all circumstances because of its unique characteristics and Its effectiveness will depend on the specifics of the organization and on contextual factors" (Otley, 1980; Ferreira and Otley, 2005). Ferreira & Otley (2005) when applying this theory

Constructing a Model for Assessment of Factors Affecting the Efficiency of Internal Control System in Businesses in Vietnam

in management, said that: "factors related to the external environment, strategy, culture, organizational structure, technology, process size and ownership have an impact on organizational performance".

Social psychology of organization theory

The theory, also known as behavioral theory, includes views in management that emphasize the role of psychological, emotional, and social factors in people's work. This theory states that: "the effectiveness of management is determined by labor productivity, but labor productivity is not only determined by material factors but also by the satisfaction of the psychosocial needs of people." People". (Don Hellriegel & Jonn W.Slocum, 1986).

This theory explains the construction of control activities in the organization and the monitoring mechanism in the internal control system. When applied to the study, according to the explanation of this theory, the research team expects that when control and monitoring activities are ensured, the effectiveness of the internal control system will be higher.

3. RESEARCH METHODS

Research using documentary research method: Through the study of documents, the research team has collected and researched relevant research works that have been carried out in the country and abroad to draw conclusions and Develop a theoretical basis for research. The theoretical contents are selectively inherited from the research results of published scientific works on the contents related to the effectiveness of internal control. From there, the research team draws out independent theoretical issues with scientific arguments on building a model to evaluate factors affecting the effectiveness of the internal control system in enterprises.

4. BUILDING RESEARCH MODEL

4.1. Overview of related research models

Studying the internal control system in the direction of governance

On the basis of the 1992 COSO report, the COSO organization conducted a study on the enterprise risk management (ERM) system. In this study, ERM is built with 8 components including: internal environment, goal setting, event identification, risk assessment, risk response, control activities, communication information communication and monitoring. In 2004, COSO officially issued ERM as the foundation for enterprise risk management.

In 2009, authors Angella Amudo & Eno L. Inanga conducted a study evaluating internal control systems from Uganda. This study was carried out on the regional member countries of the African Development Bank. The study developed a standard model for assessing internal control systems in Ugandan public sector projects funded by the African Development Bank. The empirical model developed by Amudo and Inanga based on the internal control framework of COSO and COBIT includes:

Independent variables are components of internal control (additional information technology variable according to COBIT): (1) control environment, (2) risk assessment, (3) information communication system communication, (4) control activities, (5) monitoring, (6) information technology.

Dependent variable: The effectiveness of the internal control system

Regulatory Variables: Authorization, Collaboration

The results of the study show that the lack of some components of internal control leads to ineffective performance of the internal control system. However, the study authors also state that these results are only investigated in Uganda. The application of research results depends on the circumstances and characteristics of each specific country. Research results will be changed if applied to countries with different circumstances and corresponding characteristics.

Empirical research by authors Sultana and Haque (2011) from 6 private banks listed in Bangladesh suggests that in order to determine the ability to ensure the operation of the unit in accordance with the set objectives, it is necessary to evaluate the structure of the unit. internal control structure within an entity. Research and develop a model from the framework of internal control according to the COSO report (Figure 1.6) as follows: Independent variables are components of internal control: (1) control environment, (2) risk assessment, (3) information and communication systems, (4) control activities, (5) monitoring.

Dependent variable: The effectiveness of the internal control system

Regulatory Variables: Authorization, Collaboration

The results of this study indicate that the above model is really meaningful when the independent variables have a relationship with each control objective of the banks, specifically each component in the internal control system (variable variable). independent) well functioning will reasonably ensure the control objectives and thus the effectiveness of the internal control system. (Sultana & Haque, 2011).

Constructing a Model for Assessment of Factors Affecting the Efficiency of Internal Control System in Businesses in Vietnam

4.2. Factors affecting the effectiveness of the internal control system

Based on the theory of COSO's internal control system. Agree with the author Sultana & Haque (2011) in using control environment factors, risk assessment, control activities, information and communication, monitoring to study the impact on efficiency internal control system. The research team has inherited a 5-component scale in the study of factors affecting the effectiveness of the internal control system in life insurance enterprises in Vietnam.

Control environment

The control environment has an important impact on the performance and outcome of control procedures" (Ramos, 2004); (COSO, 2013). When a good control environment is established, the lack of control procedures can be minimized. The control environment includes the following elements: Honesty and ethical values; Competency Commitments; Philosophy and operating style of managers; Structure of the organization; HR policies.

Risk assessment

Managers must regularly assess risks and analyze existing and potential risks. The activities of the enterprise and its surroundings are always changing, so the risk assessment methods must be changed by the manager accordingly to be able to meet the requirements. Managers cannot take actions to eliminate risk but only set the risk to an acceptable level and try to minimize it as low as possible. Defining the objective is the first and most important part of the risk assessment. There are many organizational goals but we can divide them into 3 goals: Operational goals; Financial reporting objectives; Compliance goals.

The above goals are interrelated and supportive of each other. The common goals for the whole unit when building need to be considered to be appropriate to the capacity and operation characteristics of the unit and to each department in the unit. Due to the impact of external factors that are difficult for the entity to control, the entity can only consider to achieve the appropriate objectives in the above objectives, depending on each period. Based on the established goals, managers need to identify and analyze risks, on that basis, propose solutions to manage risks. These two activities are conducted continuously and repeatedly.

Control operation

"Control activities are a set of control policies and procedures to ensure that management directives are carried out in order to achieve objectives. These policies and procedures promote the activities necessary to reduce the risks of the business and enable the objectives to be rigorously and effectively implemented across the enterprise. Control activities take place throughout the organization at all levels and activities" (Ramos, 2004); (Kaplan, 2008).

Classification according to purpose, control activities are divided into 3 categories:

Preventive control: This is a control activity to prevent and minimize mistakes that affect the goals of the business to be achieved.

Detection control: This is a control activity to promptly detect violations that have been made.

Compensatory controls: These are controls that enhance or replace ineffective controls.

Information and communication

Information: To ensure the performance of their functions, organizations need information. Information needs to ensure timeliness and accuracy when identifying, collecting and communicating to relevant individuals and departments in the organization. The task of the unit is to create reports containing information to ensure the management and control of the unit by the manager. Dinapoli (2007) states that: "A single piece of information can be used for a variety of purposes, such as preparing financial statements, reviewing compliance with laws and regulations, and operating operations. production and business of enterprises".

The information system of the unit needs to always change to be able to respond to changes in business activities with fierce competition with increasing requirements of customers.

Communication: Author Dinapoli, (2007) said: "Communication is the exchange and communication of necessary information to stakeholders both inside and outside the business. Each information system itself has a communication function, because only then can the information that has been collected and processed can reach the objects in need to help them fulfill their responsibilities. me". Typically, a unit's communication system includes the following components:

The way of communication within the unit: For within the unit, the way of communication represents the transmission of information from the manager to each employee performing the task and how to respond to suggestions. output of employees to unit managers. The unit must ensure information channels from top to bottom or from the bottom up to ensure that

Constructing a Model for Assessment of Factors Affecting the Efficiency of Internal Control System in Businesses in Vietnam

communication activities in the unit are transparent in many different forms. In addition, the daily exchange of information between individuals or departments in the enterprise also ensures smooth internal communication.

Monitor

Author Spiner, (2004) in his study that: "Supervising is the final part of the internal control system, the process of evaluating the quality of the control system. internal control over time. Monitoring has an important role, it helps internal control always work effectively. Monitoring is carried out by those responsible to assess the establishment and implementation of control procedures" (Spinger, 2004); (Kaplan, 2008). Monitoring is carried out in all activities in the enterprise, even those outside the unit can be monitored in two ways: Regular monitoring of activities and periodic monitoring of activities.

4.3. Constructing a research model

Based on the background theory and presented research models, the research team proposes a model to study the factors affecting the effectiveness of the internal control system in enterprises as follows:

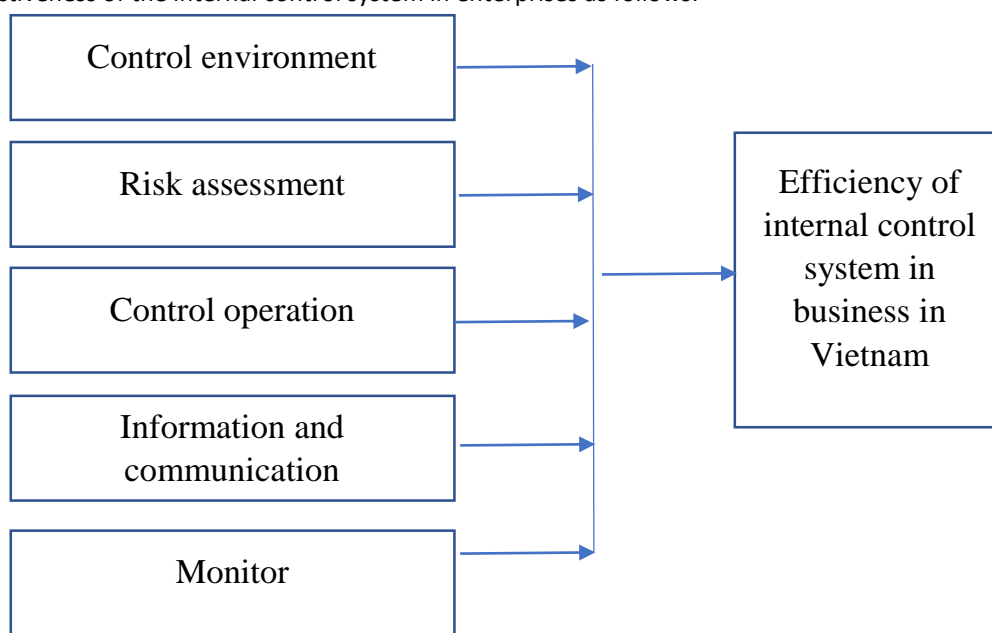


Figure 1. Conceptual framework

Source: The research team

5. CONCLUSION

Based on the theoretical foundations of internal control: Theory of regulation; delegation theory; institutional theory, uncertainty theory of organizations, theory of social psychology of organizations, ... combined with the systematization of research-related works has clarified the issues more clearly. Theoretical issues on internal control, the effectiveness of the internal control system in enterprises in Vietnam

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Effectiveness of Stress Management Intervention on the Stress Level of Children in Rose of Sharon House of Friendship



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ABSTRACT: The objective of this scholarly work is to determine how a stress management intervention influences the stress levels of children in a foundation. To make this feasible, a questionnaire based on the transcribed Perceived Stress Scale (PSS), a 10-item tool that surveys about thoughts and feelings from the preceding month, was utilized. The Perceived Stress Scale questionnaire underwent pilot testing to verify its reliability, and the results showed that the instrument had "acceptable reliability" according to Nunnally and Bernstein (1994), with an alpha value of 0.63. (10 items, 30 participants). N=30 receive treatment, 6week intervention.

The experiment employed a within-subject design, which is then used to assess the efficacy of the stress management intervention.

Founded by the results of the within measures ANOVA, it was determined that there was a significant difference in the level of stress after receiving the stress management interventions, as indicated by the f-value (3) = 7.45, p-value = .001 is less than 0.05, which resulted in the rejection of the given hypothesis. Based on the preceding outcome, the stress management intervention was evidently a success in decreasing stress levels.

KEYWORDS: Stress, Perceived Stress Scale, Stress Management Intervention, Foundation, Children

INTRODUCTION

Child neglect should come as no surprise given that a lot of parental care and nurturance hallmarks of neglect is one of the most serious threats to children's healthy growth and well-being (Rutter and Sroufe 2000, Sameroff 2000.) it goes short of saying that neglected children face a slew of risk factors known to inhibit normal growth (Schumatcher, Slep & Heyman, 2001). As time passed by, too much stress can affect kids mental and physical health. Stress is perceived as a negative emotional, cognitive, behavioral, and physiological processes that appears as a person tries to adapt to or deal with stressors (Berstein et al., 2008).

Based on the researcher's observation, children in the foundation experienced unstable mental health not only stress but also other factors like anxiety and depression. Children in institutional care frequently experience "structural neglect" which can include a lack of physical resources, unfavorable and unstable patterns, and social-emotionally insufficient caregiver-child interfaces (Marinus H. van IJzendoorn et al., 2014). Furthermore, stress can affect children in the foundation in their daily lives, through their past traumas before they go in the foundation. This paper focus on the effectiveness of the stress management intervention on the stress levels of children in the foundation with a 6-week session in the mindfulness technique under stress management intervention (SMI). Foremost in the study were the level of stress. The researcher's observed that majority of the children in the foundation, measured high stress level before the implementation of the intervention. Apart from measuring stress level, the level of anxiety has been observed in some children based on the six-week intervention. Some children open up that their past traumas haunt them every night, so researchers conclude that children in the foundation may also triggers their anxiety. To help alleviate the problems of children in the foundation, researcher's preferred to use mindfulness-based technique (MBT) under stress management intervention (SMI) that can decreased the stress level of the children. The researchers utilized a standardized questionnaire that was validated by three (3) validators and transcribed by a Filipino translator and validated also by four (4) tagalog validators to measure level of stress of the children. The posttest revealed significant difference between the stress level of a children in a foundation before and after exposed to the implementation of Stress Management Intervention (SMI).

Effectiveness of Stress Management Intervention on the Stress Level of Children in Rose of Sharon House of Friendship

The experimental study was carried out in the province of Laguna in Los Baños. The foundation was selected because as we observed the children needs a intervention to help alleviate their problem. The literature cited in this research validated that mindfulness based technique under Stress Management Intervention (SMI) are effective in reducing stress in the children in the foundation. Researcher's has determined that western intervention was helpful to the filipino children in the foundation by decreasing their stress level.

METHODS

Research Design

The researchers utilized an experimental-research design to examine how one or more independent factors could possibly affect one or more dependent variables.

Research Hypothesis

The Stress Management Intervention is not effective in decreasing the level of stress of children.

Participants

The researchers were able to reach 42 children in the Rose of Sharon House of Friendship respondents, who included abandoned, orphaned, and neglected children. This figure represents the official population of participants in Puyuy. Thirty children out of the forty-two participants met the criteria. Due to the ages of our respondents, the guardians of the participants from the House of Sharon were provided with informed consent to ensure respect for the respondents themselves.

Procedure

The researchers provided an IPO model to have a clear insight for the variables and to make the readers understand the flow of the experiment. The researcher used the Perceived Stress Scale (PSS) as a stress assessment tool, a method for determining how different events affect emotions and stress levels. The researchers used this 10-item tool questionnaire to ask questions regarding last month's feelings and ideas. Due to the ages of the participants, the questionnaire is transcribed into Tagalog questions which suits their spoken language, this is to be able to get accurate data from the respondents. The researchers implemented the intervention for 6 weeks to conduct the pre-test to post test 3 of the experiment. During the first week, the researchers introduced themselves and provided a background regarding stress and gave them an energizer to help them become productive and afterwards, the researchers taught the first breathing technique which is belly breathing. On the second week, The assigned facilitator made the children recall about their last breathing exercise. After recapping, the researchers started to instruct the breathing exercise, the exercise is called 4,2, 3 breathing exercise. After doing it, the researchers instructed them to do the inhaling for 4 seconds, pause for 2 seconds and exhale for 3 seconds for five times. On the third week, the researchers started it with a breathing exercise called Hot Air Balloon (Making a circle shape with both hands and placing a circle in the mouth then starts inhaling through the nose and breath out while expanding the circle). After that, the researchers divided the participants into four groups, placing each group with one researcher in a small setting to practice expressing their emotions and provided an energizer afterwards to uplift their spirits. On the fourth week, the activity that the researchers prepared was the Heartbeat Mindfulness Activity. After the breathing exercise, the children was given a post test. On the fifth week, the researchers instructed the breathing exercise for this intervention and it is called square breathing exercise and the worry bubble. On the sixth week, the last session, the first part of the activity was a recap of all the breathing techniques they had learned. They are able to do and still remember all the breathing exercises that were taught to them. The last post test was given to the children, after that, the researchers gave their acknowledgement speech and thanked everyone who participated and helped the researcher's finish the entire conducting. The experiment shows that the experiment decreased the stress levels of the children and rejected the null hypothesis.

Effectiveness of Stress Management Intervention on the Stress Level of Children in Rose of Sharon House of Friendship

FLOW CHART

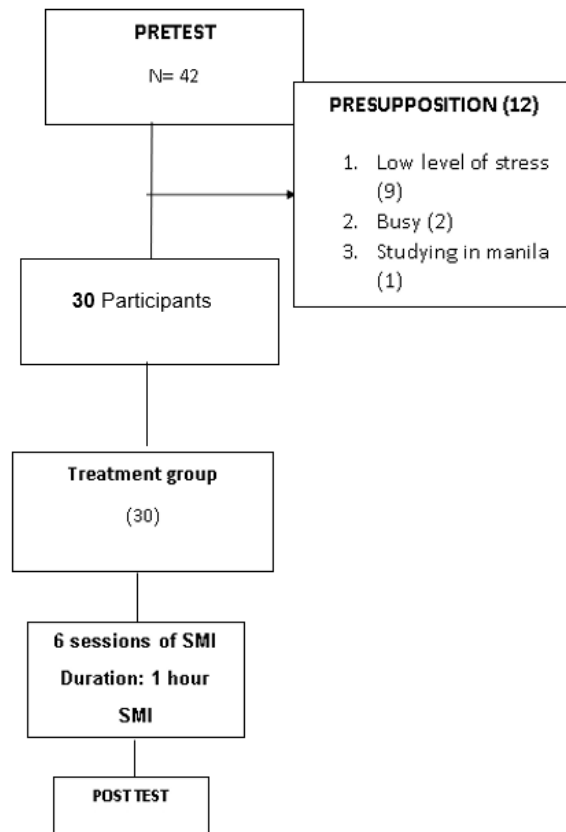


Figure 2. Flow Chart of the experiment

Data Analysis

Using the following statistical treatment for the problem statement, which aimed to determine respondents' stress levels before and after implementing a stress management intervention. In the experiment, the Stress Management Intervention, or SMI, was used. In the current research literature, there is no scale that measures parental acceptance of one's sexual orientation. Children from Vision of Hope Foundation's Rose of Sharon House of Friendship are among those taking part. Following the first, second, and third post-tests at the end of two sessions, researchers used a screening test to assess the stress level of the foundation's children. Because majority of the participants are underage, informed consent forms for their guardians are included in the screening test.

Ethical Considerations

According to the PAP code of ethics, the researchers obtained informed consent from Rose of Sharon for the children in the foundation and the caregivers. The report as a whole was kept confidential, and the foundation's children's privacy was protected. To protect the respondents' identities, the researchers used pseudonyms. This ensured the confidentiality of the information obtained for this investigation.

RESULTS

The table shows the analysis and interpretation of data based on the result of the Perceived Stress Scale in the Stress Management Intervention

Table 1. Stress Level of the Children in a Foundation before the Implementation of Stress Management Intervention (SMI)

RESPONDENTS	MEAN	VERBAL INTERPRETATION
1	20	MSL
2	20	MSL
3	20	MSL
4	23	MSL

Effectiveness of Stress Management Intervention on the Stress Level of Children in Rose of Sharon House of Friendship

5	26	MSL
6	28	HSL
7	25	MSL
8	23	MSL
9	21	MSL
10	22	MSL
11	25	MSL
12	22	MSL
13	28	HSL
14	23	MSL
15	23	MSL
16	21	MSL
17	21	MSL
18	24	MSL
19	23	MSL
20	30	HSL
21	24	MSL
22	22	MSL
23	31	HSL
24	20	MSL
25	22	MSL
26	20	MSL
27	21	MSL
28	22	MSL
29	17	MSL
30	20	MSL
TOTAL	22.9	MSL

Legend: 0-13= LOW STRESS LEVEL (LSL), 14-26= MODERATE STRESS LEVEL (MSL), 27-40= HIGH STRESS LEVEL (HSL)

Table 1 showed the level of stress in the foundation before the implementation of SMI. The data show that respondents' total mean average is 22.9 with the verbal interpretation of Moderate Stress Level (MSL).

Table 1.1 Stress Level of the Children in a Foundation before the Implementation of Stress Management Intervention (SMI)

QUESTIONS	MEAN	VERBAL INTERPRETATION
1. In the last month, how often have you been upset because of something that happened unexpectedly? <i>(Nitong nakaraang buwan, gaano kadalas na ikaw ay nabalisa dahil sa isang bagay na nangyari sa iyong buhay nang hindi inaasahan?)</i>	2.1	LL
2. In the last month, how often have you felt that you were unable to control the important things in your life? <i>(Nitong mga nakalipas na buwan, gaano ka kadalas nakakaramdam na hindi mo na kayang kontrolin ang mahahalagang bagay na nangyayari sa iyong buhay?)</i>	2.6	LL
3. In the last month, how often have you felt nervous and stressed? <i>(Nitong mga nakalipas na buwan, gaano kadalas na ikaw ay nakakaramdam ng kaba at tension?)</i>	2.5	LL
4. In the last month, how often have you felt confident about your ability to handle your personal problems? <i>(Nitong mga</i>	1.4	VLL

Effectiveness of Stress Management Intervention on the Stress Level of Children in Rose of Sharon House of Friendship

nakalipas na buwan, gaano kadalas mo na nararamdaman ang tiwala sa kakayahan mong harapin ang iyong mga personal problema sa buhay?)

5. In the last month, how often have you felt that things were going your way? (<i>Nitong mga nakaraang buwan, gaano mo kadalas nararamdaman na tugma ang iyong kagustuhang mangyari ang mga bagay-bagay?</i>)	2.2	LL
6. In the last month, how often have you found that you could not cope with all the things that you had to do? (<i>Sa mga nakalipas na buwan, gaano mo kadalas nararamdaman ang hindi mo makayanang panghawakan/harapin ang lahat ng mga bagay na dapat mong gawin?</i>)	2.3	LL
7. In the last month, how often have you been able to control irritations in your life? (<i>Nitong mga nakalipas na buwan, gaano mo kadalas na nakontrol ang sarili mo sa mga nakakairitang bagay sa iyong buhay?</i>)	1.9	LL
8. In the last month, how often have you felt that you were on top of things? (<i>Nitong mga nag daang buwan, gaano kadalas na nararamdaman na mas angat ka sa lahat ng bagay?</i>)	2.5	LL
9. In the last month, how often have you been angered because of things that happened that were outside of your control? (<i>Sa mga nakalipas na buwan, gaano kadalas na ikaw ay nakakaramdam ng galit dahil sa mga pangyayari na hindi mo makontrol?</i>)	2.6	LL
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? (<i>Nitong mga nakalipas na buwan, gaano kadalas mong nararamdaman na ika'y nahihirapan dahil sa mga patung-patong na suliranin sa iyong buhay?</i>)	2.8	AL
	2.29	LL

Total Mean Score

LEGEND: 1.00-1.80= VERY LOW LEVEL (VLL), 1.81-2.60= LOW LEVEL (LL), 2.61-3.40= AVERAGE LEVEL (AL), 3.41-4.20= HIGH LEVEL (HL), 4.21-5.00= VERY HIGH LEVEL (VHL)

Table 1.1 signified the highest mean in question number 10, *In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? (Nitong mga nakalipas na buwan, gaano kadalas mong nararamdaman na ika'y nahihirapan dahil sa mga patung-patong na suliranin sa iyong buhay?)* with an average mean of 2.8 and a verbal interpretation of Average Level (AL). The total mean score is 2.29 with a verbal interpretation of Low Level (LL).

Table 2 Stress level of the children in a foundation after the implementation (posttest 1) of Stress Management Intervention (SMI)

RESPONDENTS	MEAN	VERBAL INTERPRETATION
1	17	MSL
2	16	MSL
3	19	MSL
4	25	MSL
5	28	HSL
6	20	MSL
7	15	MSL

Effectiveness of Stress Management Intervention on the Stress Level of Children in Rose of Sharon House of Friendship

8	22	MSL
9	20	MSL
10	20	MSL
11	17	MSL
12	20	MSL
13	26	HSL
14	11	LSL
15	23	MSL
16	20	MSL
17	15	MSL
18	22	MSL
19	22	MSL
20	24	MSL
21	19	MSL
22	18	MSL
23	29	HSL
24	20	MSL
25	17	MSL
26	19	MSL
27	20	MSL
28	20	MSL
29	21	MSL
30	16	MSL
TOTAL:	20.3	MSL

Legend: 0-13= LOW STRESS LEVEL (LSL), 14-26= MODERATE STRESS LEVEL (MSL), 27-40= HIGH STRESS LEVEL (HSL)

Table 2 demonstrated the level of stress in the foundation after the implementation of SMI. The data showed that the respondents total average mean is 20.3 with the verbal interpretation on Moderate stress level (MSL).

Table 2.1 Stress level of the children in a foundation after the implementation (posttest 1) of Stress Management Intervention (SMI)

QUESTIONS	MEAN	VERBAL INTERPRETATION
1. In the last month, how often have you been upset because of something that happened unexpectedly? (<i>Nitong nakaraang buwan, gaano kadalas na ikaw ay nabalisa dahil sa isang bagay na nangyari sa iyong buhay nang hindi inaasahan?</i>)	2.0	LL
2. In the last month, how often have you felt that you were unable to control the important things in your life? (<i>Nitong mga nakalipas na buwan, gaano ka kadalas nakakaramdam na hindi mo na kayang kontrolin ang mahahalagang bagay na nangyari sa iyong buhay?</i>)	1.8	LL
3. In the last month, how often have you felt nervous and stressed? (<i>Nitong mga nakalipas na buwan, gaano kadalas na ikaw ay nakakaramdam ng kaba at tension?</i>)	1.9	LL
4. In the last month, how often have you felt confident about your ability to handle your personal problems? (<i>Nitong mga nakalipas na buwan, gaano kadalas mo na nararamdaman ang tiwala sa kakayahan mong harapin ang iyong mga personal problema sa buhay?</i>)	1.9	LL
5. In the last month, how often have you felt that things were going your way? (<i>Nitong mga nakaraang buwan, gaano mo kadalas</i>	1.8	LL

Effectiveness of Stress Management Intervention on the Stress Level of Children in Rose of Sharon House of Friendship

<i>nararamdaman na tugma ang iyong kagustuhang mangyari ang mga bagay-bagay?)</i>		
6. In the last month, how often have you found that you could not cope with all the things that you had to do? <i>(Sa mga nakalipas na buwan, gaano mo kadalas nararamdaman ang hindi mo makayanang panghawakan/harapin ang lahat ng mga bagay na dapat mong gawin?)</i>	1.9	LL
7. In the last month, how often have you been able to control irritations in your life? <i>(Nitong mga nakalipas na buwan, gaano mo kadalas na nakontrol ang sarili mo sa mga nakakairitang bagay sa iyong buhay?)</i>	1.5	VLL
8. In the last month, how often have you felt that you were on top of things? <i>(Nitong mga nagdaang buwan, gaano kadalas na nararamdaman na mas angat ka sa lahat ng bagay?)</i>	2.6	LL
9. In the last month, how often have you been angered because of things that happened that were outside of your control? <i>(Sa mga nakalipas na buwan, gaano kadalas na ikaw ay nakakaramdam ng galit dahil sa mga pangyayari na hindi mo makontrol?)</i>	2.3	LL
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? <i>(Nitong mga nakalipas na buwan, gaano kadalas mong nararamdaman na ika'y nahihirapan dahil sa mga patung-patong na suliranin sa iyong buhay?)</i>	2.3	LL
Total Mean Score	2	LL

LEGEND: 1.00-1.80= VERY LOW LEVEL (VLL), 1.81-2.60= LOW LEVEL (LL), 2.61-3.40= AVERAGE LEVEL (AL), 3.41-4.20= HIGH LEVEL (HL), 4.21-5.00= VERY HIGH LEVEL (VHL)

Table 2.1 showed the second highest mean in question number 8 *In the last month, how often have you felt that you were on top of things? (Nitong mga nagdaang buwan, gaano kadalas na nararamdaman na mas angat ka sa lahat ng bagay?)* with an average mean of 2.6 and a verbal interpretation of Low Level (LL). This question made the children realize that they lack self-confidence. The total mean score is 2 with a verbal interpretation of Low Level (LL)

Table 3 Stress level of the children in a foundation after the implementation (posttest 2) of Stress Management Intervention (SMI)

RESPONDENTS	MEAN	VERBAL INTERPRETATION
1	19	MSL
2	17	MSL
3	25	MSL
4	18	MSL
5	18	MSL
6	18	MSL
7	18	MSL
8	29	HSL
9	19	MSL
10	21	MSL
11	11	LSL
12	18	MSL
13	25	MSL
14	4	LSL
15	21	MSL

Effectiveness of Stress Management Intervention on the Stress Level of Children in Rose of Sharon House of Friendship

16	18	MSL
17	17	MSL
18	24	MSL
19	22	MSL
20	16	MSL
21	20	MSL
22	22	MSL
23	23	MSL
24	22	MSL
25	23	MSL
26	19	MSL
27	18	MSL
28	18	MSL
29	21	MSL
30	15	MSL
TOTAL	19.3	MSL

Legend: 0-13= LOW STRESS LEVEL (LSL), 14-26= MODERATE STRESS LEVEL (MSL), 27-40= HIGH STRESS LEVEL (HSL)

Table 3 showed the stress level of children in the foundation after implementing intervention and this data is for posttest 2. The data shows that the mean total average is 19.3 and the verbal interpretation is Moderate Stress Level (MSL).

Table 3.1 Stress level of the children in a foundation after the implementation (posttest 2) of Stress Management Intervention (SMI)

QUESTIONS	MEAN	VERBAL INTERPRETATION
1. In the last month, how often have you been upset because of something that happened unexpectedly? <i>(Nitong nakaraang buwan, gaano kadalas na ikaw ay nabalisa dahil sa isang bagay na nangyari sa iyong buhay nang hindi inaasahan?)</i>	1.9	LL
2. In the last month, how often have you felt that you were unable to control the important things in your life? <i>(Nitong mga nakalipas na buwan, gaano ka kadalas nakakaramdam na hindi mo na kayang kontrolin ang mahahalagang bagay na nangyayari sa iyong buhay?)</i>	1.3	VLL
3. In the last month, how often have you felt nervous and stressed? <i>(Nitong mga nakalipas na buwan, gaano kadalas na ikaw ay nakakaramdam ng kaba at tension?)</i>	1.8	LL
4. In the last month, how often have you felt confident about your ability to handle your personal problems? <i>(Nitong mga nakalipas na buwan, gaano kadalas mo na nararamdaman ang tiwala sa kakayahan mong harapin ang iyong mga personal problema sa buhay?)</i>	1.8	LL
5. In the last month, how often have you felt that things were going your way? <i>(Nitong mga nakaraang buwan, gaano mo kadalas nararamdaman na tugma ang iyong kagustuhang mangyari ang mga bagay-bagay?)</i>	2.2	LL
6. In the last month, how often have you found that you could not cope with all the things that you had to do? <i>(Sa mga nakalipas na buwan, gaano mo kadalas nararamdaman ang hindi mo makayanang panghawakan/harapin ang lahat ng mga bagay na dapat mong gawin?)</i>	1.7	VLL

Effectiveness of Stress Management Intervention on the Stress Level of Children in Rose of Sharon House of Friendship

7. In the last month, how often have you been able to control irritations in your life? (<i>Nitong mga nakalipas na buwan, gaano mo kadalas na nakontrol ang sarili mo sa mga nakakairitang bagay sa iyong buhay?</i>)	2.0	LL
8. In the last month, how often have you felt that you were on top of things? (<i>Nitong mga nag daang buwan, gaano kadalas na nararamdaman na mas angat ka sa lahat ng bagay?</i>)	2.9	AL
9. In the last month, how often have you been angered because of things that happened that were outside of your control? (<i>Sa mga nakalipas na buwan, gaano kadalas na ikaw ay nakakaramdam ng galit dahil sa mga pangyayari na hindi mo makontrol?</i>)	1.7	VLL
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? (<i>Nitong mga nakalipas na buwan, gaano kadalas mong nararamdaman na ika'y nahihirapan dahil sa mga patung-patong na suliranin sa iyong buhay?</i>)	2.1	LL
Total Mean Score	1.94	LL

LEGEND: 1.00-1.80= VERY LOW LEVEL (VLL), 1.81-2.60= LOW LEVEL (LL), 2.61-3.40= AVERAGE LEVEL (AL), 3.41-4.20= HIGH LEVEL (HL), 4.21-5.00= VERY HIGH LEVEL (VHL)

Table 3.1 shows that the highest mean is number 8. In *the last month, how often have you felt that you were on top of things? (Nitong mga nag daang buwan, gaano kadalas na nararamdaman na mas angat ka sa lahat ng bagay?)* with the average mean of 2.9 and interpreted as Average Level (AL).

Table 4 Stress level of the children in a foundation after the implementation (posttest 3) of Stress Management Intervention (SMI)

RESPONDENTS	MEAN	VERBAL INTERPRETATION
1	24	MSL
2	15	MSL
3	25	MSL
4	25	MSL
5	23	MSL
6	24	MSL
7	18	MSL
8	23	HSL
9	18	MSL
10	16	MSL
11	11	LSL
12	22	MSL
13	28	HSL
14	12	LSL
15	21	MSL
16	25	MSL
17	19	MSL
18	22	MSL
19	21	MSL

Effectiveness of Stress Management Intervention on the Stress Level of Children in Rose of Sharon House of Friendship

20	23	MSL
21	20	MSL
22	19	MSL
23	19	MSL
24	23	MSL
25	21	MSL
26	22	MSL
27	17	MSL
28	15	MSL
29	25	MSL
30	21	MSL
TOTAL	20.57	MSL

Legend: 0-13= LOW STRESS LEVEL (LSL), 14-26= MODERATE STRESS LEVEL (MSL), 27-40= HIGH STRESS LEVEL (HSL)

Table 4, showed above the result for posttest number 3. The data show that the total average mean is 20.57 with a verbal interpretation of Moderate Street Level (MSL).

Compared to the data from *pretest mean*=(22.9), *posttest 1 mean*=(20.3), *posttest 2 mean*=(19.3), the data result is decreasing, while in researcher’s *posttest 3* it increased with a total mean of 20.57, after the intervention.

Table 4.1 Stress level of the children in a foundation after the implementation (posttest 3) of Stress Management Intervention (SMI)

QUESTIONS	MEAN	VERBAL INTERPRETATION
1. In the last month, how often have you been upset because of something that happened unexpectedly? <i>(Nitong nakaraang buwan, gaano kadalas na ikaw ay nabalisa dahil sa isang bagay na nangyari sa iyong buhay nang hindi inaasahan?)</i>	2.0	LL
2. In the last month, how often have you felt that you were unable to control the important things in your life? <i>(Nitong mga nakalipas na buwan, gaano ka kadalas nakakaramdam na hindi mo na kayang kontrolin ang mahahalagang bagay na nangyayari sa iyong buhay?)</i>	1.7	VLL
3. In the last month, how often have you felt nervous and stressed? <i>(Nitong mga nakalipas na buwan, gaano kadalas na ikaw ay nakakaramdam ng kaba at tension?)</i>	2.1	LL
4. In the last month, how often have you felt confident about your ability to handle your personal problems? <i>(Nitong mga nakalipas na buwan, gaano kadalas mo na nararamdaman ang tiwala sa kakayahan mong harapin ang iyong mga personal problema sa buhay?)</i>	1.9	LL
5. In the last month, how often have you felt that things were going your way? <i>(Nitong mga nakaraang buwan, gaano mo kadalas nararamdaman na tugma ang iyong kagustuhang mangyari ang mga bagay-bagay?)</i>	2.3	LL
6. In the last month, how often have you found that you could not cope with all the things that you had to do? <i>(Sa mga nakalipas na buwan, gaano mo kadalas nararamdaman ang hindi mo makayanang panghawakan/harapin ang lahat ng mga bagay na dapat mong gawin?)</i>	1.8	LL

Effectiveness of Stress Management Intervention on the Stress Level of Children in Rose of Sharon House of Friendship

7. In the last month, how often have you been able to control irritations in your life? (<i>Nitong mga nakalipas na buwan, gaano mo kadalas na nakontrol ang sarili mo sa mga nakakairitang bagay sa iyong buhay?</i>)	2.1	LL
8. In the last month, how often have you felt that you were on top of things? (<i>Nitong mga nag daang buwan, gaano kadalas na nararamdaman na mas angat ka sa lahat ng bagay?</i>)	3.0	AL
9. In the last month, how often have you been angered because of things that happened that were outside of your control? (<i>Sa mga nakalipas na buwan, gaano kadalas na ikaw ay nakakaramdam ng galit dahil sa mga pangyayari na hindi mo makontrol?</i>)	1.8	LL
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them? (<i>Nitong mga nakalipas na buwan, gaano kadalas mong nararamdaman na ika'y nahihirapan dahil sa mga patung-patong na suliranin sa iyong buhay?</i>)	2.0	LL
Total Mean Score	2.07	LL

LEGEND: 1.00-1.80= VERY LOW LEVEL (VLL), 1.81-2.60= LOW LEVEL (LL), 2.61-3.40= AVERAGE LEVEL (AL), 3.41-4.20= HIGH LEVEL (HL), 4.21-5.00= VERY HIGH LEVEL (VHL)

Table 4.1, showed the highest mean of the questionnaire which is item number 8, . In the last month, how often have you felt that you were on top of things? (*Nitong mga nag daang buwan, gaano kadalas na nararamdaman na mas angat ka sa lahat ng bagay?*) the average mean is 3.0, and the verbal interpretation is Average Level (AL).

Table 5. COMPARATIVE TABLE OF THE MEANS OF THE PRE EST AND POST TEST OF THE LEVEL OF STRESS OF THE RESPONDENTS

QUESTIONS	PRETEST MEAN	POST TEST 1 MEAN	POST TEST 2 MEAN	POST TEST 3 MEAN
1. In the last month, how often have you been upset because of something that happened unexpectedly?	2.1	2.0	1.9	2.0
2. In the last month, how often have you felt that you were unable to control the important things in your life?	2.6	1.8	1.3	1.7
3. In the last month, how often have you felt nervous and stressed?	2.5	1.9	1.8	2.1
4. In the last month, how often have you felt confident about your ability to handle your personal problems?	1.4	1.9	1.8	1.9
5. In the last month, how often have you felt that things were going your way?	2.2	1.8	2.2	2.3
6. In the last month, how often have you found that you could not cope with all the things that you had to do?	2.3	1.9	1.7	1.8
7. In the last month, how often have you been able to control irritations in your life?	1.9	1.5	2.0	2.1
8. In the last month, how often have you felt that you were on top of things?	2.5	2.6	2.9	3.0

Effectiveness of Stress Management Intervention on the Stress Level of Children in Rose of Sharon House of Friendship

9. In the last month, how often have you been angered because of things that happened that were outside of your control?	2.6	2.3	1.7	1.8
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	2.8	2.3	2.1	2.0
TOTAL MEAN	2.29	2	1.94	2.07

As per the data of comparative table of means of pretest of the level of stress of respondents. The data shows that pretest average mean is 2.29 for posttest 1 average mean is 2, posttest 2 average mean is 1.94, showing that the stress level is decreasing but in posttest 3 with the average mean of 2.07 it is higher than posttest 1 and posttest 2.

Table 6. Significant difference between the stress level of a children in a foundation before and after the implementation of Stress Management Intervention

	f-value	df	p-value	Decision	Significance
Pretest and Posttests	7.45	3	<.001	REJECT Ho	Significant

Table 6 displays the test of significant difference between the stress level of a children in a foundation before and after the implementation of Stress Management Intervention. The results of within measures ANOVA revealed that there is significant difference between the level of stress after giving the Stress Management Interventions as indicated by the *f-value* (3) = 7.45, *p-value* = <.001 which led to the rejection of the null hypothesis.

DISCUSSION

Table 1

Children in the foundation may have experienced some stressful circumstances as a result of which their pretest score is Moderate Stress Level (MSL). As most of the children at the foundation have previously experienced physical violence and abandonment by their families, this type of trauma may leave them with an anxious mind. Physical abuse and abandonment by families are other factors that induce stress in children.

As per the study, Fisher found that foster kids living with more responsive caregivers were more likely to develop more normal cortisol patterns over time. Kids living with caregivers who were stressed out themselves didn't show that recovery (*Psychoneuroendocrinology*, 2007). "We're more likely to see that blunted pattern when they don't get that support, and there's a lot of stress in the family," he says.

Table 1.1

Question number 10 had the highest mean, indicating that it is a negative statement and that it deals with overcoming a difficult situation. There was a total of ten (10) questions with question number 10 being the most adverse of the lot.

