Analyzing the Relationship between Frequency in Using Social Media and the Anxiety Level of Body Shaming and Harassment Victims

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Abstract: In this sophisticated digital era, humans are easier to connect to everything. Unfortunately, this convenience is often used for things that should not be, such as insulting other people through chatting. This makes cyberbullying rampant, especially body shaming and harassment which cause depression, anxiety, and lack of confidence. The aim of this research is analyzing the relationship between the frequency in using social media and the anxiety level as the impact of body shaming and harassment. The research method used in this research is quantitative research with a correlational method. The results of this study are there is no relationship between the frequency of using social media and the anxiety level for both victims of body shaming and harassment, but in another perspective based on the results of the respondents, it is found that the possibility of cyberbullying is due to the education level of the perpetrators, attitudes, and behavior. Advice that can be given is the need of further research on the main factors that cause cyberbullying and advice for readers is to control attitudes and behavior while using social media.

Keywords— Social media, cyberbullying, body shaming, harassment, digital era

1. INTRODUCTION

In digital era, it is possible for humans to have access to all types of social media. The use of social media has become wider and more diverse. Media users not only can take advantage of the content provided by various media, but can also contribute to the media's internal content.

The development of the internet over the last few decades has given rise to new definition of communication. With the emergence of social media, we are witnessing a dramatic transformation in the paradigm of social communication. Time and physical distance do not interfere with communication. It can happen anytime and anywhere, so there is no need for physical contact between people. Thanks to social media sites, such as Twitter, Facebook, Google+, and other social media platforms so that people can stay in touch with one another without actually being in the same place at the same time. Distance is no longer a barrier to communication. Social media has a huge influence on the global community. Because of how easy it is to set up and start using a social media platform, anyone can do it and reap the benefits of doing it. Social media provides its users with the opportunity to express their opinions freely, extra measures must be taken to prevent unintended consequences. However, to ensure individual freedom does not restrict the movements of others or endanger them, a measure of self-discipline is also necessary.

In fact, there are still many social media users who cannot control themselves in what they say and behave.

Majority of them are still fond of bullying on social media or what is commonly called cyberbullying. Some forms of cyberbullying that often occur when using social media are body shaming and harassment. Some of the consequences that arise from cyberbullying include increased anxiety, depression, lack of confidence, and insomnia.

The purpose of this study is to analyze the relationship between the frequency in using social media and the anxiety level as a result of body shaming and harassment. This research can be useful for the community and the government, especially social media users to increase their awareness of the impact of the frequency in using social media on the anxiety level of cyberbullying victims. Whereas for self-government, research is useful to be used as material for consideration in constructing policies so that people can be wiser in using social media.

2. Literature Review

2.1 The Digital Era and Social Media

The digital era is a period in which community activities and information are disseminated through digital technology. Therefore, social media plays an important role in disseminating information to the wider community. The challenge of this digital era is an extraordinary responsibility to make social media as a positive digital space. Of course, the development of social media has many advantages, such as facilitating long-distance communication and make it easier for searching information. However, apart from having many

benefits, social networking also has negative impacts, such as hoaxes.

2.2 Cyber bullying

Cyberbullying is a type of bullying using internet to bully, threaten, humiliate, and ridicule other people. Cyberbullying can be done by anyone as long as they have an internet connection and a device such as a smartphone. Persons can be anonymous, so they are often not afraid of being identified. Cyberbullying can also occur 24 hours and allows internet users to switch roles. There are different types of cyberbullying, each with a different form of bullying. Cyberbullying is divided into six types, namely flaming (text messages containing frontal and angry words), harassment, denigration, cyberstalking, impersonation, and outing and trickery. Cyberbullying also has negative impacts such as making the victim to isolate themselves from the social environment, feeling ostracized by the environment, disrupting physical and mental health, and depression.

2.3 Body shaming

Body shaming is a type of bullying that is done verbally or with words. Body shaming is humiliation of the body of other people in the form of criticism. When people experience body shaming, they feel inferior to themselves and their bodies. People feels that their body belongs to them and what they wants from their body should or should be in their body. In fact, not everything that is expected or desired must be owned. Body shaming can make a person feel uncomfortable with their physical appearance and start to close themselves off from both the environment and humans. Other effects that occur are also very diverse, but the main one is depression.

2.4 Harassment

Harassment is the act of someone constantly following someone else online to intimidate or embarrass the victim. Cyber harassment is often referred as cybercrime. Cyber harassment can be characterized as a form of indirect harassment which consists of a number of different behaviors and is motivated by certain reasons, goals, and objectives (Mohamad et al, 2022). Cyber harassment is registered as a type of KBGO at Komnas Perempuan. There are at least eight types of KBGO, including attempts to cheat (cyber grooming), online harassment (cyber abuse), hacking, content that violates the law (illegal content), invasion of privacy (breach of privacy), and threats to share personal information.

