

The Influence of Visual Communication of Smoking Hazard Warnings on Students' Attitudes



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ABSTRACT: Smoking is prevalent in various places in Indonesia, even in designated non-smoking areas. The Government of the Republic of Indonesia has implemented various measures to reduce the number of smokers, such as mandating the inclusion of graphic health warnings on cigarette packages. The purpose of this article is to determine the influence of visual communication of smoking hazard warnings on the attitudes of smoking students at Pancasila University. This article employs the concepts of visual communication and attitude. The concept of visual communication is broken down into three dimensions: identification, information, and presentation, while the concept of attitude is also broken down into three dimensions: cognitive, affective, and conative. The paradigm used is positivism with a quantitative approach. The unit of analysis is individuals who are active smoking students at Pancasila University. The data collection technique is accidental random sampling by distributing questionnaires via social media platforms such as Instagram, Line, and WhatsApp to 96 respondents. In this article, respondents agree with identification, information, and presentation, as well as cognitive and affective dimensions. However, they disagree with the conative dimension. The results show that visual communication of smoking hazard warnings influences attitudes, with an impact of 17.2%. This condition indicates that there are still many influences on smoking beyond those examined, such as peer influence, lifestyle, psychological factors, and others. Additionally, the visual communication on cigarette packaging is ineffective in raising awareness among smokers, indicating the need for other policies.

KEYWORDS: Smoking Hazard Warnings, Visual Communication, Attitude

INTRODUCTION

Indonesia is one of the countries with the highest number of smokers in the world, with 39.9% of its total population being smokers. This places Indonesia as the country with the highest number of smokers in Southeast Asia and the seventh largest smoking nation in the world (Mahardika et al., 2020). On the other hand, Indonesia is the fifth-largest tobacco producer, with a total production of 258 million cigarettes in 2011, where *kretek* cigarettes are consumed by the majority of smokers, followed by hand-rolled cigarettes consumed by 5.6% of smokers, and the remaining 3.7% consuming white cigarettes (Salsabila et al., 2022).

Smoking involves the act of inhaling tobacco contained in paper rolls. Various diseases can result from smoking, including lung disorders, oral cancer, gastric disorders, pregnancy complications, skin cancer, and hypertension (Dismiantoni et al., 2020). With the increasing number of smokers in Indonesia, the number of lung disease patients is also rising. This is due to the high per capita cigarette consumption, with the majority of smokers coming from the lower to middle economic classes (Satriawan, 2022).

Furthermore, smoking causes significant harm to users and is a leading cause of preventable diseases and premature deaths in many countries (Mahardhika, 2020). Additionally, smoking is a major cause of cancer, with a strong correlation between smoking and cancers of the head, neck, liver, bladder, cervix, esophagus, and colon (Mahardhika, 2020). According to the World Health Organization (WHO), from 2008 to the onset of 2030, smoking-related deaths reach 10 million per year, with an estimated 70% occurring in developing countries (Farkhah, 2021).

Based on the Basic Health Research data from 2007, the trend of smoking initiation among teenagers aged 10-14 years was around 1.1%, while teenagers aged 15-19 years were at 44.4%. This data increased in 2013, with teenagers aged 10-14 years initiating smoking at around 15.9%, and teenagers aged 15-19 years at 60.3% (Pertiwi, et al., 2018). Furthermore, according to the Central Bureau of Statistics (BPS), the percentage of Indonesian smokers aged over 15 has been declining since 2020 until 2022. In 2020, the percentage of smokers over the age of 15 was 28.69%, which then increased to 28.96% in 2021, but decreased to 28.26% in 2022. These figures are relatively high compared to the total population in Indonesia, which exceeds 270 million (BPS,

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2022).

The Indonesian government has implemented various measures, from enacting smoking restrictions outlined in Government Regulation No. 38 of 2000 to issuing policies mandating the inclusion of graphic health warnings on cigarette packaging by 40% (Ministry of Health, 2018). This is stipulated in Minister of Health Regulation No. 28 of 2013 concerning the Inclusion of Health Warnings and Health Information on Tobacco Product Packaging. The regulation mandates that every cigarette pack sold in Indonesia, as well as every cigarette advertisement, must contain images warning the public about the dangers of smoking (Ministry of Health, 2018).