Stress is viewed as a negative emotional, cognitive, behavioral, and physiological process that occurs as a person tries to adjust to or deal with stressors (Bernstein et al. 2008). Stress can take on entirely concrete or abstract meanings with highly subjective qualities. Auerbach and Grambling (1998) regarded stress as an unpleasant state of emotional and physiological arousal that individuals experience in situations that they perceive as dangerous or threatening to their well-being.

Table 2

The post-test results clearly demonstrated that it is feasible to reduce the stress level of the children; the post-tests final result have decreased compared to pre-test final results because of the mindfulness interventions that were used, the stress levels of the kids decreased. Additionally, we had already had a solid rapport with the group before the exercise began. They had shared their past experiences and the things that had made them melancholy, furious, or stressed out, which was a great move because it allowed them to express their feelings.

an enhancement in social integration and universal altruism tests, and a decrease in the perceived stress indices.

Effectiveness of Stress Management Intervention on the Stress Level of Children in Rose of Sharon House of Friendship

Table 2.1

The question number 8 has a highest mean score made the children realize that they lack self-confidence. The total mean score is 2 with a verbal interpretation of Low Level (LL).

Clinical studies have shown that secular mindfulness, as introduced in Jon Kabat Zinn's Mindfulness Based Stress Reduction (MBSR), can decrease stress, foster self-compassion and empathy, and improve both attention and focus (Zenner et al., 2014)

Table 3

Compared to pretest, that made a difference between the pretest, posttest 1, and posttest 2, the results for pretest and posttest shows that the children's stress levels have decreased, as a result of the intervention. They also benefit from the researcher's availability as a support system anytime they need it.

In explaining their similar finding, Shafi-Abadi (2008) stated that teaching life skills, including stress management skills, are one of the ways to improve the mental health of the individuals of the community and to prevent harms. In fact, these teachings protected the health and mental hygiene of the society and protected it against diseases, disabilities, and disturbances in human relations. As a result, the feeling of security and solidarity increased among the members of the society, and then their senses of happiness, vitality, and health increased.

Table 3.1

Since the question in the table was reversed and got the highest average mean score among the other questions, it means that the children in the foundation have a lack of self-confidence. Perhaps as a result of their past experiences or because they are hesitant to confide in others and show them their confidence.

From the study of Scheier and Carver (1988) proposed that pessimistic people are more stress resistant than the optimistic people. In another study Scheier and Carver (1992) stated that pessimistic people used various tactics to cope with their stress. But optimistic are less able in this context. Segerstorm and her colleagues (1998), found from their study on law students that optimistic students are in better mood and scored better in comparable with pessimistic students. In this context it can be concluded that various type of personality people used various type of coping strategies to cope with their stresses, as their perception of stress vary. But one thing cannot be denied that introvert people are more prone to stress, because they are more anxious, and their expectations are infinitive.

Table 4

As indicated by the post-test 3 results, researchers came to the conclusion that co-sharing, one of the kid-focused activities where researchers work with them, had revealed that foundation children might come across something that might be sufficient to cause the result to rise, even if they receive an intervention. An example of this would be someone who had a challenging childhood that may have served as a trigger. However, the children's stress level has increased since the last posttest.

One of the factors that may have contributed to their increased levels of stress after getting the intervention is their post-traumatic experience, which may have been triggered within the last six days. The last day of the intervention is one of the other potential causes of the children's elevated stress, according to the researchers. Additionally, it was the day of the last test, which caused the kids to cry and feel sad because they had gotten close to the researcher during the previous six weeks.

Some types of stress are low frequency in nature, whereas others are high frequency. Some low frequency pressures, such as support in social life and sudden workload in the office, are more severe than some high frequency stresses, such as the problems of daily living (DeLongis, Folkman & Lazarus 1988 Kenner et al, 1981 and Lazarus et al, 1985). In this context, it may be said that stress is a constant in human life and can result from any situation, including marriage, the difficulties of family life on a daily basis, marital discontent, poor academic achievement, unhappiness at work, and troubled romantic relationships. The fact that different people experience stress from different causes cannot be ignored.

Table 4.1

The children don't have a lot of self-confidence, as evidenced by the fact that question number 8 has the highest average mean. The participants are rather reserved and hesitant; not all of the foundation's children exhibit the same level of enthusiasm; some are reserved and confined to a single area of the room. The total mean score is 2.07 with a verbal interpretation of Low Level (LL)

Mindfulness based Stress reduction (MBSR) approaches rooted in eastern model are also applied for stress management in recent times. In this regard Smith, Shelley, Dalen, Wiggins, Tooley, & Bernard (2008) in a pilot study compared CBSR and MBSR on

Effectiveness of Stress Management Intervention on the Stress Level of Children in Rose of Sharon House of Friendship

50 participants. The MBSR consisted of weekly sessions aim to enhance mindfulness awareness and attention through the use of breathing, body scans, meditation, gentle Hatha yoga, and group discussion.

Table 5

The last post-test has decreased, as seen in the comparison table of means, and it is suspected that the respondents may have experienced past trauma that could have triggered the effectiveness of intervention.

Table 6

The amount of stress experienced by the children in foundation before and after SMI's implementation has significantly changed. The foundation's stress reduction program for children is effective in decreasing stress levels, although stress cannot be completely eliminated by the program. Conflict prevented the researchers from significantly reducing the tension, and they later learned that the people's prior traumas also haunt them and can set off triggers in addition to stress. Qadiri-Bahramabadi F, Mikaeli-Manee F (2015) explained their identical findings by saying that managing many pressures needed the training and learning of effective stress management techniques. To put it another way, people must be aware of the essential coping mechanisms to lessen the impacts of stress. If the pressure was controlled and the appropriate coping mechanisms were used, the person would be better able to cope with the demands and difficulties in his or her life. As a result, stress management techniques helped people develop positive self-images and perform well in stable environments. It improved people's lives by igniting their interest and motivation and by boosting their confidence. It consequently improved psychological well-being.

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Profile of Caloric Needs of Football Athletes by Position in Football School



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ABSTRACT: The purpose of writing this article is to find out and recommend calorie and energy profiles in shaping the stamina of football athletes in football schools. The search for this article uses a qualitative descriptive method through literature studies sourced from references that are willing to be studied conceptually and inferred from the results of the discussion. The results of this study show that the average calorie needs in the Defensive Lineman position requires as much as 6,100 - 6,400 kilo calories, in the Offensive Lineman position it requires as much as 6,200-6,500 kilo calories, in the Running Back position it requires as much as 5,700-6,000 kilo calories, in the Tight End position it requires as much as 6,000-6,300 kilo calories, the Linebacker needs as many as 5,900-6,200 kilo calories, and, in the Quarterback position, it needs as many as 5,200-5,400 kilo calories. Furthermore, the fulfillment of balanced nutrition for SSB football athletes that must be applied conditionally and proportionally is as follows Calories for football athletes are needed at 3542-4693 kilo calories per athlete per day, carbohydrate fulfillment for athletes as much as 531703 grams per athlete per day, protein fulfillment as much as 132-175 grams per athlete pr day, and fat fulfillment is needed at 118-156 grams per athlete per day.

KEYWORDS: Calories, nutrition, Football.

I. INTRODUCTION

One of the efforts to develop and improve achievements for athletes in the world of sports is to do training seriously and correctly and guided by a good training program. Nutritional adequacy is the most important factor in the development of the quality of human resources of sports athletes. The composition of nutritional adequacy transformed in the form of numbers greatly affects the productivity and creativity of the athlete's physical performance. The level or state of nutritional status is so urgent because it is directly proportional to the intensity of the exercise that the athlete will perform. And one of the most important factors for the fulfillment of nutritional intake is a healthy diet. According to Law Number 3 of 2005 concerning Sports Science, the national sports system is an integral part of the systematic and sustainable formulation of the sports agenda that includes education, regulation, management, training, coaching, supervision, and development to achieve the goals of national sports.

Based on a literature review of football scientific articles from various sources and studies, researchers draw correlations between football conditions applied in Indonesia. The information presented in this article is expected to be a reference source and empowered to develop the achievements of football athletes in Indonesia. The discussion in the article in the form of solutions and recommendations for structuring calorie profiles is aimed at football athletes in SSB in particular and Indonesia in general, Indonesian football coaches, stakeholders, and related parties so that they can be more advanced in this beloved country.

The game of football requires high energy so it must be accompanied by the need for a caloric profile for football athletes (A. P. Pratama et al., 2018; B. A. Pratama, 2016) The game of football is a game that takes place very quickly draining the energy of athletes within a relatively long period (Pujianto et al., 2020). The movements of the football game carried out by athletes are in the form of running, kicking, jumping, and short sprints with a large percentage of energy output. The dominant and distinctive movement of the football game is the dribble of the balls of the styles, clashing with each other the opponents, and jumping for the heading of the ball. The game of football requires an athlete's skills related to physical fitness, namely physical endurance, muscle strength, and agility of movement (Widodo, 2018). All aspects of the athlete's physical skills depend on how the transformation of muscle explosiveness on the physical ability to perform muscle contractions

Profile of Caloric Needs of Football Athletes by Position in Football School

quickly. Speed in a football game requires physical fitness. Meanwhile, the agility of football athletes to make fast movements, both running and changing direction and position correctly requires a good balance of the body. Therefore, high-capacity muscle strength is needed by football athletes to kick the ball, run fast, throw the ball, avoid physical falls when there is an impact, and maintain the balance of the football athlete's body.

Football games are a category of sports that are included in physical activities with high activity and require high endurance (B. A. Pratama, 2016). So football athletes spend a lot of energy when the game of football takes place. The game of football is formed with a structure of players arranged through various positions, namely: (1) One of the functions of the goalkeeper is to save the goal (saving) so that goals do not occur on the team side by making various rescue attempts, be it catching, dismissing, kicking, and heading the ball. (2) The striker (forward) is divided into two, namely the center-forward (center forward) who is near the opponent's goal and is in charge of attacking until scoring a goal. In addition, the role of the right striker is to give the attacking midfielder and winger space to divert the defensive attention of the opposing team. (3) Wings-forward or wing forward is also often known as a second striker who is an attacker by being pulled back to make attacking movements. In scoring goals, the task is the same as that of the center-forward and helps attack from the wing sector or the side of the field. (4) Midfielder (midfielder) is a player who is positioned between defenders and forwards. His task in this game of football is the link between the defender and the forward. This is devoted to preventing the opponent's attack to form a strong team defense. In addition, the midfielder also has the task of dribbling the ball forward when the team is in attack mode. In general, midfielders use a lot of energy, because the tasks and mileage in the game are quite far. (5) The defender (defender) occupies a position behind with a role to help the keeper prevent goals from the opposing team.

Based on the abstraction of the position and role of the athlete's team from the football game above, it is determined from the training method and calorie intake that football athletes receive to achieve achievements. And based on this position as well, it becomes common knowledge that football athletes have such a high level of physical activity and need a caloric profile in supporting the input of energy spent by athletes when doing training until the games are held.

Quoting the opinion of (Syafuruddin, 2011) about the best achievement of athletes is determined by two factors (1) Internal factors, as a strength that comes from within the athlete with all the potential and intelligence that is natural, be it the talent, technique, tactics, skills, and talent of the athlete himself. (2) External factors, as a driving force for achievement for athletes who come from outside the athlete with various factors, namely motivation, coaches, interests, nutrition, training methods, facilities and infrastructure, organizations, families, and so on.

Often in a competition, athletes fail to display their best achievements. They are not supported by qualified coaches, and the influence of climate and weather is not conducive because they compete in a cold temperature country. In addition, many athletes experience failure in competitions due to the disruption of food menu factors (nutrition) that are not by the tastes of athletes, both before and during the competition (Syafuruddin, 2011).

From various literature studies conducted by researchers, Indonesia has not had a serious commitment and consistency from the central government to local governments or related policyholders from the club management in allocating funds proportionally to meet the nutritional needs of football athletes appropriately. Especially in the Tabbing Football School, the nutrition fulfillment empowerment program does not yet exist, and the level of caloric needs of football athletes by position there has never been a study that analyzes their needs so far the study only describes it in general in this study will be described in more detail and specifics.

Based on observations that have been made by researchers and also supported by experts who are experts in their fields, researchers argue that the energy intake (calories) of football athletes is still not paid attention to in football schools so that athletes experience fatigue or run out of energy while the game is still going on, the focus is disturbed so that passing is not accurate and the athlete's performance is not optimal. Therefore, this article was completed to provide recommendations for profiling the caloric needs of football athletes based on their position in the Football School and then providing joint knowledge regarding the basic principles of balanced nutrition. The purpose of writing this review literature article is to find out the profile of the caloric needs of football athletes based on position.

II. MATERIAL AND METHODS

This research uses a qualitative descriptive research model that is a literature study that uses various literature studies in strengthening research analysis. This research begins with collecting some literature, then reviewing several important terms in the research, then collecting literature of relevant research results, then conducting an analysis based on all the literature that has been obtained by compiling discussions, then compiling conclusions based on the results that have been analyzed and submitting suggestions based on the conclusions obtained.

Profile of Caloric Needs of Football Athletes by Position in Football School

The data used in this study was to use secondary data. The source of the data obtained is in the form of original scientific reports derived from published scientific articles and journals that have been accredited and indexed, both in print and in print which are interrelated in the profile of the caloric needs of football athletes.

The data collection method used in this study is the documentation method. The documentation method is a method of collecting data by digging and searching for data from the literature related to what is in the formulation of the problem. The data that has been obtained from various literature is then collected as a unified document that will be used in answering the problems that have been formulated.

The technique of searching for articles in this study is through web access Mendeley, google scholar, and science direct as well as in journal search access in the form of other forms with keywords that profile the caloric needs of football athletes based on position. Articles or journals that match the criteria are then taken for further analysis and a journal summary is made including the name of the researcher, the year of publication of the journal, the study design, research objectives, samples, instruments, and a summary of the results or findings. This review literature uses literature that can be accessed in full text in pdf and scholarly (peer-reviewed Journal) formats. To further clarify the abstract and full-text journals are read and scrutinized. The summary of the journal is carried out an analysis of the content contained in the research objectives and research results/findings. The analysis method used is the analysis of the contents of the journal.

III. RESULTS AND DISCUSSION

Results

This review of literature review was conducted to determine the profile of the caloric needs of football athletes by position. Some of the literature that has been obtained is as follows:

1. (Spendlove et al., 2012) from the results of the research they have done state that "nutritional intake must be balanced with accuracy". Moving on from the study of athletes which has several limitations regarding the methodological formation and measuring instruments of calorie levels that athletes need. This is reinforced by an article from the (Gizi, 2011) that "nutrition has an important role to maintain maximum health for athletes to be able to train and compete well".

In this case, of course, the fulfillment of nutritional intake for athletes must be given based on the needs and type of exercise that the athlete is engaged in. The real implications of fulfilling energy inputs that correspond to the routine of physical exercise are simultaneously able to produce the athlete's achievements well. The rationalization is that the energy spent in the game of football must be balanced with the energy input of the food received by the athlete. However, attention to setting and adjusting the calorie intake profile for football athletes is less of serious concern in football schools so that athletes experience fatigue or run out of energy during the game, the focus is disturbed so that the passing is inaccurate and the athlete's performance is not optimal.

(Chandradewi & Irianto, 2018) explain two factors that affect the lack of nutritional intake for athletes, namely:

- 1) Inconsistency between the implementation of food fulfillment to the needs of athletes.
- 2) The presence of bad habits in the regulation of athletes' meals.

As it should be, every football athlete must have a high level of physical fitness and good processing of resources as the basic capital in carrying out physical activity efficiently for a long period without being accompanied by fatigue for athletes after the game is over. This means that every athlete can still enjoy free time after the game has gone well. In this case, it becomes rational that the fulfillment of calories (energy) for football athletes greatly supports their physical fitness to carry out their routine (physical training).

2. The results of research from Bloomfield in Echoes of (Yustika, 2018) on the frequency of ball activities carried out by players from various positions. As follows:

Figure 1. Frequency of Ball Activity from Football Players

Variable	Position				H2	p
	Assailant (n=19)	Quarterback (n=18)	Defender (n=18)	Total (n=55)		
Long pass(right foot)	1.3(2.5)	7.0(6.9)	9.7(6.9)	5.9(6.7)	15.6	<.001
Short header pass	8.8(9.2)	5.0(6.6)	7.0(6.9)	7.0(7.7)	2.2	.325
Flattened short bait	13.9(9.6)	27.3(28.8)	9.0(7.8)	16.7(19.3)	6.1	.046
Receiving (right foot)	14.8(11.2)	22.7(20.4)	12.1(11.7)	16.4(15.5)	4.3	.118
Receiving (left foot)	6.3(7.6)	11.0(10.3)	5.0(8.)	7.4(8.9)	5.6	.061

Profile of Caloric Needs of Football Athletes by Position in Football School

Dribble	18.0(13.4)	22.7(24.3)	12.5(12.0)	17.6(17.7)	3.6	.152
Total	102.3(51.1)	111.1(139.7)	47.6(90.3)	110.6(76.9)	2.9	.234

Source: (Yustika, 2018)

Following up on the results of Blomfield's research above, researchers cited the opinions of (Ramadhani & Murbawani, 2012) who stated the importance of the method of coaching football athletes using the athlete's quarantine system (dormitory), the goal is to produce achievements that can provide a well-systemic exercise program and accompanied by a well-monitored calorie intake regulation for football athletes. The important thing researchers emphasize from the reference above is that the Tabbung Football School should understand the pattern above. Then, (Alfitasari et al., 2019) gave an understanding that for football athletes, the right calorie consumption regulation must be applied to the needs of the athlete concerned (proportional), both coaching athletes using dormitories and not dormitories. Furthermore, the balanced nutritional profile for football athletes that Alfitasari intended was as follows:

1. Calories for football athletes are needed at 3542-4693 kilo calories per athlete per day, Fulfillment of carbohydrates for athletes as much as 531703 grams per athlete per day,
2. Fulfillment of protein as much as 132-175 grams per athlete per day, and
3. Fulfillment of fat is required at 118-156 grams per athlete per day.

Determination of energy requirements for football players is based The determination of energy requirements for football players is based on various factors, including the physical characteristics and position of players in a football team.

3. The results of a study by (Berning, 2015) which exposes the estimated kilocalorie intake for football players based on their position and body composition, are as follows:

Position	RMR* (RMR = 500 + 22) LBM kg)	PA Factor**	Thermic Effect of Foot (TEF)	Estimated Range Kilocalories
Defensive Lineman (DL)	2,777	2.0 – 2.1	1.1	6,100 – 6,400
Offensive Lineman (OL)	2,839	2.0 – 2.1	1.1	6,200 – 6,500
Running Back (RB)	2,478	2.1 – 2.2	1.1	5,700 – 6,000
Tight End (TE)	2,632	2.1 – 2.2	1.1	6,000 – 6,300
Linebacker (LB)	2,542	2.1 – 2.2	1.1	5,900 – 6,200
Quarterback (QB)	2,352	2.0 – 2.1	1.1	5,200 – 5,400

Figure 2. Kilocalorie Intake for Football Players Based on Position and Body Composition

Source: (Berning, 2015)

DISCUSSION

Based on the results of the literature study of the review article that has been previously stated, there are several related and mutually continuous discussions, namely several factors that affect the caloric needs of football. This condition refers back to Alfitasari's research, he emphasized that football athletes who are socialized need to be considered by coaches about the number of nutrients in their consumption settings through increased portions with proportional menus. Likewise, football athletes who do not use dormitory facilities need to be educated about the importance of breakfast to match the concept of balanced nutrition and proper energy fulfillment. And for both, it is mandatory to implement periodic evaluation and monitoring of the nutritional status of athletes so that there are no problems of malnutrition or double nutrition for football athletes (under fat and overfat). Monitoring and evaluating nutritional status is a fundamental, in-depth, and comprehensive reference to the profile of the energy needs of football athletes. In addition, as one of the coaching football athletes, SSB needs to apply community-based physical fitness formation patterns and local wisdom in managing athlete consumption.

The mechanism of presenting calorie consumption for athletes is also very important in supporting athletes' activities (Nikolaou et al., 2013). conducted a study in New York City and found the results that "providing information about the caloric value on foods prepared at the point of choice can guide students to consume fewer calories and help prevent accidental weight gain". The calorie range given is adjusted for each level of athlete classification is threefold, namely:

1. Starting dish 18-462 kcal.
2. Main course 206-952 kcal.

Profile of Caloric Needs of Football Athletes by Position in Football School

3. Dessert 169-682 kcal.

The above adjustments the researchers make important considerations and rationalizations of the level of protein consumption will be considered high. Calorie and protein intake for athletes is considered from the absolute amount of protein to be consumed, the proportion of the total energy intake of protein, or the amount relative to the body weight of each athlete.

The literature review that researchers conducted from the results of research by (Palacín-Arce et al., 2013) on the caloric profile of athletes is very important to the pattern of water consumption supply. Where Palacin et al., state that water is a non-caloric nutrient that is important for life and has rous with its function of dissolving, transporting, regulating body temperature, and muscle lubricant. The description of the research carried out includes:

1. About 60-70% of humans by weight and fluid intake are responsible for 60% of this amount. The rest consists of food intake at 30% and cell metabolism at 10%.
2. A close balance is required between water intake (drinks and food) and excretion (sweat, urine, feces, respiration).

In physical activity, the heat released when the process of muscle contraction must be eliminated through sweat, generating electrolytes and water loss, which is greater in intense and prolonged exercise. Dehydration harms the health and physical performance of football athletes, reducing their capacity to exert high-intensity efforts.

Based on previous studies, losing 2%-5% of body weight due to dehydration is claimed to reduce the capacity for aerobic efforts by 20%-30%. Sweat loss during intense exercise reaches a figure that ranges from 0.5 to 2.0 L / hour, depending on the ambient temperature, body size, and metabolic rhythm. One solution is the consumption of carbohydrates that can improve the performance of athletes. Performance by ensuring a sufficient amount of fuel for energy needs and by supplying fluids in carrying out the rehydration process. Adequate carbohydrate intake is essential to maintain balance and increase athlete energy. MHST. (Penggali et al., 2017) also assert the importance of "fluid fulfillment for football athletes as a return to dehydration status as a result of fluid loss during training and football games". Rehydration becomes an important key to normalizing systole blood pressure. The more often the athlete exercises, the more energy the athlete spends so that it is prone to exposure to dehydration conditions that are directly proportional to the increase in systole blood pressure. Therefore it is necessary to apply calorie consumption and rehydration for SSB football athletes.

The calorie profile that athletes need from a variety of drinks to suit their needs of athletes, researchers recommend consuming fruit juices, tap water, bottled water, carbonated drinks, and isotonic drinks which comprise 96% of the total water intake.

Furthermore, (Bendtsen et al., 2013) describe calorie consumption for athletes derived from milk protein. Line Q. Bendtsen divides them into two main classes of proteins:

1. Casein (80%)

Casein is a phosphoprotein that precipitates raw milk by acidification.

2. Whey (20%)

The data shows that whey is more satisfactory in the short term and casein is more satisfactory in the long term.

This means that intake containing Casein and Whey is needed for SSB football athletes with level adjustments. Because both of them can stimulate the secretion of incretin hormones such as peptides-glucagon and insulinotropic polypeptides.

In the same study posited the existence of "another aspect of the reasons for high protein intake and muscle hypertrophy derived from the impact of exercise on muscle protein"(Tipton, 2011). Kevin further stated that "resistance training, particularly with strong eccentric components can cause muscle damage and impaired myofibres". It is directly proportional to the increase in muscle protein rupture after resistance exercise to degrade this damaged protein. Likewise, amino acids from proteins can be reused in increasing muscle protein synthesis and the transport of amino acids from blood to the muscle.

However, (Desiplia et al., 2018) said something different from other studies that researchers felt was also rational to apply to the SSB. Namely "not only the intake of energy is sufficient for football athletes, but the provision of supplement consumption is very influential to maintain endurance, starting from the provision of minerals and vitamins.

In this article, vitamins intended as special needs for football athletes are B-complex vitamins that play a role in the formation of energy, vitamins (A, C, and E) as a counterweight and normalization of the physical and metabolic needs of athletes, and vitamin D as a form of high strength to the bones of football athletes so as not to be easily injured. (Juliana et al., 2018) stated that "poor sleep quality can affect the level of anxiety of football athletes which affects oxidative stress changes". The explanation lies in providing calorie consumption for athletes to minimize high levels of MDA and low levels of antioxidants (through the fulfillment of vitamin C and vitamin E) so that it is consequential to poor sleep quality for athletes.

Criticized the suboptimal fulfillment of calories for football athletes at Ragunan High School Jakarta, namely "junior football athletes at Ragunan High School, South Jakarta with a level of fulfillment of vitamins and minerals showed poor

Profile of Caloric Needs of Football Athletes by Position in Football School

conditions with a level of vitamin C provision of 45.5% still less than optimal for these football athletes (Halimah et al., 2014). That is, provision alone is not enough, it must be accompanied by consistency and its adjustment based on the needs of the athlete in proportion (not equalized). No less interesting are the results of the research of (Mahfida et al., 2015) on "the intake of vitamin C that can prevent muscle damage due to apoptosis and protect cells from oxidative stress".

Found the results of a previous study "the significance of the correlation of athletes' age with energy, protein, and carbohydrate intake has implications for the level of physical fitness of athletes (VO₂Max)" (Muthmainnah et al., 2019). Findings were also strengthened by (Maulana & Faruk, 2021) which stated that VO₂Max is a condition and power of the respiratory organs of athletes in the procession to breathe as much oxygen as possible when doing physical activity. VO₂Max / minute or (aerobic capacity and aerobic power) which is the amount of oxygen is an adjustment to the needs of athletes for one minute for each weight during training and football games. This is because football matches are carried out in a short period and require good physical endurance (endurance) through movements that drain a lot of energy.

IV. CONCLUSION

Based on the findings of literature research in the previous article, it can be concluded that there are problems found in fulfilling calories, nutrition, carbohydrates, and proteins for football athletes. The fulfillment of balanced nutrition for football athletes that must be applied conditionally and proportionally is as follows: 1) Calories for football athletes are needed at 3542-4693 kilo calories per athlete per day, 2) Fulfillment of carbohydrates for athletes as much as 531703 grams per athlete per day, 3) Fulfillment of protein as much as 132-175 grams per athlete pr day, and 4) Fulfillment of fat is needed at 118-156 grams per athlete per day. Meanwhile, the nutritional needs for football players based on team position are: 1) Defensive Lineman needs as much as 6,100 - 6,400 kilo calories. 2) Offensive Lineman needs as many as 6,200-6,500 kilo calories, 3) Running Back requires as much as 5,700-6,000 kilo calories, 4) Tight End requires as much as 6,000-6,300 kilo calories, 5) Linebacker needs as many as 5,900-6,200 kilo calories, and 6) Quarterback needs as many as 5,200-5,400 kilo calories.

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Analysis of Occupational Health and Safety (K3) on Work Productivity of UNY Swimming Pool Employees



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ABSTRACT: This study aims to identify the influence of occupational health and safety on the work productivity of UNY Swimming Pool employees. This research was conducted on January 4-5 2023 at the Kuningan Swimming Pool and the Wates (Vocational) Campus Swimming Pool, Yogyakarta State University. This research is associative research with a survey method with data collection techniques using observation and questionnaires. The subjects used in this study were 26 respondents who were UNY Swimming Pool employees. The data analysis technique used in this research is descriptive analysis. Based on the results of the study, Occ Safety simultaneously have an influence of 28.5% on the Work Productivity upational Health and Occupational of Yogyakarta State University Swimming Pool Employees and there are 71.5% of other factors or variables outside this research model. The results of research on risk control, on slippery floors, risk control can be done by routinely drying the wet floor, and brushing the moss that sticks to the floor.

Then the hierarchy of control is in the form of administrative. When sprinkling chlorine powder (chemicals), risk control can be carried out using tools such as masks, goggles, gloves. Then the hierarchy of control is in the form of personal protective equipment (PPE). For broken ceramic pool floors, risk control can be carried out by routinely checking and making repairs immediately. Then the hierarchy of control is administrative. For visitors, risk control can be carried out by prevention with appeals, and have lifeguards who are trained in dealing with visitors. Then the hierarchy of control is administrative. In bad weather, risk control can be done by closing and securing visitors during bad weather. Then the hierarchy of control is administrative.

KEYWORDS: Occupational Health; Occupational Safety; Work Productivity; YSU Swimming Pool;

1. INTRODUCTION

Occupational Health and Safety (OHS) is essentially a program that aims to protect the stability of business operations. Apart from that, because of this, occupational health and safety costs to pay for sick employees will decrease because occupational health and safety is developed. By maintaining the condition of employees, the company's productivity will immediately increase. The basic plan on occupational safety and health concerns two things, namely: unsafe behavior and unsafe environmental conditions. based on data from the 2010 Labor Course Bureau, the causes of accidents that have occurred to date are caused by unsafe behavior such as; (1) Reckless and careless, (2) Not complying with regulations, (3) Not following standard work procedures, (4) Not wearing personal protective equipment, (5) Weak body condition.

According to Widodo (2015: 89) occupational health is a health condition that aims for the working community to obtain the highest degree of health, both physically, spiritually and socially with efforts to prevent and treat diseases or health problems caused by workers and the work environment and diseases. general. According to Mangkunegara (2016: 156) work safety refers to conditions that are safe or safe from suffering, damage or loss in the workplace. Based on the opinions of the experts above, it can be concluded that work safety is a treatment given by the company to employees in the form of protection from possible hazards arising from the work environment so that employees feel safe and comfortable at work which can affect the quality of employee work.

According to Sondang P Siagian (2013: 15) work productivity is the ability to get the maximum benefit from the available facilities and infrastructure by producing optimal output, if possible the maximum. In this regard, the concept of productivity basically includes mental attitudes and behaviors that are oriented towards continuous improvement, and holds the view that today's performance must be better than yesterday, and tomorrow's performance must be better than today.

Analysis of Occupational Health and Safety (K3) on Work Productivity of UNY Swimming Pool Employees

The UNY Swimming Pool, which is engaged in providing lecture services for UNY students and swimming services for the general public, has realized the importance of fostering occupational health and safety (OHS) to achieve management goals, namely "zero accidents". Guidance is carried out to ensure work can be safe for its users. According to the records of accidents that occurred at the UNY Swimming Pool from 2010 to June 2022 there were several incidents of accidents with different causes, leg/stomach cramps due to lack of heating, negligence/slowness of rescue/lifeguard in providing first aid to victims, not to mention accidents of moderate, such as broken bones due to collisions with hard objects, for example floors, pool walls, etc., also minor accident categories, such as fainting, cramps, dizziness, and others.

The UNY Swimming Pool has not implemented a OHS (Occupational Health and Safety) management system, we look at the potential for identifying hazards in several parts of the UNY Swimming Pool, starting from the arrival of visitors / the UNY Swimming Pool Parking Area, at the place where tickets are purchased to enter the pool, in visitor changing/rinsing areas, in the UNY swimming pool environment, for example on a slippery floor due to the passing of people/visitors, in the condition of the grill/drain cover at the edge of the pool, in the pool, potential danger due to some ceramic/floor pool walls which are cracked, broken and sharp ceramic shards have the potential to injure visitors, signs that are not optimal (signed) for example slippery floors either due to passing visitors or when employees are mopping the floor), also on pool stairs which are also slippery potentially endangering visitors, car condition The UNY Swimming Pool ambulance does not have a special driver, the condition of the ambulance is that it is almost never serviced/maintained regular car. The problem in the UNY Swimming Pool is the problem of occupational safety and health, because the UNY Swimming Pool has not implemented an OHS management system but the number of work accidents is still small, cases of moderate-level accidents, and small-level accidents experienced by visitors often occur. Accidents that occur not only harm visitors, but also have an impact on the reputation and income of the UNY Swimming Pool. Based on this work accident that occurred, it is necessary to do an analysis of the effect of implementing OHS on the performance of employees at the UNY Swimming Pool. of the title, extracting from it keywords useful in cross-referencing and computer searching. An improperly titled paper may never reach the audience for which it was intended, so be specific.

2. RESEARCH METHOD TYPES OF RESEARCH

The research method used by the author is a survey method. According to Sugiyono (2013: 11) the meaning of the survey research method is: "Research conducted using a questionnaire as a research tool carried out on large and small populations, but the data studied is data from samples taken from that population, so that relative events are found, distribution, and the relationship between variables, sociological and psychological."

Time and Place of Research

When the research was carried out on January 4-5 2023 at the UNY Kuningan Swimming Pool and the Wates Campus.

Research subject

The research subject according to Suharsimi Arikunto (2016: 26) defines the research subject as an object, thing or person where the data for the research variable is attached, and which is at issue. In a study, the research subject has a very strategic role because the research subject is the data about the variables that the research observes. The subjects in this study were UNY Swimming Pool employees.

Data collection technique

In this study, the data collection technique used by the author is a questionnaire (questionnaire). According to Sugiyono (2013: 137) a questionnaire (questionnaire) is a data collection technique that is carried out by giving a set of questions or written statements to respondents to answer. The types of questions in the questionnaire that the author made were closed and open types. Closed questions help respondents answer quickly because the answers are already contained in the questionnaire, whereas open questions aim to give respondents freedom to answer. This study also uses data collection techniques in the form of observation to be able to identify, assess, and control hazards in research subjects. In preparing the research questionnaire, the researcher adopted several previous studies and modified it according to the needs of the researcher. Researchers also seek from various sources and references that are linear but only used as a reference. The research instrument lattice data is presented in the following table:

Analysis of Occupational Health and Safety (K3) on Work Productivity of UNY Swimming Pool Employees

Table 1. Instrument Grid

Symbol	Variable	Indicator
	Occupational Health (X1)	
X1.1	Occupational Health	Physical Work Environment Workplace noise conditions Work Environment Cleanliness Swimming pool sanitation
X1.2		Employee Health Facility Clean water supply Restroom facilities Medical services
X1.3		Employee Health Care Medical examination Provision of nutrition / nutritious food Physical training
	Occupational safety (X2)	
X2.1	Occupational safety	Support and Communication Dissemination of Occupational Safety Changes in work procedures are communicated effectively to employees
X2.2		Labor Safety Equipment Completeness of work equipment Availability of fire extinguishers
X2.3		Workload Sufficient number of workers to complete the required work Employee work schedule is appropriate
X2.4		Accident Prevention Occupational Health and Safety Rules/Procedures Posters or banners regarding Occupational Health and Safety regulations
X2.5		Work Safety Training Participation in Occupational Safety and Health training Provision of social security support to employees
Y1	Employee Productivity (Y)	Interest in work
Y2		Incentives and job appreciation
Y3		Work environment
Y4		Safety at work
Y5		Discipline

Meanwhile, the HIRARC variables are as follows:

Table 2. Consequence Criteria

Level	Criteria	Explanation
1	Insignification	No injuries, little financial loss
2	Minor	First aid, on-site treatment, and moderate financial losses
3	Moderate	Requires medical treatment, on-site treatment with outside assistance, large financial loss

Analysis of Occupational Health and Safety (K3) on Work Productivity of UNY Swimming Pool Employees

4	Major	Serious injury, loss of production capability, extraordinary handling
Level	Criteria	Explanation
5	Catastrophic	Death, poisoning to outside area with disruptive effects, huge financial loss

Table 3. Likelihood Criteria

Level	Criteria	Explanation
1	Almost Certain	Occurs in almost all circumstances
2	Likely	Very possible
3	Possible	Can happen at any time
4	Unlikely	Chances are rare
5	Rare	Can only occur in certain circumstances

Table 4 Risk Matrix

Likelihood	Consequence				
	1	2	3	4	5
5	H	H	E	E	E
4	M	H	H	E	E
3	L	M	H	E	E
2	L	L	M	H	E
1	L	L	M	H	H

Table 5. Risk Ratings and Levels



INSTRUMENT VALIDITY AND REALIBILITY

1. Instrument Validity Test

In preparing the questionnaire, validation from 2 experts was also used. Questionnaire statement items are said to be valid if r count $>$ r table. From the test results, there were 16 invalid statements out of 30 statements.

2. Instrument Reliability Test

The reliability test in a study was carried out by looking at the Chronbach alpha value of each instrument indicator. An indicator is considered reliable if the Cronbach's Alpha value is above 0.6. The results of the reliability test can be seen in the following table:

Analysis of Occupational Health and Safety (K3) on Work Productivity of UNY Swimming Pool Employees

The research method used by the author is a survey method. According to Sugiyono (2013: 11) the meaning of the survey research method is: "Research conducted using a questionnaire as a research tool carried out on large and small populations, but the data studied is data from samples taken from that population, so that relative events are found, distribution, and the relationship between variables, sociological and psychological."

Reliability Statistics

Table 6. Reliability Test

Cronbach's Alpha	N of Items
.809	30

DATA ANALYSIS TECHNIQUE

1. Descriptive Statistical Analysis

The data obtained will be analyzed in a quantitative descriptive manner. Quantitative analysis is used to determine the level of employee productivity, occupational health and safety. The data processing is used with the help of excel software and SPSS software. Quantitative data analysis used is descriptive analysis technique, while the calculation method uses percentages. The data are grouped into five categories, namely very good, good, good enough, not good, not good. This categorization uses the mean and standard deviation to determine the score criteria using the Norm Reference Assessment (NRA) according to Hamzah (2022: 36) in a modified scale as follows:

Table 7. Score Criteria Scale

No	Range	Category
1	$X > M + 1,5 SD$	Very good
2	$M + 0,5 SD < X \leq + 1,5 SD$	Good
3	$M - 0,5 SD < X \leq M + 0,5 SD$	Pretty good
4	$M - 1,5 SD < X \leq M - 0,5 SD$	Not good
5	$X \leq M - 1,5 SD$	Not good

Information:

M = Average value (mean)

X = Score

SD = Standard Deviation

2. Normality Test

The normality test is a test carried out with the aim of seeing whether the data in the study are normally distributed or not. A good regression model if the data is normally distributed. The data normality test can determine whether the research data follows or approaches a normal distribution. Data that is well distributed is data that has a pattern like a normal distribution, in which the distribution of the data is not squint to the left or right and tapers to the left or right.

3. Multicollinearity Test

The multicollinearity test was carried out to find out whether the regression model found a correlation between the independent variables. If there is a correlation, it can be said that there is a symptom of multicollinearity. In a good regression model there should be no correlation between the independent variables, which is indicated by the Variance Inflation Factor (VIF) value a round number one and the Tolerance number close to one.

4. Heterocedasticity Test

The heteroscedasticity test is a test that aims to find out whether in the regression model used there is an inequality of variance from one residual observation to another. Homoscedasticity is a good regression model, namely a model where heteroscedasticity does not occur.

Analysis of Occupational Health and Safety (K3) on Work Productivity of UNY Swimming Pool Employees

5. T test

Individual significance test (t test) is an individual regression coefficient test that is carried out to determine the independent variables gradually that have a significant or significant effect on the dependent variable (Sudjana, 2001: 325). The results of the t test were then compared with the t table obtained using the significant level (α) and n-2 degrees of freedom. The hypotheses that have been determined will be tested based on the acceptance and rejection areas determined as follows:

- If $t_{count} > t_{table}$, then H_0 is rejected or H_a is accepted
- If $t_{count} < t_{table}$, then H_0 is accepted or H_a is rejected

6. F test

The F test is used to see whether the independent variables jointly (simultaneously) have an influence on the dependent variable. The formulation of the hypothesis in this study is:

- H_0 : There is no significant effect on the independent variable on the dependent variable
- H_a : There is a significant effect simultaneously on the independent variable on the dependent variable.

7. Test the Coefficient of Determination

Determinant coefficient denoted by statistical R^2 . It is an important measure in regression. Through the coefficient of determination it is able to show whether the model is well estimated or not. The good and bad measurements can be seen from how much the independent variable contributes to the dependent variable which can be seen from the R^2 value. The R^2 value describes how close the estimated regression line is to the actual data. If the value of the acceptance coefficient is 0 ($R^2=0$), it means that the variation in the dependent variable cannot be explained at all. However, if the value is close to 1, it means that the dependent variable as a whole can be explained by the independent variable. The degree of good or bad of a regression equation is determined by the value of R^2 which is between 0 and 1.

3. RESULTS AND ANALYSIS RESEARCH RESULT

1. Hazard Identification

Hazard identification is a systematic effort made to identify potential hazards in work activities. Potential hazards that can be identified can be useful for increasing awareness in carrying out work and taking security measures to prevent accidents. The hazard identification process is also the first step in taking preventive action on work accidents. The following is a table of the results of the hazard and risk identification process.