According to Adiyatama (2016), there are five types of images and warning texts about the dangers of smoking that must be included in every cigarette pack. These include images with the text "Smoking kills you," "Smoking can cause throat cancer," "Smoking causes lung cancer and chronic bronchitis," "Smoking causes mouth cancer," and images with the text "Smoking near children is dangerous for them."

The inclusion of graphic warning labels on cigarette packaging is related to visual communication. Kusrianto (2007, p. 10) defines visual communication as the transmission of information to others using visual media that can be perceived by the sense of sight. This visual language is the primary strength in conveying messages with specific meanings, goals, and purposes. Meanwhile, Andhita (2021, p. 3) states that visual communication is the exchange of visual messages between communicators and recipients that result in direct or indirect feedback, depending on the accuracy of the feedback, which serves as a measure of success for visual object design. This condition can be achieved if visual object designers (communicators) can deliver relevant messages to recipients effectively.

To ensure the conveyed message is appropriate, such as warnings about the dangers of smoking on cigarette packaging, several basic functions of visual communication must be considered. Cenadi (1999, p. 4) explains that visual communication has three basic functions: first, as an identification tool, which represents the recognition of identity, such as a person's, company's, or product's identity. This identity must reflect the essence of the object. If it has an identity, whether it is in the form of images or text, that identity will be a recognizable quality mirror of the product. Second, as an information tool. Visual communication aims to show the relationship between one thing and another in terms of instructions, directions, positions, and scales. This information is useful when conveyed to the right people, at the right time and place, in an easily understandable manner. Third, as a presentation tool. Visual communication aims to attract visual attention and make messages easy to remember. To achieve this goal, the images and text used must have persuasive meanings and also attract attention (attention) from the audience.

This article examines the visual communication of smoking hazard warnings on cigarette packaging to influence the attitudes of students. As for attitude, according to Notoatmodjo (2005, p. 174), it is a collection of several indications in responding to impulses or objects associated with reason, feelings, attention, and indications related to the soul. Attitude reflects suggestion through the alignment of reactions and impulses in daily life. Emotional responses to social stimuli are attitudes. On the other hand, according to Widayatun (2009, p. 67), attitude is a mental and nerve readiness controlled by experience and directly impacts an individual's response to related objects and situations. Then, according to Lapierre (Azwar, 2015, p. 5), attitude is defined as a behavior, tendency, and anticipatory loneliness, a predisposition to adapt in social situations.

Notoatmodjo (2005, p. 83) states that there are several aspects of attitude. The first aspect is cognitive, which is based on an individual's information about the attitude object. This aspect arises based on knowledge or understanding of the attitude object. The second aspect is affective, which is related to emotional feelings such as agreement and disagreement. This aspect arises based on what humans feel about the object, or it can be said to be feelings related to emotional aspects, such as beliefs and acceptance of the object. The third aspect is conative, which is human precision in behavior related to their attitude object. This aspect contains tendencies in acting or reacting to the object in a certain way, such as doing something for oneself, spreading what is inside the attitude object, and so on.

In addition, several studies on the influence of smoking prohibition images on attitudes have been conducted. Muhammad Ali (2020) conducted a study titled "The Influence of Visual Messages Prohibiting Smoking on Campus A of Satya Negara University Indonesia (USNI) on the Attitudes of Communication Science Department Students of the 2016 Cohort". This research employed concepts of communication, messages, and attitudes, using a survey technique with a quantitative approach. The results indicated an influence of the visual messages prohibiting smoking at Campus A of USNI on the attitudes of students, amounting to 41.1% out of 128 students from the Communication Science Department, 2016 cohort (Ali, 2020).

Furthermore, a study by Indah and Manggaga (2020) in Kanang-Kanang Hamlet, Tino Village, Tarawang District, Jeneponto Regency, utilized a quantitative descriptive method by administering questionnaires to 100 respondents, and the data were processed using Spearman's rank correlation. The results of this study showed that the attitudes of smokers were influenced by the warnings on cigarette packaging (Indah & Manggaga, 2020). Additionally, a journal-based study by Adelina et al. (2018) utilized a sample of young smokers in Surabaya City, comprising 96 respondents obtained through accidental sampling. The

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findings showed that young smokers in Surabaya City had a significant impact of 47.6% on attitudes when health warning messages were displayed on graphic labels on cigarette packaging (Adelina et al., 2018).

Based on the explanations above, this article aims to determine the influence of visual communication of smoking hazard warnings on cigarette packaging on the attitudes of student smokers. The hypothesis of this article is that there is an influence of visual communication of smoking hazard warnings on cigarette packaging on the attitudes of student smokers.

METHODS

This article adopts a positivism paradigm with a quantitative explanatory approach. Positivism paradigm, as described by Neuman (2014, p. 97), is a philosophical perspective that stems from a researcher's thoughts on how cause-effect relationships are logically derived from causal laws that are possible in theories or general concepts. Thus, the concepts of visual communication and attitudes are used to demonstrate the existence of cause-effect relationships from causal laws.

According to Creswell (2014, p. 32), quantitative research is an approach that combines data in the form of numerical or statistical information to produce results. In this article, data is collected through questionnaires using survey techniques and analyzed using linear regression. Meanwhile, explanatory research, as explained by Singarimbun and Effendi (2012, p. 72), explores the relationship between variables by testing hypotheses. The relationship can be two-way or one-way, so the understanding of the relationship in this article can also be interpreted as a one-way or causal relationship. Therefore, there is a hypothesis that needs further testing, namely the influence of visual communication of smoking hazard warnings on attitudes.

Sampling is conducted using non-probability sampling principles with the accidental sampling technique. Sugiyono (2017, p. 67) defines accidental sampling as a random sampling technique with suitable criteria that can be used as samples. Since the population in this article is Pancasila University students, where the number of smokers is unknown, meaning the population is unknown, the sample is calculated using the Lameshow formula (Roflin et al., 2022, p. 8) as follows.

$$n = \frac{z^2 \times P(1 - P)}{d^2}$$

Notes:

n = number of samples

Z = Z-score at 95% confidence level = 1,96

P = Maximum estimation = 0,5

d = Sampling error 10% (0,10)

Based on the formula above, the calculation to determine the sample size is as follows:

$$n = \frac{(1.96)^2 \times 0,5(1 - 0,5)}{(0,10)^2}$$

$$n = 96,05 = 96$$

After conducting the calculation, the determined sample size is 96 respondents. The questionnaire distribution was carried out using the Google Form application to smoking students at Pancasila University. Data collection was conducted both in-person and online by distributing the link for seven days from December 27, 2022, to January 2, 2023.

The data in this study was analyzed using the linear regression analysis method. Linear regression analysis, according to Ghozali (2018, p. 96), is used to measure the relationship between two variables in a study. This technique is used to determine the extent of the influence of visual communication about the dangers of smoking on attitudes. For this purpose, the analysis requires the T-test and R Square. The T-test is used to support the hypothesis, to determine whether the independent variable affects the dependent variable. Meanwhile, the R Square test is used to determine the extent to which the independent variable, namely visual communication about the dangers of smoking, influences the dependent variable or the attitudes of Pancasila University students (Ghozali, 2018, p. 179).

To assess whether the data can be used, validity and reliability tests are conducted. The results of the validity testing indicate that both variables are considered valid because the calculated r-value is greater than the r-table value. As for the reliability test, both variables are considered reliable because they both have Cronbach's Alpha values greater than 0.60."