Table 8. Identification of Hazards and Risks

No	Conditions in the Field	Hazard Identification	Risk
1	The floor area around the swimming pool is wet and waterlogged	Slippery floor	Fell, slipped
2	Sprinkle chlorine powder/tablets on pool water	Chemical material	Skin irritation
3	The floor in the pool broke	Pool ceramic shards	Wounds on the limbs
4	The process of swimming in the pool	Awareness of visitors to the pool to know their own person	Drowning, muscle cramps
5	Bad weather such as heavy rain accompanied by lightning	The pool area can be easily struck by lightning	Health problems, struck by lightning

2. Risk Assessment

Risk assessment has the objective of identifying the value of potential risks in work accidents. Determination of the value of potential risk is based on the probability of occurrence (likelihood) and the level of severity that can result (severity). The following is the result of the risk assessment that has been carried out.

Analysis of Occupational Health and Safety (K3) on Work Productivity of UNY Swimming Pool Employees

Table 9. Risk Assessment

No	Conditions in the Field	Hazard Identification	Risk	L	C	S	Risk Level
1	The floor area around the swimming pool is wet and waterlogged	Slippery floor	Fell, slipped	3	3	9	Low Risk
2	Sprinkle chlorine powder/tablets on pool water	Chemical material	Skin irritation	3	4	12	Medium Risk
3	The floor in the pool broke	Pool ceramic shards	Wounds on the limbs	3	3	9	Low Risk
4	The process of swimming in the pool	Awareness of visitors to the pool to know their own person	Drowning, muscle cramps	5	5	25	Very High Risk
5	Bad weather such as heavy rain accompanied by lightning	The pool area can be easily struck by lightning	Health problems, struck by lightning	5	5	25	Very High Risk

3. Risk Control

Risk control (risk control) is carried out after carrying out the process of identification and risk assessment which aims to determine priorities and how to overcome them. The following is the result of risk control.

Table 10. Risk Control

No	Conditions in the Field	Hazard Identification	Risk	L	C	S	Risk Level	Risk Control	Hierarchy Of Control
1	The floor area around the swimming pool is wet and waterlogged	Slippery floor	Fell, slipped	4	3	12	Medium Risk	drying Routine, brushing moss	Administrative
2	Sprinkle chlorine powder/tablets on pool water	Chemical material	Skin irritation	3	4	12	Medium Risk	Use standard masks	Personal Protective Equipment (PPE)
3	The floor in the pool broke	Pool ceramic shards	Wounds on the limbs	3	3	9	Low Risk	Routine checks, immediate repairs	Administrative
4	The process of swimming in the pool	Awareness of visitors to the pool to know their own person	Drowning, muscle cramps	5	5	25	Very High Risk	Prevention with appeals, trained lifeguard officers	Administrative
5	Bad weather such as heavy rain accompanied by lightning	The pool area can be easily struck by lightning	Health problems, struck by lightning	5	5	25	Very High Risk	Closure and security of visitors in bad weather	Administrative

Analysis of Occupational Health and Safety (K3) on Work Productivity of UNY Swimming Pool Employees

4. DESCRIPTIVE STATISTICAL ANALYSIS

The description of the variable category can describe the state of the employees regarding occupational health variables, work safety variables, and work productivity variables. Descriptive analysis is also very important for analyzing respondents' responses to the completed questionnaire.

Descriptive Statistics

Table 11. Variable Statistical Descriptive Results

	N	Minimum	Maximum	Mean	Std. Deviation
OccupationalHealth	26	30	49	39.08	4.204
OccupationalWork	26	32	50	40.46	4.207
WorkProductivity	26	36	50	42.23	3.691
Valid N (listwise)	26				

Based on the table above, it can be seen the number of respondents, the average value, the minimum value, the maximum value, and the standard deviation for each variable. The table above shows the data that all variables have a minimum value of 30 and a maximum value of 50. The results of the research show that all standard deviation values for each variable are smaller than the average value, which means that the data distribution is even.

a. Description of Occupational Health Variable Analysis Results (X1)

Descriptive Statistics

Table 12. Statistical Description of Occupational Health Variables

	N	Minimum	Maximum	Mean	Std. Deviation
X1.1	26	1	5	4.04	.720
X1.2	26	4	5	4.23	.430
X1.3	26	4	5	4.31	.471
X1.4	26	4	5	4.42	.504
X1.5	26	3	5	4.19	.491
X1.6	26	2	5	4.23	.863
X1.7	26	1	5	2.85	1.287
X1.8	26	1	5	3.31	1.350
X1.9	26	1	5	3.58	.945
X1.10	26	2	5	3.92	.796
OccupationalHealth	26	30	49	39.08	4.204
Valid N (listwise)	26				

From the table it can be described that the Occupational Health Variable (X1) has a minimum value of 30, a maximum value of 49, an average value of 39.08 and a standard deviation of 4.204.

Occupational Health

Table 13. Frequency Distribution of Occupational Health Variables

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not good	2	7.7	7.7	7.7
	Not good	3	11.5	11.5	19.2
	Pretty good	8	30.8	30.8	50.0

Analysis of Occupational Health and Safety (K3) on Work Productivity of UNY Swimming Pool Employees

Good	12	46.2	46.2	96.2
Very good	1	3.8	3.8	100.0
Total	26	100.0	100.0	

Based on the results of research on Occupational Health Variables (X1) which are presented in the table above. It is known that the very good category has a frequency value of 1 with a percentage value of 3.8%, the good category has a frequency value of 12 with a percentage value of 46.2%, the moderate category has a frequency value of 8 with a percentage value of 30.8%, the category is not good has a frequency value of 3 with a percentage value of 11.5%, the bad category has a frequency value of 2 with a percentage value of 7.7%.

b. Description of Work Safety Variable Analysis Results (X2)

Descriptive Statistics

Table 14. Statistical Description of Occupational Safety Variables

	N	Minimum	Maximum	Mean	Std. Deviation
X2.1	26	4	5	4.31	.471
X2.2	26	4	5	4.19	.402
X2.3	26	4	5	4.38	.496
X2.4	26	1	5	3.46	1.240
X2.5	26	4	5	4.27	.452
X2.6	26	4	5	4.08	.272
X2.7	26	2	5	3.96	.999
X2.8	26	1	5	4.00	.748
X2.9	26	2	5	4.04	.599
X2.10	26	2	5	3.77	.863
OccupationalWork	26	32	50	40.46	4.207
Valid N (listwise)	26				

From the table it can be described the Work Safety Variable (X2) with a minimum value of 32, a maximum value of 50, an average value of 40.46 and a standard deviation of 4.207.

Occupational Work

Table 15. Frequency Distribution of Occupational Safety Variables

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not good	1	3.8	3.8	3.8
	Not good	5	19.2	19.2	23.1
	Pretty good	15	57.7	57.7	80.8
	Good	1	3.8	3.8	84.6
	Very good	4	15.4	15.4	100.0
	Total	26	100.0	100.0	

Based on the results of research on Work Safety Variables (X2) which are presented in the table above. It is known that the very good category has a frequency value of 4 with a percentage value of 15.4%, the good category has a frequency value of 1 with a percentage value of 3.8%, the pretty good category has a frequency value of 15 with a percentage value of 57.7%, the less category

Analysis of Occupational Health and Safety (K3) on Work Productivity of UNY Swimming Pool Employees

good has a frequency value of 5 with a percentage value of 19.2%, the bad category has a frequency value of 1 with a percentage value of 3.8%.

c. Description of Results of Work Productivity Variable Analysis (Y)

Descriptive Statistics

Table 16. Statistical Description of Work Productivity Variables

	N	Minimum	Maximum	Mean	Std. Deviation
Y1	26	3	5	4.42	.578
Y2	26	4	5	4.58	.504
Y3	26	1	5	3.46	1.303
Y4	26	1	5	3.54	1.104
Y5	26	4	5	4.62	.496
Y6	26	3	5	4.12	.431
Y7	26	4	5	4.58	.504
Y8	26	4	5	4.35	.485
Y9	26	2	5	3.96	.774
Y10	26	4	5	4.62	.496
WorkProductivity	26	36	50	42.23	3.691
Valid N (listwise)	26				

From the table it can be described that the Work Productivity Variable (Y) has a minimum value of 36, a maximum value of 50, an average value of 42.23 and a standard deviation of 3.691.

Work Productivity

Table 17 .Frequency Distribution of Work Productivity Variables

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not good	3	11.5	11.5	11.5
	Not good	3	11.5	11.5	23.1
	Pretty good	9	34.6	34.6	57.7
	Good	10	38.5	38.5	96.2
	Very good	1	3.8	3.8	100.0
Total		26	100.0	100.0	

Based on the research results on the Work Productivity Variable (Y) presented in the table above. It is known that the very good category has a frequency value of 1 with a percentage value of 3.8%, the good category has a frequency value of 10 with a percentage value of 38.5%, the pretty good category has a frequency value of 9 with a percentage value of 34.6%, the less category good has a frequency value of 3 with a percentage value of 11.5%, the bad category has a frequency value of 3 with a percentage value of 11.5%.

5. CLASSICAL ASSUMPTION TEST

a. Normality test



Figure 1. Output of Normality Test Results

The results of the data normality test with the Normal P-P Plot can be concluded that by looking at the orb that is adjacent to the transverse line which is the dependent variable in the form of work productivity, it shows that the data is normally distributed.

b. Multicollinearity Test

Table 18. Output of Multicollinearity Test Results Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	15,421	7,865		1,961	,062		
	OccupationalHealth	,269	,150	,306	1,794	,086	,982	1,018
	OccupationalWork	,403	,150	,459	2,693	,013	,982	1,018

a. Dependent Variable: Occupational Work

Based on the table above, it can be concluded that all independent variables or independent variables are free from multicollinearity problems. This is because the Tolerance value of the independent variable or independent variable is the quality of service above (0.10). In addition, the VIF value for all independent variables or independent variables is below (10.00). So that with this research being free from multicollinearity problems, it can be said that there is no violation of the multicollinearity assumption in the regression model.

c. Heterocadedasticity Test

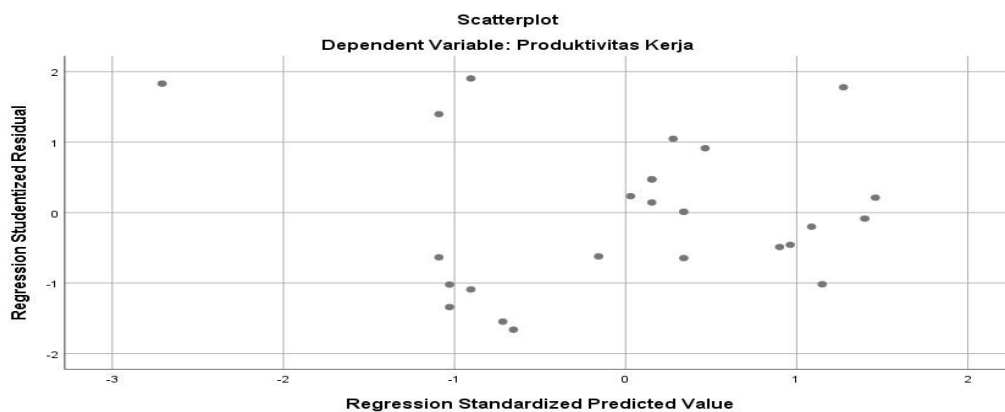


Figure 2. Output of Heteroscedasticity Test Results

Analysis of Occupational Health and Safety (K3) on Work Productivity of UNY Swimming Pool Employees

Based on the picture above, it can be concluded that the majority residuals are not heteroscedasticity, which means that the residuals are homoscedasticity. This can be known through the orbs that appear and are close to each other, even though there are some orbs that are away from other orbs. This indicates that this study has a fairly good regression model.

d. T test Table

Table 1. Output of T test results Coefficients^a

Model	B	Unstandardized Coefficients		Standardized	t	Sig.
			Std. Error	Beta		
1	(Constant)	15,421	7,865		1,961	,062
	OccupationalHealth	,269	,150	,306	1,794	,086
	OccupationalWork	,403	,150	,459	2,693	,013

a. Dependent Variable: Work Productivity

- Known value of Sig. for the effect of X1 on Y is 0.086 > 0.05 and the t-count value is 1.794 < 2.064 so it can be concluded that Ho is accepted and Ha is rejected, which means that the regression coefficient is not significant
- Known value of Sig. for the effect of X2 on Y is 0.013 > 0.05 and the t-value is 2.693 > 2.064 so it can be concluded that Ho is rejected and Ha is accepted, which means the regression coefficient is significant

e. F test Table

ANOVA^a

Table 20. Output of Test Results F

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	116,595	2	58,297	5,985	,008 ^b
	Residual	224,021	23	9,740		
	Total	340,615	25			

a. Dependent Variable: Work Productivity

b. Predictors: (Constant), Occupational Work, Occupational Health

The F statistic test basically shows whether the variables consisting of occupational health and work safety affect student satisfaction. Based on the results of the table above, it can be seen that the significance value for the effect of Occupational Health and Occupational Safety simultaneously on Work Productivity is (0.008) > (0.005) and the Fcount value is (5.985) > F table (3.42) so it can be concluded that Ha is accepted which means there is influence between Occupational Health and Occupational Safety on Work Productivity.

f. Determination Coefficient Test

Table 21. R2 Test Output Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,585 ^a	,342	,285	3,121	1,882

a. Predictors: (Constant), Occupational Work, Occupational Health

b. Dependent Variable: Work Productivity

The results of the regression calculation in the table above can be seen that the coefficient of determination (Adjusted R Square) obtains a value of 0.285. This means that 28.5% of the Occupational Health (X1) and Occupational Safety (X2) variables have an effect of 28.5% on Work Productivity and there are 71.5% of other factors or variables outside this research model. The magnitude of the Adjusted R Square ranges from 0-1, which means that the smaller the Adjusted R square, the weaker

Analysis of Occupational Health and Safety (K3) on Work Productivity of UNY Swimming Pool Employees

the relationship between the two variables. Conversely, if the Adjusted R square gets closer to 1, then the relationship between the two variables will be stronger.

DISCUSSION

Occupational Health and Safety is a top priority in doing a job. This places more emphasis on avoiding work accidents which are unplanned, uncontrolled and unpredictable which can interfere with work effectiveness (Wijaya et al., 2015). In this study using the HIRARC (Hazard Identification Risk Assessment and Risk Control) method. The HIRARC method is an effort to prevent and reduce the potential for work accidents, avoid and minimize risks that occur appropriately by avoiding and minimizing the risk of work accidents and controlling them in the context of carrying out activity processes so that the process becomes safe.

The results of research on the process of hazard identification (Hazard Identification), risk assessment (risk assessment), and risk control (risk control) there are 5 hazard and risk conditions in the Yogyakarta State University swimming pool, among others; (1) the floor of the pool area is slippery; (2) sprinkling of chlorine powder; (3) pool ceramic shards; (4) pool visitors; (5) bad weather. From the five hazard identifications, it can be explained that the risks in each hazard identification are in the form of; (1) slipped, fell; (2) irritation to the skin and eyes; (3) injuries to limbs; (4) drowning, muscle cramps; (5) health problems, being struck by lightning. Risk is the chance of something happening that will have an impact on the target, measured by the law of cause and effect (AS/NZS 4360: 1999).

Then the risk is measured based on the value of the likelihood and consequence. Risk assessment is an assessment process used to identify potential hazards that may occur. The purpose of a risk assessment is to ensure that the risk control of the processes, operations or activities carried out is at an acceptable level. Assessment in risk assessment is Likelihood (L) and Severity (S) or Consequence (C). Likelihood shows how likely the accident is to occur, while Severity or Consequence shows how severe the impact of the accident is. The value of Likelihood and severity will be used to determine the Risk Rating or Risk Level (Wijaya et al., 2015). The following is a description of the likelihood (L) severity (S) and consequence (C) points:

1. On a smooth floor, point (L) gets a value of 3 which means it is possible or can happen at any time. Then point (C) gets point 3 which means moderate or requires medical treatment. Then point (S) at number 9 which means it is at a low risk level.
2. When sprinkling chlorine powder (chemicals), point (L) gets a value of 3 which means possible or can occur at any time. Then point (C) gets point 4 which means major or requires medical treatment. Then point (S) at number 12 which means it is at the medium risk level.
3. For broken pool floor tiles, point (L) gets a value of 3 which means it is possible or can happen at any time. Then point (C) gets point 3 which means moderate or requires medical treatment. Then point (S) at number 9 which means it is at a low risk level.
4. For pool visitors, point (L) gets a value of 5 which means it is rare or only occurs in certain circumstances. Then point (C) gets point 5 which means catastrophic or death, poisoning and big financial loss. Then point (S) at number 25 which means it is at a very high risk level.
5. In bad weather, point (L) gets a value of 5 which means it is rare or only occurs in certain circumstances. Then point (C) gets point 5 which means catastrophic or death, poisoning and big financial loss. Then point (S) at number 25 which means it is at a very high risk level.

The results of the risk assessment can be used as a reference for controlling risk. Risk control (Risk Control) is a way to overcome the potential hazards contained in the work environment. Risk control can follow the Hierarchy of Control Approach. The risk control hierarchy is a sequence in the prevention and control of risks that may arise which consists of several levels sequentially (Tarwaka, 2008). The following are the results of risk control and hierarchy of control assessments:

1. On slippery floors, risk control can be carried out by routinely drying the wet floor, and also brushing away the moss adhering to the floor. Then the hierarchy of control is administrative.
2. When sprinkling chlorine powder (chemicals), risk control can be carried out using tools such as masks, goggles, gloves. Then the hierarchy of control is in the form of personal protective equipment (PPE).
3. For ceramic tiles on the pool floor, risk control can be carried out by routinely checking and making repairs immediately. Then the hierarchy of control is administrative.
4. For visitors, risk control can be carried out by prevention with appeals, and also have lifeguard officers who are trained in dealing with visitors. Then the hierarchy of control is administrative.
5. In bad weather, risk control can be done by closing and securing visitors during bad weather. Then the hierarchy of control is administrative.

Analysis of Occupational Health and Safety (K3) on Work Productivity of UNY Swimming Pool Employees

The Influence of Occupational Health and Safety on Work Productivity

The results showed that the coefficient of determination (R^2) of the independent variable had an effect on the dependent variable of 0.285, the variable Occupational Health (X1) and Occupational Safety (X2) had an effect of 28.5% on Work Productivity (Y) and there were 71.5% of factors or variables other than this research model.

Based on the results of the questionnaires that have been distributed, in which the majority responded that occupational health and safety at the Yogyakarta State University swimming pool were quite good. However, this must be balanced by paying attention to employee welfare so that employee work productivity can be maintained. According to Widyaningrum (2019) Employees who have a high level of physical, mental and social health will be able to work with optimal exertion so that high performance can be achieved and can then increase productivity. This can happen if employees have good physical and mental qualities and are aware of their own safety and that of others. Health can affect work productivity because if an employee is not in prime condition then the risk of work safety and accidents will increase. And vice versa, if the health of employees is considered and always in good condition then the risk to safety and work accidents will decrease.

4. CONCLUSION

1. The results of research on the process of hazard identification, risk assessment, and risk control, there are 5 hazard and risk conditions in Yogyakarta State University swimming pools, including; (1) the floor of the pool area is slippery; (2) sprinkling of chlorine powder; (3) pool ceramic shards; (4) pool visitors; (5) bad weather. From the five hazard identifications, it can be explained that the risks in each hazard identification are in the form of; (1) slipped, fell; (2) irritation to the skin and eyes; (3) injuries to limbs; (4) drowning, muscle cramps; (5) health problems, being struck by lightning.

2. The results of the research on the risk assessment process on a smooth floor, point (L) gets a value of 3 which means it is possible or can occur at any time. Then point (C) gets point 3 which means moderate or requires medical treatment. Then point (S) at number 9 which means it is at a low risk level. In the sprinkling of chlorine powder (chemicals), point (L) gets a value of 3 which means possible or can occur at any time. Then point (C) gets point 4 which means major or requires medical treatment. Then point (S) at number 12

which means it is at the medium risk level. For ceramic tiles on the pool floor, point (L) gets a value of 3 which means it is possible or can occur at any time. Then point (C) gets point 3 which means moderate or requires medical treatment. Then point (S) at number 9 which means it is at a low risk level. For pool visitors, point (L) gets a value of 5 which means it is rare or only occurs in certain circumstances. Then point (C) gets point 5 which means catastrophic or death, poisoning and big financial loss. Then point (S) at number 25 which means it is at a very high risk level. In bad weather, point (L) gets a value of 5 which means it is rare or only occurs in certain circumstances. Then point (C) gets point 5 which means catastrophic or death, poisoning and big financial loss. Then point (S) at number 25 which means it is at a very high risk level.

3. The results of research on risk control, on slippery floors, risk control can be done by routinely drying the wet floor, and also brushing the moss that sticks to the floor. Then the hierarchy of control is in the form of administrative. When sprinkling chlorine powder (chemicals), risk control can be carried out using tools such as masks, goggles, gloves. Then the hierarchy of control is in the form of personal protective equipment (PPE). For broken ceramic pool floors, risk control can be carried out by routinely checking and making repairs immediately. Then the hierarchy of control is in the form of administrative. For visitors, risk control can be carried out by prevention with appeals, and also have lifeguards who are trained in dealing with visitors. Then the hierarchy of control is in the form of administrative. In bad weather, risk control can be done by closing and securing visitors during bad weather. Then the hierarchy of control is administrative.

4. Occupational Health and Occupational Safety simultaneously have an influence of 28.5% on the Work Productivity of Yogyakarta State University Swimming Pool Employees and there are 71.5% of other factors or variables outside this research model.

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Pilot Facility for the Use of Used Oil as an Alternative Fuel for Diesel



Edy Syamsuddin¹, Nizam Ghazali², Adim Hadi³, Najmi Abbas⁴, Raden Trimanadi⁵, Anggara Lomak⁶, Vionita Lukitari⁷, Priambodo⁸

ABSTRACT: Consumption of lubricating oil continues to increase, until 2018 it reaches 1.14 million kL (kiloliters), the increase in oil use per year increases by around 2.5% then in 2019 there will be at least 600,000 kL of used oil that has not been processed properly.

Oil consumption the main target is the establishment of a pilot facility to use used oil into alternative fuels. Alternative fuel (BBA) produced from the processing of used oil as fuel Type Solar Oil marketed domestically.

Distillation process with the help of NaOH as a catalyst to obtain a clear and maximum product (quality and quantity). The results that have been obtained during the experiments are at a NaOH concentration of 0.05 kg / 10 liters of used oil showing excellent product results. The waste generated by this process is in the form of sludge and dirty oil which is directly reused.

This used oil processing technology is expected to be able to be a breakthrough and the right solution to minimize the impact of used oil pollution and convert it into fuel that has high beneficial value and economic value as well as reduce fuel imports, reduce dependence on technology from outside, increase state foreign exchange, as well as encourage industrial competitiveness and increase the level of domestic content (TKDN).

KEYWORDS: Facilitation of alternative fuels, NaOH distillation, import substitution and carrying capacity of local industrial content.

INTRODUCTION

Crude oil production in Indonesia is increasingly limited, data from the Special Task Force for Upstream Oil and Gas Business Activities (SKK Migas) 2016 states that Indonesia's petroleum production is only 831,000 barrels per day while national needs reach 1.6 million barrels per day. To cover the deficit, Indonesia must import petroleum or its derivative products.

Currently, the government is aggressively dealing with the problem of hazardous and toxic waste. Waste oil is included in the category of B3 waste that must be overcome. One way to handle it is by processing this used oil into new lubricating oil or fuel. Basically, used oil can be used directly as fuel but this will cause pollution such as black smoke, air pollution that results in odors, toxins and ecosystem effects so that this is prohibited by both central and regional governments.

B3 Waste Management is an activity that includes reducing, storing, collecting, transporting, utilizing, treating, and/or stockpiling B3 Waste.

The B3 Waste management hierarchy is intended to be produced in each production unit as little as possible and strive for zero, by seeking reduction in sources by material processing, material substitution, regulation of activity operations, and the use of clean technology.

The new paradigm in B3 waste management is to make the most of B3 waste before it is destroyed or stockpiled. B3 waste is currently considered as a resource that must be used either as a raw material or alternative material or as an alternative fuel.

Based on studies and implementations carried out by several parties in the use of B3 waste that have received permits, waste B3 waste can be processed into alternative fuels to be further used as fuel equivalent to MFO, HSD or diesel. The processing process does not require complicated technology, it only requires special equipment to heat used oil so that fuel can be used immediately. Used oil B3 waste processor that uses technology that causes environmental pollution such as air pollution, water and new solid waste which is quite significant.

Goals and Objectives

The purpose of this activity is to carry out the construction of facilities for the use of used oil into alternative fuels equivalent to HSD or diesel, reduce waste B3 used oil and increase the Domestic Component Level (TKDN) by utilizing as many raw materials, materials and local resources as possible.

Pilot Facility for the Use of Used Oil as an Alternative Fuel for Diesel

Meanwhile, the target of the activity is the construction of a facility for the use of used oil into alternative fuels equivalent to HSD with an installed capacity of 10 kL BBA / month, based on a feasibility study and drawing engineering design that has been prepared in previous activities

Scope

The scope of work includes Civil work of factory, office and warehouse buildings, equipment fabrication, Equipment installation, Piping and Instrumentation, Installation of utility and security equipment, Mini laboratory facilities, and commissioning

Special Requirement

There are several special requirements that must be met in the implementation of this activity:

1. The technology used does not produce significant B3 Waste
2. Apply pollution control technology for both airwater and B3 waste to a minimum
3. Meet all environmental management standards, both air pollution emission quality standards, ambient and B3 waste management administration if the resulting process produces waste
4. The resulting product meets the standards of HSD or diesel equivalent fuel.

Location

The construction site for the used oil utilization facility as an alternative fuel will be at the Banjar Bakula Regional Landfill, Banjarbaru City, South Kalimantan Province

METHODOLOGY

Sustainability analysis with an emphasis on the sustainable development of alternative fuel facilities to replace diesel through the development of young-scale industries with batching technology installed with catalytic cracking technology to cooling water
Some of the calculation bases used in the design of the pilot plant for this used oil utilization facility include:

- a) Manufacture of alternative fuels (BBA) with waste oil feedstock operating in batches. The installed capacity of the pilot plant is 10 kL BBA / month.
- b) The process technology used is thermal cracking at a temperature of $\sim 350^{\circ}\text{C}$ by adding NaOH chemical liquid as a catalyst, so it can be called catalytic cracking technology. The gas formed is then condensed using cooling water and absorption using kwarsa sand.
- c) The characteristic of the used oil used is the type of used oil obtained from the collector located in Prov. South Kalimantan.
- d) The BBA production process is:
 - Preparation of raw materials
 - Mixing with caustics (1–2.5% NaOH solution).
 - Condensation of products resulting from the distillation process by using a cooling pool.
 - Two stages of separation between gas, dirty oil (mintor) and non-condensed NaOH residue in separator tank A and between gas and liquid in separator tank B.
 - Color absorption of oil products from separation by adding NaOH.
 - Dirty solar filtration results from color absorption with the help of kwarsa sand to produce ready-to-sell clean diesel.

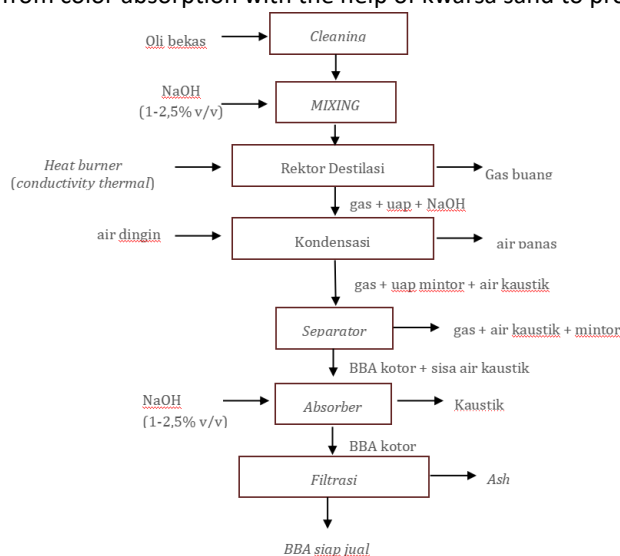


Figure 1: Block diagram of the construction process of the BBA Solar facility.

Pilot Facility for the Use of Used Oil as an Alternative Fuel for Diesel

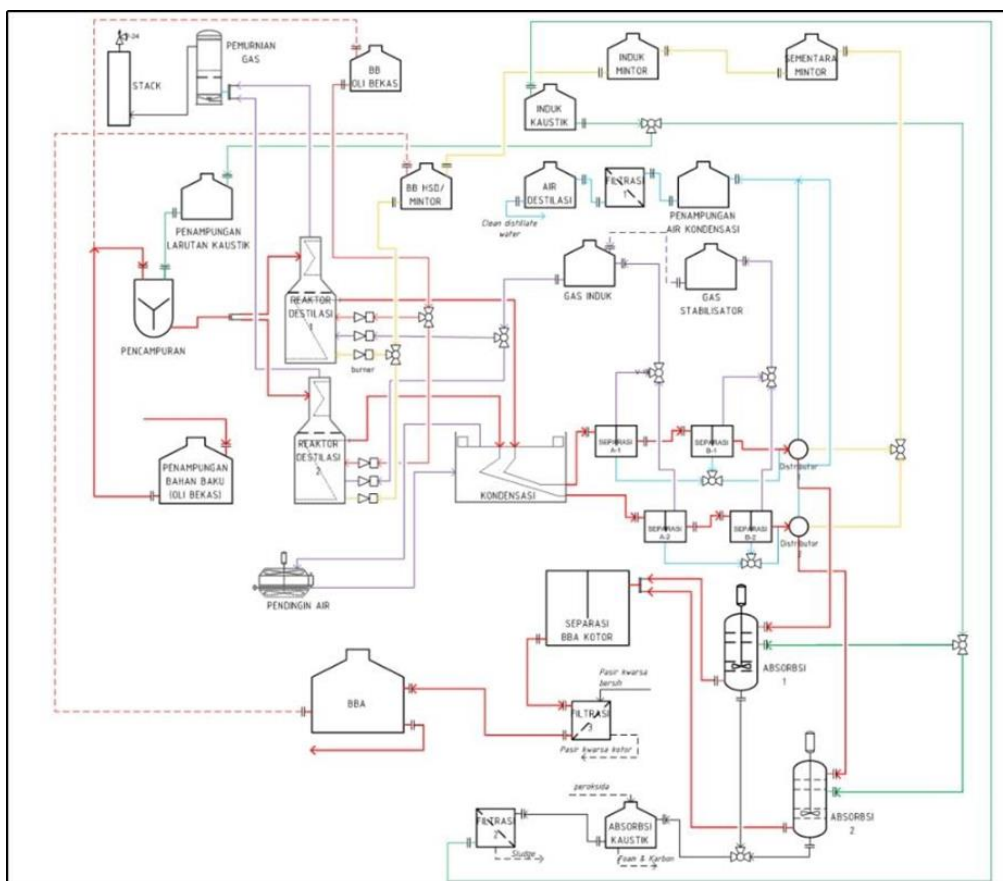


Figure 2: Flowsheet of BBA Solar Facility Installation

RESULTS AND DISCUSSION

Process Description

a. Material Preparation Stage

The main raw materials include:

- Used oil raw materials with water content below 10% are stored in TP-04 with the help of P-301 pumps at room temperature and atmospheric pressure. The installed volume of such raw material storage tanks has a capacity of 10 m³. The density value of the used oil used for the calculation is 0.885 kg/L.
- Caustic soda (NaOH) is stored on the TK-01 caustic master tank with an installed volume of 3 m³. At the initial stage storage is carried out manually, that is, entering NaOH solids and conditioned 1-2.5% v/v. However, after the production stage is running, caustic soda can also be produced from the by-products / residue of the absorption process in TA-01 and TA-02.
- Supporting Materials
- HSD for the BBA manufacturing process is only for the start-up of combustion TR-01 and TR-02 until gas and mintor are produced.
- Kwarsa sand as a filtration medium in TF-03 between the dirty product (BBA) and the residual sludge that is still contained in the product. Kwarsa sand is prepared manually on filtration tanks of 100-150 kg.
- Hydrogen Peroxide on TL-01 is for binding impurities such as residual carbon (sludge) that is included by caustic dirty soda. The process / reaction that occurs gives a bubble effect, so that the remaining carbon is bound and rises upwards in the form of foam. Then it is flowed entirely into the filtration process in a row starting from caustic soda and until the last foam / sludge is flowed.

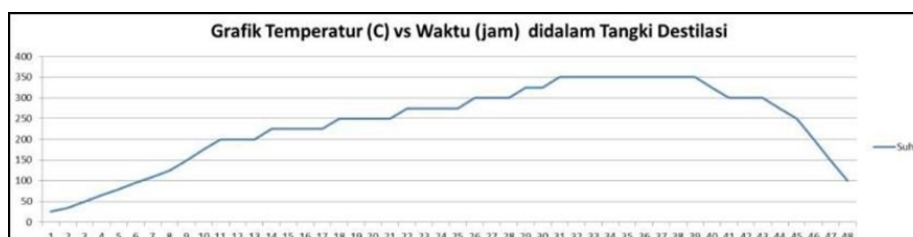


Figure 3: Temperature and time graph in a distillation reactor

Pilot Facility for the Use of Used Oil as an Alternative Fuel for Diesel

b. Mixing Stage

Drain the used oil from TP-04 to the mixing tank (TM-01) with a volume of approximately 3300 liters or approximately 2940 kg, then drain caustic soda (NaOH) into the TM-01 tank so that it mixes and homogenizes with used oil at certain revolutions. The installed capacity of the mixing tank is 1.5 m³, this means that 3-4 times the repetition of the mixing process is carried out for 1 distillation reactor.

Checking the NaOH solution before entering the mixing tank needs to be done by titration periodically (min. 3 times).

c. Heating Stage

Drain a mixture of used oil and caustic soda into TR-01 or TR-02 using a P-102 gear pump. With the role of the mixer motor, it is hoped that the two fluids can be homogeneous.

BR-A1 or BR-B1 is activated to heat the reactor with diesel fuel as a start-up until the production of flue gas mixed with hot air vapor and carbon to the scrubber (SC-01) continuously until the cooling process. The flow of product gas is flowed to obtain a saturation (condensation) treatment in the cooling pool. The use of HSD fuel as a combustion start-up only reaches a temperature of 250oC and

then use used oil from TT-03 until it reaches a temperature of 350oC. In addition to using used oil, gas from separator products is also used to increase and maintain the temperature in the reactor tank.

Heating can last 2 to 3 days to the saturation point (no steam and dirty oil is produced). It is estimated that the gas and steam produced from the heating process is approximately 805 kg. Meanwhile, by-products such as residues and sludge (\pm 5% w/w) are reused as solid fuel in distillation reactors.

d. Condensation Stage

Condensation of steam, dirty oil and caustic dirty soda contained in the combustion gross BBA is saturated using HE-01. Water with a temperature of 30oC comes from cooling water circulated using a centrifugal pump P-202. The flow of combustion products in the distillation reactor is flowed using pipes dipped in the HE-01 pool.

The products resulting from this saturation process are expected to be 100% liquid and gaseous. 3180 liters of gas + oil vapor. As for the hot water, it is flowed back to the cooling water.

e. Separation Stage

The separation process of gas, dirty oil (mintor) and dirty alternative fuel is carried out on TS-A/B with installed capacities of 0.3m³ and 0.8 m³ respectively. Each distillation reactor has a separate path/flow, so the need for this separation tank (TS-A/B) is 4 units installed in series.

The first stage of separation in TS-A1/2 resulted in a by-product gas of about 5.5% of the input and a mintor of 21.76%. Then the rest is streamed to the second split stage in TS-B1/2. The gas and mintor mixture plus gross BBA products produced were 20.2% and 79.8% respectively which were then flowed to distributors 1 or 2.

There are 3 types of products resulting from this separation process, namely:

- 1) Dirty BBA, flowed to TA-01/2 to obtain absorption and purification treatment of the remaining sludge included.
- 2) Mintor, flowed into a temporary mintor tank (TT-02) to be subsequently accommodated in the mintor mother tank and used as fuel.
- 3) Caustic soda water is condensed, flowed into a temporary caustic tank (TT-01) for residual sludge filtration treatment and reused for the process.

f. Purification Stage

The purification process is the process of adding a 10% v/v caustic soda solution from the costic mother tank (TK-01). The purpose of this process is to purify and bind the remaining NaOH + sludge (carbon) solution to the separated gross BBA (TS-A/B). A stirring system is attached to the absorption tank with the aim of binding by-product residual NaOH + sludge solution and flowing to the bubble tank (TL-01).

The products produced in the purification process are flowed to the settling tank (TS-01) with the aim of separating the remaining carbon and sludge carried away after the purification process. It can be said to be a settling process

g. Screening Stage

This process is the end of a series of BBA production processes equivalent to HSD. TS-01 products are streamed to TF-03 with 100 mesh. However, before flowing into the filtration tank, 25 kg of kwarsa sand is put into the tank with the aim of helping to separate the remaining carbon from the dirty BBA and increasing the color level of the BBA itself.

The filtering process product is around 2216.28 kg with by-products such as carbon sludge and kwarsa sand which are included in 1.5 kg. BBA is filtered around 2500 liters which is an HSD-level alternative fuel.

Pilot Facility for the Use of Used Oil as an Alternative Fuel for Diesel

By-product the remaining costic sludge solution produced during the absorption process in TA-01/2 is re-filtered using TF-02 so that the sludge is separated from the soda caustic solution. By using a chemical pump P-205 to PP-207 and then accommodated into the TK-01 soda caustic main tank as a raw material for supporting the process.

h. Storage Stage

Alternative fuels resulting from the filtration process (TF-03) are stored in TP-03 products and can subsequently be distributed/sold to the market.

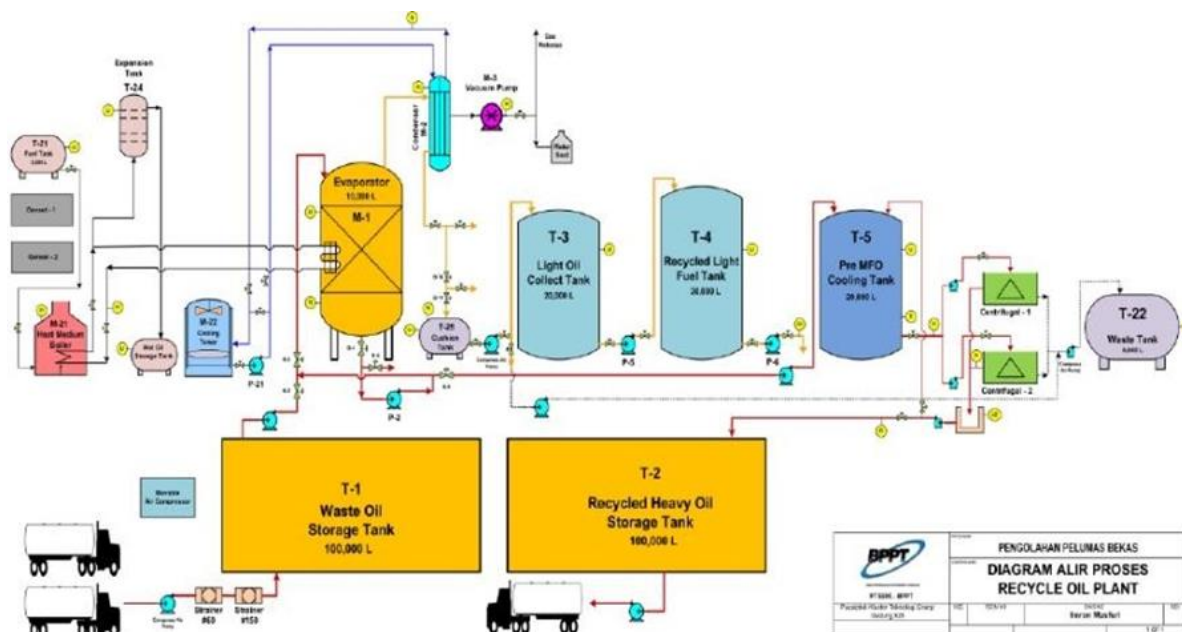


Figure 4. Flow Chart of Fuel Manufacturing Process from Used Lubricating Oil

i. Cooling Stage

The heat exchange process that occurs in cooling water aims to recycle condensed water (HE-01). Inlet temperature in cooling water $\pm 60^{\circ}\text{C}$ and cooling target up to 30°C .