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Table 1. Validity Test

Variable	Statement	The value of r calculated	The value of r-table	Conclusion
			N=96, $\alpha=5\%$	
Visual Communication	Q1	0.625	0.200	Valid
	Q2	0.867	0.200	Valid
	Q3	0.868	0.200	Valid
	Q4	0.815	0.200	Valid
	Q5	0.886	0.200	Valid
	Q6	0.700	0.200	Valid
	Q7	0.811	0.200	Valid
	Q8	0.762	0.200	Valid
	Q9	0.832	0.200	Valid
	Q10	0.820	0.200	Valid
	Q11	0.828	0.200	Valid
	Q12	0.849	0.200	Valid
	Q13	0.729	0.200	Valid
	Q14	0.848	0.200	Valid
	Q15	0.366	0.200	Valid
	Q16	0.665	0.200	Valid
Attitude	Q1	0.332	0.200	Valid
	Q2	0.385	0.200	Valid
	Q3	0.355	0.200	Valid
	Q4	0.350	0.200	Valid
	Q5	0.333	0.200	Valid
	Q6	0.287	0.200	Valid
	Q7	0.673	0.200	Valid
	Q8	0.673	0.200	Valid
	Q9	0.539	0.200	Valid
	Q10	0.271	0.200	Valid
	Q11	0.252	0.200	Valid
	Q12	0.314	0.200	Valid
	Q13	0.680	0.200	Valid
	Q14	0.494	0.200	Valid
	Q15	0.343	0.200	Valid
	Q16	0.674	0.200	Valid
	Q17	0.678	0.200	Valid
	Q18	0.597	0.200	Valid

Table 2. Reliability Test

Variable	Cronbach's Alpha	Criteria	Conclusion
Visual Communication	0.951	0.60	Reliable
Attitude	0.752	0.60	Reliable

RESULTS AND DISCUSSION

Characteristics of Respondents

The research respondents are smoking students from seven faculties at Pancasila University. Based on the processing results, the Faculty of Communication Sciences has the highest percentage, accounting for 38.5%. The Faculty of Pharmacy and the Faculty of Psychology each have 4.2%, which are the two faculties with the lowest numbers. Regarding gender, the data shows

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that the majority of respondents are male, accounting for 78.1%, while the rest are female, accounting for 21.9%. This indicates that male students are smokers within the Pancasila University environment. In the Indonesian Journal of Health Economics, a national survey by the Ministry of Health of the Republic of Indonesia in 2011 revealed that male smokers outnumber female smokers by 30 times (Salsabila et al., 2022).

Data Findings

Regarding visual communication of smoking hazard warnings on packaging, three dimensions were examined: identification, information, and presentation. First, for the identification dimension, one can observe the images and text displayed on cigarette packaging. In this regard, the majority of respondents agreed (64.6%) with the identification dimension. This means that they interpret the depiction (images and text) of the prohibition of smoking as a warning against cigarette consumption.

Table 3. Identification Dimension

Dimension	Strongly Disagree	Disagree	Agree	Strongly Agree	Total
Identification	7	20	62	11	96
	7,3%	20,8%	64,6%	11,5%	100%

Secondly, as a means of information, the visual communication of smoking hazard warnings on the packaging contains information intended to compel people to adhere to it. Regarding the information dimension, the majority of respondents agreed (63.5%). This means that these respondents interpret the information on cigarette packaging about the dangers of smoking as known to them and that the information is intended to compel people not to smoke.

Table 4. Information Dimension

Dimension	Strongly Disagree	Disagree	Agree	Strongly Agree	Total
Information	6	22	61	11	96
	6,3%	22,9%	63,5%	11,5%	100%

Thirdly, it concerns the presentation issue related to the message that is easily remembered on cigarette packaging. The memorable message uses persuasive images and text to capture attention. Based on the table below, a significant number of respondents agreed with this presentation (47%). This means that they pay attention to and remember the presentation of smoking warning messages on cigarette packaging.

Table 5. Presentation Dimension

Dimension	Strongly Disagree	Disagree	Agree	Strongly Agree	Total
Percentage	15	24	47	10	96
	15,6%	25%	49%	10,4%	100%

For the students' attitudes, there are also three dimensions: cognitive (knowledge), affective (feelings), and conative (action) towards the visual communication of smoking hazard warnings on packaging. First is the cognitive dimension, and from the table below, it is evident that the majority of respondents agreed (66.7%). This means that these respondents are aware of and understand the messages in the visual communication of smoking hazard warnings displayed on packaging.

Table 6. Cognitive Dimension

Dimension	Strongly Disagree	Disagree	Agree	Strongly Agree	Total
Cognitive	0	0	64	32	96
	0%	0%	66,7%	33,3%	100%

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Secondly, the affective dimension, which involves emotional feelings, can be either agree or disagree. It is observed that the majority of respondents agreed with the affective dimension (57.45). This means that respondents feel agreement with the information provided through the visual communication of smoking hazard warnings displayed on packaging.

Table 7. Affective Dimension

Dimension	Strongly Disagree	Disagree	Agree	Strongly Agree	Total
Affective	13	13	55	15	96
	13,5%	13,5%	57,4%	15,6%	100%

Thirdly, the conative dimension refers to the tendency to act or react to an object in a particular way. In this regard, a significant number of respondents actually disagreed (34.4%). This means that these respondents do not act in accordance with the visual communication message about the warning of smoking hazards displayed on packaging.

Table 8. Conative Dimension

Dimension	Strongly Disagree	Disagree	Agree	Strongly Agree	Total
Conative	21	33	29	13	96
	21,8%	34,4%	30,3%	13,5%	100%

Referring to the results of the T-test analysis in the table below, it shows that the Visual Communication variable has a t-value of 4.425 with a Sig. value of 0.000. Considering that the T-table value with a distribution of 0.05 is 1.661, the calculated T-value is greater than the T-table value, indicating that the Visual Communication variable of smoking hazard warnings on packaging influences the attitudes of smoking students. Based on these results, the hypothesis can be accepted.

Table 9. T-Test Results

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	39,918	2,473		16,142	0,000
	Total_X	0,246	0,056	0,415	4,425	0,000

Based on the information below, the R Square value is 0.172, which when converted to a percentage is 17.2%. This means that visual communication of smoking hazard warnings on cigarette packaging influences 17.2% of the attitudes of smoking students at the University of Pancasila. The remaining 82.8% is attributed to other factors not examined in this article.

Table 10. Coefficient of Determination Test Results

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. Change
1	0,415 ^a	0,172	0,164	5,008	0,172	19,583	1	94	0,000

In Indonesian society, including university students, smoking is considered a primary need and part of the lifestyle (cnn.indonesia.com, 2016). This is further emphasized by The Tobacco Control Atlas ASEAN Region 4th Edition, which shows Indonesia as having the highest number of smokers in the ASEAN region, with 36.3% of people aged 25-64 being smokers (Salsabila et al., 2022). Regarding gender in this article, it shows that 78.1% of respondents are male and 21.9% are female smokers at Universitas Pancasila. Although not within the age range as mentioned by Salsabila et al., (2022), considering that students are

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typically between 19-23 years old, the proportions reflect a similar trend, with about 66% of smokers being male and the remaining 6.7% being female smokers.

University students are considered to have a high level of education in Indonesia. This is interesting when considering research in China, which suggests that individuals with higher levels of education are less likely to smoke (Wang et al., 2018). Furthermore, about 80% of the world's smokers are in low- and middle-income countries, with 226 million of them being poor (WHO, 2020). Although the focus is on students, it would be interesting to explore the characteristics of respondents regarding family income or spending, or at least their pocket money, which is not examined in this article. If they are students from families with lower-middle income, then the habit of smoking could be justified.

This is also similar to research conducted by Fikriyah and Febrijanto (2012), Adiyatama (2016), and Juliana (2017) on student smokers. Although Adiyatama (2016) and Juliana (2017) did not provide reviews on why students smoke, Fikriyah and Febrijanto (2012) explained that students are teenagers. According to them, smoking can be a way for teenagers to feel free and mature when adapting to peers who smoke. Various peer pressures, self-appearance, curiosity, stress, boredom, wanting to look tough, and rebelliousness are factors that can contribute to the start of smoking (Fikriyah & Febrijanto, 2012).

Furthermore, according to the research by Adiyatama (2016), the graphical format of warning images on cigarette packaging is crucial. The images should be positioned prominently, proportional in size, accompanied by explanatory text, and use appropriate colors. The content of the warning images should rationalize the dangers of smoking both for health and the environment. Regarding the visual communication of warning about the dangers of smoking on cigarette packaging in this article, one of its functions as identification is interpreted by respondents as a form of prohibition. It means that respondents understand the meaning of the images and text on the cigarette packaging, where the size of the images and text is appropriate and easy to understand.