Figure 5. Demo of used lubricating oil processing plant into MFO

The entire explanation of the process above uses 2 distillation reactors (TR-01/2), and if the two run simultaneously, the BBA product produced is approximately 5000 liters / batch. Time taken in one process (per-batch) and maintenance maximum 10 days (full-day)

Commissioning

The commissioning began on January 6, 2020 by heating the distillation reactor 2 (TR-02) which had been drained of 1.5 kilo liters of used oil. Meanwhile, a 20%wt (6 kg) caustic soda solution is flowed to TR-02, waiting for the start of the distillation process.

Pilot Facility for the Use of Used Oil as an Alternative Fuel for Diesel

Before firing, it is prepared:

- a) Condition the condenser (HE-01) as the cooling medium for the water fluid.
- b) Enable connected scrubber (SC-01)
- c) Heat to be generated from the used oil burner (BR-B2)
- d) Flow the used oil in TP-04 to the fuel tank of used oil + mintor (TT-03) using a pump (P-101).

Track Record

Until 2017, the Agency for the Assessment and Application of Technology has developed the production process of demo plants of used oil into fuel [products in the form of 90% marine fuel oil (MFO) equivalent fuel or fuel oil and 10% high speed diesel (HSD) equivalent fuel] with a capacity of 40 tpd. The production test process has been carried out until it reaches full operation continuously.

The flow chart of the process of making fuel oil from used lubricating oil can be seen in Figure 3. The photo demo plant can be seen in Figure 4. The technology used is vacuum distillation using an evaporator in a relatively low temperature so that energy use is more efficient and effective.

Marine Fuel Oil (MFO) products or Fuel Oil produced from the above process have a high level of viscosity compared to diesel oil. The use of this type of fuel is generally for direct combustion in large industries and is used as fuel for steam power stations and some uses that from an economic point of view are cheaper with the use of fuel oil. The price of fuel oil is cheaper than the price of diesel oil (HSD) and also its use is more limited.

Economic Outlook

The investment plan to establish a used lubricating oil processing plant into alternative fuels with a capacity of 10 kl per month is feasible both from the financial aspect and business profitability.

There are 2 options for development, including:

- The first option is the construction of a factory with a Grant Scenario. In this scenario, investment costs (equipment and permits) are entirely derived from grants. From the results of the projected profitability of the business, this scenario is most profitable to develop under conditions that match the assumptions used. It is estimated that the net profit obtained is about 30% of the total sales of HSD products.
- The second option is the construction of a used lubricant processing plant with an Investment Scenario (investment funding is obtained from own capital). With this scheme, the project is also feasible to develop. The lower the licensing costs incurred, the better the value of the feasibility indicators.

CONCLUSIONS

Commissioning and Production Test work has been carried out and achieved the target of 100% or 5.00% of the total work. This means that all work on the Used Oil Utilization Facility as an Alternative Energy Source has been COMPLETED.

The entire sapai development process with the implementation of the piping system and other installations went well.

The overall finishing process starting from the implementation of the sapai system simplification of waste production waste received facilitation as previously expected

The collection of alternative raw materials for diesel and the settlement of waste formed can be completed by coordinating with a special task force with stakeholders so that used lubricating oil can become an alternative fuel such as diesel and its waste can be used as paving blocks as well as possible.

The next effort is to encourage regulatory efforts that arouse domestic self-reliance efforts in achieving the level of local content of onvestors in promoting the independence of the domestic industry to be more beneficial to national development.

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Grass pea (*Lathyrus sativus*) a Crop of Future for Sustainable Agriculture in The Changing Environmental Conditions



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ABSTRACT: Grass pea (*Lathyrus sativus*) is an ideal pulse crop for sustainable agriculture due to its superior agronomic traits such as deep penetrating root system, resistance to many biotic and abiotic stresses and rich protein content. Even with these superior agronomic traits, the crop is considered as an orphan due to its lower productivity and presence of neurotoxin, b-N-oxalyl-L-a-diamino-propanoic acid (ODAP). By following classical and mutational breeding approaches scientists have developed varieties with lower ODAP (< 0.06 %) and efforts are underway to reduce it to zero. However, till date, there are limited biotechnological research in *Lathyrus sativus* for targeted crop improvement due to unavailability of genome sequence. The recently published draft genome sequence of European accession (LS007) is an important breakthrough and this would help in developing varieties with lower neuro toxin and higher productivity. In this review, the superior agronomic traits, resilience of the crops to various biotic and abiotic stresses, latest genetic research and biotechnological tools developed in *L. sativus*, are discussed.

KEYWORDS: Grass pea • *Lathyrus sativus* • Orphan crops • Neurotoxin • Tissue culture • Molecular and genetic approaches

Abbreviations: ODAP: β - ODAP: β -N-oxalyl-L- α , β -diamino propionic acid. BUSCO: Benchmarking Universal Single-Copy Orthologs. RAPD: Random Amplified Polymorphic Deoxy Ribonucleic Acid; RFLP: Restriction Fragment Length Polymorphism; SRAP: Sequence Related Amplified Polymorphism; AFLP: Amplified Fragment Length Polymorphism. ICARDA: International Center for Agricultural Research in the Dry Areas. CRISPR: Clustered Regularly Interspaced Short Palindromic Repeats

1. INTRODUCTION

Orphan crops are underutilized or neglected (Dawson and Jaenicke 2006) crops. These crops are characterized either by low yield (finger millet) or poor nutrition (cassava)/ toxic substances (grass pea) (Bermejo and León 1994). In developing countries orphan crops are very important because they provide financial as well as nutritional security to poor farmers of that specific area. However, they have been poorly utilized (in terms of use and cultivation) by the industry and scientific community as compared to other commercial crops such as wheat, corn and rice (Foyer et al. 2016). The negligence of these crops was mainly due to the antinutritional factors, poor market demand and unestablished supply chain for seed material (Cullis and Kunert 2017). Orphan leguminous crops mainly includes Bambara groundnut (*Vigna subterranea*), Cow pea (*Vigna unguiculata*), and Grass pea (*Lathyrus sativus*). These legumes are grown by resource-poor farmers in small, marginal or sub marginal lands using their own multiplied seeds (Diane 2016)

The grass pea has been cultivated across the world, from pre-historic era. The seeds are rich sources of protein, monounsaturated fatty acids and is the only source of rare amino acid L-homoarginine (Jammulamadaka et al. 2011). Humans can consume *Lathyrus* seeds after boiling or cooking, and it can be fed to lactating animals to increase the milk yield (Enneking 2011). *Lathyrus sativus* is known for its tolerance to many abiotic (flood, salinity, drought, and waterlogged conditions) stresses and more productive in water deficit conditions (Jiang et al. 2013; Piwowarczyk et al. 2016 a). It is cultivated mainly in the drought affected areas across the world which receive an annual rain fall of 300-1500 mm (Dixit et al. 2016). In India and Bangladesh, it has been grown as cover crop in waterlogged paddy fields (Campbell et al. 1993). This crop produces substantially reliable yields than other crops in drought prone areas and is popularly known as insurance crop (Vaz Patta and Rubiales 2014). This crop has a deep penetrating root system, suitable for cultivation in various soil types (fertile to heavy clay), responds well to the favorable climatic

Grass pea (*Lathyrus sativus*) a Crop of Future for Sustainable Agriculture in The Changing Environmental Conditions

conditions and produces higher yields. Under suitable agroclimatic conditions and good management practices the grass pea yield was found as high as ~5 tons/ha (Girma and Korbu 2012).

Besides these good agronomic traits, higher protein and fatty acid contents, the crop is disliked because of the presence of neurotoxin (ODAP) in the seeds (Murti et al. 1964). The toxin is found to cause paralysis (irreversible loss of motor function) known as 'lathyrism' when the seeds were eaten alone in substantial quantity (Lambein 2009). Because of this, the crop is unpopular in most of the countries and not cultivated on large area. The development of superior lines with reduced/zero toxin and good agronomic traits (abiotic stress tolerance, low input farming systems) would gain more attention. *Lathyrus sativus* is one of the prime legume crops in Kew's Millennium Seed Bank and the Global Crop Diversity Trust project. The prime objective of this initiative is to preserve the genetic variability and elite germplasm having important traits that could be utilized to improve major food crops for attaining the sustainable food production and food security (Dempewolf et al. 2014).

From the point of food security, sustainability and the present scenario of global climate change, the grass pea is considered as an important germplasm resource (Boukecha et al. 2017) and more focus should be given for developing the improved varieties. The modern breeding approaches such as molecular marker and advanced biotechnological tools such as CRISPR can offer new opportunities for rapid crop improvement (Ibitoye and Akin-Idowu 2010). These techniques could be applied to develop high yielding, robust, high disease resistance lines with low toxin content. In this review various aspects of *Lathyrus* such as origin, cultivars, distribution, nutritional aspects, biotic, abiotic stress tolerance and genetic research, important biotechnological tools applied for crop improvement are discussed.

2. BOTANICAL DESCRIPTION, CENTERS OF ORIGIN, DISTRIBUTION, AND CULTIVATION OF *L. SATIVUS*

The stem of grass pea is erect, winged, soft and succulent in nature. The leaves are alternate, evenly pinnate and have tendrils. Like other pea family this plant also has solitary axillary inflorescence. The flowers are hermaphrodites, pentamerous and have typical papilionaceous corolla. The flowers have two standard petals or keels. The fruits are flat pods, and the seeds are non-endospermic with globular to angled shape and observed in various colors. The *L. sativus* is a diploid and has a total chromosome no of 14 ($n=7$) (Roy 1936). Initially many authors considered Southwest and central Asia as the center of origin however, now it is traced back to Balkan Peninsula (Townsend 1974). In Iraq many wild species of *L. sativus* were reported but it was unclear about their pedigree. Jackson and Yunus (1984), reported the earliest archaeological evidence (8000 BC) of *Lathyrus* in Jarmo, Iraqi Kurdistan. The remnants of *Lathyrus* were reported in Ali Kosh (9500-7600 BC) and Tepe Sadz (7500-5700 BC) and these were the evidences found for the food crops in those places (Jackson and Yunus 1984). In India the archaeological evidences were reported (2000-1500 BC) for the usage of *Lathyrus* and author indicated that the crop could have been transferred from West Asia (Saraswat 1980).

Vavilov (1951) predicted and allocated Central Asia and Abyssinian regions as the probable centers of origin for *Lathyrus*. Vavilov observed and reported the *Lathyrus* crop diversity is as similar to lentils and broad beans. In Southern and Southwestern regions of Asia only small seeded *Lathyrus* were reported. The *Lathyrus* producing the white flower and large seeds were reported in the Mediterranean region (Jackson and Yunus 1984). The information from archaeo-botanical and phyto-geographical indicated that, this crop could have been originated from Balkan Peninsula and dates to early Neolithic period or beginning of 6th century. As the domestication of agricultural crops is expanded from near East to Europe (6000BC), *Lathyrus* could be the first legume crop which has been domesticated during that period (Kislev, 1989).

According to Wang et al. (2015), the genus *Lathyrus* has 187 species worldwide. They are grown from temperate regions of Northern Hemisphere to East Africa and South America as well. Amongst various species of *Lathyrus* cultivated, *L. sativus* is the most widely grown as compared to *L. cicero* and *L. ochrus*. According to Dixit et al. (2016) in India the crop is distributed in various states such as Madhya Pradesh, Bihar, Chhattisgarh, Maharashtra and West Bengal and it's one of the 3rd most important cool season legume in all these states. In these regions, under drought conditions, grass pea is the only option to grow and produce for life stock and livelihood.

In most of the places grass pea is cultivated as rotational crop in the rice field. During 12th five-year plan (2012-2017) of India, the area under this crop (Lakh hectares) and total production were accounted for 4.93 and 3.88 tons respectively. The Chhattisgarh has the highest area under cultivation (67.26%) and production (59.52%) of *Lathyrus* followed by Bihar. Madhya Pradesh and West Bengal ranked third in area (8.80%) and production (9.56%) respectively. The farmers are still growing various improved varieties which are better and advanced than previous genotypes/cultivars or varieties. The most popular varieties/ cultivars of *Lathyrus* in India are Nirmal, Prateek, Maha Teora, LSD-6, Pusa-24, Ratan, B-1, LS 157-14, RLS-4595, and HD-3. These varieties are most popular due to their low content of ODAP. (<https://vikaspedia.in/agriculture/crop-production/package-of-practices/pulses/lathyrus>).

3. NUTRITIONAL ASPECTS OF *LATHYRUS SATIVUS*

According to Duke (1981) the seeds of grass pea is a rich source of protein (18.2-34.6%), fat (0.6%), carbohydrate (58.2%) and starch (35%). The seeds were also found to contain sucrose (1.5%), pentosans (6.8%), phytin (3.6%), lignin (1.5%), albumin (6.69%), prolamin (1.5%), globulin (13.3%), and glutelin (3.8%). It is also a rich source of essential amino acids (in grams per 16 grams of nitrogen) such as valine (4.68g), histidine (2.51g), arginine (7.85g), leucine (6.57g), lysine (6.94g), isoleucine (6.59g), methionine (0.38g), threonine (2.34g), phenylalanine (4.14 g), and tryptophan (0.40 g) (alike other temperate legumes *Lathyrus* also does not contain tryptophan and methionine amino acids). Parida and Ghosh (2016) mentioned the other nutritional aspects of *Lathyrus* such as minerals (calcium- 2.9 mg/100g, phosphorus - 317 mg/100mg and iron- 6.3 mg/100mg), vitamins (niacin- 2.9 mg/100g, carotene-120µg/100g, thiamin- 0.39 mg/100g and riboflavin- 0.17 mg/100g) and can provide 345 Kcals of energy per 100g of seeds. Al-Snafi (2019) also reported that the grass pea seeds are rich sources of minerals like calcium (82.01-118.97 mg/100g), magnesium (98-178 mg/100g), zinc (2.74-4.52 mg/100g), iron (4.64-8.74 mg/100g), manganese (1.16- 1.78 mg/100g) and copper (0.85- 1.23 mg/100g) of *Lathyrus* seeds. Chinnasamy et al. (2005) mentioned that grass pea is a rich source of unsaturated fatty acids (56.3% to 59.98%) than saturated fatty acids (40.01- 3.65 %). The seeds of *Lathyrus* were found to contain various kinds of lipids such as triglycerides (40.01%), diglycerides (68.53%), monoglycerides (52.72%), free fatty acids (43.65%) and phospholipids (41.77%).

4. RELEVANCE OF GRASS PEA CULTIVATION UNDER CHANGING ENVIRONMENTAL CONDITIONS

Climate change is a burning issue. The continuous increase in greenhouse gases has resulted in increased atmospheric temperature and changed the rain fall pattern. The CO₂ is a main greenhouse gas and has a shelf life ~100 years. The global average atmospheric CO₂ concentration is 414.72 ppm (± 0.1 ppm). Due to rise in CO₂ level, the atmospheric temperature is also raising, and Arctic ice is melting at the rate of 12.8% per decade and this has increased the average sea level. In last 100 years, the sea level is increasing at 3.3 mm per year and currently it is at ~178 mm (<https://climate.nasa.gov>). Grass pea is one of the neglected crops, but widely grown as forage and food crop in various agroclimatic conditions (Hanbury 2000). The people who live in drought prone areas (Asia and Africa) mostly cultivate this crop, due to its resistance to various biotic and abiotic stresses and higher productivity (Getahun et al. 2002). It can be cultivated without any external fertilizer addition and due to this the cost of cultivation can be greatly reduced (Getahun et al. 2002). *L. sativus* is also important from the point of crop rotation system, its efficient nitrogen fixation improves the soil fertility and indirectly increases the yield of subsequent (mostly cereal) crops. The drought is a part of climate change, and the drought resistant characteristic feature of this crop makes it suitable for cultivation in most of the drought affected areas.

4.1. Studies under important abiotic and biotic stresses

The plant productivity, and quality of the produce is affected by various stresses and these stresses are categorized into abiotic and biotic. The abiotic stresses are believed to be the probable cause for major yield loss. The abiotic stresses include heavy metals, radiation, salinity, floods, drought, and extreme temperatures (Muehlbauer and Tullu 1997). On the other hand, the stress caused by various biological pathogens (bacteria, fungi, virus, nematodes and herbivores) are considered as biotic stresses. Plants are immobile and have developed certain evasive mechanisms to overcome biotic and abiotic stresses. Plant senses the external threats and responds in a defensive way. In a response to the external stimuli, various signal transduction pathways are stimulated to protect the crops and these defensive responses are controlled by a single or group of genes. The signaling pathways are acted from inside cell to outside and are biochemical and physiological in nature.

The various biotic and abiotic stresses and the different tolerance mechanisms observed in grass pea are shown in figure 1.

Plants respond differently to the various abiotic stresses, and they alter the cellular functions to adapt to the changing environment. Chattopadhyay et al. (2011) studied the response of plants after exposing to high salinity and low temperature stress for 36 h. The expressions analyzed using two-dimensional gel electrophoresis clearly indicated the differential expression of genes in the plants which were exposed to different stresses. In this study, stress responsive proteins which were involved in various cellular activities (protein synthesis and degradation, signal transduction, cell metabolism and cell defense) during the stress were identified. The analysis of mRNA from the stress exposed plant provides an accurate information on response of plants and the genes responsible for adoption to the changes. Sometimes the end product analysis will not provide an accurate information when the quantity is too low, and it doesn't correlate with the transcription studies. In that case, the analysis of mRNA would help in identifying the expressed genes qualitatively and quantitatively (Dumas-Gaudot et al. 2004). The reactive oxygen species produced during the stress was known to induce the degradation of enzyme (Rubisco) which fixes CO₂ during photosynthesis in grass pea. Therefore, by following biotechnological approaches, the stress regulated protein could be studied, and strategies can be developed to improve the stress adaption (Chattopadhyay et al. 2011).

4.1.1 Soil Salinity

High salinity is one of a predominant abiotic stress in the agriculture. By 2050, more than 20 % of the geographical area and ½ of the irrigated land will be affected by increased salinity (Silva and Geros, 2009). Osmotic stress and ion toxicity are the two main effects of salinity which ultimately affect the crop growth and yield. The increased osmotic stress affects the plants water and mineral (K^+ and Ca^{2+}) uptake capacity. Reduced cell size, membrane function, and metabolic rates are some of the primary effects of salinity stress. Piwowarczyk et al. (2016b) correlated the salinity tolerance of grass pea to the higher antioxidant activity in root cells. The increased accumulation of peroxidases and phenolic compounds were observed in the roots of grass pea plants exposed to salinity stress. As a mechanism of tolerance, the grass pea plants exposed to moderate salinity (100 mM) has shown an increased accumulation of proline (Tokarz et al. 2015). The tolerance of grass pea to moderate salinity is well reported (Campbell et al. 1994).

4.1.2 Drought Stress

During drought, the water availability is decreased, and the plant dies due to water deficiency. Therefore, the drought directly affects growth, yield, and productivity of the crop (Boyer 1982). Plant tolerance to drought is a complex phenomenon of cellular, morphological, physio-biochemical, and molecular responses that enable retention of water under water deficit conditions. The tolerance of a crop to the drought is the complex and a collective mechanism of biochemical, cellular, and morphological changes (Rampino et al. 2006). Grass pea has developed some unique morphological drought tolerance traits such as stems with winged margins, narrow leaves, and extensive deep-root system as compared to other legumes. Because of these morphological features grass pea can adopt and grow faster under drought conditions as compared to other legumes. (Schroeder et al. 1993). Talukdar (2013) studied the growth and yield of lentil and grass pea under water deficit conditions. The growth of the plant, overall dry biomass and grain yields were significantly reduced in lentil as compared to grass pea. Chlorophyll (Chl) a, and Chl a/b ratio, the ratio of potassium to sodium and relative leaf water content, stomatal conductance and net photosynthetic rates were declined in both the crops under severe water stress conditions. During drought plants are known to accumulate specific amino acids, the increased proline level was reported in root nodules and leaf's of *Lathyrus* (Talukdar 2013). During water stress, plant reduce their water requirement by lowering metabolic activities (Jiang et al. 2013). The assimilates/metabolites are directed towards roots to increase their water uptake rate. The secondary metabolites which protect the crop from stress are produced for osmotic adjustment (Rampino et al. 2006). The photosynthetic activity and carbon fixation are significantly lowered during water stress. The reactive oxygen species produced due to drought stress affect the crop by oxidative damage (Farooq et al. 2009). The ascorbate peroxidase and catalase enzymes degrade the reactive oxygen species and reduces the oxidative effects caused due to salt and drought stress (Hossain et al. 2004). The proline accumulation and lipogenase inductions were observed in *L. sativus* under drought conditions (Tyagi et al. 1995). These defense mechanism of grass pea towards drought stress make it resistant to varied climatic conditions. Due to these properties, grass pea can be grown in harsh climatic regions of Western India, Northern Maharashtra, and some parts of Madhya Pradesh. Grass pea resists extreme drought levels and is the only productive crop among other legumes (Vaz Patto et al. 2006).

4.1.3. Cold stress

Extreme low temperature triggers the cold stress. This is one of the abiotic stresses that affect the productivity, quality, and post-harvest life cycle (Bourion et al. 2003). The mechanism of cold tolerance and the expression of cold shock proteins is well studied in psychrophilic bacteria (Russell 1990). The membrane fluidity and permeability are determined by lipid composition of the cell. During the cold stress, the degree of fatty acid saturation, percentage of unsaturated fatty acid content, methyl branching and ratio between ante-iso-branching to relative to iso-branching is increased and total fatty acid chain length is decreased (Russell 1984). The exposure of bacteria from 25 to 5°C was found to alter the fatty acid composition. In bacteria, under cold stress an increased cis-vaccenic acid and decreased palmitic acid were reported (Suutari and Laakso 1994). The studies with legume *Rhizobium leguminosarum* shown that, the cold shock and cold acclimation proteins were expressed under cold stress. The plants exposed to cold conditions, showed increased unsaturated fatty acid content which have possible role in cold tolerance. The molecular chaperons expressed during cold stress were known to protect the plants from extreme cold (Bourion et al. 2003). The synthesis of molecular chaperon's is induced by many signal transduction pathways such as reactive oxygen species, abscisic acid, protein kinase, protein phosphate and Ca^{2+} . These kinds of cellular mechanisms might be present in grass pea, which makes it tolerant to cold stress.

4.1.4. Heat Stress

When plants encounter heat shock or high temperature, the growth parameters such as germination and photosynthetic efficiency are affected (Toker and Shyam. 2018), fertilization and embryogenesis processes are severely affected (Farooq et al. 2009). The higher temperature stimulates the leaf senescence and reduces the photosynthesis which affects the seed filling and seed

Grass pea (*Lathyrus sativus*) a Crop of Future for Sustainable Agriculture in The Changing Environmental Conditions

development (Sita et al. 2017). During heat stress, the most interesting aspect observed in *Lathyrus sativus* was development of synzetic knot in early stage of prophase-I instead of leptotene and zygotene stages, variations in nucleic acid and cytoplasmic features. The formation of bridges, multivalent, migration of chromosomes and tripolarity are some of the other effects observed in the next generation due to heat stress (Kumar and Tripathi 2009). During heat stress several abnormalities were observed in the meiotic division, the synzetic knot was reported in stage 1 of prophase of first meiotic division in M2 population of grass pea. Due to prolonged heat stress, the chromosomal aberrations, morphological changes, and sterile pollen grains were also observed in grass pea seedlings. These changes sometimes are heritable or novel sources for creating improved lines (Kumar and Tripathi 2009). The grass pea exposed to temperature stress / or grown under 55°C for 48 hours have shown variegated flower colour as compared to control (violet flower). These changes were observed by many researchers, and it was verified as a response to heat stress (Kumar and Tripathi 2009). It was also observed that, the production of heat resistance secondary proteins and altered levels of sugars/starch, during pod filling phase in response to heat stress, as a means of drought evasion in grass pea (Henry 2003).

4.1.5. Biotic stresses

The fungi, virus, bacteria, nematodes, and insects are main biotic agents which causes damage to the plants. In Syria and India, *Lathyrus* is moderately resistant to fungal diseases such as powdery mildew (Campbell et al. 1994; Asthana and Dixit 1998). Many efforts are made to develop disease resistant varieties in *Lathyrus*. The grass pea lines, RPLK 26 and RL41 developed by Raipur research center were found tolerate powdery mildew disease. Due to favorable climatic conditions, downy mildew is one of the serious diseases of grass pea in India (Campbell 1997). The varieties such as *L. aphaca* and *L. sativus* (Asthana and Dixit 1998) were found resistant to Downey mildew. Rust is more prevalent in North-western Ethiopia (Campbell 1997), *Uromyces pisi* and *U. viciaefabae* were found to cause rust in *L. sativus* and *L. cicera* (Farr and Rossman 2013).

Bean Yellow Mosaic Virus causes leaf mottle, vein clearing, leaf deformation and stunting in many leguminous crops. *L. sativus* is resistant to Bean Yellow Mosaic Virus. The Alfalfa Mosaic Virus and Pea Seed-Borne Mosaic Virus were found to infect *Lathyrus* and transmit to next generation through seeds. However, generally the grass pea is moderate resistant to virus diseases (Johansew et al. 1994).

The pea moth feeds on many plants belonging to Leguminosae family. The moth particularly feeds on pods and seeds there by reduces overall yield of *Lathyrus sp.* (Capinera 2001). Aphid's attack *Lathyrus sp.* and sucks the juice from various parts of the plant. The characteristic sticky honeydew like substances was reported during heavy aphid infestation. The *L. sativus* is generally resistant to thrips, many Indian accessions such as JRL6 and JLR41 have shown greater resistance towards thrips (Asthana 1995). However, the *L. aphaca* was found susceptible (Pandey et al. 1998) to thrips. Nematodes are also reported as major pests of *Lathyrus sp.*, particularly cyst (*Heterodera ciceri*) and root knot (*Meloidogyne artiella*) nematodes were found to infect grass pea (Cocks et al. 2000). These abiotic and biotic stress tolerance feature of grass pea mark it as a hardiest legume crop and due to this the area under cultivation of this crop is increasing day by day.

5. BIO SYNTHETIC PATHWAY FOR β -ODAP TOXIN PRODUCTION IN *L. SATIVUS*.

In recent days, β -ODAP production path way was studied using metabolomic tools. The synthesis of β -ODAP is associated with the central carbon metabolism (Liu et al. 2017). The decrease in cysteine and serine amino acid concentration during accumulation of β -ODAP is linked to nitrogen and sulfur metabolism (Liu et al. 2017). The β -ODAP synthesis pathway is complex and partially described in the literature. The initial steps include, the conversion of amino acid serine, into O-acetyl serine and isoxazolin-5-one, and finally to β -(isoxazolin-5-on-2-yl) alanine by β -cyano alanine synthase (Ikegami et al. 1993). The oxalyl-coenzyme A converts, β -(isoxazolin-5-on-2-yl) alanine into 2,3, -L-diamino propanoic acid and subsequently to β -ODAP (Malathi et al. 1970). The enzyme β -cyano alanine synthase is pyridoxal phosphate-dependent enzyme belongs to β -substituted alanine synthase and is the critical enzyme in biosynthesis of β -ODAP. The biotechnological approaches could be applied to regulate the β -cyano alanine synthase enzyme and develop variety with lower β -ODAP. Many scientific reports suggest that mitochondria and chloroplasts are the main sites for β -ODAP synthesis (Ikegami et al. 1993). The content of β -ODAP in *L. sativus* is influenced by both environmental factors and genetic makeup of the plant (Lambein et al. 2010). Drought and heavy metal stress (Zn, Cd and Fe) conditions were known to induce the production of β -ODAP. The biological role of β -ODAP in plant is not defined. However, it is hypothesized that β -ODAP perform various functions such as, zinc ion transportation, protection of photosynthesis under highlight conditions (Zhang et al. 2003) and acts as a hydroxyl ion scavenger (Zhou et al. 2001). Few reports have mentioned its role in inducing resistance against drought and oxidative stress (Jiang et al. 2013).

Grass pea (*Lathyrus sativus*) a Crop of Future for Sustainable Agriculture in The Changing Environmental Conditions

5.1. Approaches for reduction of β -ODAP in *L. sativus*

The grass pea could be exploited from the point of food security and to achieve the future demand of food and feed. Grass pea is a leguminous crop, has potential to fix nitrogen from the atmosphere and can be used as a green manuring crop to improve soil fertility. Even though there are many varieties available with low toxin content, due to the stigma of toxicity the seed sale of grass pea is completely banned in some countries and this has affected the funding for research and varietal development. The unavailability of genomic resources is also hampering the exploitation of genetic tools in improving the crop varieties of *L. sativus* (Hao et al. 2017).

5.1.1. Classical breeding approaches to reduce β -ODAP

The prime goal of breeding is to develop commercial varieties with reduced or zero β -ODAP content. The β -ODAP content in grass pea germplasm is in the range of 0.02%–2.59% (Kumar et al. 2011). So far, β -ODAP-free plants have not been observed either in wild species or in germplasm of grass pea (Abd-El-Moneim et al. 2001;). After screening 1082 grass pea accessions, scientists have identified 4 lines of grass pea with reduced β -ODAP (0.007%–0.02% of seed weight) content (Kumar et al. 2011). The grass pea lines with reduced ODAP content have shown poor agronomic characters, which clearly indicates the importance of ODAP in plant growth (Pandey et al. 1998). The low ODAP content (0.08% on seed weight basis) *L. sativus* variety from International Centre for Agricultural Research in the Dry Areas reported a record yield of 1.67 ton·ha⁻¹ (Kumar et al. 2011). The content of β -ODAP in grass pea was found to be influenced by various abiotic factors and heavy metal stress and environmental conditions (Tripathy et al. 2015). The current limitation in developing low content β -ODAP varieties is the absence of precise information on genes and enzymes responsible for β -ODAP biosynthesis. Till date genetics-based research on β -ODAP content is very limited, breeding studies with varieties having different β -ODAP levels shown the involvement of two or more genes and loci (Tripathy et al. 2015). However, it's very important to precisely identify the genes involved in toxin production.

5.1.2. Mutational breeding approaches for reducing β -ODAP

The improvement brought through mutation breeding is considered as valuable additions to the conventional breeding. Mutation generates inheritable genetic changes in an organism. Mutations prior to breeding creates the genetic variability and thus increases the probability of isolation of novel genes (Girma and Korbu 2012). Many improved plant characters such as increased number branches (primary and secondary), low seed β -ODAP, higher yield, semi-dwarf, erect, determinate type of varieties (Talukdar and Biswas 2006) and viable diploids with various phenotypes were developed through mutational breeding in *Lathyrus* (Girma and Korbu 2012). The *Lathyrus* mutants are useful to locate morphological markers on genetic material (Talukdar 2009). By induced mutagenesis, various lines comprised of trisomic, tetrasomic, double trisomic, autotetraploids and lines with reciprocal translocations (Talukdar 2012) have been developed. With the help of mutational breeding various mutant varieties resistant to arsenic and salt with low β -ODAP were developed in *Lathyrus*.

6. GENETIC RESEARCH IN *LATHYRUS SATIVUS*

The slow rate of genetic progress in *Lathyrus* is mainly due to narrow genetic variation observed due to self-pollination and incompatibility due to interspecific cross pollination (Nerker 1976). To create variability in the genetic material for phenotypic characteristics alternative approaches such as mutation breeding was followed (Talukdar 2009). The genetic diversity of *Lathyrus* is getting affected due to continuous genetic erosion. For future sustainable program, the diverse genotype exists across various geographical locations needs to be collected and conserved. In India, the collection of *Lathyrus* germplasm was started in the year 1967 and accessions were collected from various states (Bihar, Eastern Uttar Pradesh, West Bengal, and Gujarat) across India (Asthana and Dixit 1998). Between 1989-1991, more than 1000 accessions from Madhya Pradesh (Mehra et al. 1995) and 24, determinate land races named LSP1-LSP24 were collected from Himachal Pradesh, Kangra Valley during 2000, (Kumari 2000). Currently the National Bureau of Plant Genetic Resources (NBPGR), New Delhi maintains ~2720 accessions (Pandey et al. 2008). The important accessions identified for some of the superior agronomic traits are listed in the table 1.

The ODAP content in grass pea was found to vary with the accessions. Kumar et al. (2011) analysed 1128 accessions and found ODAP content in the range of 0.15 % to 0.95%. Nagarajan et al. (1968) observed, 0.1 %-0.78 % among 643 accessions (Somayajulu et al. 1975), 0.2-2.0% among 100 accessions (Leakey 1979) and 0.128-0.872 % across 1187 accessions (Pandey et al. 1998). The accessions from subcontinent found to contain higher ODAP content (0.7-2.4 %) than the germplasm collected from the Near East (0.02%-1.2%). The studies with F₂ population confirms that, the ODAP content in the plant is governed by both genetic and environmental factors (Tiwari and Campbell 1996). Also, it was observed that, the ODAP content was influenced by gene, gene interactions (non-additive and or additive effects) (Mehra et al. 1993; Pandey et al. 2000; Abd-El-Moneim 2001) and genetic variance. The reciprocal cross study confirms that, the variation in the content is mainly influenced by maternal cytoplasm (Abd-

Grass pea (*Lathyrus sativus*) a Crop of Future for Sustainable Agriculture in The Changing Environmental Conditions

El-Moneim et al. (2001). The study conducted with *L. sativus* and *Lathyrus cicero* genotypes in Southwestern Australia shown the presence of significant effect of genotype (Hanbury et al. 1999) on ODAP content.

Barpete et al. (2012) have studied chromosome morphology and structural variations in grass pea. The Ratan, Pratik, Pusa 24 Pratik, IC120455, 120500, 120505, 345392, 345401 and 345403 accessions of grass pea shown the total haploid chromosome length of 5.11 μm to 7.30 μm . Lucia and Incononata (2013), developed a library of single sequence repeat markers for grass pea by sequencing 400 clones. They have identified 7 primers with markable differences in DNA banding. The polymorphism test was conducted with 4 different grass pea accessions using identified primers. The results showed that, the single sequence repeat markers were highly correlated in 3 accessions (*Lathyrus cicera*, *Lathyrus ochrus* and *Lathyrus tingitanus*) of grass pea. Hao et al. (2017) used ribonucleic acid (RNA) sequence analysis for identification of single sequence repeat from two different accessions of grass pea. In the denovo assembly, 1,42,053 transcripts, 27, 431 unique genes and 19,70,104 contigs, 5, 916 SSR markers were identified. Authors designed primer pairs and validated the markers. In the validation study, 30.6 % and 31.06 % markers were confirmed as polymorphs and monomorphs respectively and rest were found complex to identify.

Grass pea total RNA sequencing was performed recently by Xu et al. (2018). RNA was extracted from seedlings of grass pea on 2, 6 and 25 days after sowing and complementary deoxyribonucleic acid libraries were generated and sequenced using the Illumina-Hi Seq 3000 platform. In the study, 2,13,258 unique genes, 39,548 coding sequences were identified. Annotation of the coding sequences with gene ontologies were done by comparing sequences from other legume specie sequenced genomes. This study concluded that, β -ODAP synthesis is primarily regulated by central carbon metabolism and was co regulated by sulfur and nitrogen assimilation. The grass pea genome matches with the close relative *Pisum sativum* (Kreplak et al. 2019). Due to the lack of genetic or molecular maps, the assembling of *Lathyrus* genome is more difficult. The genome sequence for *Lathyrus sativus* (LS007) has been recently published by Emmrich et al. (2020). They have used *Pisum sativum* as a reference genome (6.3Gbp). Whereas, in the kew database (Leitch et al. 2019) the *Pisum sativum* genome size is mentioned as 3.49-5.42 Gpb. The etiolated seedlings were used to extract DNA and to prepare libraries.

Sarwar et al. (1995) selected LS007 (high ODAP European line), LSWT11 (Indian line with high ODAP), and one Indian variety with low ODAP (Mahateora) for RNA sequencing and gene annotation. AUGUSTUS tool was used to predict the protein coding genes (Stanke et al. 2006). The whole genome of LS007 was divided into two assemblies named Elv1 and Rbp. The Elv1 assembly was 8.12 Gbp long and found to contain 1.9 billion Ns and a contig N50 of 597 Kbp scaffold. In the annotation 33,819 high confidence genes were identified. Whereas the Rbp assembly was 6.2 Gbp in length without any Ns and a contig N50 of 155.7 Kbp scaffold. The gene space assessment study conducted using 27 EK -BUSCO database shown 82.8 % and 89.8 %, completeness scores for Elv1 and Rbp respectively.

The genome size of *Lathyrus* reported in literature is highly varying, Emmrich et al. (2020) reported 6.3Gbp and in Kew Plant C-value database it is 8.2 Gbp. Nandini et al. (1997); Ghasem et al. (2011); Ochatt et al. (2013); Macas et al. (2015) reported the genome size of 6.75Gbp, 7.63 Gbp, 7.82-8.90 Gbp, 6.85 Gbp, and 6.52Gbp respectively. The genomes of viciae family and *Lathyrus* genus were found variable in size, and this could be due to the copy number of repeated elements (Leitch et al. 2019; Vondrak et al. 2020). The variation in the *Lathyrus sativus* genome size was attributed to the experimental error or varied genome size of the individual genotype.

The long terminal repeats are class1 transposable elements. OGRE are one of the long terminal repeat retrotransposons or Ty3/gypsy type long terminal repeat retro transposons and are recently discovered in legumes which constitute up to 40% of the genome in some species. (Neumann et al. 2003; 2006). These OGRE are exceptionally big in size and may go up to 25Kbp and have an extra open reading frame 1 and are located upstream of gag gene (Macas and Neumann 2007). The sequence data by Emmrich et al. (2020) showed that the OGRE -content in LS007 nuclear genome was 37%. Whereas these results were lower than the values (45.5%) reported by Macas et al. (2015) for a commercial line. The differences in the OGRE content could be due to the variation in genotypes between LS007 and commercial lines.

The availability of various genetic tools helped breeders to establish efficient methods in *Lathyrus sativus* (Bohra et al. 2014). Like any other external phenotypes, molecular markers help in detecting the diversity and variations within and among the species at DNA level. These molecular based identifications are independent of environmental factors. The molecular markers can be used to identify the positions, number, effect of genes or quantitative trait loci that controls pest, disease, protein, β -ODAP concentration, and other traits (Campbell et al. 1993). For this purpose, RAPD, RFLP, SRAP, AFLP (Marghali et al. 2016) and the microsatellite or simple sequence repeat markers are appropriate (Soren et al. 2015). The expressed sequence tags available in public domain databases are very limited for *Lathyrus*. Only, 178 and 126 expressed sequence tags are available for *L. sativus* and *L. cicero* respectively in NCBI database. Whereas ~8702 expressed sequence tags are reported for *L. odoratus* and these acts as potential source of molecular markers. The simple sequence repeat markers are highly conserved and are transferrable between

Grass pea (*Lathyrus sativus*) a Crop of Future for Sustainable Agriculture in The Changing Environmental Conditions

species. The cross-species amplification helps in comparative genomic mapping and new markers development for various orphan crops (Gutierrez et al. 2005).

The satellites are important tools for measuring the genetic diversity or species specificity in plants. It has been claimed that in *Lathyrus sativus*, satellites are believed to be originated from LTRs of Orge (Vondrak et al. 2020). In satellites certain DNA motifs are highly repetitive or tandemly duplicated, because of their high level of repetitiveness it's more difficult for assembling the grass pea genome. FabTR53_LAS_A, is a satellite element observed in grass pea and is estimated to be around 289.8 Mbp or 4, 40,000 copies across the genome of LS007 (Emmrich et al. 2020). The Fluorescence in-situ hybridization study confirms the presence of FabTR53_LAS_A in sub-telomeric regions of the chromosomes (Vondrak et al. 2020). There are 20 simple sequence repeat markers have been identified and developed in *Lathyrus* by insilco survey. The 7, expressed sequence tags and simple sequence repeat markers from *Medicago truncatula* were evaluated for their transferability across 19 accessions of 11 different genera of *Lathyrus*. The genotyping of 176 accessions of *Lathyrus* using expressed sequence tags and simple sequence repeat markers indicated the presence of 51 alleles with gene diversity of 0.43. The model-based population structure analysis revealed the presence of two subpopulations and authors predicted the gene flow among the accessions (Soren et al. 2015).

From the survey of *Lathyrus sativus* expression sequence database, 19 pairs of primers were designed (Shiferaw et al. 2012). After screening 300 expression sequence tags database and simple sequence repeat markers from 24 *L. sativus* accessions, 44 polymorphic loci were identified (Sun et al. 2012). In *M. truncatula* and field pea, along with simple sequence repeats, intron-targeted amplified polymorphic markers (total 159) were also observed. The variant of RFLP, a cleaved amplified polymorphic sequence and its derivatives were also developed for molecular marker analysis in *Lathyrus* (Almeida et al. 2014). The linkage analysis of 75 markers in grass pea resulted in identification of 69 markers location on 14 linkage groups covering 898 cM of genome (Chowdhury and Slinkard 1999). By mapping 64 markers, 9 linkage groups covering 803 cM genome was established in grass pea (Skiba et al. 2004).