Visual communication of smoking hazard warnings also provides information about the dangers of smoking, such as using easily understandable language, informative wording, and precise language. Thus, it creates knowledge that forces or reminds students about the harmful effects of smoking on health. In this regard, respondents also understand that the images and text on cigarette packaging are made as persuasive as possible to discourage smokers from smoking.

In its function as a presentation tool, visual communication of smoking hazard warnings on cigarette packaging must provide useful information and be presented attractively to generate attention, making the information easy to remember. In this article, visual communication of smoking hazard warnings on packaging can provide information with an attractive appearance and persuasive wording to encourage smokers to quit smoking, thus garnering attention and making the warning message easily remembered.

Based on the explanations above, regarding identification, information, and presentation of visual communication of smoking hazard warnings on packaging, respondents understand, interpret, and remember the smoking prohibition on cigarette packaging. It means that respondents understand the images and sentences as a form of prohibition on cigarette packaging. This also affects their cognitive aspect, where respondents are aware of and understand various diseases caused by smoking to themselves and others. As stated by Juliana (2017), smoking has negative effects not only on smokers themselves but also on others around them, especially pregnant women or unborn babies.

As for the affective aspect, which concerns emotions and beliefs about stimuli that influence attitudes, respondents feel fear about graphic warning messages that give a frightening impression (fear arousing) due to the dangers of smoking, causing anxiety about their health. They also believe that smoking can cause various dangerous diseases that can affect themselves or others, as well as air pollution caused by cigarette smoke. In addition, they believe that the content of smoking hazard warning messages is intended to raise awareness among smokers.

In the conative aspect, which concerns human precision in acting in certain ways, some respondents reduce their smoking habits after seeing smoking hazard warnings but do not decide to quit smoking altogether. Although they already know and even feel cognitively (knowledge) and affectively (attitude) about the dangers of smoking, they still smoke. This is consistent with the research by Adiyatama (2016), which shows that the cognitive and affective aspects of the smokers studied already know and can feel the dangers of smoking, but their conative aspect still engages in smoking activities. However, some student smokers apparently spread the smoking hazard warnings on cigarette packaging to their closest relatives to help the government reduce the number of smokers and create a smoke-free environment.

This study conducted a T-test aimed to determine how the independent variable affects the dependent variable. The results showed that visual communication of smoking hazard warnings on cigarette packaging has an influence on the attitudes of student smokers at Universitas Pancasila. These results indicate that the hypothesis is accepted. This study also conducted statistical testing of R Square aimed at measuring how much influence the independent variable has on the dependent variable. The results showed that visual communication of smoking hazard warnings on cigarette packaging has an influence of 17.2% on

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the attitudes of student smokers at Universitas Pancasila. The remaining 82.8% is caused by other factors not examined in this study.

Interestingly, the influence of visual communication of smoking hazard warnings, at 17.2%, is smaller compared to the studies by Adelina et al. (2018) and Muhammad Ali (2020), which reported 47.6% and 41.1% respectively. The two previous studies also examined the influence of images and text on cigarette packaging on attitudes, but in different locations. Muhammad Ali (2020) conducted research in the Department of Communication Science, Universitas Satya Negara Indonesia, while Adelina et al. (2018) studied young smokers in the city of Surabaya. This difference is due to the use of different theories. This article uses the concept of visual communication, while the other two articles use the concept of message. Furthermore, in the study by Adiyatama (2016), the written messages and images of smoking hazard warnings on cigarette packaging influenced changes in smokers' behavior by 25%.

This condition indicates that there are still many influences on smoking beyond the images and text on cigarette packaging, such as peer influence, lifestyle, psychological factors of smokers, and so on. Additionally, the government's images and text related to the dangers of smoking on cigarette packaging are not effective in raising awareness among smokers. Therefore, to change smoking behavior, warnings about the dangers of smoking need to be accompanied by other policies that restrict smokers' movements, thereby reducing opportunities for smoking activities. The government has issued regulations banning smoking in public places. The Joint Regulation of the Minister of Health and the Minister of Home Affairs No. 188/Menkes/Pb/I/2011 No. 7 of 2011 concerning Guidelines for the Implementation of Smoke-Free Areas stipulates the need for the establishment of Smoke-Free Areas in health facilities, places of learning such as schools, playgrounds, places of worship, public transportation, workplaces, public places, and other designated places to protect the public from cigarette smoke (Pertivi et al., 2017).

CONCLUSION AND SUGGESTION

Based on the findings of this study, it can be concluded that visual communication of smoking hazard warnings on cigarette packaging influences the attitudes of students. However, in terms of behavior, this attitude is not influenced by visual communication of smoking hazard warnings because they still continue to smoke.

This article discusses students where students are interpreted as individuals with higher education who can set an example for society. Therefore, with this status, students should not smoke and should set an example for society that smoking can harm their health, others, and the environment.

Regarding Minister of Health Regulation No. 28 of 2013 concerning the Inclusion of Health Warnings and Health Information on Tobacco Product Packaging, which apparently does not have a significant influence on students, there is a need for specific policies related to smoking in universities that restrict students from smoking.

REFERENCES

- 1) Adelina, E., Burhan, B., & Rachmawati, N. (2018). Pengaruh Pesan Komunikasi pada Kemasan Rokok Terhadap Sikap Perokok Muda di Kota Surabaya (The Influence of Communication Messages on Cigarette Packaging on the Attitudes of Young Smokers in Surabaya City). *Jurnal Representamen*, Vol. 4(1), 1-8.
- 2) Adiyatama, I., Suryatna, U., & Kusumadinata, A. A. (2016). Pengaruh Pesan Gambar Bahaya Merokok Terhadap Perubahan Perilaku Perokok (The Influence of Graphic Warning Messages on Smoking Behavior Change among Smokers). *Jurnal Komunikatio*, Vol. 2(1), 67-95.
- 3) Ali, M. (2020). Pengaruh Pesan Visual Larangan Merokok di Kampus A Universitas Satya Negara Indonesia (USNI) terhadap Sikap Mahasiswa Jurusan Ilmu Komunikasi Angkatan 2016 (The Influence of Visual No-Smoking Signs at Campus A, Satya Negara University Indonesia (USNI), on the Attitudes of Students in the Department of Communication Science, Class of 2016). Jakarta: Universitas Satya Negara Indonesia.
- 4) Andhita, P. R. (2021). *Komunikasi visual (Visual communication)*. Purwokerto: Zahira Media Publisher.
- 5) Azwar, S. (2015). *Penyusunan skala psikologi (Development of psychological scales)*. Yogyakarta: Pustaka Belajar.
- 6) BPS. (2020). Jumlah dan distribusi penduduk (Population count and distribution). Retrieved from <https://sensus.bps.go.id/main/index/sp2020#:~:text=Jumlah%20dan%20Distribusi%20Penduduk&text=Persebaran%20penduduk%20menurut%20jenis%20kelamin,133.542.018%20untuk%20penduduk%20perempuan>
- 7) BPS. (2022). Persentase merokok pada penduduk umur ≥ 15 tahun menurut provinsi (Persen), 2020-2022 (Percentage of Smoking Among Population Aged ≥ 15 Years by Province (Percent), 2020-2022) . Retrieved from <https://www.bps.go.id/indicator/30/1435/1/persentase-merokok-pada-penduduk-umur-15-tahun-menurut-provinsi.html>