Using next generation sequencing tools 50,000 simple sequence repeat markers were developed in *Lathyrus* (Yang et al. 2014), out of these 30 markers were used to evaluate 266 accessions and 17 related materials from ICARDA, Africa, Europe, and Asia (Wang et al. 2015). In the population analysis, gene flow was observed between the Europe and African accessions and results were further supported by unweighted pair group method with arithmetic mean-based cluster and principal component analysis. The RNA sequences analysis of rust infected *Lathyrus sativus* genotype led to a development of reference transcriptome assembly containing 1, 34, 914 contigs (Almeida 2014). Similarly, the analysis of differentially expressed uni tags (total 738) in the leaves of *Lathyrus sativus*, infected by *Ascochyta lathyri* indicated the involvement of various processes such as, biotic and abiotic stresses, cell metabolism and cell signaling (Almeida 2015). And in the study the peroxidases showed differential expression and authors predicted that reactive oxygen species might involve in inducing resistance against rust pathogen (*Alternaria lathyri*). Hence, molecular markers are powerful tools for genome mapping and breeding in grass pea. The various genetic approaches applied in varietal improvement of grass pea is shown in figure. 2.

7. TISSUE CULTURE AND GENETIC TRANSFORMATION TECHNOLOGIES FOR IMPROVEMENT OF *L. SATIVUS*

The plant tissue culture is a technique where a plant cell, tissue or organ can be cultured on a chemically defined medium in an artificial environment to get new plant. By this method disease free clones can be produced and can be transported from one place to another place of the globe. This technique is very useful for embryo rescue and genetic improvement by other biotechnological approaches such as transformation and CRISPR. The presence of neurotoxin ODAP is an undesirable trait in the grass pea plant. It is possible to make this crop neurotoxin free by using the most advanced biotechnological approaches with combination of genomics and plant breeding. In grass pea tissue culture, a range of explants were tested for plant regeneration by somatic embryogenesis, shoot morphogenesis or shoot organogenesis as shown in table 2.

In tissue culture studies, the source of explant is very important to get the plant regeneration. Usually, high plant regeneration probability would be from the meristematic cells of the young explants in comparison to mature tissue. So, in many of the plants the seedling grown explants were commonly used. In perennial and cross-pollinated species, the seedling grown explants are not very recommended due to heterogenous nature of the seeds due to recombination during meiosis. As grass pea is an annual and self-pollinated crop, so in most of the reports the explants were taken either from *in vitro* grown seedling or from green house, nursery or field grown plants. The same trend exists and in majority of these reports the explants were taken from epicotyl, hypocotyl, cotyledonary node, young leaf and stem from *in vitro* grown seedlings (Barik et al. 2004; Barpete et al. 2014 b; Saha et al. 2015). The tissue culture response is highly dependent on the quality and conditions of the donor plants, type, position or age and stage of explant and concentration of growth regulators (Gulati and Jaiwal 1994). The orientation of the explant on the culture medium is also very much important in tissue culture (Figure 3). The orientation of sterilized explant in contact to the medium can highly influence either the shoot regeneration from the cut edges or embryogenic callus formation (Garcia-Luis et al. 2006).

Grass pea (*Lathyrus sativus*) a Crop of Future for Sustainable Agriculture in The Changing Environmental Conditions

However, the culture conditions like ambient temperature, humidity, dark or light conditions including type of light and photoperiod can also affect the developmental stages of the *in vitro* grown cultures.

The medium and growth regulators also play a very important role in plant regeneration efficiency. The most widely used medium in grass pea plant tissue culture is Murashige & Skoog's medium (Murashige and Skoog's 1962) or sometimes Gamborg's B-5 basal medium (Gamborg et al. 1968) or modified Murashige & Skoog's medium. Sinha et al. (1983) have used six cultivars of grass pea, L.D.S. 1, L.D. S. 2, L.D.S. 3, L.D.S 4, L.D.S. 5, L.D.S. 6 with various ODAP concentrations in seeds (245, 426, 328, 254, 423 & 295 mg/ 100 g seeds respectively). Stirred suspension bioreactor media (Sinha 1980) was used as basal medium. The best results were shown after supplementation of picloram and 6-Benzylamino purine into stirred suspension bioreactor media for plant regeneration by organogenesis. Genotype dependence is also a major issue in many crop plants if the callus phase prolonged. The genotype dependence was observed in grass pea, out of 6 cultivars of LD series only LDS. 1 showed regeneration of shoots & roots on a medium containing picloram, 6-Benzylamino purine and adenine sulphate. Ochatt et al. (2001) reported the recalcitrance nature of Grass pea in LB, L12 and LIII genotypes, where LIII was found more recalcitrant compared to other two genotypes on various media combinations. They have also used protoplast from hypocotyl but did not observe plant regeneration from any of the three genotypes. Zambare et al. (2002) used LS 8246 and LS 82046 breeding lines for collection of explants (apical meristem and axillary buds) from the plants grown in fields. They used Gamborg's B-5 basal medium for regeneration and observed the organogenesis. The plant regeneration by direct organogenesis was also reported from seed without intervening callus phase in LS8246 (Malik et al. 1992; 1993). Although the probability of the soma-clonal variation is almost negligible in terms of direct organogenesis, the *Agrobacterium* mediated, or particle gun gene delivery methods are not recommended due to low transformation efficiency in grass pea (Dillen et al.1997).

Barik et al. (2004) reported the regeneration using cotyledonary nodes of IC-120451, IC-120453, IC-120478, IC-120487 and Nayagarh local, genotypes of *Lathyrus* sp. as an explant. The variable degrees of regeneration were also observed by other workers in these genotypes. The genotype IC-120487 had shown the best response in comparison to other 4 genotypes in Murashige & Skoog's medium supplemented with 6-Benzylamino Purine. However, the good regeneration response was not reported when Murashige & Skoog's media was supplemented with thiadiazuran and the plants have shown stunted growth. In contrast to this Barpete et al. (2014a) reported the efficient regeneration when Murashige & Skoog's medium was fortified with thiadiazuran in combination with indole-3-butyric acid. The direct shoot regeneration was also observed when Murashige & Skoog's basal salt medium was supplemented with Gamborg's B-5 basal medium vitamins, α -naphthalene acetic acid and 6-Benzyl amino purine or thiadiazuran (Saha et al.2015). 6-Benzyl amino purine is the most widely used cytokinin in legume tissue culture including grass pea (Gulati and Jaiwal 1994; Franklin et al. 1998; Sahoo et al. 2002). There are only very few reports are available on somatic embryogenesis of grass pea (Piwowarczyk and Pindel 2014; Sridhar et al. 2015; Tripathy et al. 2013). Sridhar et al. (2015) reported the higher number of somatic embryos when explants were prepared from internodes of plants in Murashige & Skoog's medium supplemented with 6-benzyl amino purine and 2,4-Dichloro phenoxy acetic acid.

The main purpose of an efficient and reproducible plant regeneration is for mass propagation of clones. The tissue culture technology is also a pre-requisite for genetic transformation and gene editing technologies. An efficient and highly reproducible tissue culture protocol would be needed for genetic transformation studies to change the genetics of any crop. The most desired genetic transformation protocol is an indirect plant regeneration with intervening short-term callus phase. The mode of regeneration could be either by shoot organogenesis or somatic embryogenesis. There are very few reports available on genetic manipulation of grass pea, either β -glucuronidase as reporter gene or neomycin phosphotransferase II gene as marker. There is a lots of research focus on genetic transformation studies. Barna and Mehta (1995) have used *Agrobacterium* and Biolistic methods for genetic transformation in grass pea. They have found that, the Biolistic method was more suitable to get the transgenic plants for β -glucuronidase reporter gene via somatic embryogenesis method using young leaflets and nodal segments. The various transformation techniques followed in grass pea are summarized in table 2.

Barik et al. (2005a) have developed a successful *Agrobacterium* mediated transformation protocol in grass pea by using neomycin phosphotransferase II as a marker gene and β -glucuronidase as reporter gene. The transgenic events were confirmed by southern hybridization and T1 progeny was tested for the marker gene integration with 3:1 segregation. They have also mentioned that this protocol would be a model protocol for transformation of targeted genes using *Agrobacterium tumefaciens*. The transfer of various genes for agronomical or nutritive importance could be achieved by following this method. For removal or reduction of ODAP formation, the ODAP biosynthetic pathway must be disturbed to inactivate the function of ODAP regulating gene (s).

Delporte et al. (2012) mentioned that the gene transfer technology could be one of the supplementary and important tools in basic scientific research. These transgenics or gene edited (recently introduced technique) plants would be beneficial in core research tool of biological science. It could also help us to understand the interactions of plants with its environment such as

Grass pea (*Lathyrus sativus*) a Crop of Future for Sustainable Agriculture in The Changing Environmental Conditions

adaptive behavior and defense strategies. Therefore, genetically improved plants could be a powerful tool for functional analysis of genes.

8. CONCLUSION

Lathyrus sativus is a hardy leguminous crop and mainly grown for fodder and food in various parts of the world. The crop has superior agronomic traits such as higher yield, low water requirement and tolerant to many biotic and abiotic stresses. It can be cultivated as mono crop in rainfed conditions or as a succession crop after paddy harvest to increase the overall annual productivity from unit of land. The crop not only enriches the fertility of the soil but also gives an assured yield to the farmers under extreme drought conditions. The pathway for β -ODAP production is complex and not well understood so far. The transcriptomic study published draft genome sequence of LS007, and next generation sequencing tools have helped in identification of major genes involved in the B-ODAP biosynthesis. Because of these advancements it was possible to do the comparative genome analysis between legume species, to develop molecular markers, and to frame linkage maps for varietal improvement. These biotechnological tools along with modern mutational breeding and tissue culture approaches, can certainly speed up the process of developing *L. sativus* with traits which will aid in societal acceptance. The *L. sativus* with zero toxin and improved agronomic traits could be a crop of the future where it can be recommended to cultivate on marginal lands with promising yields.

9. AUTHOR CONTRIBUTION

All authors have equally contributed for writing this review.

10. CONFLICT OF INTEREST

We declare that all authors have seen, approved the final version submitted, and we don't have any conflict of interest.

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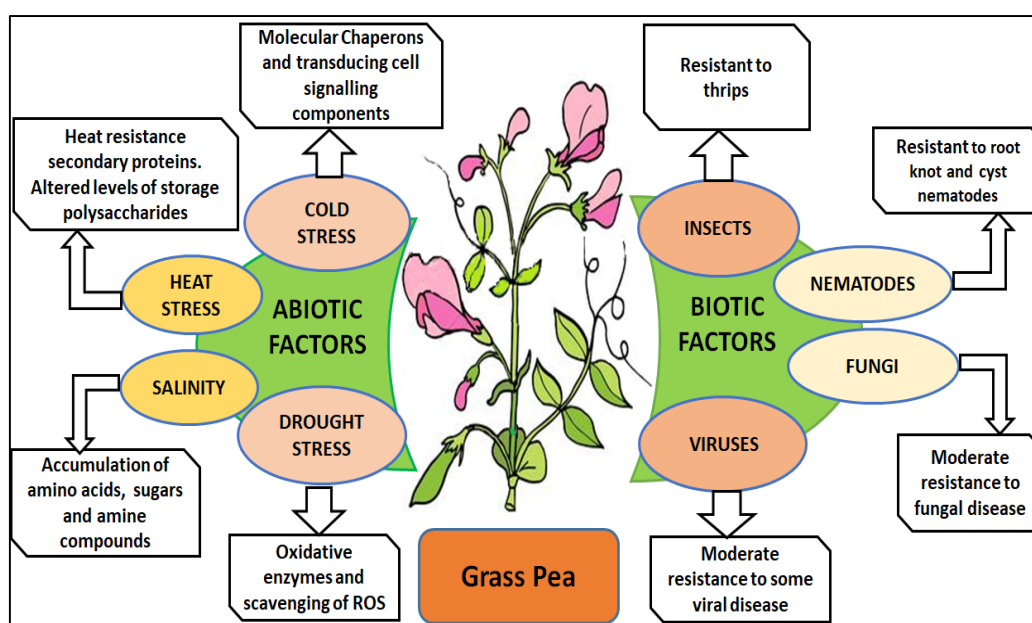


Fig. 1 Relevance of Grass pea in changing environmental conditions and their resistance and adaptability level towards various biotic and abiotic factors

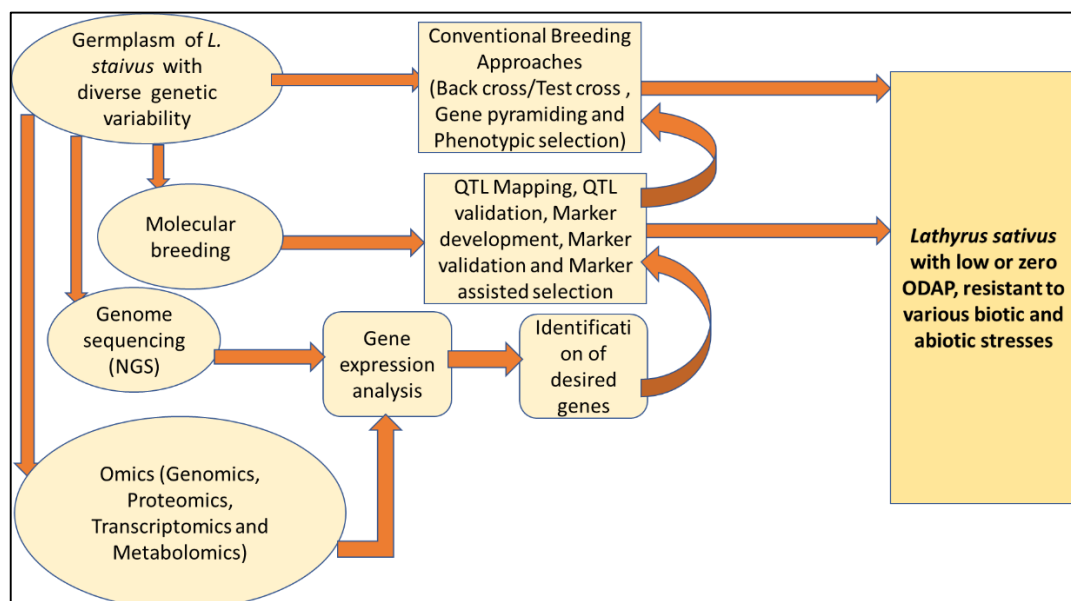


Fig. 2 Genetic approaches for crop improvement in *Lathyrus* sp.



Fig. 3 Factors which affects the in vitro culture response in Grass pea (*Lathyrus sativus*)

Table 1.

Table 1. Accessions of *Lathyrus sativus* with superior agronomic traits

Agronomic traits	Accession No
ODAP content lower than 0.2%	LS 157-12; BioR-202 and 231; BioL-208, 212 and 222
Seed weight more than 12g 100 seed ⁻¹	LS-8246; EC-209017; RLK-148, 158 and 143; EC-209044 and 200322; BioL-208 and 227; Sel-505, EC-209026
Grain yield more than 10 g plant ⁻¹	JRL-47; IC-120530; IC-120512; RLK-1009, 204, 393, 49, 658, 1081; Pusa-534; IC-120479,120531 and 120535; NIC-18768 and 18890, S-270, P-72 and 176
Number of pods more than 50 plant ⁻¹	BioL- 212, 239 and 234; DL-265; IC-12507, 120497, 120537, 120422; NIC-18768, 18851, 18849 and 18890; RLK-430
Early flowering plants (lower than 100 days)	EC-200325, 208952 and 209076; IC-120446, 120447, 120448, 120596, 120420, 120507 and 120438; RLK-266, 287, 10013, 10050, 10012,10031,10037 and 10048

Table 2. Tissue culture studies in grass pea (*Lathyrus sp.*)

S No.	Explant	Regeneration	Medium	Reference	Remarks
1	Stem	Yes	Stirred suspension bioreactor media + Picloram + 6-Benzylamino Purine	Sinha et al. 1982	Shoot Organogenesis
2	Root	yes	Murashige & Skoog's + α -Naphthalene Acetic acid + Kanamycin	Roy et al. 1992	
3	Hypocotyl (protoplast)	Yes	Murashige & Skoog's + Thiadiazuran/ Zeatin	Ochatt et al. 2001	
4	Apical & axillary bud explants		Gamborg' s B-5 basal medium + Thiadiazuran + α -naphthalene acetic	Zambre et al. 2002	

Grass pea (*Lathyrus sativus*) a Crop of Future for Sustainable Agriculture in The Changing Environmental Conditions

			acid / Indole-3-butyric acid + Coconut water		
5	Cotyledonary node from seedlings		α -Naphthalene Acetic Acid + 6-Benzyl Amino Purine / Thiadiazuran or Murashige & Skoog's +2,4-Dichloro Phenoxy Acetic acid	Barik et al. 2004	
6	Epicotyl segments	Yes	Murashige & Skoog's + α -Naphthalene Acetic acid + 6-Benzylamino purine	Barik et al. 2005a	
7	Epicotyl segments	Yes	Murashige & Skoog's + α -Naphthalene Acetic Acid +6-Benzylamino purine	Barik et al. 2006	Shoot organogenesis
8	Immature zygotic embryo	Yes	Murashige & Skoog's + α -Naphthalene Acetic Acid + 6-Benzyl Amino Purine or Thiadiazuran	Sahin-Demirbag et al. 2008	
9	Internode	Yes	Gamborg' s B-5 basal medium + α -Naphthalene Acetic Acid + 6-Benzyl Amino Purine	Tripathi et al. 2013	Somatic embryogenesis
10	Root segments	Yes	Murashige & Skoog's + 2,4-Dichloro Phenoxy Acetic acid	Piwowarczyk and Pindel 2014	Somatic embryogenesis
11	Stem node	Yes	Murashige & Skoog's + 6-Benzylamino Purine	Barpete et al. 2014a	
12	Embryonic node	Yes	Murashige & Skoog's + Thiadiazuran + Indole-3-Butyric acid	Barpete et al. 2014b	
13	Internode	No (Only Callusing)	Gamborg' s B-5 basal medium + 2,4-Dichloro phenoxy Acetic acid +6-Benzyl Amino Purine or Gamborg' s B-5 basal medium vitamins + α -Naphthalene Acetic Acid + 6-Benzylamino purine	Tripathy et al. 2014	
14	Nodal, Leaf, Internode	Yes	Murashige & Skoog's + Gamborg' s B-5 basal medium and vitamins +6-Benzylamino Purine + Thiadiazuran + α -Naphthalene Acetic acid	Saha et al. 2015	Direct shoot regeneration via shoot morphogenesis
15	Leaf, Internode	Yes	Murashige & Skoog's + 2,4-Dichloro phenoxy Acetic acid + 6-Benzylamino purine	Sridhar et al. 2015	Somatic embryogenesis
16	Root, Petiole, Internode	No	Gamborg' s B-5 basal medium + 6-Benzylamino Purine + α -naphthalene Acetic Acid or Indole-3-acetic acid or 2,4-Dichloro Phenoxy Acetic acid	Piwowarczyk et al. 2016 b	Rhizogenesis
17	Leaf, Root, Stem (1Week old seedlings)	Yes	α -Naphthalene Acetic Acid + 6-Benzylamino purine or Murashige & Skoog's +2,4-Dichloro Phenoxy Acetic acid	Li et al. 2016	
18	Nodal	Yes	6-Benzylamino purine / Thiadiazuran + Murashige & Skoog's +2,4-Dichloro Phenoxy Acetic acid	Catal and Bakoglu 2018	Direct shoot organogenesis

Table 3. Various genetic transformation techniques followed in Grass pea.

S. no.	Explant/ species	Transformation Method	Promoter	Reporter gene/ Selectable marker gene	Gene of interest	Transformation efficiency	Reference
1	Leaf & internodal segments / <i>Lathyrus sativus</i>	<i>Agrobacterium</i>	35S	β -glucuronidase / neomycin phosphotransferase II	-	9-15%	Barna and Mehta 1995
2	Shoot tip and callus/ <i>Lathyrus sativus</i>	Bolistic	35S	β -glucuronidase / neomycin phosphotransferase II	-	7- 18%	
3	Epicotyl/ <i>Lathyrus sativus</i>	<i>Agrobacterium</i>	Nopaline, 35S	β -glucuronidase	-	31- 37%	Barik et al. 2005 b
4	Leaves/ <i>Lathyrus odorata</i>	Agro infiltration		β -glucuronidase	<i>phytoene desaturase</i>	-	Gronlund et al. 2008
5	Embryo/ <i>Lathyrus sativus</i>	<i>Agrobacterium</i>	GmPM9 promoter	neomycin phosphotransferase II	Flammulina velutipes oxalate decarboxylase	-	Kumar et al. 2016



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Comparison Study of Indonesia and France Judicial Commission Model



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ABSTRACT: The study aimed to examine the comparative study of the Indonesian State Judicial Commission and the French State Judicial Commission. In the analysis, the normative analysis method is used by observing inferior information because it emphasizes more on research from various legal books, journals and previous research literature. The results of this study are the Judicial Commission even though its position is supporting to the judicial authority body. The authority of the Judicial Commission in court is not as one who decides on a case but as an enforcement agency for ethical norms. In the field of judges, the Judicial Commission is not involved in terms of organization, personnel, administration and finance. Related to this, the Judicial Commission is different from those in European countries, for example France. The Judicial Commission in France (Conseil Supérieur de la Magistrature or CSM) has authority in specific areas based on technical policies and policy-making on the judicial aspect. The French Judicial Commission as well as in Europe usually has authority regarding agency management, calculation and administration of justice including in carrying out advertisements, transfers, recruitment and distributing rewards to judges. The authority of the Supreme Court is an institution that carries out the functions of the judiciary and its duties are related to adjudicating and not dealing with matters related to the administration and organization of justice.

KEYWORDS: Judicial Commission, Indonesia, France

I. INTRODUCTION

Unfinished work on the judiciary to build a system that is conducive to the creation of a clean, competent, and effective court that is free and impartial to anybody is the problem, which is caused by weaknesses in law enforcement. A number of initiatives have also been made to enhance Indonesia's judicial system, one of which being the creation of the "Judicial Commission." Through the Third Amendment The 1945 Constitution of the Republic of Indonesia (Article 24B) dan Ratification of Law Number 22 of 2004 concerning the Judicial Commission jo. Law Number 18 of 2011 concerning Amendments to Law Number 22 of 2004 concerning Judicial Commissions (Assiddiqie, 2016).

The Judicial Commission is a logical consequence of the judicial power which is under the Supreme Court, which prior to the establishment of the Judicial Commission (Ahmad, 2021; Ardhanariswari, et al., 2021). The judicial power had the potential to end up being monopolized by the large number of bribery cases that occurred in a judge. The inability of the Supreme Court to deal with administrative, membership, financial, and organizational challenges in the court system is also another logical consequence that gave birth to the Judicial Commission (Mancini, 2018).

Of course, in order to be able to keep an eye on judges acting within the purview of the Supreme Court, there must be a body independent from the Supreme Court. The Judicial Commission is a separate governmental agency in Indonesia that is governed by the 1945 Constitution because it is thought to be extremely significant in attempts to safeguard the honor, nobility, and demeanor of judges. It is a restriction on the establishment and development of a democratic system that will be created in accordance with the constitutional system that is currently in place in this country, specifically based on the 1945 Constitution, that the rule of law can actually be implemented as it should be. Contrarily, democracy will never be able to survive, grow, and flourish if the rule of law is not founded on enforcement with a number of elements, such as aspects of honor, authority, and reliability (Krygier, 2016; Scheppele, et al., 2021; Weingast, 2013).

Therefore, a distinct, independent body is necessary to successfully carry out the judge's supervisory process due to the significance of efforts to defend and protect the judge's honor, dignity, and behavior (Heumann, 2020). The effectiveness of the internal control system, including the honorary panel of judges, in performing oversight has not yet been demonstrated (Roussy &

Comparison Study of Indonesia and France Judicial Commission Model

Brivot, 2016. Consequently, the Judicial Commission was constituted as a separate organization within the context of amending the 1945 Constitution.

In order to create a Judicial Commission with the goal of creating a more effective justice system, there are a number of principles and reasons that underlie the development of a Judicial Commission institution in many different countries. Among other things, the Judicial Commission holds a significant position (Nugent & Rhinard, 2016; Nugent & Rhinard, 2019). First, to ensure the judiciary's independence. Second, to choose qualified candidates for the position of judge, to offer judges top-notch education, to carry out additional duties including improving jury discipline, jury selection, expert judge training, assessing judge competency, and to begin disseminating the rules of the judge's code of ethics. Third, the Judicial Commission assumes executive responsibility for the management (supervision) of the judiciary. That is what is done in Southern European countries, one of which is France.

Based on the three strong reasons above, the aims of this research to examine the comparative study of the Indonesian State Judicial Commission and the French State Judicial Commission. The orientation of the discussion and the approach used in the discussion will be formulated to answer questions regarding the authority of the Indonesian state judicial commission and the French state and the comparison of the authority of the Indonesian state judicial commission and the French state judicial commission

II. METHODS

Normative legal research with an Act approach; futuristic and comparison. The primary legal material used is the 1945 Constitution of the Republic of Indonesia, the French Constitution. Secondary Legal Materials, are legal materials that provide clarity on primary raw materials, secondary legal materials include books or literature, electronic books or e-books, journals, papers, articles from websites that can be trusted from the internet, and other related scientific works. by writing this scientific work.

III. RESULT AND DISCUSSION

Judicial Commission in Indonesian

The Judicial Commission's position is very important. They share an equal structural standing with the Supreme Court and the Constitutional Court. Though structurally equivalent to the Supreme Court and the Constitutional Court, it should be recognized that their job is auxiliary to the institution that wields the judicial power. The Judicial Commission does not exercise judicial power, despite the fact that this is one of its functions. The Judicial Commission is an organization that upholds ethical standards rather than upholding the law (code of law).

Because the judiciary and judicial institutions as a whole are outside the purview of this committee, which solely deals with concerns of honor, dignity, and judge behavior. It genuinely exists because of the judge's own internal environment, namely because of how the honorary panel of judges was conceived in the legal community and at the Supreme Court. That was the role of the ethical auditor in the past. It is within However, to further guarantee the effectiveness of its work in the context of overseeing the behavior of judges, its function is drawn out to become an external auditor whose position is made equal to that of the supervisor.

Although structurally its position is equal to the Supreme Court and also with Constitutional Court, but because of the nature of its special and auxiliary function. Position the protocol does not need to be treated the same as the Supreme Court and the Constitutional Court as well as the People's Representative Council of Indonesia, People's Consultative Assembly, Regional Representative Council of Indonesia and The Audit Board of the Republic of Indonesia. Because the Judicial Commission itself is not a state institution that carries out the functions of state power directly. Commission Judicial is not a judicial, executive, let alone legislative body. This commission only functions to support the upholding of honor, nobility and dignity the behavior of judges as law enforcement officials and institutions that carry out the functions of judicial power (Asshiddiqie, 2009)

The Judicial Commission solely has concerns about the integrity, dignity, and conduct of judges. The existence of this commission institution can be attributed to the judges' own internal environment, which is the result of the creation of an honorary panel of judges within the context of the Supreme Court and the judicial profession. Those who are a part of their functions are pulled out to become external auditors whose position is made equivalent to that of their supervisors in order to better ensure the efficacy of their job in the context of supervising the behavior of judges.

The State of Indonesia, which is the State of Indonesia, however, in its journey there are still many deviant acts committed by the public and law enforcement officials, including those committed by judges by accepting bribes from litigants so that the case is won. The outbreak of bribery cases against judges has increasingly given a negative image to the judicial institution. Article 24A paragraph (3) of the 1945 Constitution of the Republic of Indonesia states that the candidate for chief justice shall be proposed by

Comparison Study of Indonesia and France Judicial Commission Model

the Judicial Commission to the House of Representatives for approval and then appointed as supreme justice by the President. Article 24B of the 1945 Constitution of the Republic of Indonesia stipulates that.

- 1) The Judicial Commission is independent in nature which has the authority to propose the appointment of Supreme Court justices and has other powers in the context of protecting and upholding honor. The nobility of the dignity and behavior of judges.
- 2) Members of the judicial commission must have knowledge and experience in the field of law and have integrity and personality that is beyond reproach.
- 3) Members of the judicial commission are appointed and dismissed by the president with the approval of the People's Representative Council of Indonesia.
- 4) The composition, position and membership of the judicial commission shall be regulated by law.

Of the two duties and authorities, the Judicial Commission clearly supports the implementation of the duties of judicial power, which at its peak is held by the Supreme Court. The first task concerns the recruitment of judges great, and the second with regard to the formation of judges. In an effort to maintain and uphold honor, nobility, and the conduct of judges. Honor, nobility and conduct judges are very important to be maintained and enforced so that the judicial system of judicial power as a whole can be trusted. Democracy will not grow and develop without balance and controlled by the rule of law which is based on a system of judicial power that can be trusted (Diamond, 2015; Kmezić, 2021). To maintain and build trust or confidence building, an institution is needed who carry out this sublime endeavor.

The Judicial Commission institution was not formed to fight the judiciary or the judiciary, but the Judicial Commission was built with the aim of eradicating the judicial mafia, a kind of perpetrators of mistakes and law violations that must be eradicated by law enforcers. The Judicial Commission is not a law enforcement agency, but rather an ethical code enforcement agency and attitudes that are not in accordance with the legal norms of judges from ethical code standards before what is violated grows into a violation of the law.

Starting from the way of checking and supervising which has been tried to be very meaningful so that the judges can become advocates so they can justify themselves and avoid bad attitudes that can lead to the formation of violations of the law. If an attitude is found that causes a violation of the law, the Judicial Commission can pass it on to law enforcement officers so that it can be tried according to the following legal procedures. The Judicial Commission, which is outside the form of the Supreme Council, is considered very important so that each method of supervision can be truly balanced for the needs of developing a clean, efficient and efficient justice system. Whatever form of supervision and implementation the Judicial Commission attempts, it certainly cannot violate the independence of the judiciary. Therefore, the Judicial Commission's supervisory authority is limited to non-judicial situations.

The Judicial Commission is likened to "like a flower that wilts before it blooms", because on August 16, 2006, the authority of this institution in the field of supervision was revoked by the Constitutional Court Decision No. 005/PUU-IV/2006. The decision of the Constitutional Court includes the cancellation of some articles relating to the supervisory authority of judges, supreme justices and constitutional judges contained in Law no. 22 of 2004 concerning the Judicial Commission. This means that the Judicial Commission does not have the authority to supervise the constitutional court judges. After the decision of the Constitutional Court was issued which aborted the Judicial Commission's authority regarding supervision of Constitutional Court judges, the Judicial Commission experienced quite a complicated problem. The existence of the Judicial Commission can be likened to a complement to sufferers for other high state institutions (Sutiyoso, 2011).

The Judicial Commission's existence is predicated on the notion that judges play a crucial role in the fight for justice and the rule of law. Consequently, it is deemed necessary to establish an outside institution from The Supreme Court has a responsibility to exercise independent judge supervision. A highly critical issue to help attempts to keep a fair judiciary is the nobility as well as the conduct of all judges. denying the importance of judges' oversight and dismissing it Judges step back in creating the top of the judiciary as an institution with clean principles administration and good governance. External institutions like the Judicial Commission, which theoretically have responsibility over this topic, are under the supervision of judges. Supervision of the behavior of judges is absolute and is a fixed price that cannot be negotiated (Kusuma, et al., 2020)

Other authorities of the judicial commission are regulated in Article 13 of Law Number 18 of 2011 concerning amendments to Law Number 22 of 2004 concerning Judicial Commission which reads that the judicial commission has the authority to:

- 1) Propose the appointment of chief justices and ad hoc judges at the supreme court to the House of Representatives for approval;
- 2) Maintain and uphold the honor, nobility and behavior of judges;
- 3) Establish a code of ethics and/or code of conduct for judges together with the Supreme Court;
- 4) Maintain and enforce the implementation of the code of ethics and or code of conduct of judges.

Comparison Study of Indonesia and France Judicial Commission Model

In carrying out its obligations and authorities, the Judicial Commission also performs similar duties side by side with the Supreme Court and the Constitutional Court, not with the authorities or the People's Representative Body such as the People's Representative Body. The Judicial Commission in carrying out its obligations and powers should be closer to the Supreme Court and the Constitutional Council, not to the rulers or parliament. In the provisions of Article 2 of Law No. 22 of 2004 concerning the Judicial Commission which is a state agency that has an independent character and is free from interference in the exercise of its authority or due to other authorities or sovereignty.

Judicial Commission in France

In France, only offenses (punishable by imprisonment for five years or more) that can be tried in the Courts of Assize are required to undergo an examination by the examining magistrate, known as the judge instruction. These only make up a tiny portion of criminal cases. The prosecutor has the ability to order a judicial examination for delits, which are punishable by jail for two months to five years and are tried in the Correctional Court, but he rarely does. Only 14.5% of all crimes and misdemeanors were referred to a judge's instruction in 1971. The prosecutor's hesitation to request court examination of delits, however, only partially explains this result. Even in criminal cases, there might not be a court hearing; the prosecutor might dismiss any aggravating factors and classify the offense as a "lesser included" crime. A felony like theft committed at night (or in a home or with a weapon) may be reduced to the offense of simple theft by this process, known as "correctionalization."

When the American prosecution decides to reduce the number or severity of offenses accused, he typically offers a variety of justifications. The French prosecutor does the same. Even though "correctionalization," which goes beyond the prosecutorial discretion allowed by the "expediency" concept, is frequently described as extralegal and is tolerated by authorities at all levels, it happens frequently. Furthermore, the goal of "correctionalization" is to avoid the judicial review, regardless of the motivation. The prosecutor typically decides that there is no need for the judge to participate and brings the matter directly to trial, though "correctionalized" cases may occasionally still entail a judicial examination (Berger, 2014; Huber, 2017).

The French general judiciary is made up of a sizable number of judicial institutions. The administration of universal justice is governed by the Code Organization Judiciary. The Tribunal d'Instance (comparable to a cantonal or county court), which considers small claims, has the power to administer justice in civil proceedings at first instance. Other civil cases can be heard in the Tribunal de Grande Instance, which is comparable to a district court. You can appeal civil cases to the Court d'Appel (equivalent to the Court of Appeals). Paris-based Court de Cassation, which performs the duties of the court of cassation (equivalent to the Supreme Court) (Grant, 2022; Bjorge, E. (2014).

There are numerous divisions and levels that are connected to the issue with the administration of justice. Despite having different names, the administration of criminal courts is, in theory, the same as that of civil courts. The Tribunal de Police has the authority to review offenses in courts of first instance, whereas the Tribunal Correctionnel has the authority to review all offences. There is a specific court process at the first level for Cour d'assises that is used for investigations of serious offenses (crimes) (Assises Court). The Chambres d'Apple Correctionnelles handle appeals in criminal proceedings (criminal courts of appeal). The Paris Cour de Cassation serves as a court of cassation for criminal proceedings as well (Biland & Steinmetz, 2017)

The Judicial Commission on the legal system in France is called *Conseil Supérieur de la Magistrature*. *Conseil Siperieur de la Magistrature* (CSM) (Garapon & Epineuse, 2012; Vauchez, 2018). The primary role of CSM is to act as a check on the President's authority to select judges and the Minister of Justice's authority to appoint magistrates and oversee the judiciary (Coman, 2014). Certain appointments fall under the purview of the French President, while others are made with the consent of the government after consideration by the Minister of Justice.

CSM has the power to carefully review the selection and sentencing of judges. It is this installation of a relatively strict framework for governing the independence of judges and courts that makes the French system unique. Judges in France do not enjoy the same standing as the majority of their counterparts who work for governments outside France. There are many levels and strict disciplinary rules (Doyle, 2018). Courts are not given much power. In terms of responsibilities, organizational ties and management of individual courts, this highly centralized system was disadvantageous.

Comparison of the Authority of the Judicial Commission in Indonesia and France

The different configurations of judicial commissions can be influenced by a variety of factors, including historical, sociological, and cultural factors. The nomenclature or names of constitutional institutions in France are governed by the French Constitution, and arrangements regarding French judicial commissions are under the jurisdiction of the Judiciary. The constitution actually provides additional protection for the independence of the judiciary and the independence of law enforcement and administration of justice.

The 1945 Constitution establishes the Judicial Commission as an entity tasked with overseeing the behavior of judges towards judges at all levels, including judges at the District Court, High Court and Supreme Court. In the past, before the Constitutional

Comparison Study of Indonesia and France Judicial Commission Model

Court ruled that the Judicial Commission in Indonesia could supervise the behavior of judges up to the judges of the Constitutional Court. However, after the Constitutional Court's decision abolished the Judicial Commission's authority to supervise the behavior of Constitutional Court judges. The judges recognize that Indonesia is a country with a strong commitment to the rule of law, they play an important role in supporting law enforcement initiatives. When law begins to move from *das sein* to *das sollen*, judges function as living interpreters. He does not only interpret rules that are only written but is also expected to be able to explore the laws that apply in society.

A very striking difference between the position of the two Judicial Commission institutions in Indonesia and France is the position of the institution. The Judicial Commission in Indonesia is an independent institution, while the Judicial Commission in France is under the judiciary. According to the author, the location of the Judicial Commission which is under the judiciary can result in decisions made by the institution being different from the institution which is located as an independent and independent institution so that the supervisory function carried out by the Judicial Commission will not be bound by the institution that oversees it.

IV. CONCLUSIONS

Functionally, the Indonesian Judicial Commission has steadfastly backed the execution of the judicial power's obligations, which were formerly carried out and managed by the Supreme Court. The public can have confidence in the judicial system of judicial power as a whole if the first task—hiring Supreme Court justices—is completed and the second—developing judges—is done with the intention of safeguarding the honor, dignity, and conduct of judges. A different organization, namely the creation of a Judicial Commission, is required to carry out these measures in order to preserve and restore that trust.

This institution does not affect institutions associated to the judiciary or judicial power on an institutional level; rather, it only governs matters relating to the honor, dignity, and conduct of judges. Of course, this is not the same as the French Judicial Commission (Conseil Supérieur de la Magistrature/CSM). In comparison to Indonesia, the Judicial Commission in southern Europe, which is represented by France, has more power. In France, the Judicial Commission has power over judge career decisions, recruitment, permanent education, periodic training, rotation, transfer, and promotion, as well as punishment enforcement (code of ethics).

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Quality Enhancement in Higher Education Institutions

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ABSTRACT: No higher education institution worth its name, size and legacy can achieve and nurture its vision of creating and sustaining excellence in teaching and learning without value oriented, committed and skilled human resources at its disposal. The paper discusses the poor outcomes in the higher education as practices and policies were not reformed to counter challenges and leverage new opportunities. Managing and motivating human resources effectively is leadership challenge and key to quality outcomes. The paper opines that the onus lies on leadership for creating and leveraging a kind of robust eco system of teaching, learning and evaluation where discovering and sharing new knowledge becomes a norm. This study highlights that it is incumbent upon higher education institutions to evaluate processes, practices and outcomes regularly so that quality is sustained and leveraged for making students capable, confident and creative. The study recommends that institutions should conduct academic and administrative audit with active involvement of all stakeholders to improve upon the traditional practices for better outcomes. Academic and administrative audit of higher education institutions shall provide impetus for sustaining quality circles by leveraging the strengths and overcoming the weaknesses.

KEYWORDS: Teaching, Institutions, Academic, Robust, Sustaining

I. INTRODUCTION

Teaching is one of the professions which requires continuous professional development for effective outcome but unfortunately and ignorantly in higher education arena, it is falsely presumed that knowledge acquired at a point of time stand relevant for all times to come and that is why outcomes are disappointing and disastrous for individuals and society at large. The purpose of higher education worldwide has always been to equip students with knowledge and skills to understand the socio economic problems and apply knowledge for harmonious utilization of resources for peace, prosperity and inclusive growth. The quality is concerned with the inculcating such skills and values amongst student so as to make them capable and creative thinker and they are confident enough for recognising problems and searching solutions. There exists a close relation between quality outcomes at school education and higher education centres, but it has never been recognised. The quality delivered at higher education is reflected in better and desired outcome at secondary and primary level. The higher education in India could not fulfil its mission of providing value oriented skilled workforce to work at secondary and primary level as reflected in abysmal poor learning outcomes. There is an urgent need for quality enhancement initiatives that are firmly embedded into processes. The quality of teaching and learning at primary and secondary level lays the foundation for higher education. The core values and skills acquired at these levels develop strong aptitude among students and that makes learning at higher education purposeful, interesting and fruitful. Those who learn at higher education are expected to deliver basic ideas and concepts crystal clear to young minds so that learning is interesting, participative and make students creative thinkers and this exhorts students towards higher learning. It is because of poor outcome at lower level that majority of those who come at the thresh hold of higher education neither know the purpose nor have the aptitude to learn and gradually they feel that education is dull and burdensome. Academic and Administrative Audit should be done in higher education institutions for evaluating past processes of quality assurance and its success depends upon collective holistic efforts and higher education leadership has a decisive role. In the light of the above scenario of higher education the paper discusses following issues.

1. To highlight the role of higher education leadership in quality enhancement
2. To explain the need and role of academic and administrative audit of higher education institutions

Quality Enhancement in Higher Education Institutions

II. REVIEW OF LITERATURE

Middlewood and Lumpy (1999) in their book "Human resource managers in schools and colleges" opined that the success of educational organisation depends on the quality performance and commitment of employees who work there. Higher education in India is in the need of visionary leadership at every level; leaders, who are committed to the vision and its realization, creative, communicative, empower and involve people and in this way generate commitments of others. We need to investigate the role of academic leadership in total quality management (TQM) in higher education institution (Osseo-Asare et al,2007). To attain and sustain quality both Internal Quality Assurance Cell and Academic and Administrative Audit (AAAC) have to be complimentary to each other (Planning and Development Report, Pondicherry University). As observed in Sweden, the focus is not on "quality. 'But on quality work" how an institution satisfies itself that its chosen academic standards are being achieved. (Ostling 1997) The democratisation of the Indian universities, enabling more social classes to gain access to higher learning has not always been a smooth process and its consequence at least in the short run has not always been beneficial (Betille.A ,2005). Academic audit from the perspective of current analysis of public sector reforms represent a working of model of external accounting designed to active institution reform- which in turn influence the quality of teachers and student learning in higher education(David Dil,2002). Quality must be the responsibility of teaching staff and peer pressure provides the best way to police the performance of individual performance (Massy, 1997) There is a growing realization that the focus of academic audit on improvement and institutional quality assurance processes may be a more appropriate means of accountability given the evolution of colleges and universities throughout the world into self-regulatory" learning organisation" (David,D,1999). For institutions to survive in this age, leadership is essential to create vision communicate policy and deploy strategy (Davies et al,2004) The key leadership role is to communicate the purpose and meaning of quality to all. Top leadership is the key to any quality programme and driving force behind success and failure (Michael et al, 1997).Academic audit is a collective effort for getting the quality processes evaluated by external experts for quality assurance. Unless leadership is utilized throughout the organisation, a college or university has little chance of a successful transformation (Srikanthan & Dalrymple 2004).

III. HIGHER EDUCATION IN INDIA – A DISMAL OUTCOME

Majority of those who learn at the higher education institutions have zero premium because either they are under skilled or have obsolete skills which is no longer useful in globally networked environment. For a very long time quality of teaching and learning in higher education has been overlooked and undervalued. In an alarming indictment of the quality of training given to the prospective school teachers, over 99% percent failed to clear the Central Teacher Eligibility Test (2012).The minimum marks required to pass the TET examination is 60 percent. The news paints a sorry picture for those who are optimistic about quality education to students as less than 2 percent candidates could clear Central Teacher Eligibility Test in February 2014. Trends of results show that candidates have performed poorly in children's development and pedagogy India ranked 73 out of 74 in 2009 in a simple test of reading, science and arithmetic called PISA (Programme for international student assessment) and after that India never participated in the PISA need rethinking. The well regarded NGO Partham, in its 2018 Annual Status of Education Report (ASER). Concluded that 56% of class 8th students cannot basic maths and 27% read. The 2014 Annual survey Of Education Report (ASER) found that that nearly half of class 2 level and in rural schools the number of students in class 2nd who could not even recognise letters of alphabets increased from 13,4% in 2010 to 32.5% in 2014. It is a reflection on those who have been trained at high reduction centres for four years (3 YEAR Graduation + 1 YEAR Bed) and majority of them do post-graduation for quick promotion. The HTET (HARYANA) 2014 result showed that only 1.22% candidates qualified level in Level 1TGT exam and 2'29 % candidates qualified for Level III PGT Exam. At 23.6% our gross enrolment ratio in higher education is one of the lowest in the world. India Skill Report 2021 shows that 47.22 percentage of Art graduate. 40.30 Of Commerce graduates and 30.34percentage of Science graduate are employable. None of India universities is in top hundred QS world university ranking and only three universities are in top two hundred universities. None of the Indian University could make it to the list top 100 most prestigious global university (Times Higher Education). While the IITs with an annual enrolment of 10000-15000 focus only the brightest of the bright, not a single great worldwide patent has emerged or have they produced a single noble laureate. Among BRICKS & Emerging Economies Ranking 2015, only one Indian university-Indian Institute of Science, Bangalore, was placed at 25th out of top 100 universities whereas china has 3 universities.

IV. ROLE OF HIGHER EDUCATION LEADERSHIP

.Academic leaderships in Higher Education in India need to rethink, redefine and recalibrate on new programs, polices and practices for quality outcomes in the higher education. This require a change in cultural and the challenge is to manage change effectively with active collaboration of all stakeholders. The onus lies on leadership to communicate, convince and coax, stakeholders to participate and collaborate in the change process. Annual academic and administrative audit of higher education

Quality Enhancement in Higher Education Institutions

institutions is key responsibility of leadership. The report card so prepared shall be a cumulative summary of past achievements and highlighting and alerting on suboptimal processes and practices.

V. ACADEMIC AND ADMINISTRATIVE AUDIT- A TOOL TO ATTAIN AND SUSTAIN QUALITY

.Academic and administrative is audit is an urgent need to attain and enhance quality. It will start the development of quality assurance systems with due emphasis on improving teaching and student learning. A quality audit will evaluate whether the institution has at its disposal a committed and capable academics for whom every student is a learning experience and institution has ability to use its resources effectively and efficiently. During these times when the higher education is undergoing transformational change due to introduction of new education policy 20220 and both challenges and expectations are very high, there is need to evaluate traditional polices and practices for introducing changes, and for that annual academic and administrative audit shall go a long way in attaining and sustaining quality and holistic higher education.

VI. EFFECTIVE COMMUNICATION

A key to success of any program and practice is the active participation of stakeholders. The purpose, need, scope and expected gain from the audit should be clear as this will spur them to participate in the audit process with full vim and vigour .The degree of involvement depends on clear and transparent communication regarding evidence of its impact on systems of higher education. Any miscommunication or ineffective communication will be counterproductive and may create fear among stakeholders. There may be individuals and departments' which may not be willing to participate due to misplaced fear which can be overcome through effective communication regarding benefits of academic audit. The stories of excellence of great institutions and great personalities will boost their morale.

VII. NATURE AND SCOPE OF AUDIT

The audit should be both: Internal and external. Internal audit team of five members comprising senior faculty members along with retired faculty and bright alumni evaluates institution on various dimension and the report so prepared set the groundwork for undergoing external audit .External audit team of four members comprises one senior faculty member to facilitate, university professors and ex principal of eminent higher education institutions. The audit evaluates processes, practices and outcomes both in academic and administrative set up for attaining and sustaining quality circles over the period of time in the institution. The audit may be for one day or two day depending on the number of programs running, students enrolled and faculty strength in the institutions. To make the audit effective it is prudential that audit should be on holidays in the institution.

VIII. AUDIT PROCESS

The institution should prepares a comprehensive report of the institution in three parts : Profile of the college, Quantitative summary of processes ,practices and infrastructure, Departmental profile highlighting the credential and efforts of faculty and outcomes reflected in progressing and placements rate during the past academic year. The report is shared with all the members of the external audit team. Schedule of activities during the audit days is prepared in advance for making the audit effective. During the audit the head of the institution, departmental heads, conveners of respective for and societies give presentation The team also visits the campus and evaluates the availability, adequacy and effectiveness of academic, administrative and sports infrastructure and further mechanisms for involving and providing opportunities to the students for extracurricular activities. On the basis of findings numerical values are assigned to various parameters and cumulative score is calculated to decide the grade in percentage. The report submitted by the team highlights positive observations, negative observations and the suggestions for improvements.

IX. CONCLUSIONS

To create and sustain quality in higher education leadership role is crucial. Without better leadership we cannot imagine a great institution; an institution where acquiring, sharing and utilizing knowledge is in built in culture and top leadership acts as chief facilitator. For assuring quality and excellence in higher education, every institution of higher education should monitor its performance both absolutely and relatively by establishing and effectively running Internal Quality Assurance Cell and conducting annual academic and administrative audit by external agencies.

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Effects of Global Leadership Style on Employee Work Engagement among Sector of Tourist Attractions: Followership Styles as Mediator and Perceived Organizational Support as Moderator



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ABSTRACT: Given that the true test of leadership does not take place when everything is going according to plan, a leader's ability to support and guide personnel will determine whether they are a good or bad leader in the sector of tourist attractions (Kamau, 2020). As with any other industry, leadership in tourist attraction is vital to the success of the industry. Success in the tourist attraction relies heavily on collaboration, partnerships, and strong leadership. With the advent of COVID-19, leadership in the tourist attraction sector has been put to the test. Nevertheless, the one thing this health crisis has demonstrated is that when we find ourselves in crisis, we need leadership. Therefore, the objective of this study is to fill a gap in the literature consisting in the lack of a model relating the abovementioned variables. Basically, this study will present clarity on how global leadership style can influence the employee work engagement and health of tourist attraction sector of the hospitality industry. Additionally, results of the study served as a realization on possible considerations on how followership style mediates organizational support as important elements for fostering a positive and effective work environment.

KEYWORDS: Global Leadership, Employee Work Engagement, Followership Styles, Organizational Support, Tourist Attractions

I. INTRODUCTION

Global leadership is seen as influencing a diverse group to work toward common goals within a global context (Livermore, 2022). It has also been documented in previous studies that leadership could influence organizations and individuals (Dahleez et al., 2020; Hentrich et al., 2017; Humphrey, 2012), which could be seen from an effective leader who can influence the followers to behave in a manner, which promotes positive outcomes for the organization. Furthermore, as organizations grow and become more global, it's crucial to develop skills and competencies so that they can work effectively across cultures (Hewlett, 2016). Therefore, if there is a good relation between the leader and employees (Surji, 2014), there will be contributions to team communication and solidarity, and encouragement of subordinates to accomplish the mission and objectives assigned by the organization, including sector of tourist attraction, which in turn enhances performance and job satisfaction.

While leadership style is a common interest in business studies, it has not developed in other kind of sectors (Mehrad, 2021). As Fang (2018) mentioned that leadership is not a new phenomenon in mainstream research, leadership in the tourism research and specifically in the tourism destination management field has only started to emerge. The current research literature shows how little is known about leadership in the tourism destination context. In this case, the tourist attraction sectors were scarcely mentioned in a little piece of literature, instead, discussion of other tourism-related industries was more prevalent. Influence of leadership on employee work engagement and productivity within an organization is very essential, playing a great role in whether the organization is a fun and safe place to work (Surji, 2014). Many factors contribute to employee work engagement, but leadership is a key driver that fosters employees' motivation toward engagement and productivity (Anand, 2017; Grant 2019). Employee work engagement is defined as a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption (Schaufeli et al., 2002; Khusanova et al., 2021). Herman (2022) emphasized the benefits of work engagement, when employees have a clear vision of their tasks and find meaning in their jobs, they are more efficient and are hungry to learn more, they know where they fit in the company and feel their input is valuable. Wickham (2020) described employee engagement isn't a silver bullet, but it can have some miraculous effects on organization. And it doesn't just correlate with great organizations, it can create great organizations. Because engaged employees possess energetic and affective

Effects of Global Leadership Style on Employee Work Engagement among Sector of Tourist Attractions: Followership Styles as Mediator and Perceived Organizational Support as Moderator

connections with their work activities, see themselves as capable of dealing with job demands, and transfer their engagement to others at work (Bakker, 2009; Demerouti et al., 2010; Grant 2019), because engaged employees are more connected to their workplaces, they're more aware of their surroundings (Wickham 2020). It is crucial for organizations to sense the true essence of work engagement, especially in the tourist attraction sector, to better identify its drivers (Grant, 2019; Mostafa and Abed ElMotalib, 2020).

In a leadership perspective, followership is so important to an organization wherein a successful leader needs followership, employees who have the judgement, motivation, skillset, truthfulness, and loyalty to work together to follow directions and meet their goals. Based on these two ideas on critical thinking and active behavior (Kelley, 2016) thought about two continua whereas the first being independent, critical thinking, versus dependent, uncritical thinking and the second being active versus passive behavior. For example, a good leader and a good follower needs to develop some sound characteristics like a good sports team. Thus, we have those who lead and those who follow, at different times, and for different reasons, within a game. Hence, the team relies on the expertise and abilities of those with the required skill set, as the team needs the skills in question.

The globalization and the related phenomena of workplace diversity made it important for businesses to consider the follower's role in the success of the industry, among other events that contributed to the rise in interest in the function of followers. The high-level of diversity and change in the sector of tourist attractions highlight the need for examining dynamic relationships in more depth as organizations have become more complex. The advent of the information age and the "Knowledge based economy" made followers more expressive, empowered and engaged and thus transferred leadership from the hierarchy to the parallel, horizontal, and distributive forms (Fujita et al., 2009). The expanding social networks and the growing empowerment of followers through their ability to access information more easily erodes the barriers between the traditional hierarchical echelons (Cross & Parker, 2004; Bjugstad et al., 2006) and calls for more flexible leader follower relationships (Hackman & Wageman, 2007).

Whereas an increase in organizational support can create an optimal climate in an organization by promoting health, work engagement, trust in the organization and, above all, the organizational identification of employees (Bonaiuto et al., 2021). In a perceived organizational support, it is considered as the commitment of the organization toward the employees. It consists of two complementary dimensions: the colleagues' and the supervisor's perceived support. The colleagues' perceived support includes practical support and information related to tasks, other than socio-emotional support and empathy (Bonaiuto et al., 2021; Rousseau et al., 2009). The perceived supervisor support has been defined as the employees' perception of how much their supervisors are supportive and caring about the workers' well-being (Eisenberger et al., 2002). Empirical research demonstrated that support from colleagues is positively related to both job satisfaction and job and personal commitment (Bonaiuto et al., 2021; Chiaburu and Harrison, 2008; Karatepe et al., 2010; Galanti et al., 2021). Regarding the supervisors' perceived support, there are some studies conducted by Malik et al. (2015) that found that a good relationship between supervisor and employee can directly and positively affect job satisfaction.

Therefore, the objective of this study is to fill a gap in the literature consisting in the lack of a model relating the abovementioned variables. Basically, this research fills the gap regarding how these global leadership style can influence the employee work engagement and health of the organization. Additionally, consider how the followership style in particular mediates organizational support as important elements for fostering a positive and effective work environment. This contribution advances the body of knowledge on the topic and proposes a thorough model to evaluate the effects of global leadership style towards employee work engagement as significant variables examined in this study. It also discusses a potential practical application of the results, in terms of training that could be developed for organizational personnel, particularly the managerial roles.

The research question that outlines various aspects of our study, including variables to be studied and the problem study to be addressed. Moreover, these questions influence factors in our study such as, our research methodology, sample size, data collection, and our data analysis. There are 9 questions, and they are the following:

1. What is the demographic profile of the respondents in terms of gender, civil status, and length of service in the company?
2. What is the most prevalent global leadership characteristics among the superiors of the respondents?
3. What is the effect of global leadership on employee work engagement?
4. Which followership style is the most dominant among the respondents?
5. What are the differences in employee work engagements across followership styles?
6. How does employee work engagement differ across gender and civil status?
7. How does perceived organizational support differ based on length of stay in the company?

Effects of Global Leadership Style on Employee Work Engagement among Sector of Tourist Attractions: Followership Styles as Mediator and Perceived Organizational Support as Moderator

8. What is the mediating effect of the followership styles on the relationship between global leadership and employee work engagement?

9. How would the perceived organizational support interact with the relationship between global leadership and work engagement?

The relevant constructs are defined below, and their relationships are summarized based on the evidence from the literature that is currently available. This demonstrates the need to specifically test how the global leadership style is able to affect employee work engagement, and how followership style mediates organizational support, both of which increase employees' work engagement.

1.1 Global Leadership Style

Organizations invest in leadership courses based on the idea that it will help leaders to increase the productivity of their employees (Athanasopoulou and Dopson, 2018; Decuyper and Schaufeli 2019; Gottfredson and Aguinis, 2017). Within these developments, there is more and more room for discussions concerning employee well-being, and specifically work engagement, as this is also related to interesting firm outcomes. As to the argument of global leadership (Gill, 2011) There is no single accepted universal definition or theory of leadership. However, Hruby (2013) make clear in his study that the last two decades have seen a rise in the importance of global leadership. A unified view of global leadership has not yet been created due to short history. Nevertheless, he was able to establish the best possible definition of global leadership by citing the work of Mendenhall, et al., (2012) that Global leaders are individuals who effect significant positive change in organizations by building communities through the development of trust and the arrangement of organizational structures and processes in a context involving multiple cross-boundary stakeholders, multiple sources of external cross-boundary authority, and multiple cultures under conditions of temporal, geographical and cultural complexity. Speaking of multiple cultures, Smith (2022) expound that global leadership reflects local leadership in an international context. Expounding that an individual who can offer practical training, communicate, and implement changes locally increases the chances of a multinational company's success. Hence, the leadership aspects and challenges global leaders encounter are a magnitude of local leadership due to extended diversity.

Hruby (2013) further explains positive leadership above by drawing on Mendenhall's et al., (2012) definition of the 'leader' to the duty of leading followers: Global leadership refers to the process of change in organizations by which communities are built through the development of trust and the arrangement of organizational structures in a context involving multiple crossboundary stakeholders, multiple sources of external cross-boundary authority, and multiple cultures under conditions of temporal, geographical and cultural complexity. The change-process Mendenhall, et al., (2012) refer to should not be mixed up with change management. It refers to a process changing the situation or, simply said, to an "influencing process".

According to Youssef & Luthans (2012) wherein they argue that a positive global leadership results in more efficient and motivating communication using all kind of technical resources to bridge physical distance avoiding an "out-of-sight, out-ofmind"-setting entering in daily business. The challenges of cultural distance will be able to manage by positive global leadership in more suitable "ambicultural" way by ascending the good parts of each culture and keeping away from the less useful or even blocking influences. Tanner (2020) explains critical skills of effective global leadership that it is about knowing how to operate in multiple environments trying to achieve a common corporate objective. While Klaussen (2020) make clear that the link between integrity and trust is essential in the leader-employee relationship. Leaders are judged on character and competence, while employees associate integrity with kindness and having good intentions as opposed to selfish motives. The process of leadership is not only influenced by environmental issues or stakeholders. Leadership is strongly depending on the individual capabilities of the global leader. Bucker & Poutsma (2010) elucidate the relevance of capabilities as the basic value, allowing "to perform effectively". They define capabilities further as "knowledge, skills, abilities, personality, and behavioral repertoires". They point out that this includes the "potential" and the "intent" to act. The concept of capabilities is often used in literature on leadership interchangeably with competences. Such essential capabilities for global leaders are summarized as the global mindset Hruby (2013).

Furthermore, making the right, often difficult decisions, communicating a clear vision, defining attainable goals, and providing followers with the knowledge and skills they need to reach those goals are all part of leadership. Self-confidence, good communication and managerial abilities, creative and inventive thinking, perseverance in the face of failure, readiness to take chances, openness to change, and level headedness and reactivity in times of crisis are all traits of an effective leader. Individuals with these abilities can advance to executive management or C-level positions in business, such as CEO, CIO, or President Roy (n.d.). Hence, a global leader should possess abovementioned qualities that make a great leader.

Employees are affected by different global leadership styles as well, but it's more an issue of selecting the leadership style that best fits the employees' personalities and needs. Depending on the needs and tasks connected with different departments, it is

Effects of Global Leadership Style on Employee Work Engagement among Sector of Tourist Attractions: Followership Styles as Mediator and Perceived Organizational Support as Moderator

important to choose the right kind of global leadership style that goes in harmony with employees and organizational interests as well. Hence, the following hypothesis was formulated to understand significant effect of global leadership style on employee work engagement:

H1: Global Leadership style has a significant positive effect on employee work engagement.

H1a: Demonstrating Integrity has a significant positive effect on employee work engagement.

H1b: Encouraging constructive dialogue has a significant positive effect on employee work engagement

H1c: Creating shared vision has a significant positive effect on employee work engagement.

H1d: Developing people has a significant positive effect on employee work engagement

H1e: Building partnership has a significant positive effect on employee work engagement.

H1f: Sharing leadership has a significant positive effect on employee work engagement.

H1g: Empowering people has a significant positive effect on employee work engagement

H1h: Thinking globally has a significant positive effect on employee work engagement.

H1i: Appreciating diversity has a significant positive effect on employee work engagement.

H1j: Developing technology savvy has a significant positive effect on employee work engagement

H1k: Ensuring customer satisfaction has a significant positive effect on employee work engagement.

H1l: Maintaining competitive advantage has a significant positive effect on employee work engagement.

H1m: Achieving personal mastery has a significant positive effect on employee work engagement.

H1n: Anticipating opportunities has a significant positive effect on employee work engagement.

H1o: Leading change has a significant positive effect on employee work engagement.

1.2. Employee Work Engagement

An engaged employee is emotionally attached to the organization, passionate about his or her work, and cares about the success of the organization (Seijts and Crim, 2006). When employees are deeply engaged with an organization, there will be heightened sense of positive and intense feelings among them to exert their best effort for the success of the organization. It is more than just feeling satisfied with the work-related factors in the organization. Macey and Schneider (2008) defined employee engagement as a desirable condition among employees that encompasses the following attributes (1) has an organizational purpose, (2) connotes involvement, commitment, passion, enthusiasm, focused effort, and energy, and (3) involves both attitude and behavioral components. While work engagement involves employees' optimistic vibes towards their work, employee engagement deals with employees' positive feelings towards the organization. Apparently, employee engagement and work engagement are often used interchangeably in the literature partly due to the indistinct psychological needs and satisfaction that are associated with both constructs (Schaufeli, 2013). Nevertheless, engagement is theoretically distinguishable from other often overlapping constructs; namely, organizational commitment, citizenship behavior and job involvement (Saks, 2006). Among the factors that are expected to lead to employee engagement is leadership style.

Other attributes cited in previous study in the workplace are the study of Handayani et al. (2017) asserting that employees display various levels of personal engagement or disengagement based on three types of attributes: (a) cognitive, (b) emotional, or (c) physical. The cognitive aspect is about employees' beliefs about an organization. The emotional aspect shows how employees feel toward an organization and its leaders. The physical aspect of employee engagement represents the number of efforts expended by individuals to achieve their goals (Kahn, 1990). Rothmann and Baumann (2014) summarized that displaying these three attributes meant fully engaged individuals were cognitively alert, emotionally attached, and physically involved.

Thus, in the engagement theory, employees tend to be engaged when they perceive synergy with the organization's values and purpose, while feeling that their own purpose matters (Glavas, 2016). Kahn (1990) contended that meaningfulness, resource availability, and safety help to shape employee engagement. Jose and Mampilly (2014), in support of Kahn, summarized that meaningfulness, resource availability, and safety are reasons employees exceed expectations and help organizations attain their goals.

Furthermore, employee engagement can improve organizational performance. Engagement requires leaders to implement engagement strategies to influence employees to increase work performance and productivity (Bakker & Albrecht, 2018; Kahn, 1990). Albrecht et al. (2015) promoted engagement as a main tool to enhance competitive advantage and financial profitability. The concept continues to receive attention from practitioners. Scholars and practitioners tend to focus on engagement behaviors (Yalabik, et al, 2013). A contrary view proposed by Alagaraja, & Shuck (2015) held that research should include how characteristics of the organization and leadership affect employee engagement practices. Lee, Kim, and Kim (2014) and Anitha (2014) studied employee engagement in a study involving 12 five-star and four-star South Korean hotels and concluded

Effects of Global Leadership Style on Employee Work Engagement among Sector of Tourist Attractions: Followership Styles as Mediator and Perceived Organizational Support as Moderator

that employees working in the hotels, when fully engaged, embraced the brand and delivered the promise to the customers, demonstrating alignment with the organization's goals.

If employees who work under global leadership style can be considered engaged in their work, then to understand the correlates between effective followership and work engagement, a hypothesis was proposed as follows:

H2a: Employee Work Engagement of Exemplary Followers is significantly different from that of the conformist followers

H2b: Employee Work Engagement of Exemplary Followers is significantly different from passive followers

H2c: Employee Work Engagement of Exemplary Followers is significantly different than that of the alienated followers.

H2d: Employee Work Engagement of Exemplary Followers is significantly different from that of the pragmatist followers

H2e: Employee Work Engagement of Pragmatist Followers is significantly different from that of the Conformist Followers

H2f: Employee Work Engagement of Pragmatist Followers is significantly different from that of the Passive Followers

H2g: Employee Work Engagement of Pragmatist Followers is significantly different from that of the Alienated Followers

H2h: Employee Work Engagement of Passive Followers is significantly different from that of the Conformist Followers

H2i: Employee Work Engagement of Passive Followers is significantly different from that of the Alienated Followers

H2j: Employee Work Engagement of Passive Followers is significantly different from that of the Conformist Followers

H2k: Employee Work Engagement of Conformist Followers is significantly different from that of the Alienated Followers

H2l: Employee Work Engagement of Conformist Followers is significantly different from that of the Alienated Followers

In support of the positive relationship of followership and work engagement, the research desires to understand difference between gender and marital status towards employee engagement, hence, following hypothesis was postulated:

H3a: Male employees' work engagement is significantly different from that of the Female employees

H3b: Married Employees' Work Engagement is significantly different than those who are single.

1.3. Organizational Support

In the advent of health crisis that struck any organization, like the sector of tourist attraction, organizational support has a relevant both preventive and protective function that can reduce general stress (Kenny et al., 2014; Kenny and Hage, 2009). Framed in the work context, social support is defined as perceived organizational support, and it is considered as the commitment of the organization toward the employees. It consists of two complementary dimensions: the colleagues' and the supervisor's perceived support. The colleagues' perceived support includes practical support and information related to tasks, other than socioemotional support and empathy (Rousseau et al., 2009). The perceived supervisor support has been defined as the employees' perception of how much their supervisors are supportive and caring about the workers' well-being (Eisenberger et al., 2002). Empirical research demonstrated that support from colleagues is positively related to both job satisfaction and job and personal commitment (Chiaburu and Harrison, 2008; Karatepe et al., 2010; Galanti et al., 2021). Motivation in the workplace can also be positively affected by the colleagues' support (Karatepe et al., 2010). Regarding the supervisors' perceived support, there are some studies conducted by Malik et al. (2015) that found that a good relationship between supervisor and employee can directly and positively affect job satisfaction. It then emerged how a good supervisor-collaborator relationship also affects job satisfaction indirectly, through the mediation of motivation. Situational leadership theory (Hersey and Blanchard, 1969) also supports this line of research. This leadership style, characterized by the figure of the leader as a partner who relates horizontally with individual employees trying to meet their needs, promotes the development of motivation and performance and reduces stress levels in employees.

Furthermore, Employees' awareness of organizational support is based on the frequency, intensity, and sincerity of organizational manifestations of approval, praise and material and social rewards in exchange for these workers' best efforts. A favorable perception of organizational support, seen from this perspective, would strengthen employees' expectations and affective engagement with their organization, motivating them to strive to achieve organizational goals (Eisenberger et al. 1986; Garg and Dhar 2014; Joo 2010; Haar et al. 2016; Mascarenhas et al., 2022; Wen et al. 2019). High levels of perceived organizational support can lead workers to a more positive orientation toward the organization and enhance the organizational environment, job satisfaction and results (Appelbaum et al. 2019). Based on the principle of reciprocity, workers who feel supported in the workplace not only help co-workers but also increase their own job satisfaction and organizational commitment, thereby reducing waivers and absenteeism and encouraging better employee performance (Bohle et al. 2018; Chiang and Hsieh 2012; Rhoades and Eisenberger 2002).

To understand perceived organizational support to employees serving in the organization for less than a decade or more, the study was able to raise the following hypothesis:

Effects of Global Leadership Style on Employee Work Engagement among Sector of Tourist Attractions: Followership Styles as Mediator and Perceived Organizational Support as Moderator

H4a: Perceived organizational support of employees who had been with the company for 11 years or more significantly with that of those who have been with the company for 1 year or less.

H4b: Perceived organizational support of employees who had been with the company for 11 years or more significantly differ with that of those who have been with the company for 2 to 5 years.

H4c: Perceived organizational support of employees who had been with the company for 11 years or more significantly differ with that of those who have been with the company for 6 to 10 years.

1.4. Followership Styles

The link between leadership, management and enterprise performance is widely understood and accepted. Improving leadership improves management and raises the probabilities of better performance. That boards often change leaders when enterprises are slipping confirms the importance placed on leadership. The flip side of leadership is followership. It stands to reason that if leadership is important to performance, followership must have something to do with it too. But curiously, followership gets only a small fraction of the airtime that leadership does (McCallum, 2013). Moreover, Essa and Alattari (2019) argued that awareness in institutions of the importance of the role of followers spawned a series of empirical studies in firms as well as institutions of education and higher education where leadership positions are often rotated so that many academics time and again assume leadership positions.

To ensure that the group cannot be dominated by a single leader, followers work together to monitor and scrutinize the leader's decisions (Chiang, et al., 2022). Followers help organizations achieve coordination with the regulating mechanisms of norms, social contracts, and reputation. Such mechanisms could influence leaders and help organizations achieve their goals (Chiang, et al., 2022; Van Vugt & Runay 2014)

In the study of Novikov (2016) on followership and performance he identified the concept of Kelley (1988) posited that followers can assume one of five different roles based on their degree of active engagement and independent critical thinking. These roles range from exemplary, conformist, passive, alienated and pragmatist followership (Kelley, 1992). Based on Kelley's (1992) followership model, followers' effectiveness is theorized to vary depending upon the style of followership that employees assume within an organization. Critical thinking ranges between dependent uncritical thinking and independent critical thinking (Kelley, 2008). Dependent uncritical thinkers accept information that is provided to them at face value without any evaluation or questioning (Latour & Rast, 2004). Independent critical thinkers do not accept information without questioning, rather, they evaluate and analyze information to identify consequences and opportunities (Latour & Rast, 2004).

Exemplary followership. Exemplary followers rank high in both active engagement and independent critical thinking. Exemplary followers think for themselves and are therefore willing to challenge leaders by providing alternative solutions if they disagree with the leader (Kelley, 1992). They proactively support organizational goals and leader decisions that are congruent with their beliefs (Kelley, 1992). Exemplary followers "assume responsibilities beyond their minimum job requirements and exert considerable effort to accomplish goals" (Blanchard et al., 2009). Finally, exemplary followers work well with others (Bjugstad et al., 2006).

Conformist followership. Conformist followers are high in active engagement but are dependent uncritical thinkers (Kelley, 1992). Kelley (2008) referred to conformist followers as "yes people" (p. 7). Conformist followers are very active doers that unquestioningly follow leader directions (Bjugstad et al., 2006; Kelley, 2008).

Passive followership. Passive followers are low in active engagement and are dependent uncritical thinkers (Kelley, 1992). Passive followers are referred to as sheep (Kelly, 2008) who unquestioningly follow the leader but only after being given constant direction (Bjugstad et al., 2006). After completing a task, the passive follower typically waits for direction before beginning the next task (Latour & Rast, 2004).

Alienated followership. Alienated followers are highly independent critical thinkers but are low in engagement (Kelley, 1992). They think for themselves, but instead of being positive like exemplary followers, who proactively provide alternative solutions to the leader, alienated followers are negative critical skeptics (Kelley, 2008). They consider themselves as mavericks who are willing to oppose management (Kelley, 2008).

Pragmatist followership. Those with the fifth follower style are pragmatists who have a moderate level of engagement and portray a moderate level of critical thinking (Kelley, 1992). They are uncommitted and wait to see where things are going before they act (Kelley, 2008). Pragmatists tend to maintain the status quo and wait for crises to pass before acting (Kelley, 2008). Armed with supporting theories on the link and relationship of global leadership style and employee work engagement, the hypothesis is focused on followership style posited by Kelley (1992), its mediating impact to global leadership style and work engagement, hence, following hypothesis were formulated:

Effects of Global Leadership Style on Employee Work Engagement among Sector of Tourist Attractions: Followership Styles as Mediator and Perceived Organizational Support as Moderator

H5a: Exemplary Followership style fully mediates the relationship between global leadership style and employee work engagement.

H5b: Conformist followership style fully mediates the relationship between global leadership and employee work engagement

H5c: Passive followership style fully mediates the relationship between global leadership style and employee work engagement

H5d: Alienated followership style fully mediates the relationship between global leadership style and employee work engagement

H5e: Pragmatist followership style fully mediates the relationship between global leadership style and employee work engagement

If global leadership style has a significant effect on employee work engagement, then to understand the moderating effects of perceived organizational support on global leadership style and employee work engagement, a hypothesis was proposed:

H6: Perceived organizational support significantly moderates the effect of global leadership style on employee work engagement

RESEARCH PARADIGM

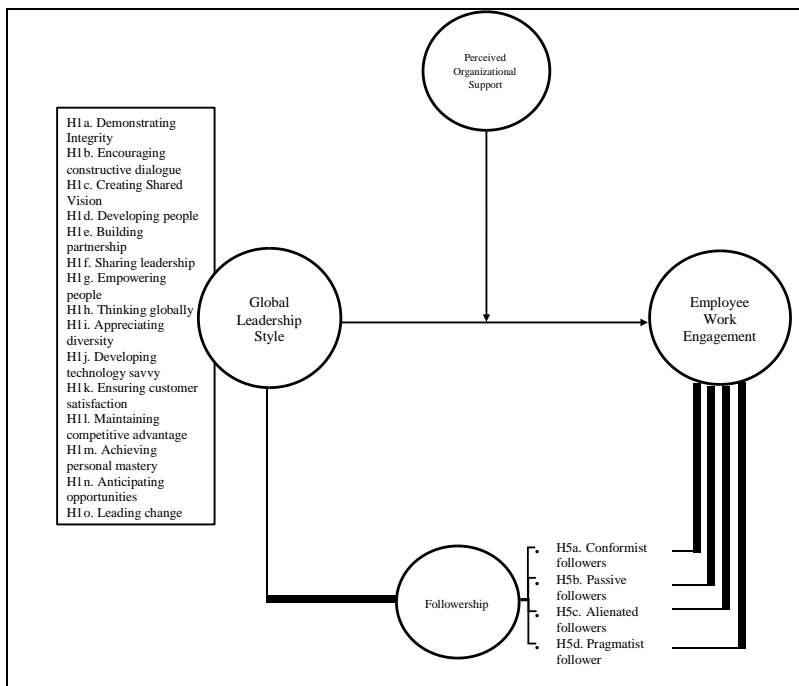


FIGURE 1: Model on how global leadership style can influence the employee work engagement and health of the organization. Additionally, it considers how the followership style in particular mediates organizational support as important elements for fostering a positive and effective work environment.

The study is focused on global leadership style which identifies prevalent global leadership characteristics in the tourist attractions. It primarily focuses on how it affects employees' job satisfaction, which is mediated by the followership style and allows the research to identify which style is most common among employees, as well as how perceptions of organizational support, which serves as a moderator, interact with the relationship between global leadership and work engagement. Therefore, this study stresses how important it is for global leadership styles to affect employees' opinions, conduct, and level of engagement at work, all of which are influenced by followership types and organizational support. Consequently, it is important to measure how global leadership affects employee engagement at work and understand the critical role that organizational support and various followership styles play.

METHODOLOGY

Researchers select a research method that permits them to identify the goals of a study and answer the research questions (Yin, 2014). A researcher's methodology allows the reader to understand the approach and methods used to reach conclusions (McCombes and George, 2022). Hence, this research methodology will give the research a legitimacy and provides scientifically sound findings. It also provides a detailed plan that helps the proponents to keep the research on track, making the process smooth, effective, and manageable. The methodology of this research is a logical, systematic plan that will resolve the research

Effects of Global Leadership Style on Employee Work Engagement among Sector of Tourist Attractions: Followership Styles as Mediator and Perceived Organizational Support as Moderator

problem. The methodology will detail the researcher's approach to the research to ensure reliable, valid results that address the aims and objectives. It encompasses what data the research is going to collect and where from, as well as how it's being collected and analyzed.

This research adopts a quantitative-analytical research design which aims to study the effects of global leadership style on employee work engagement of the tourist attractions located in Baguio and Benguet as well as how followership style of employee as mediator and perceived organizational support as moderator.

Sample and Sampling Method

A sample is determined as a subdivision of a population that is adapted to study. In truth, it is impossible to examine all members of a particular population. Furthermore, it is wise to select a sample based on a specific population. Knowing the total population is imperative, and the exact sample for the study can determine based on the total population (Mehrad, 2021; Rouzegari, 2013). In this study a voluntary response sampling was made that is mainly based on ease of access. Instead of the researcher choosing participants and directly contacting them, people volunteer themselves by responding to online and administering in-person questionnaires. Hence, the sampling method is a non-probability sample where the respondents are selected based on non-random criteria, and not every individual has a chance of being included.

The present study's sample size originated from population of employees working at a tourist attraction of Baguio and Benguet in the northern region of the Philippines. The questionnaires were sent to the participants as an online and in-person questionnaire. A non-probability sampling was used that involves non-random selection based on convenience, allowing the researchers to easily collect data (McCombes, 2022).

Locale of Study

Data were collected from staff -level employees with nonexecutive job titles of the tourist attraction sector of Baguio that has always been one of the top destinations in the Philippines. Because of its chilly temperature, pine-dominated landscapes, and overall romantic atmosphere, this mountain city has attracted tourists especially in summer and the holidays like Christmas and New Year. In this study, it also includes attractions in the neighboring municipalities like La Trinidad and Tuba of Benguet Province. Despite the fact that Benguet and Baguio are known to have tourist attractions and activities to offer, the research has concentrated on the answers that are easily accessible from the participating tourist attractions, which include 9 attractions in Baguio and 3 in Benguet.

Data Collection

The data collection was assumed as the fundamental part of this study that is designed based on quantitative methods. The objectives of this study called for gathering preliminary data using standardized questionnaires on respondents' backgrounds, their opinions regarding the influence of global leadership styles on employee engagement, followership styles, and organizational support. Bhandari (2022) pointed out that designing a questionnaire means creating valid and reliable questions that address the research objectives, placing them in a useful order, and selecting an appropriate method for administration. Thus, by using pertinent and correct questionnaires, the researcher can contribute to the solution of the research problems. In order to do this, the researcher gives both in-person and online self-administering questionnaires to participants. The information was gathered from October 2022 to November 2022 from employees in Philippine tourism destinations in Baguio and Benguet.

After the data was collected, the next step was to organize the raw data. This was done to clean the collected data that involves identifying and removing inconsistencies that may prevent the research from getting accurate analysis. This step is crucial to ensure that data and the conclusion drawn from the analysis are accurate.

Instrumentation and Measurement

The study is comprised of antecedent, independent, dependent, moderator and mediator variables measured by instruments explained in detail in the following sections. The first section of the instruments is the demographic information of respondents' background. The second section is designed to investigate global leadership styles effects towards employee work engagement; the third section considered examining the mediating followership styles of employees of the selected tourist attraction. Finally, the fourth section measures the organizational support to employees working in tourist attraction as moderator.

The study's antecedent variables included the employee's personal backgrounds: gender, marital status, and work experience in years. The personal backgrounds were determined to determine on how employee work engagement differ across gender and marital status as well as on how organizational support differ based on length of stay in the company.

Effects of Global Leadership Style on Employee Work Engagement among Sector of Tourist Attractions: Followership Styles as Mediator and Perceived Organizational Support as Moderator

The study measured work engagement as a dependent variable and used a detailed questionnaire developed by Bakker and Salanova (2006) entitled "the measurement of work engagement with a short questionnaire: A cross-national study". The questionnaire has 17 items and has a seven-point scale ranging (7- Strongly agree, 6- Agree, 5-Slightly agree, 4- Neither agree nor disagree, 3-Slightly disagree, 2-disagree, and 1-Strongly disagree).