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- 8) Cenadi, C. S. (1999). *Elemen-Elemen dalam desain komunikasi (Elements in communication design)*. Jakarta: Visual
- 9) CNN Indonesia. (2016). Di Indonesia, rokok sudah jadi kebutuhan 'primer' (In Indonesia, cigarettes have become a "primary" necessity.). Retrieved from <https://www.cnnindonesia.com/gaya-hidup/20160531020808-277-134583/di-indonesia-rokok-sudah-jadi-kebutuhan-primer>
- 10) Creswell, J. W. (2014). *Research design, qualitatives, quantitative, and mixed methods approcahes*. California: Sage Publications, Inc.
- 11) Dismiantoni, N., Anggunan, N. T., & Rina, K. (2020). Hubungan merokok dan riwayat keturunan dengan kejadian hipertensi (The relationship between smoking and family history with the incidence of hypertension). *Jurnal Ilmiah Kesehatan Sandi Husada*, Vol 9(1), 30-36.
- 12) Farkhah, L. (2021). Hubungan tingkat pengetahuan dan sikap remaja terhadap perilaku merokok (The relationship between adolescents' knowledge level and attitudes toward smoking behavior). *Jurnal Keperawatan Muhammadiyah Bengkulu*, Vol. 9(2), 32-37.
- 13) Fikriyah, S., & Febrijanto, Y. (2012). Faktor-Faktor yang memengaruhi perilaku merokok pada mahasiswa laki-laki di asrama putra (Factors influencing smoking behavior among male students in the men's dormitory). *Jurnal STIKES*, Vol. 5(1), 99-109.
- 14) Kusrianto, A. (2007). *Pengantar desain komunikasi visual (Introduction to visual communication design)*. Yogyakarta: Andi Offset.
- 15) Mahardhika, D. W., Cinyagita, Z. I., Akbar, M. T., & Sihalohe, E. D. (2020). Pengaruh status merokok terhadap kemampuan kognitif seseorang: studi kasus indonesian family life survey (ifls) (The influence of smoking status on cognitive abilities: a case study of the indonesian family life survey (IFLS)). *Jurnal Ekonomi dan Pembangunan*, Vol 28(2), 41-53.
- 16) Manggaga, I., & Jufri, P. (2020). Pengaruh komunikasi visual gambar peringatan bahaya merokok pada kemasan rokok terhadap sikap perokok (Studi kasus masyarakat Dusun Kanang-Kanang Desa Tino Kec. Tarowang Kabupaten Jeneponto) (The influence of visual communication of smoking hazard warning images on cigarette packaging towards smokers' attitudes (Case study of the community of Kanang-Kanang Hamlet, Tino Village, Tarowang District, Jeneponto Regency)). *Jurnal Komunikasi dan Organisasi*, Vol 2(2), 83-92.
- 17) Neuman, W. L. (2014). *Pearson new international edition social research methods: qualitative and quantitative approaches*. Harlow: Pearson Education Limited.
- 18) Notoatmodjo, S. (2005). *Prinsip dasar kontruksi sosial dalam dinamika kontemporer (Basic principles of social construction in contemporary dynamics)*. Jakarta: Kencana Prenada Media Group.
- 19) Pertiwi, C. M. P., Engkeng, E., & Asrifuddin, A. (2018). Pengaruh promosi kesehatan terhadap pengetahuan dan sikap merokok pada pelajar laki-laki di SMK Negeri 2 Kota Bitung (The influence of health promotion on knowledge and attitudes towards smoking among male students at SMK Negeri 2 Kota Bitung). *Jurnal KESMAS*, Vol. 7(5), 1-9.
- 20) Roflin, E., Pariyana, & Iche, A. L. (2022). *Metode Menghitung Besar Sampel pada Penelitian Kesehatan (The Method for Calculating Sample Size in Health Research)*. Pekalongan: NEM.
- 21) Salsabila, N. N., Noormarina, I., & Budi, S. (2022). Gambaran kebiasaan merokok di indonesia berdasarkan indonesia family life survey 5 (IFLS 5) (Overview of smoking habits in indonesia based on indonesia family life survey 5 (IFLS 5)). *Jurnal Kesehatan Indonesia*, Vol 7(1), 13-22.
- 22) Satriawan, D. (2022). Gambaran kebiasaan merokok penduduk di indonesia (Overview of smoking habits among the population in Indonesia). *Jurnal Litbang Sukowati*. Vol 5(2), 51-58.
- 23) Singarimbun, M., & Sofian, E. (2011). *Metode penelitian survei (Survey research method)*. Jakarta: LP3S.
- 24) Sugiyono. (2017). *Metode penelitian kuantitatif, kualitatif, dan R dan D (Research methods: quantitative, qualitative, and R&D)*. Bandung: Alfabeta.
- 25) Widayatun, T. R. (2009). *Ilmu perilaku (Behavioral science)*. Jakarta: Sagung Seto.



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