For measuring global leadership styles as independent variables in the study, the work of Glodsmith et.al., (2002) was proposed. This questionnaire included 60 items that scored between 1-7 (7- Strongly agree, 6- Agree, 5-Slightly agree, 4- Neither agree nor disagree, 3-Slightly disagree, 2-disagree, and 1-Strongly disagree) that measured demonstrating integrity, encouraging constructive dialogue, creating a shared vision, developing people, building partnership, sharing leadership, empowering people, thinking globally, appreciating diversity, developing technological savvy, ensuring customers satisfaction, maintaining competitive advantage, achieving personal mastery, anticipating opportunities, and leading change, All of these encompasses global leadership characteristics.

In addition, the work of Kelley (1992) and Eisenberger et.al. (1986) were used to develop questionnaire that measures follower characteristics and perceived organizational support respectively. The structure of questionnaire used for follower characteristics as mediator that was aimed to determine attitude and behavior of employees towards their organization. The questionnaires for follower characteristics consist of 20 items that is a 7-point Likert scale (7-strongly agree, 1-strongly disagree). While the develop questionnaire for perceived organizational support as moderating variable allows this research to study the feelings of employees about their organization. The questionnaire developed for perceived organizational support has 17 items scored from 1-7 (7-strongly agree, 1-strongly disagree).

Data Analysis

The data comprise the basis of the analysis from which the findings of the study will develop in a final report. Data analysis involves working through data to discover common themes and patterns that answer the research question (Grant, 2019; Johnson, 2015; Petty et al., 2012; Yin, 2011). In this study, the data obtained from respondents will be coded, computed, and analyzed by SPSS Trial Version. Descriptive analysis and inferential statistical analysis are the two statistical procedures utilized for data analysis.

A percentage frequency distribution is a display of data that specifies the percentage of observations that exist for each data point or grouping of data points. It is a particularly useful method of expressing the relative frequency of survey responses and other data (Shapiro, 2008). The percentage and frequency distribution were used in the beginning of the data analysis process to determine the demographic profile of the respondents in terms, of gender, civil status, and length of service in the company. In measuring the prevalent global leadership characteristics among the superiors of the respondents conducted in this study, a correlation coefficient tool was used. As mentioned by Bhandari (2022) a correlation coefficient is a bivariate statistic when it summarizes the relationship between two variables, and it's a multivariate statistic when you have more than two variables. Hence, it allows the study to investigate whether changes in one variable are associated with changes in other variables. As to the effect of global leadership on employee work engagement and to measure the mediating effect of the followership styles on the relationship between global leadership and employee work engagement, the study utilizes regression analysis whereas Frost (n.d.) explains that regression analysis models the relationships between a response variable and one or more predictor variables. He further explains that use regression model to understand how changes in the predictor values are associated with changes in the response mean and can also use regression to make predictions based on the values of the predictors.

In this study, to measure the followership style that is most dominant among the respondents, weighted mean and rank was used. It was discussed that weighted average rank does not have the pitfall of treating all keywords the same (McClain, 2020). This metric gives each keyword a certain weight based on its search volume, in this case 7 items from the scale where 1.00 – 1.85 implies never and 6.16-7.00 denotes always, whereas the higher the search volume, the more important that keyword. Meanwhile, in measuring the differences in employee work engagement across followership style, T-test was used to measure significant differences, A t-test according to Bevans (2022) is a statistical test that is used to compare the means of two groups. It is often used in hypothesis testing to determine whether a process or treatment actually influences the population of interest, or whether two groups are different from one another. Moreover, to determine on how employee work engagement differ across gender and civil status, weighted mean was performed first to compare the means of gender and civil status differences. After which T-test was used to find differences on employee work engagement towards followership styles. While to measure perceived organizational support differs based on length of stay in the company, again weighted mean was used to compare the different number of year or length of stay in the company. Using F-test and ANOVA to determine differences in perceived organizational

Effects of Global Leadership Style on Employee Work Engagement among Sector of Tourist Attractions: Followership Styles as Mediator and Perceived Organizational Support as Moderator

support in terms of the length of stay in the company. In ANOVA or analysis of variance, f-tests are frequently used in a statistical capacity to determine the equality of different means when there are three or more groups involved by evaluating the variations both between and within the different groups. ANOVA (Analysis of Variance) uses the f-test when the hypothesis of a set of normally distributed populations with a shared standard deviation have equal means (Frost, n.d.).

Finally, Correlational analysis is used in the study to explore the perceived organizational support interact with the relationship between global leadership and work engagement. The correlation analysis supports describing the association between variables based on their strength and magnitude. Pearson correlation analysis value should have fluctuated between +1 and -1. These two signs illustrate a positive or negative linear correlation. If the r illustrates +1, there is a perfectly positive correlation, but if it shows -1, there is a totally negative relationship between variables. If r close to zero, it means that there is a nonlinear relationship between variables (Taylor, 1990). Besides, Cohen (1988) clarified the rule of thumb where correlation is contributed by r; and explained that the strength of the relation of effect size expressed in terms of r when it is between 0.00-0.19 demonstrates a very weak (small relationship). Also, when r is between 0.20-0.39 shows a weak effect on size; additionally, when r is between 0.40-0.59 indicates a moderate impact, if it is between 0.6-0.79 a strong effect is indicated, and if 0.80-1 it illustrates a very strong effect size (large relationship).

Ethical Considerations

The study requested informed consent, respondents were told on the nature and purpose of the research and any anticipated drawbacks of participation. In addition, explanations were given as to the meaning of the research cannot be hidden behind technical explanations or jargon, and that respondents be allowed to ask questions, and, if they choose, to quit the study. and that all data were anonymous because it never created individualized databases with no personal data. Additionally, before distributing the online and in-person questionnaires, each participating organization's representative briefed the research team on the code of good standards that had been established by the organizations.

RESULTS

Two primary sections represent the study's result. The descriptive statistic is used in the first section to address all important study variables, and inferential statistics are the focus of the second section. The Descriptive findings concentrate on respondents' characteristics and the study's critical variables. In this study, data distribution characterizes employees of the tourist attraction sectors' profile and the variables studied in central tendency. In fact, in the study, Descriptive Analysis was used to explain respondents' background, global leadership styles, employee work engagement, followership style, and organizational support. The respondents' demographic profile results have been reported as a personal profile, and the study's main variables have been reported as a distribution of measures.

For inferential statistics, correlation coefficient tool was used in measuring the prevalent global leadership characteristics among the superiors of the respondents. As to the effect of global leadership on employee work engagement and to measure the mediating effect of the followership styles on the relationship between global leadership and employee work engagement, the study utilizes regression analysis. T-test was used to measure significant differences in employee work engagement across followership style while F-test and ANOVA to determine differences in perceived organizational support in terms of the length of stay in the company. Furthermore, correlational analysis is used in the study to explore the perceived organizational support interact with the relationship between global leadership and work engagement.

Demographic Profile

TABLE 1: Demographic Profile of Respondents

Profile	n	%
Gender		
Male	51	42.86%
Female	68	57.14%
Civil Status		
Single	46	38.66%
Married	73	61.34%
Length of Service		
1 year and below	48	40.34%
2–5 years	33	27.73%

Effects of Global Leadership Style on Employee Work Engagement among Sector of Tourist Attractions: Followership Styles as Mediator and Perceived Organizational Support as Moderator

6-10 years	22	18.49%
11 years and above	16	13.45%

Table 1 summarizes the descriptive traits of the 119 respondents who made up the sample overall and are representative of the tourist attraction sector. As most of the respondents—73 in total—are married, there are more women than men, with a total of 68. When it comes to years of service, the majority have 1 year or less, while those with 11 years or more have 16 overall.

Global Leadership Characteristics

TABLE 2: Global Leadership Characteristics

Characteristics	Mean	DE	Rank
Demonstrating Integrity	5.46	Agree	9
Encouraging Constructive Dialogue	5.60	Agree	5
Creating A Shared Vision	5.40	Agree	10
Developing People	5.55	Agree	6
Building Partnership	5.81	Agree	1
Sharing Leadership	5.67	Agree	3
Empowering People	5.52	Agree	7
Thinking Globally	5.23	Slightly Agree	13
Appreciating Diversity	5.72	Agree	2
Developing Technological Savvy	5.32	Agree	11
Ensuring Customer Satisfaction	5.13	Slightly Agree	14
Maintaining Competitive Advantage	5.23	Slightly Agree	12
Achieving Personal Mastery	5.67	Agree	4
Anticipating Opportunities	5.10	Slightly Agree	15
Leading Change	5.47	Agree	8
Overall Global Leadership	5.46	Agree	

Table 2 shows that based on Ranking, Building Partnership is the most prevalent global leadership characteristics among the superiors of the respondents having a computed of 5.81 weighted mean. Majority of the global leadership characteristics has a good level of agreement except Thinking Globally, Ensuring Customer Satisfaction, Maintaining Competitive Advantage, and Anticipating opportunities that are “slightly agree” or least prevalent as level of agreement.

Global Leadership on Employee Engagement

TABLE 3: Work Engagement

Work Engagement		
13. To me, my job is challenging	6.45	Strongly Agree
14. I get carried away when I am working	5.29	Slightly Agree
15. At my job, I am very resilient, mentally	5.92	Agree
16. It is difficult to detach myself from my job	5.52	Agree
17. At my work, I always persevere, even when things do not go well	5.73	Agree
Overall Work Engagement	5.78	Agree

Table 3 summarizes work engagement of the study as a result respondents believe that their job is challenging with 6.45 weighted mean while being carried away while working has the lowest level of agreement among respondents.

TABLE 4.1: ANOVA, Effect of Global Leadership on Employee Work Engagement

4.1.A. ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	p-value
1	Regression	.132	1	.132	1.051	.307 ^b
	Residual	14.744	117	.126		

Effects of Global Leadership Style on Employee Work Engagement among Sector of Tourist Attractions: Followership Styles as Mediator and Perceived Organizational Support as Moderator

	Total	14.876	118			
4.1.B. Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	p-value
		B	Std. Error	Beta		
1	(Constant)	5.525	.256		21.581	.000
	GL	.048	.047	.094	1.025	.307
4.1.C Model Summary						
Model		R	R Square	Adjusted R Square	Std. Error of the Estimate	
1		.094 ^a	.009	.000	.35498	

Table 4 shows the effect of global leadership style on employee work engagement where the regression is not significant meaning it has no effect/relationship.

4.2.A ANOVA						
Source of Variation	DF	Sum of Squares	Mean Squares	F-value	p-value	Significance
Treatment	14	2.7247	0.195	5.980	0.000	**
Error	45	1.4649	0.033			
Total	59	4.1896				
CV (%)	3.31%			** - highly significant		

The coefficient of variation (CV) is the ratio of the standard deviation to the mean. The higher the coefficient of variation, the greater the level of dispersion around the mean. A low CV indicates that the data and results of an experiment is reliable. As for your data, the CV is low thus results of your experiment are reliable.

There is statistically significant difference among the global leadership characteristics among the superiors.

TABLE 4.2: LSD used in ANOVA

Characteristics	Mean	LSD Posthoc
Demonstrating Integrity	5.46	abcd
Encouraging Constructive Dialogue	5.60	abc
Creating A Shared Vision	5.40	abcd
Developing People	5.55	abcd
Building Partnership	5.81	a
Sharing Leadership	5.67	abc
Empowering People	5.52	abcd
Thinking Globally	5.23	cd
Appreciating Diversity	5.72	ab
Developing Technological Savvy	5.32	bcd
Ensuring Customer Satisfaction	5.13	d
Maintaining Competitive Advantage	5.23	cd
Achieving Personal Mastery	5.67	abc
Anticipating Opportunities	5.10	d
Leading Change	5.47	abcd

Fisher's Least Significance Difference LSD method is used in ANOVA to create confidence intervals for all pairwise differences between factor level means while controlling the individual error rate to a significance level it specifies. The result shows that Building Characteristics is the most prevalent global leadership characteristics among the superiors of the respondents. While Demonstrating Integrity, creating a shared vision, developing people, empowering people and leading change have same characteristics among the superiors.

Effects of Global Leadership Style on Employee Work Engagement among Sector of Tourist Attractions: Followership Styles as Mediator and Perceived Organizational Support as Moderator

Followership Styles

TABLE 5: T-test for followership style

	Mean	Correlation	Significance
Followership Characteristics	5.2786	0.519**	0.000
Employee Work Engagement	5.7855		
Followership Characteristics - Employee Work Engagement	Mean Differences	t	Sig. (2-tailed)
	-0.506895699	-13.892**	0.0000

The table shows that there is a significant difference in employee work engagements and followership characteristics.

TABLE 6.1: Dominant followership style

Questions	Mean	DE	Rank
1. Does your work help you fulfill some societal goal or personal dream that is important to you?	6.41	Always	1
2. Are your personal work goals aligned with your organization's priority goals?	5.34	Almost Always	12
3. Are you highly committed to and energized by our work and organization, giving them your best ideas and performance?	5.92	Almost Always	4
4. Does your enthusiasm also spread to and energize your coworkers?	5.50	Almost Always	10
5. Instead of waiting for or merely accepting what your organizational leader tells you, do you personally identify which activities are most critical for achieving the organization's most important goals?	5.60	Almost Always	9
6. Do you actively develop a distinctive competence in those critical activities so that you become more valuable to your leader and your organization?	5.65	Almost Always	8
7. When starting a new task, do you promptly build a record of successes in tasks that are important to your organizational leader?	5.28	Often	15
8. Can your organizational leader give you a difficult assignment without the benefit of much supervision, knowing that you will meet your deadline with highest-quality work and that you will "fill in the cracks" if need be?	5.81	Almost Always	6
9. Do you take the initiative to seek out and successfully complete assignments that go above and beyond your job?	5.92	Almost Always	4
10. When you are not the leader of a group project, do you still contribute at a high level, often doing more than your share?	6.16	Always	2
11. Do you independently think up and champion new ideas that will contribute significantly to the leader's or the organization's goals?	5.21	Often	16
12. Do you try to solve tough problems (technical or organizational) rather than look to the leader to do it for you?	5.34	Almost Always	14
13. Do you help out other co-workers, making them look good, even when you don't get any credit?	6.05	Almost Always	3
14. Do you help the leader or group see both the upside potential and the downside risks of ideas or plan, planning the devil's advocate if need be?	5.34	Almost Always	12
15. Do you understand the leader's needs, goals, and constraints and then work hard to help meet the leader's needs and goals and work within the leader's constraints?	5.45	Almost Always	11
16. Do you actively and honestly admit to your strengths and weaknesses rather than delay evaluation?	5.71	Almost Always	7
17. Do you make a habit of internally questioning the wisdom of the leader's decisions rather than just			

Effects of Global Leadership Style on Employee Work Engagement among Sector of Tourist Attractions: Followership Styles as Mediator and Perceived Organizational Support as Moderator

doing what you are told?	3.41	Sometimes	19
18. When the leader asks you to do something that runs contrary to your professional or personal preferences, do you say “no” rather than “yes”?	3.40	Sometimes	20
19. Do you act on your own ethical standards rather than the leaders or the group’s standards?	3.96	Sometimes	18
20. Do you assert your views on important issues, even though it might conflict with your group or reprisals from your leader?	4.12	Occasionally	17
Overall Characteristics Followership	5.28	Often	

In table 5 the most dominant followership characteristics is “the importance of their work that helps them fulfill some societal goal or personal dream” having a weighted mean of 6.41 thus majority of the respondents has as a strong disposition on the importance of their work as societal goal or personal dream fulfillment. Also question on “When you are not the leader of a group project, do you still contribute at a high level, often doing more than your share” Has a high level of agreement among the respondents with 6.16 weighted mean. And majority of the respondents has “almost always” level of agreement on questions related to followership styles (2, 4, 6, 8, 9, 12, 13, 14, 15, and 16). While on “often” as level of agreement for question 7 and 11. “occasionally” level of agreement on question 20. While level of agreement as “sometimes” was the measured result for questions 17, 18, and 19.

TABLE 6.2: Followership Style Frequency

Followership Type Frequency		Percent
Follower Type	Frequency	
Exemplary	37	31.09
Pragmatist	10	8.40
Conformist	70	58.82
Alienated	0	0.00
Passive	2	1.68

The distribution of followership among employees of tourist attractions using scoring criteria is shown in Table 6.B. The majority of respondents with 70 in total are Conformist type of follower based on a combination of their responses to the active engagement and critical thinking items from Kelley’s (1992), followed by Exemplary type of follower with 37 in total. The total number of pragmatic followers is lower, at 10. Finally, followers that are passive or alienated have basically nothing, with 2 and 0 respectively.

TABLE 7: Differences in Employee Work Engagements across Followership Style

	Mean	Correlation	Significance
Followership Characteristics	5.2786	0.519**	0.000
Employee Work Engagement	5.7855		
Followership Characteristics - Employee Work Engagement	Mean Differences	t	Sig. (2-tailed)
	-0.506895699	-13.892**	0.0000

The table shows the result on the differences in employee work engagement across followership style whereas there is a significant difference in employee work engagements and followership styles. If a p-value reported from a t test is less than 0.05, then that result is said to be statistically significant. The p-value for the t test for Equality of Means is 0.000, much lower than the p-value significance threshold of 0.05. This tells us that there is indeed a statistically significant difference in the mean.

Employee Work Engagement differ across Gender and Civil Status

TABLE 8: Employee Work Engagements According to Gender

Employee Work Engagements According to Gender						
Questions	Gender	Mean	DE	T- Test Statistic	p-value	Pairwise
1. At my work, I feel bursting with energy	Male	5.57	Agree	-1.335ns	0.185	-
	Female	5.82	Agree			

Effects of Global Leadership Style on Employee Work Engagement among Sector of Tourist Attractions: Followership Styles as Mediator and Perceived Organizational Support as Moderator

2. I find the work that I do full of meaning and purpose.	Male	5.63	Agree	-0.165ns	0.869	-
	Female	5.66	Agree			-
3. Time flies when I am working	Male	6.39	Strongly Agree	-0.123ns	0.902	-
	Female	6.41	Strongly Agree			-
4. At my job, I feel strong and vigorous	Male	5.73	Agree	-0.411ns	0.682	-
	Female	5.79	Agree			-
5. I am enthusiastic about my job	Male	6.22	Strongly Agree	0.543ns	0.588	-
	Female	6.13	Agree			-
6. When I am working, I forget everything else around me	Male	5.96	Agree	0.944ns	0.347	-
	Female	5.81	Agree			-
7. My job inspires me	Male	5.98	Agree	1.252ns	0.213	-
	Female	5.76	Agree			-
8. When I get up in the morning, I feel like going to work	Male	5.31	Agree	0.098ns	0.922	-
	Female	5.29	Agree			-
9. I feel happy when I am working intensely	Male	5.78	Agree	0.464ns	0.643	-
	Female	5.69	Agree			-
10. I am proud of the work that I do	Male	5.96	Agree	1.783ns	0.077	-
	Female	5.63	Agree			-
11. I am immersed in my work	Male	5.45	Agree	-1.264ns	0.209	-
	Female	5.69	Agree			-
12. I can continue working for very long periods at a time	Male	5.69	Agree	0.587ns	0.558	-
	Female	5.57	Agree			-
13. To me, my job is challenging	Male	6.55	Strongly Agree	1.362ns	0.176	-
	Female	6.37	Strongly Agree			-
14. I get carried away when I am working	Male	5.20	Slightly Agree	-0.703ns	0.483	-
	Female	5.35	Agree			-
15. At my job, I am very resilient, mentally	Male	5.94	Agree	0.171ns	0.864	-
	Female	5.91	Agree			-
16. It is difficult to detach myself from my job	Male	5.61	Agree	0.717ns	0.475	-
	Female	5.46	Agree			-
17. At my work, I always persevere, even when things do not go well	Male	5.69	Agree	0.434ns	0.665	-
	Female	5.76	Agree			-
Overall Work Engagement	Male	5.80	Agree	0.459ns	0.647	-
	Female	5.77	Agree			-

Table 8 summarizes the overall work engagement between gender. Male respondents weighted mean resulted to 5.80 while Female at 5.77. The overall employee work engagement according to its p-value is calculated at 0.459 higher than the pvalue significance threshold of 0.05. Hence, we were not able to see significant difference in terms of gender. However. The table shows that male respondents have a higher level of agreement in terms of their attitude towards employee work engagement as compared to female employees.

TABLE 9: Employee Work Engagements According to Civil Status

Employee Work Engagements According to Civil Status						
Questions	Civil Status	Mean	DE	T- Test Statistic	p-value	Pairwise
1. At my work, I feel bursting with energy	Single	5.73	Agree	0.802ns	0.424	-
	Married	5.70	Agree			-
2. I find the work that I do full of meaning and purpose.	Single	5.71	Agree	0.56ns	0.577	-
	Married	5.54	Agree			-
3. Time flies when I am working	Single	6.44	Strongly Agree	0.663ns	0.508	-
	Married	6.35	Strongly Agree			-
4. At my job, I feel strong and vigorous	Single	5.81	Agree	0.62ns	0.536	-
	Married	5.70	Agree			-
5. I am enthusiastic about my job	Single	6.21	Strongly Agree	1.793ns	0.076	-
	Married	6.11	Agree			-

Effects of Global Leadership Style on Employee Work Engagement among Sector of Tourist Attractions: Followership Styles as Mediator and Perceived Organizational Support as Moderator

6. When I am working, I forget everything else around me	Single	5.99	Agree	0.691ns	0.491	-
	Married	5.70	Agree			-
7. My job inspires me	Single	5.90	Agree	-0.712ns	0.478	-
	Married	5.78	Agree			-
8. When I get up in the morning, I feel like going to work	Single	5.25	Agree	-1.827ns	0.070	-
	Married	5.39	Agree			-
9. I feel happy when I am working intensely	Single	5.59	Agree	-0.082ns	0.935	-
	Married	5.96	Agree			-
10. I am proud of the work that I do	Single	5.77	Agree	1.11ns	0.269	-
	Married	5.78	Agree			-
11. I am immersed in my work	Single	5.67	Agree	1.206ns	0.230	-
	Married	5.46	Agree			-
12. I can continue working for very long periods at a time	Single	5.71	Agree	0.648ns	0.519	-
	Married	5.48	Agree			-
13. To me, my job is challenging	Single	6.48	Strongly Agree	-0.76ns	0.449	-
	Married	6.39	Strongly Agree			-
14. I get carried away when I am working	Single	5.22	Agree	-1.327ns	0.187	-
	Married	5.39	Agree			-
15. At my job, I am very resilient, mentally	Single	5.84	Agree	0.984ns	0.327	-
	Married	6.07	Agree			-
16. It is difficult to detach myself from my job	Single	5.60	Agree	-1.041ns	0.300	-
	Married	5.39	Agree			-
17. At my work, I always persevere, even when things do not go well	Single	5.66	Agree	0.474ns	0.637	-
	Married	5.85	Agree			-
Overall Work Engagement	Single	5.73	Agree	0.155ns	0.877	-
	Married	5.70	Agree			-

The overall level of work engagement by civil status is summarized in Table 9. The weighted mean for single respondents was 5.73, while that for married respondents was 5.70. According to its p-value, the overall employee work engagement is 0.155 points greater than the p-value significance level of 0.05. As a result, we were unable to detect any significant differences in terms of civil status. However, the table demonstrates that, in comparison to employees who are married, single respondents agree more strongly with attitudes about employee work engagement.

Perceived Organizational Support differ based on Length of Stay in the Company

TABLE 10: Perceived Organizational Support differ based on Length of Stay in the company

Perceived Organizational Support According to Length of Stay in Company						
Questions	Length of Stay	Mean	DE	F	p-value	Pairwise
1. The organization values my contribution to its well-being	1 year and below	5.48	Agree	0.443ns	0.723	-
	2-5 years	5.24	Slightly Agree			-
	6-10 years	5.36	Agree			-
	11 years and above	5.31	Agree			-
2. If the organization could hire someone to replace me at a lower salary it would do so (R)	1 year and below	4.85	Slightly Agree	0.162ns	0.922	-
	2-5 years	4.64	Slightly Agree			-
	6-10 years	4.68	Slightly Agree			-
	11 years and above	4.69	Slightly Agree			-
3. The organization fails to appreciate any extra effort from me (R)	1 year and below	3.88	Neither Agree Nor Disagree	1.124ns	0.342	-
	2-5 years	4.03	Neither Agree Nor Disagree			-
	6-10 years	3.27	Slightly Disagree			-
	11 years and above	3.88	Neither Agree Nor Disagree			-
4. The organization strongly considers my goals and values	1 year and below	3.71	Neither Agree Nor Disagree	0.179ns	0.911	-
	2-5 years	3.61	Neither Agree Nor Disagree			-
	6-10 years	3.45	Slightly Disagree			-
	11 years and above	3.63	Neither Agree Nor Disagree			-
	1 year and below	3.54	Neither Agree Nor Disagree	1.042ns	0.377	-
	2-5 years	3.61	Neither Agree Nor Disagree			-

Effects of Global Leadership Style on Employee Work Engagement among Sector of Tourist Attractions: Followership Styles as Mediator and Perceived Organizational Support as Moderator

5. The organization would ignore any complaint from me (R)	6-10 years	3.05	Slightly Disagree			-
	11 years and above	3.00	Slightly Disagree			-
6. The organization disregards my best interests when it makes decisions that affect me (R)	1 year and below	3.44	Slightly Disagree	0.820ns	0.486	-
	2-5 years	3.88	Neither Agree Nor Disagree			-
	6-10 years	3.50	Slightly Disagree			-
	11 years and above	3.44	Slightly Disagree			-
7. Help is available from the organization when I have a problem	1 year and below	4.71	Slightly Agree	0.039ns	0.990	-
	2-5 years	4.64	Slightly Agree			-
	6-10 years	4.73	Slightly Agree			-
	11 years and above	4.75	Slightly Agree			-
8. The organization really cares about my well-being	1 year and below	5.79	Agree	1.950ns	0.125	-
	2-5 years	5.27	Slightly Agree			-
	6-10 years	5.73	Agree			-
	11 years and above	5.94	Agree			-
9. The organization is willing to extend itself in order to help me perform my job to the best of my ability	1 year and below	5.52	Agree	0.199ns	0.897	-
	2-5 years	5.52	Agree			-
	6-10 years	5.41	Agree			-
	11 years and above	5.31	Agree			-
10. Even if I did the best job possible, the organization would fail to notice (R)	1 year and below	3.23	Slightly Disagree	0.191ns	0.902	-
	2-5 years	3.39	Slightly Disagree			-
	6-10 years	3.18	Slightly Disagree			-
	11 years and above	3.44	Slightly Disagree			-
11. The organization is willing to help me when I need a special favor	1 year and below	4.98	Slightly Agree	1.276ns	0.286	-
	2-5 years	4.94	Slightly Agree			-
	6-10 years	4.32	Neither Agree Nor Disagree			-
	11 years and above	5.00	Slightly Agree			-

The perceived organizational support differs based on length of stay in the company is summarized in Table 9. The weighted mean for respondents with 1 year and below year of stay was 4.50, while that for 2-5 years among respondents was 4.48, for 6-10 years of services among respondents was 4.39, and respondents with 11 years and above length of stay was 4.43. According to its p-value, the overall perceived organizational support is 0.804 points greater than the p-value significance level of 0.05. As a result, we were unable to detect any significant differences in terms of length of stay. However, the table demonstrates that, in comparison to employees who have 1 year and below length of stay has higher level of agreement towards perceived organizational support at 4.5 weighted mean. Moreover, respondents with 11 years and above length of stay shows the lowest level of agreement towards perceived organizational support at 4.43 weighted mean.

Effect of Followership Styles on Relationship Between Global Leadership and Employee Work Engagements

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	p-value
1	Regression	6.207	2	3.103	21.389	.000 ^b
	Residual	16.831	116	.145		
	Total	23.038	118			

There is a highly significant relationship of followership characteristics and employee work engagement *only work engagement since in the coefficients table, it determines not significant/no relationship

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.519 ^a	.269	.257	.38091

There is moderately strong significant correlation.

Effects of Global Leadership Style on Employee Work Engagement among Sector of Tourist Attractions: Followership Styles as Mediator and Perceived Organizational Support as Moderator

Followership Characteristics explains 26.90% on work engagement.

TABLE 11: Effect of Followership Styles on Relationship Between Global Leadership and Employee Work Engagements

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	p-value
		B	Std. Error	Beta		
1	(Constant)	1.533	.613		2.500	.014
	GL	.002	.050	.003	.039	.969
	WE	.646	.099	.519	6.507	.000

Followership Characteristics = 1.533 + 0.02 (Global Leadership) + 0.646 (Work Engagement). Global Leadership is not significant or no relationship

with followership characteristics, so it is not part of the regression model. New model: Followership Characteristics = 1.533 + 0.646 (Work Engagement). A slope of 0.646 represents the estimated change in followership characteristics for every increase of one of work engagement.

Table 11 answers the mediating effect of the followership styles on employee work engagement whereas an estimated change in followership characteristics for one increase in work engagement. Furthermore, the effect of followership characteristics is 0.646 in work engagement but nothing in global leadership with .002. Since the higher the coefficient of variation, the greater the level of dispersion around the mean and the lower the value of the coefficient of variation, the more precise the estimate.

Perceived Organizational Support interact with the relationship between Global Leadership and Work Engagement

TABLE 12: Perceived Organizational Support interact with the relationship between Global Leadership and Work Engagement

Perceived Organizational Support Interact to Global Leadership			
Perceived Organizational Support		Correlation Coefficient	p-value
Global Leadership	0.016ns	No Correlation	0.860
Work Engagement	0.244**	Weak	0.008

Table 12 shows that there is no relationship of perceived organizational support to global leadership as the measured p-value is .860. Work engagement on the other hand has a significant positive weak correlation/relationship with organizational support with measured p-value of 0.008. Moreover, if the work engagement increases, the organizational support also increases.

SUMMARY OF RESULTS

In this study, 119 respondents working in tourist attraction in Baguio and Benguet, Philippines, completed the online and in-person questionnaire that evaluated personal background, global leadership styles, employee work engagement, followership style, and perceived organizational support.

The study assessed the demographic background of the respondents according to gender, marital status, and length of stay in the organization to find the most prevalent global leadership characteristics among superiors. Among these characteristics, building partnership is the most prevalent global leadership characteristics. On the contrary, the findings revealed a Thinking Globally, Ensuring Customer Satisfaction, Maintaining Competitive Advantage, and Anticipating opportunities that are the least prevalent among the global leadership characteristics. Meanwhile, the effect of global leadership on employee work engagement has indicated that respondents believe that their job in the attraction sector is challenging as situation where employees are carried away while working has the lowest level of agreement among respondents.

The study however, revealed that global leadership styles have no significant effect on employee work engagement. Nevertheless, the study was able to show a significant difference in employee work engagement and followership style. Additionally, the dominant followership style that was carried among respondents is the belief that their work in the attraction sector helps them fulfill some societal goal or personal dream that is important to them.

Also, the result of employee work engagement according to gender and civil status did not show significant difference. Still the study was able to identify that male respondents have a higher level of agreement in terms of the attitude towards employee work engagement as compared to female employees. In addition, the study demonstrates that, in comparison to employees who are married, single respondents agree more strongly with attitudes about employee work engagement. As to the perceived organizational support differs based on length of stay in the company, the study was unable to detect

Effects of Global Leadership Style on Employee Work Engagement among Sector of Tourist Attractions: Followership Styles as Mediator and Perceived Organizational Support as Moderator

any significant differences in terms of length of stay. Nevertheless, employees who have 1 year and below length of stay has higher level of agreement towards perceived organizational support while 11 years and above length of stay shows the lowest level of agreement towards perceived organizational support.

While the mediating effect of the followership styles on employee work engagement whereas an estimated change in followership characteristics for one increase in work engagement. Furthermore, the effect of followership characteristics has significant relationship in work engagement but nothing in global leadership.

Furthermore, the study shows that there is no relationship of perceived organizational support to global leadership. However, Work engagement on the other hand has a significant positive weak correlation/relationship with organizational support.

DISCUSSION

The results of the quantitative analysis of the effects of the global leadership style on employee work engagement among sectors of the tourist industry in Baguio and Benguet, the Philippines, are discussed in this section of the study. Followership styles are discussed as a mediator and perceived organizational support is discussed as a moderator.

Demographic information provides data regarding research participants and is necessary for the determination of whether the individuals in a particular study a representative sample of the target population for generalization purposes are (Lee & Schuele, 2010). Usually, demographics profiles in this study are reported in the methods section of the research report and serve as independent variables in the research design.

The study's findings showed that building partnership is the most prevalent global leadership characteristics in attraction sector. This result has conformed to the work of Mendenhall, et al, (2012) that Global leaders are individuals who effect significant positive change in organizations by building communities through the development of trust and the arrangement of organizational structures and processes in a context involving multiple cross-boundary stakeholders, multiple sources of external cross-boundary authority, and multiple cultures under conditions of temporal, geographical and cultural complexity. Highlighting the vitality of developing trust in building partnership Myrcick (2015), that the value of colleagues being able to collaborate and create strong partnerships should not be understated. Trust and loyalty built during the process reciprocate to a team environment of respect for individual ideas and create internal motivation, which is huge in keeping business moving forward.

The results of this study and other investigations allow us to draw the conclusion that global leadership qualities play a significant impact in the ability to work with people from a variety of backgrounds, knowing that their perspectives and behaviors are influenced by their values and are just as important as the leaders' own; and in this research amongst employees who were working in tourist attraction sector. Characteristics of Global Leaders can appear as organizational culture and assumed as internal factor. Leaders, managers, or supervisors play an essential role in selecting and performing each of these attributes based on the work situation, directly and indirectly affecting the feeling, attitude, performance, etc., of employees. Besides, this study's findings can explain which attributes can improve and increase the health organizations' strategies and knowledge in the tourist attraction context.

The identified global leadership characteristics with high level of agreement such as, Demonstrating Integrity, Encouraging Constructive Dialogue, Creating A Shared Vision, Developing People, Building Partnership, Sharing Leadership, Empowering People, Appreciating Diversity, and Developing Technological Savvy should be practiced with consistency that prevents uncertainty. Consequently, being a consistent leader means that the team can rely on their leader to carry out commitments and act in a just manner. To the contrary, global leadership characteristics such as Thinking Globally, Ensuring Customer Satisfaction, Maintaining Competitive Advantage, Achieving Personal Mastery, Anticipating Opportunities, Leading Change should have continuous development and improvement in order to boosts employee morale, increases the organization's ability to deal with gaps in the talent pipeline, and reduces the problems and costs associated with turnover.

It is unfortunate that global leadership styles have no significant effect on employee work engagement among employees in tourist attraction sector. However, this opens the door for future research or more research may be needed to reconcile these differences and help shed more light on the topic.

Nevertheless, there is statistically significant difference among the global leadership characteristics among the superiors of the respondents. Building Characteristics is the most prevalent global leadership characteristics among the superiors of the respondents while Demonstrating Integrity, creating a shared vision, developing people, empowering people and leading change have same characteristics among the superiors. It can be argued that employees in the tourist attraction, character typically shows through acting with respect, integrity, and ethical behavior. Hence, respectful behavior is fundamental to a productive and engaged workplace. The ability to show respect regardless of how they feel in the moment will flow from a commitment to treating all others as the way they want to be treated.

Effects of Global Leadership Style on Employee Work Engagement among Sector of Tourist Attractions: Followership Styles as Mediator and Perceived Organizational Support as Moderator

The findings of this research that there is a significant relationship in employee work engagement and followership style among employees of tourist attraction sector. The findings support previous work done by Pietraszewski (2020) that effective followers have an idea of how to do something that will require more than just their own individual efforts, then they will have to communicate this proposal and ideas to others to create a dynamic and engaging organization. The respondents who are employees working in tourism sector can be work engaging, their effective followership style that is related to fulfilling some societal goal or personal dream that is important to them was particularly investigated in this study to be the most dominant among the respondents.

The followership style of learning the importance of goal setting and the benefits of sticking to those goals in the workplace can be the defining factor determining whether employees in the tourist attraction sector truly embrace the importance of goal setting. The more willing this employee to embrace this method, the more likely they become to reach personal and societal success.

The significant relationship in employee work engagement and followership style was consistent with the study of Blanchard (2009) that individuals who demonstrate active engagement go above and beyond expectations, proactively participate in activities, and provide high-quality work. Moreover, the result found out that employees of the tourist attraction sector are conformist followers. As mentioned by Novikov (2016) that in the study of Kelley (1992), the conformist variable epitomizes a follower style that is low in critical thinking and high in active engagement dimensions. According to the summary of follower characteristics findings, the great majority of respondents has active engagement where they have high level of agreement to contribute at a high level, often doing more than what they share, they also take the initiative to seek out and successfully complete assignment that go above and beyond their job and are highly committed to and energized by their work and organization. While the respondents have a lower agreement on the habit of internally questioning the wisdom of the leader's decisions, acting on their own ethical standards rather than the leaders or the group's standards, and they rather say "no" than "yes" if the leader ask them to do something that run contrary their professional or personal preferences.

In terms of employee work engagement, gender and civil status did not significantly differ from one another. However, the study was able to show that, in comparison to female respondents, male respondents have a higher level of agreement in terms of the attitude toward employee work engagement. Also, the study shows that single respondents agree more strongly with sentiments about employee work engagement than married respondents do.

Conferring the result on gender, that most men tend to be more competitive than women and are more likely to be physically engaged in their job showing more resiliency and mentally able, they are more willing to work for a longer period of time since the job inspire them more, and that they are happier and prouder of the work they do. Therefore, it is important that organizations promote a positive and competitive climate for their male and more specifically to female employees to meet desired engaged behavior. Female, on the other hand, tend to be more social, they develop emotional engagement at work from other work relationships for they feel bursting with energy, more enthusiastic, immersed in their job, and always persevere even things do not go well when their supervisor adequately supports them.

However, interestingly compared to married workers, single employees are more likely to be engaged in their work where they have a high level of agreement on their job as challenging, and that they are more enthusiastic where they feel they need more time to perform their job. Hence, factors should be considered for married employees as their social life are transformed, whereas they spend less time with friends and work and more time with family.

Employees who have 1 year and below length of stay has shown a higher level of agreement towards perceived organizational support while 11 years and above length of stay shows the lowest level of agreement towards perceived organizational support. Employees with 1 year and below length of stay in the organization concur to the idea that the organization values their contribution and well-being in the organization, as well as a strong consideration of their goals and values, and that the organization is willing to help them when they need special favor. While results for employees in the tourist attraction sector of 11 years and above length of stay has shown little level of agreement towards perceived organizational support compared to those employees stayed in the organization for below 11 years. It can therefore be argued that length of stay in the organization can impact the perceived organizational support of the organization.

The conformist employee in the tourist attraction sector has significant relationship in work engagement. The result confirms the idea that employees tend to show more enthusiasm and engagement towards their job as compared to their critical thinking. Existing literature like Kaur & Mittal (2020) also supports the notion that when employees experience meaningfulness of work, it fosters organizational performance and increase employee engagement. Hence, the result has validated that employee engagement and followers' commitment are important for the growth and development of an organization that endeavors to develop and inculcate engagement at work.

Effects of Global Leadership Style on Employee Work Engagement among Sector of Tourist Attractions: Followership Styles as Mediator and Perceived Organizational Support as Moderator

As for followership towards global leadership it was found out that there was no significant difference. Despite this result, it can be reasoned out that even without the influence of global leadership style, employees in the tourist attractions can still be highly engaged in their work.

Furthermore, the study on organizational support interacts with work engagement shows a significant positive weak correlation/relationship. Nonetheless, employees in the tourist attraction still rely on organizational support to increase work engagement. We agree with Robinson et al (2004) that the organization must work to nurture, maintain and grow engagement, which requires a two-way relationship between employer and employee. This two-way relationship is based on effective and constructive feedback. As well as Luthans and Peterson (2002) who argue that managers must create an engaging environment for their employees, both emotionally and cognitively. Managers should show empathy and concern for their subordinates, while explaining and properly communicating the purpose of their work and focusing on their benefits to the business. As a result, the healthier and stronger the relationship between employees and managers is, the more employees will be involved and the more likely they will provide positive results and support to their managers.

LIMITATION OF THE STUDY

This study has several limitations that should be addressed in future research. Initially, study limitation concerns the study sample size ($n = 119$). Although the sample size was considered reasonable for inferential analysis, it is recommended that the study be replicated with a larger sample size. Replication should also consider small size attractions, which was avoided with this study involving tourist attraction with less than 10 employees. The study has recognized and considered the fact that certain tourist destinations were also reluctant to share internal company information, hence, there are tourist attraction that was not covered in this study. It is safe to assume that the research findings might differ if data has covered all tourist attraction of the place of study.

Also, this study was conducted in Baguio and selected municipalities of Benguet, the cultural background of the study was mostly Cordilleran's, which is a more conservative culture than other regions of the Philippines specially highly urbanized cities like Manila, Cebu, and Davao that tend to be more of somewhat conventional cultures. Hence, future studies should engage participants from various regions to enrich the validity of the study outcomes. Our findings can inspire further research to use a temporal design to conduct replication studies but also to employ all constructs of the study measuring each time point via crosslagged panel models (Hamaker et al., 2015) to estimate the directional effects among variables over time.

Finally, the types of tourist attractions to which the participating respondents belong were homogeneous; all of the respondents work in man-made attractions; other types of attractions, such as natural tourist attractions, sports tourist attractions, and event tourist attractions, were not included. As a result, researchers should think about integrating all different types of tourist attractions in their future work because doing so can produce interesting findings that can provide meaningful contribution to the tourism industry.

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Application and Validation of the Proposed Methodology Supported by Information and Communication Technologies in the Preuniversity Level



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SUMMARY: The work is carried out due to the need for improvements in the subjects of a second language, such as English, in the study center where the research has been carried out. For such purposes, an application and validation of the methodology that has been proposed in Information and Communication Technologies (ICT) as a mediating instrument in the teaching and learning of a non-native language has been proposed, to encourage students through the technology to engage students in the interest of learning a second language and a change in teachers in innovating their teaching practices taking advantage of the resources they have in the school.

This research aims to describe the knowledge developed by the director of the study from the approach of the problem to the creation of a utility that can positively satisfy the complications through methodological executions, statistical analysis, theoretical investigations, conclusions, recommendations, among others, proposed by the research developer.

KEYWORDS: Methodology, proposal, ICT, educational software

INTRODUCTION

Technological and scientific advances, changes and innovations in the economy, give new forms to the various scientific instructions that gradually lead to a new prototype of society, working conditions, mechanisms to disseminate information, among others. On the other hand, these transformations project vital changes in people, who require an innovative educational approach.

The conditions presented by technology manifest the disclosure of data and insights in communication by applying and validating methods proposed for the training of students. For its application, validation and application are encouraged to achieve the objectives, promote the modernization of teachers to exercise their role as guides and motivators of the teachings in the students.

Application and Validation of the proposed Methodology based on Information and Communication Technologies through Colimpi English Class

The research process carried out, whose results are shown in this thesis, by putting into practice actions in the novel context of the development of soft skills in students, in the elementary basic education of the Liceo Morayma Veloz de Báez Educational Center

It underwent a validation process, through the assessment of the practical results obtained by applying the methodology, reflected in the statistics and the criteria of the main actors of the methodology applied in the center under study.

This chapter describes the plan of activities designed for teacher training, which is essential for the introduction of the proposed methodology and serves as the basis for its generalization to other centers.

To validate the results obtained and thus achieve the enrichment of the methodology, a quasi-experiment was carried out and the main sources involved were verified: teachers, managers, employers and relatives of the students, in addition to the assessment by experts on the conception, structure and results of the strategy.

Plan of activities for the Training of Teaching Staff to apply the Methodology for the development of Linguistic Competence

As was verified in the diagnosis made, teachers must acquire special training to understand the scope of the actions included in the strategy and obtain the results proposed in the research. This is also a premise for the generalization of the methodology in other educational institutions. The activity plan is organized and is oriented towards the development of linguistic competence

Application and Validation of the Proposed Methodology Supported by Information and Communication Technologies in the Preuniversity Level

using technology as a tool. The plan contemplates several phases where the teacher is trained in the management of the methodology of the COLIMPI GOOGLE CLASS course to contribute to the development of the linguistic competence of the English language as a foreign language.

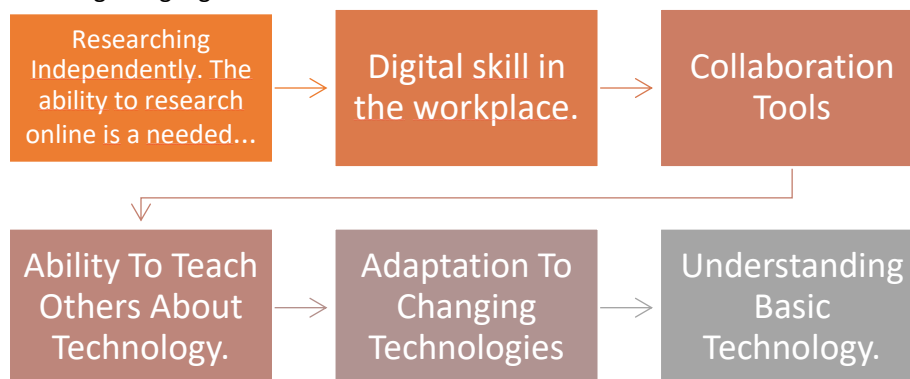


Figure 2. determining components that are involved in lesson planning activities the transfer process t
(Source: Own elaboration based on the work of Feixas et al. (2013)).

The characteristics of education in the 21st century are addressed, the characteristics of learning from an early age are explained, they are trained in the use of technology and workshops on learning theories are offered. Workshops are held on Collaborative Learning, Problem-Based Learning, Project-Oriented Learning and Case-Based Learning, among others. The processes of how to design resources to integrate formal learning and informal learning are analyzed and methods are explained to use the flipped classroom concepts in the development of soft skills in girls and boys.



Figure 3. determining components that are involved in the transfer process t
(Source: Own elaboration based on the work of Feixas et al. (2013)).

Ortega, Febles, & Estrada (2019) refer that teachers need much more support and incentive than they have been given to date for the use of technology in teaching and learning. The author of the research agrees with this criterion and considers that it is currently essential that the teacher has the necessary preparation to be able to guide the students in the learning process with the support of ICT. The good use of technology must be an aspect to evaluate its development, its way of acting, its degree of updating. Educational practice is essential to use technology in the teaching-learning process, that is, training in educational practice is required, not only in the technical aspect.

The conformation of the plan of activities for the preparation of teachers is based on the analysis of the theoretical reference framework where national and international trends are investigated on the development of linguistic skills in learning English as a foreign language. Research that pays special attention to the relationship between training actions and the desired impact is also taken as a reference, which takes into account not only the teacher but also the institution and the students (product). In this, the degree of application of what has been learned is fundamental, that is, the transfer of knowledge.

Application and Validation of the Proposed Methodology Supported by Information and Communication Technologies in the Preuniversity Level

The transit of the teacher training process and the degree of application of what has been learned, which depends on a series of elements that favor and hinder this change, is known as transfer (Ortega, 2017)

Studies on the transfer of teacher training are very new. They seek to study the changes in behavior associated with an improvement in job performance and have a sustainable effect. The following figure shows the basic components that determine the transference of teacher training and in particular with regard to the development of language skills.

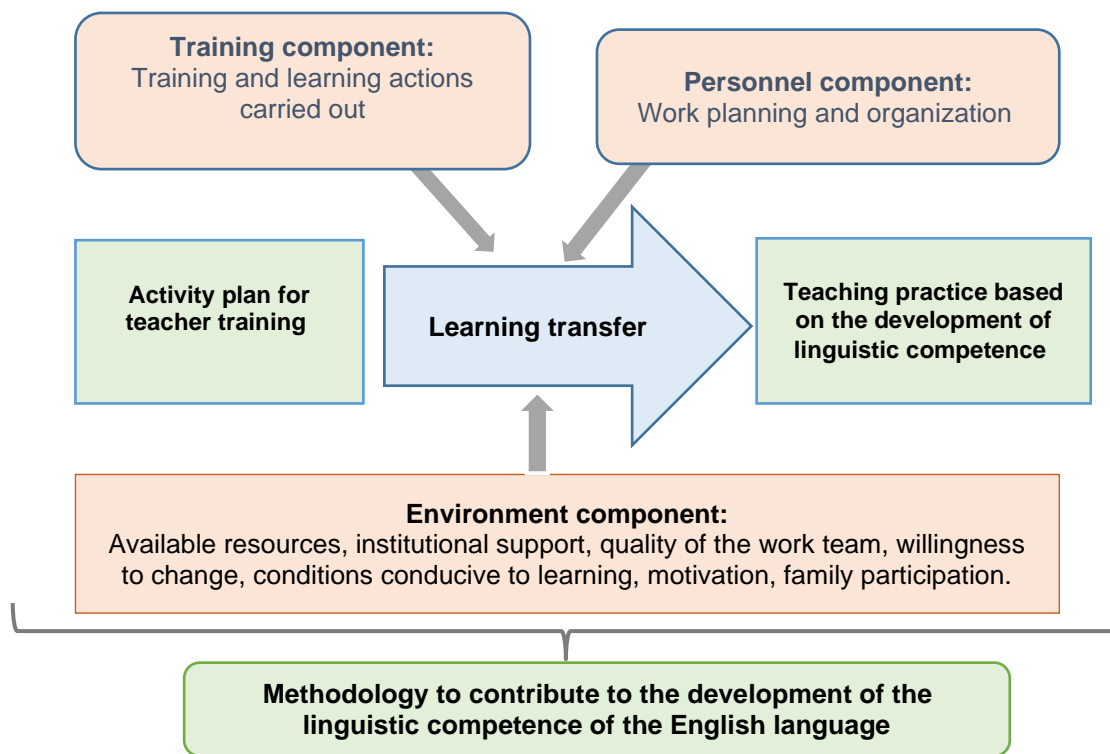


Figure 5. Basic components that determine the transference of teacher training. (Source: Own elaboration based on the work of Feixas et al. (2013)).

The effectiveness of the teacher training plan is related to the validation of the results obtained with the application of the methodology.

In the diagnosis carried out at the Liceo Morayma Veloz de Báez Educational Center, the main limitations in the preparation of teachers were determined, especially in relation to what was proposed by UNESCO (2008) on the standards of ICT skills for teachers and in UNESCO (2013) referring to strategic approaches to ICT in education in Latin America and the Caribbean, which was taken into account in the design of the plan of activities for the training of teachers.

The following cycles are defined in the plan of activities for the training of teaching staff:

Cycle 1: Diagnosis

- Determination of the training needs of those involved in the methodology for the development of language skills.
- Accuracy of the training objectives integrating the criteria of managers and what is established in the curricular documents of the Dominican Republic, which includes literacy with the use of ICT (development of didactic skills, communication, tutoring and work with the TIC).
- Conformation of the most viable alternatives, in the case of each teacher, to achieve real advances in their preparation on the development of linguistic competence with integration to technology.
- Design individual commitment for each teacher, which includes the activities for the fulfillment of the actions included in the proposed methodology.

Cycle 2: Definition of training actions

Design, implementation and development of training activities for teachers, especially for the integration of ICT in English classes through COLIMPI ENGLISH CLASS in the three stages:

Application and Validation of the Proposed Methodology Supported by Information and Communication Technologies in the Preuniversity Level

1. The PRE-ACTIVE stage focuses on preparing to carry out the actions foreseen in the strategy, which includes: planning the training activities and defining and updating the contents of the programs; prepare or select notes, teaching materials and training activities tailored to the learning needs of students at the secondary level of pre-university education; locate web pages, bibliography, videos and other materials of interest; identify software that will be used in the classroom and prepare materials that will be suggested to students to study at home.
2. The ACTIVE stage is part of the development of training activities. At this stage, the support of ICTs is increasingly essential: educational games, digitized stories, short videos to develop motivation, as well as skills to locate information. Given the age of these students, it is recommended to use anecdotes and stories that are socialized and analyzed among teachers and then used in class. Teachers should easily master working with concept maps, mental maps, as well as group work techniques: brainstorming, focus group, collective evaluation and co-evaluation. A practical workshop course with these tools is contemplated for the active stage.
3. In the final or POST-ACTIVE stage, ICT should be used to carry out complementary activities to exchange between teachers online or using other web 2.0 facilities. Create a blog, build or manage a Webquest with concepts associated with the first cycles of pre-university education, manage authoring tools, create didactic videos that will be used in the ways suggested by the flipped classroom, proposals for learning objects, among others.

Cycle 3: Development of workshops and seminars

The purpose of this Cycle is to share experiences on the development of language skills in learning English as a foreign language at the pre-university level, emphasizing the importance of collaborative and team work, communication and work with ICT. It should also be used to collectively analyze and evaluate the educational resources that have been created.

Cycle 4: Follow-up

In this cycle, the results achieved after having completed the application of the previous cycles are evaluated and decisions are made in accordance with the result of the evaluation. All cycles have as an essential condition to achieve a climate of communication and participation by teachers, so that they acquire skills in a similar way to how they are desired to be acquired by students who are enrolled in the first cycles of elementary basic education. A summary of this plan of activities for the training of teaching staff is presented in Figure 3.2.

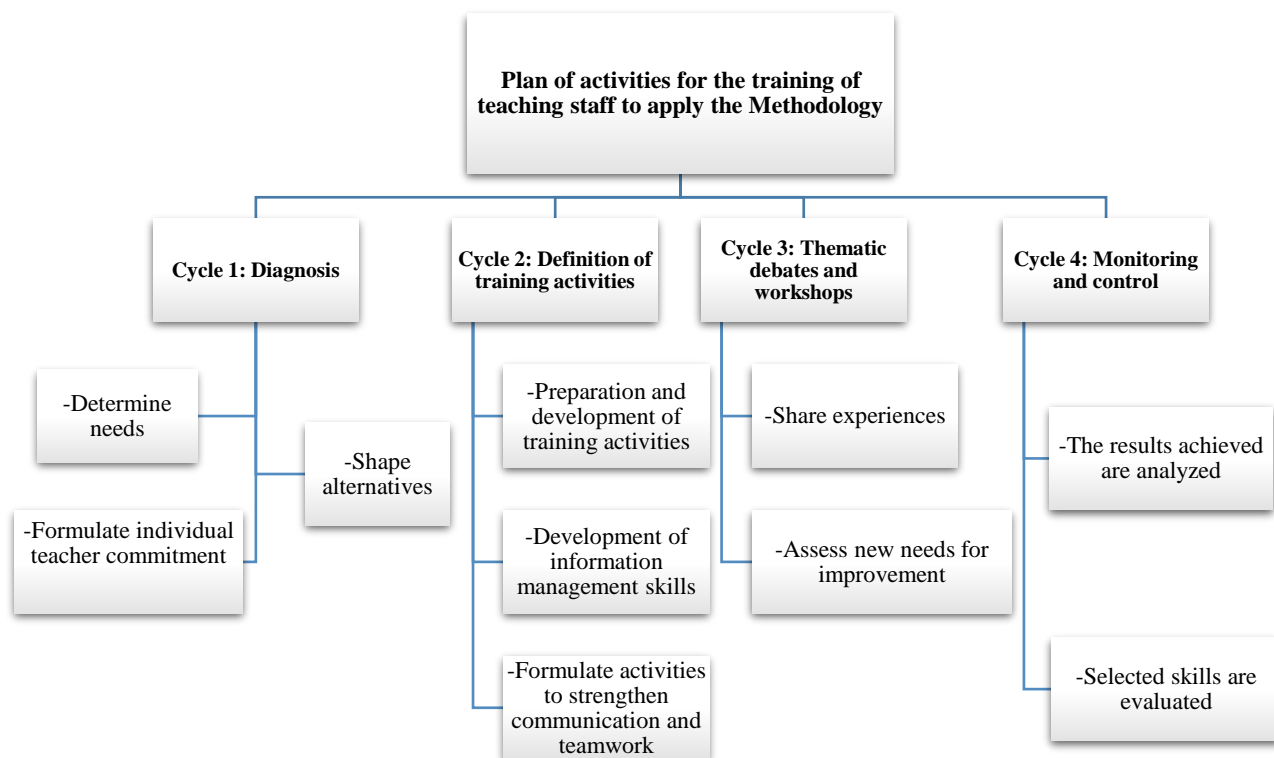


Figure 6. Summary of the plan of activities for the training of teaching staff.

Application and Validation of the Proposed Methodology Supported by Information and Communication Technologies in the Preuniversity Level

RESULTS VALIDATION

For the validation of the results, the research methods and techniques shown in the following figure were used.

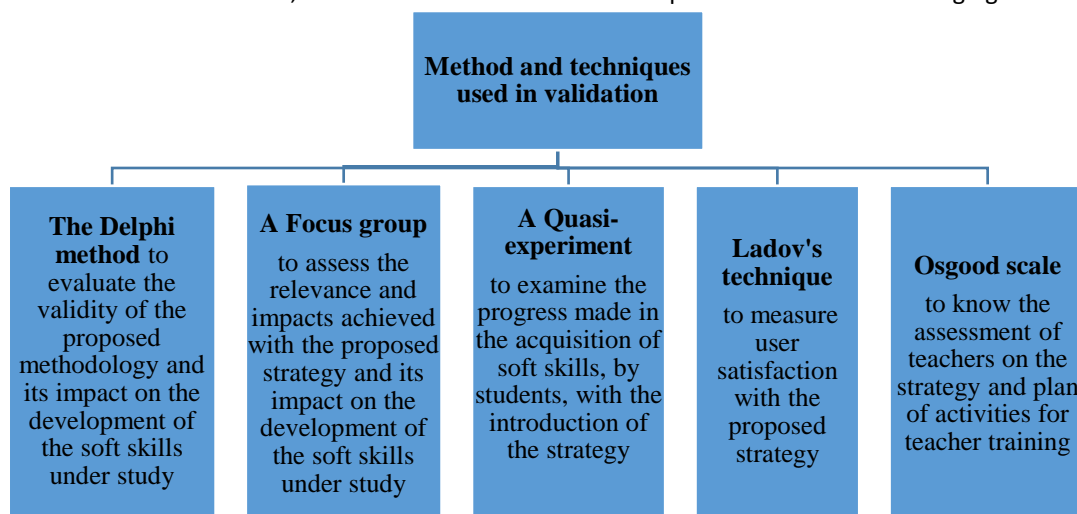


Figure 7. Methods and techniques used in the validation of the proposed methodology through colimpienglishclassroom and google classroom

DELPHI METHOD

The Delphi method is based on a technique developed at the beginning of the 50s of the 20th century, it is a consensus technique that is part of the qualitative methodology. It is a sociological research technique that belongs to the type of in-depth group interview. Interviews make it possible to collect information and subjective aspects of people: beliefs, values, opinions or knowledge that would otherwise be difficult to obtain. Similarly, they involve group communication meetings between the researcher and the informants, aimed at understanding the perspectives that the informants have about the subject under investigation.

The Delphi method has been used in several specialties to know and assess the criteria of experts, particularly in education where important contributions have been made. For the validation of the proposed strategy, this method was applied, whose use is quite common in the field of educational research, according to several authors among them.

Delphi is a structured methodology to systematically collect expert judgments on a problem, process the information and, through statistical resources, build a general group agreement. It allows the transformation during the investigation of the individual assessments of the experts into a superior collective judgment (Aponte & Cardozo, 2012).

For the elaboration of the questionnaire to be applied to the experts, the criteria that are listed below were used and that obey the need to know about the relevance of developing the linguistic competences of the English language as a foreign language at the pre-university level as a consequence of the methodology previously developed for this purpose and with the support of technology.

- 1) Importance of developing linguistic skills in English as a foreign language.
- 2) The need to have a methodology to guide the development of language skills from an early age (with the integration of formal and informal learning).
- 3) Feasibility of applying the developed methodology.
- 4) Quality of the methodology.
- 5) Perception of the progress obtained once the methodology has been applied.

The validation process has two stages: an initial stage of the selection of experts, and a second, in which the experts evaluate the elements under investigation.

a) Selection of experts

In this stage, the experts are selected from a group of potential experts, which in this case were 25.

The selection of the experts was determined by the competence coefficient (K) based on the self-assessment of the competence criterion using the formula:

$$K = \frac{1}{2}(K_c + K_a)$$

Application and Validation of the Proposed Methodology Supported by Information and Communication Technologies in the Preuniversity Level

In the formula, the variable K_c represents the coefficient of knowledge that the person has about the problem (based on her criteria). It is calculated from the assessment made by the expert himself on a scale of 0 to 10 (0 represents that the expert has no knowledge of the subject and 10 expresses that he has a complete assessment of it). According to his self-assessment, the expert places his competence at some point on this scale and the result is multiplied by 0.1 to take it to the scale from 0 to 1.

The argumentation coefficient (K_a) that estimates, based on the expert's own analysis, the degree of substantiation of his or her criteria. To determine this coefficient, the expert is asked to locate the degree of influence (high, medium, low) that each of the sources has, according to his or her criteria. It is obtained by calculating the sum of the points calculated from the answers given in the filling made by the person of a pattern table.

This evidences the result of their knowledge coefficient (K_c) on the subject submitted for their consideration and the argumentation coefficient (K_a) (Annex 5).

To calculate the Competence Coefficient (K), the sum of the Knowledge Coefficient (K_c) and the Argumentation Coefficient (K_a) values is multiplied by 0.5.

The value obtained in K is taken as a reference to determine the Levels of Competence (NK) (Annex 5), for which:

$K \geq 0.8$ is considered the High NK;

If $0.5 < K < 0.8$, it is considered the Medium NK;

$K < 0.5$ is considered the Low NK.

Of the 25 experts consulted, five were discarded for having a low level of competence ($K < 0.5$) (Annexes 5). The average competence coefficient of the experts consulted is 0.8, which corresponds to a high level of competence ($K \geq 0.8$), for which the experts consulted with a high level of competence were also taken into account for selection of medium competence ($0.5 < K < 0.8$).

In Annex 5, tables a, b, c, d and e are presented, which contain the data of the application of the method for the selection of experts.

Finally, 20 professionals were selected as experts, all with a high level of competence (Annex 6).

b) Evaluation of the elements under investigation

In this stage, necessary empirical information is managed from the subjects selected as experts (20). These were given a document that contained the fundamental elements of the investigation and a questionnaire (Annex 7), where the proposal was submitted to the assessment of each one. Two rounds were necessary because the first did not offer the necessary elements to reach a consensus. The results of the two rounds applied in the survey provided a summative evaluation between Very adequate and quite adequate, as shown in table f of Annex 7.

The application of the Delphi method and the results obtained confirmed the need to develop the linguistic skills of the English language as a foreign language at an early age, the feasibility and acceptance of the methodology proposed in this research. The fact of the improvement of the three soft skills analyzed as a consequence of the application of the methodology stands out:

- 1) Importance of developing linguistic skills in English as a foreign language.
- 2) The need to have a methodology to guide the development of language skills from an early age.
- 3) Feasibility of applying the developed methodology.
- 4) Quality of the methodology.
- 5) Perception of the progress obtained once the methodology has been applied.

Quasi experiment

A quasi-experimental design is very close to the experimental level, the missing criterion to reach this level is that there is no way to ensure the initial equivalence of the experimental and control groups. Groups that are already integrated are taken, so the units of analysis are not randomly assigned. The structure of quasi-experimental designs allows the use of a design with only post-test or one with pre-test-post-test (Ortega, 2016).

According to Bono (2012), quasi-experiments are more frequent in applied contexts, such as when:

- a) Changes are introduced in schools.
- b) An open or flexible time is tried in the world of work

In the present investigation, a quasi-experiment was applied with a control group, the first grade of the previous course (2016), to which a comprehensive evaluation O1 is carried out, at the end of their academic activities, which is considered as a pre-test. For the O2 post-test, the students who completed the third grade in the course (2017) were taken and the same instrument was applied as to the group of the previous year. The sample consisted of the entire degree enrollment in both cases.

Application and Validation of the Proposed Methodology Supported by Information and Communication Technologies in the Preuniversity Level

The Application of the IADOV Technique to verify the satisfaction of the users of the Methodology

This technique was applied to measure the level of user satisfaction (teachers and school administrators) with the methodology developed for the development of language skills in pre-university education. Knowledge of the state of user satisfaction is very useful for decision making, in the adjustments of the proposal and to measure the degree of acceptance of the proposal that is made.

The IADOV technique owes its name to its creator V. A. IADOV. Several researchers have used this technique to validate the way in which users feel satisfied with a certain proposal, as well (Hernández, 2010), (Rodríguez, 2012), (Febles, 2012) and (Sosa, et. al., 2012) use it in various contexts. It consists of three closed questions interspersed in a questionnaire and whose relationship the respondent does not know, and two open questions. Its objective is to assess the level of satisfaction based on what is known as the "IADOV logical framework." The answer to these questions allows each subject to be located, according to the logical table, on a satisfaction scale, to then calculate the Group Satisfaction Index (ISG) (Ortega, 2016).

In the present investigation, the three closed questions are reflected in the IADOV Logic Table, as shown below.

Table of the IADOV logical framework with the closed questions for this investigation

	Do you consider that a significant change can be achieved in the development of the linguistic competences of the English language as a foreign language in pre-university education, without having a specific methodology for it?								
	No			I don't know			Yes		
What is your opinion on the proposed methodology and its impact on the development of linguistic skills in English as a foreign language?	If you need to produce a significant change in the development of linguistic skills in English as a foreign language, would you use the proposed strategy?								
	Yes	I don't know	No	Yes	I don't know	No	Yes	I don't know	No
I like it a lot	1	2	6	2	2	6	6	6	6
I do not like it that much	2	2	3	2	3	3	6	3	6
Me da lo mismo	3	3	3	3	3	3	3	3	3
Me disgusta más de lo que me gusta	6	3	6	3	4	4	3	4	4
I dislike it more than I like it	6	6	6	6	4	4	6	4	5
I don't know what to say	2	3	6	3	3	3	6	3	4

Source: self-made.

For the development of this technique, a survey was applied that allowed knowing the degree of satisfaction of the users with the strategy and its characteristics in terms of:

1. The need to implement an ICT-supported strategy to achieve positive synergy between formal and informal learning in pre-university English language education.
2. The incidence of the proposed methodology for the development of language skills in the students of the Liceo Morayma Veloz de Báez Educational Center, Bayaguana, Dominican Republic. The importance of training teachers as a premise for the application of the methodology.

To measure the degree of satisfaction of the users with the methodology in the Educational Center: Liceo Morayma Veloz de Báez, an intentional sample of 22 users (teachers and directors of the educational entity and the school) was taken, taking into account the time as a teacher, work experience in education in teaching and the results obtained in previous years. The result of individual satisfaction was as follows:

Application and Validation of the Proposed Methodology Supported by Information and Communication Technologies in the Preuniversity Level

Individual satisfaction result

RESULT	AMOUNT	%
Maximum satisfaction	19	86
More satisfied than dissatisfied	2	9
Not defined	1	5
More dissatisfied than satisfied	0	-
Clear dissatisfaction	0	-
Contradictory	0	-

Source: self-made.

From the analysis of the results of the surveys, based on the IADOV logical table, the Group Satisfaction Index (ISG) was calculated according to the formula established by the method, obtaining the following result:

$$GSI = \frac{19(+1) + 2(+0.5) + 1(0) + 0(-0.5) + 0(-1)}{22} = 0.9$$

As can be seen, the group satisfaction index is 0.9, which means a clear satisfaction with the proposed strategy and its impact on the development of the linguistic skills of the English language as a selected foreign language, in students of the pre-university education of the Liceo Morayma Veloz de Báez Educational Center, which includes actions for participatory action by all in the training process, taking advantage of the influence of the family and social environment, as the main places of learning.

Regarding the two complementary questions of an open nature, the users surveyed answered:

Would you include another action in the proposed methodology, to achieve the fulfillment of the objectives proposed in this investigation? Argue.

In general, the actions were considered correct. Three of the interviewees suggested that the way to carry out co-assessment in a classroom should be further clarified in the strategy.

Do you consider the way in which the inverted classroom technique is proposed to be adequate, as a support for learning in the family environment? Argue.

The coincidence was complete with the observation that the preparation of the faculty should take longer due to the lack of preparation of teachers for training by competencies.

Open questions are very important since they allow us to delve into the causes that give rise to the different levels of satisfaction. The result obtained when processing the answers to the open questions was very positive, in particular regarding the evaluation of the proposed strategy and its perspectives.

It is noteworthy that the IADOV technique provided objective data regarding the degree of satisfaction with the methodology, particularly with regard to providing specific responses to the training needs of professionals to facilitate the development of language skills in learning the English language as a foreign language.

Osgood scaling

The Osgood scale was used to obtain an assessment of a group of teachers on the results of the research carried out.

The scales are instruments for collecting information based on a list of carefully selected items, reagents, or phrases, so that they constitute a systematic, reliable, valid and specific criterion to quantitatively measure some form of phenomenon, particularly attitudes and those related with feelings, opinions and beliefs. In this case, the teachers' opinions on the validity of the results of the proposed methodology are evaluated.

In this case, it is applied to validate the result of an investigation that has already been completed and that has been directly observed by the evaluators, with the scale explained below:

Very satisfactory 5 4 3 2 1 Unsatisfactory

Teachers were asked to rate the following:

- 5 Very satisfactory.
- 4 Satisfactory.
- 3 Neutral.
- 2 Unsatisfactory.
- 1 Unsatisfactory.

The following table shows the opinions of 25 teachers regarding 6 aspects related to the research.

Application and Validation of the Proposed Methodology Supported by Information and Communication Technologies in the Preuniversity Level

Summary of scale assessments made by teachers on the results of the research carried out.

Item to Evaluate	1	2	3	4	5
The way in which the development of the linguistic competences of the English language as a foreign language in general is treated in the proposed methodology.				5	20
The possibilities of using ICT in the development of language skills in the process of learning English as a foreign language.			2	5	18
Importance of planned actions in the methodology to develop language skills			2	4	19
On the effectiveness of the integration of formal and informal learning and its impact on the development of linguistic skills in English as a foreign language.				4	21
Opinion on the plan of activities for the improvement of teachers				5	20
Visible results with the application of the methodology in the center and specifically its incidence in the improvement of the linguistic competences of the English language as a foreign language analyzed as a consequence of the application of the developed methodology.				3	22
Total sum of the valuation			4	26	120

Source: self-made.

These data reveal a good evaluation of the research results, which is summarized in the following figure.

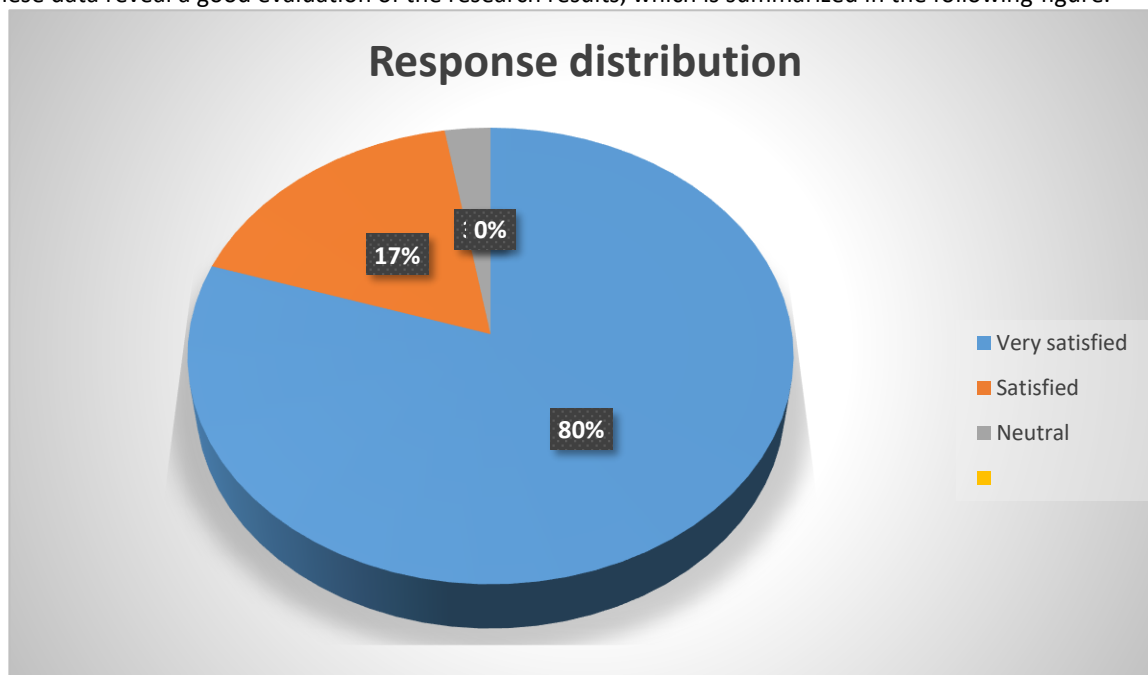


Figure 8. The responses on the Osgood scale adding the responses to the 6 items

To calculate the semantic differential, other pairs of opposite adjectives and 5 possibilities to select were chosen, to evaluate the acceptance of the designed strategy.

Item to be evaluated: The strategy for the development of language skills

Semantic space: 1, 2, 3, 4, 5

Good bad. The 25 teachers marked the first option.

Application and Validation of the Proposed Methodology Supported by Information and Communication Technologies in the Preuniversity Level

Adequate _____ Inadequate. The 25 teachers marked the first option.

Applicable _____ Not applicable. -----The 25 teachers marked the first option.

Innovative _____ Obsolete. ----- The 25 teachers marked the first option.

Complete _____ Incomplete. -----24 teachers marked the first option and one teacher the second.

These values are evidence of the favorable evaluation of the incidence of the strategy under investigation in the development of linguistic competences in English as a foreign language and of the activity plan for teacher training.

Application of the Focus Group Technique

Focus groups are group activities, where a moderator guides the collective interview process during which the selected people discuss and give their opinion about the characteristics and dimensions of the topic proposed for discussion. The characteristic that distinguishes focus groups is directed and conscious participation and conclusions resulting from the interaction and elaboration of agreements between the participants. The focus group is a qualitative research technique.

The procedure followed for the application of the focus group is explained below, as an element of collective assessment of the proposal designed and applied at the Morayma Veloz De Báez High School.

a) Study objectives approach

The objective of the analysis is to know how the group thinks about the methodology for the development of linguistic competences in English as a foreign language, as well as the relevance and impact of the proposed methodology.

b) Identification and selection of participants

10 people with teaching experience in elementary basic education were selected. The list appears in Annex 9.

c) Select a moderator

Teacher Carmen Reynoso, who has 25 years of experience teaching English as a foreign language at the pre-university level, was selected as moderator.

d) Design of the Moderation Guide

It was prepared by the author of this thesis and is aimed at responding to the objectives that were raised in the experimental design. Annex 10 presents the guide used.

e) Organize the didactic or operative materials that are going to be used

For the analysis, a video and a presentation on the general characteristics of the focus group technique and another with the presentation of the strategy and some of the results achieved with its application were used.

f) Development of the analysis: Induction, conduction and group discussion

The analysis was carried out with a very high professional level, which favored arriving at important considerations for this investigation. The meeting was recorded.

During the interventions of the participants, it was possible to verify a total coincidence in the opinions on the need and conception of the methodology, especially on the actions contained in it.

100% of the participants agreed on the importance of developing language skills at an early age and the impact that these have on the future of young people in the future.

The relevance and impact of the proposed methodology was positively valued, as well as the way of using ICT to achieve the necessary synergy between what is learned in the classroom and what the family and social environment contributes in the development of linguistic competences in the English language for the future of young people in pre-university education.

The role of the methodology in the development of linguistic skills in English as a foreign language, the positive impact of the use of ICT and the plan of activities for the preparation of teachers are highlighted.

The application of the Focus Group technique allowed us to conclude that the criteria formulated by the participants reveal a high agreement of the members, considering that both the conception of the methodology and the way for its implementation and the plan of activities to train teachers are appropriate to the characteristics of pre-university education in the Dominican Republic. The determining role of the proposed methodology in the development of linguistic skills in English as a foreign language is highlighted.

The opinions formulated in the sessions made it possible for the author of this research to reconsider some aspects of the methodology, associated with operational criteria that did not receive a unanimous evaluation.

The following recommendations were made:

1. The need to accelerate the creation of the repository of good practices for the development of linguistic skills in English as a foreign language in the teaching-learning process.

Application and Validation of the Proposed Methodology Supported by Information and Communication Technologies in the Preuniversity Level

2. The importance of developing a process for updating the proposed methodology, to the extent that the environment and technological development impose it.

METHOD INTEGRATION

In the present investigation, the mixed methodology is used, which allowed evaluating the results of the investigation. The author of this thesis considers the study published by García (2010) Senior Researcher and of Merit of the National Institute of Endocrinology of Cuba, very helpful, on the usefulness of the integration and convergence of qualitative and quantitative methods. She states that the existence of two different research paradigms does not imply a juxtaposition or exclusion between them. There is not one better than the other. The key is that the researcher knows how to take sides according to the questions and the research objective of the researcher. The qualitative method enriches the field of social research, since it allows a closer approach to the phenomenon under study, from the perspective of the meanings that the actors themselves give to the process in which they are immersed.

Specialists of the level of Hernández (2008) have raised ideas that are aspects of interest to integrate research methods and have been considered by the author, in the validation chapter to combine the data of the quasi-experiment carried out with the answers obtained and the analyzes made in the focus group.

Ortega (2016) refers that mixed methods represent a set of systematic, empirical and critical research processes and involve the collection and analysis of quantitative and qualitative data, as well as their integration and joint discussion, to make inferences as a result of all the information collected (meta inferences) and achieve a better understanding of the phenomenon under study

A summary of the data obtained in the quasi-experiment combined with the focus group is presented, where the results are reaffirmed and complement each other.

Results of the experiment vs results of the focus group, after applying the methodology

Aspects to assess	Quasi-experiment (Good, fair or bad)	Focus group
Improvement of communication in English as a foreign language with the use of the methodology	Good	Very satisfying
In the use of ICT	Good	Very satisfying
Plan of activities for the preparation of teachers	---	Very satisfying

Source: self-made.

The results show the favorable assessment of the main aspects dealt with and ratify that the objectives of the research have been met.

METHODOLOGICAL TRIANGULATION

Methodological triangulation is a control procedure to guarantee greater reliability in the results of any investigation, because it reduces the bias that occurs when comparing results obtained in the quantification of variables through a quantitative method and the trends and dimensions that arise from it the application of qualitative methods.

For the present investigation, the author uses the triangulation of methods (simultaneous inter-method), with the aim of evaluating the data collected, both qualitative and quantitative, with the simultaneous application of the quasi-experiment, Delphi, Focus Group and scaling methods of Osgood to validate the proposed hypothesis.

The following table shows the aspects evaluated by each of the applied methods.

Application and Validation of the Proposed Methodology Supported by Information and Communication Technologies in the Preuniversity Level

Objectives to be evaluated with simultaneous inter-method triangulation

Aspects to evaluate	Quantitative methods	qualitative method
Contribution of the methodology to the development of linguistic competences in the process of learning English as a foreign language.	Quasi experiment	Delphi Focus group
Development of linguistic skills in the process of learning English as a foreign language, integrating technology as a learning support tool.		Osgood scaling Focus group

Source: self-made.

With the application of inter-method triangulation, the contribution of the methodology to the development of linguistic skills in learning English as a foreign language is ratified, as well as the positive impact of the use of technology.

CONCLUSIONS OF CHAPTER

In order to validate the hypothesis, Delphi scientific methods, Focus Group, the IADOV technique, a quasi-experiment and the triangulation of some of them were applied, it was found that there is a positive correspondence between the results obtained and the applied methodology.

The clear satisfaction of users and potential users with the developed methodology was demonstrated. With the tests in a controlled environment, the significant increase in the preparation achieved by the teachers and directors of the Morayma Veloz Báez High School in the Bayaguana Province of the Dominican Republic was verified.

With the inter-method triangulation, the contribution of the methodology to the development of linguistic skills in learning English as a foreign language is ratified, as well as the positive impact of the use of technology.

RECOMMENDATIONS

1. Implement a repository of resources on good practices in the process of teaching English as a foreign language for pre-university education.
2. Continue studies on the development of linguistic skills in English at the pre-university level in the Dominican Republic.
3. Extend the application of the methodology to all pre-university schools.
4. Prepare a basic text that contains the main elements of the research, which can serve as a reference for teachers, students and directors of pre-university education in the Dominican Republic.

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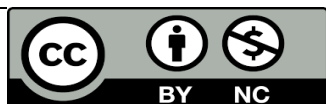
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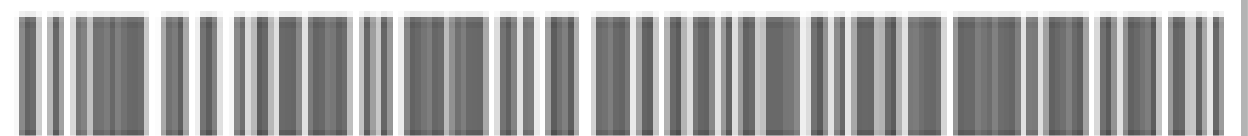
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