2.5 Validity Test

The validity of the research shows the degree of accuracy of the research. Validity test is a test used to show how well the instrument is used in measuring what is being quantified. Ghozali (2009) states that the validity test is used to measure the validity of a questionnaire Validity test can be calculated using the formula below.

$$r_{xy} = \frac{n\sum_{i=1}^{n} x_i y_i - \sum_{i=1}^{n} x_i \sum_{i=1}^{n} y_i}{\sqrt{(n\sum_{i=1}^{n} x_i^2 - (\sum_{i=1}^{n} x_i)^2)(n\sum_{i=1}^{n} y_i^2 - (\sum_{i=1}^{n} y_i)^2)}} \quad (1)$$

Information:
r_{xy} : correlation coefficient between X and Y variable
x_i : the i-th data value for the X variable group
y_i : the i-th data value for the Y variable group
n : data size

2.6 Reliability Test

The reliability of a test refers to the level of stability, consistency, predictability, and accuracy. Ghozali (2009) states that reliability is a tool for measuring a questionnaire which is an indicator of a variable or construct. A survey is considered reliable or trustworthy when the responses to statements are consistent or stable over time. Reliability test can be calculated using the formula below

$$r_{11} = \frac{n}{n-1}\left(1 - \frac{\sum_{i=1}^{n} S_i^2}{S_t^2}\right) \quad (2)$$

Information:
r_{11} : reliability coefficient
n : the number of questions
S_i^2 : the variance of the score of the i-th item
S_t^2 : total variance score

2.7 Chi Square Test

The chi-square test is a non-parametric method for determining the relationship between two variables in categorical data (Sugiyono, 2017). The chi-square test hypothesis is as follows:
H_0: The two variables are mutually independent (independent)
H_1: These two variables are not mutually independent (dependent)
The statistics for the chi-square test are as follows.

$$X^2 = \sum_{i=1}^{b}\sum_{j=1}^{k} \frac{(n_{ij} - e_{ij})^2}{e_{ij}} \sim X^2(v) \quad (3)$$

$v = (b-1)(k-1)$
Information:
n_{ij} : The frequency of observations in the i-th row and j-th column
e_{ij} : Expected frequency in the i-th row and j-th column
e_{ij} : $(n_i. n_{.j})/n_{..}$

3. Research Methods

3.1 Types of Research

The type of research used in this study is quantitative research with a correlational method to measure the relationship between two or more variables (Creswell, 2014). This research was conducted to determine the relationship between the frequency in using social media and the anxiety level as a result of body shaming and harassment.

3.2 Data Sources

The data used in this study is primary data obtained by distributing questionnaires to cyberbullying victims. Victims of cyberbullying divided into victims of body shaming and harassment that will receive different questions to analyze the relationship between the frequency in using social media use and the anxiety level based on the type of cyberbullying experienced. The requirements for respondent who may take part of this research are being more than 16 years old, an active user of social media, and a victim of body shaming and or harassment.

3.3 Variable Categories

This study has two variables. The first variable is the level anxiety as the result of body shaming and the anxiety level as the result of harassment. The categorization of the anxiety level is based on Arikunto (2013) which states that the categories for the level behavior of a person can be grouped as follows.

Table 1. Respondent's Anxiety Level Category

Research variable	Variable Category
The anxiety level as the result of body shaming	Quite Anxious
	Anxious
	Very Anxious
The anxiety level as the result of harassment	Quite Anxious
	Anxious
	Very Anxious

The variable X in the table above is the score obtained from the respondents. The anxiety level score is gained through calculations with the following calculation formula.

$$X = \frac{\text{respondent total score}}{\text{maximum total score}} \times 100$$

3.4 Data Analysis Procedures

In order to the research goals, the process of data analysis must be carried out in accordance with predetermined procedures. The following is the data analysis procedure in this study.

1. Conducting validity test based on equation (1) and reliability test based on equation (2).
2. Conducting a descriptive analysis to find out the distribution of respondents in the category of frequency in using social media and the respondents anxiety level due to cyberbullying.
3. Tabulating the data used in the research into contingency tables based on the calculation of equation (4).
4. Performing Chi Square tests to determine the relationship between the two variables using equation (3).
5. Constructing decisions based on Chi-Square test results and making conclusions.
6. Providing recommendations in accordance with the results of the analysis.

4. Results and Discussion

4.1 Questions Validity Test

Validity test is used to measure whether a questionnaire is valid or invalid. In other words, validity test is used to measure the accuracy of the questions or statements in the research questionnaire. The following are the questions contained in the questionnaire along with the p-value and the validity of each question item.

Table 2. Test the Validity of Questionnaire Questions*Body Shaming*

Statement	P-value	Conclusion
I once felt worried about body shaming that has been done by other users on social media	0.000	Valid
I once felt depressed about body shaming that has been done by other users on social media	0.000	Valid
I once had insomnia because of body shaming that has been done by other users on social media	0.000	Valid
I once felt inferior because of body	0.000	Valid

shaming that has been done by other users on social media		
I once felt like I wanted to change my physical appearance because of body shaming that has been done by other users on social media	0.000	Valid
I once had a grudge against other users on social media who did body shaming	0.000	Valid
I hate myself because of body shaming that other users do on social media	0.000	Valid
I feel embarrassed to meet other people because of the body shaming that other users do on social media	0.000	Valid

Table 3. Test the Validity of Questionnaire Questions*Harassment*

| Statement	P-value	Conclusion
I once felt worried about harassment that has been done by other users on social media	0.000	Valid
I once felt depressed about harassment that has been done by other users on social media	0.000	Valid
I once had insomnia because of harassment that has been done by other users on social media	0.000	Valid
I once felt inferior because of harassment that has been done by other users on social media	0.000	Valid
I once felt worthless because of harassment that has been done by other users on social media	0.000	Valid
I have been traumatized because of harassment that has been done by other users on social media	0.000	Valid
I once had a grudge against other users on social media who did	0.012	Valid

harassment		
I feel afraid to meet other people because of harassment by other users on social media	0.000	Valid

In this study, the validity test was carried out using SPSS software. If the p-value of the test results of a question item is less than a significance level which is 0.05, then the question item is declared valid. Based on the results of the analysis test, it was obtained that the p-value of all questions was smaller than the significance level of 0.05 so that it could be concluded that all statements were valid based on the validity test.

4.2 Questions Reliability Test

Reliability testing can be measured using the Cronbach Alpha method. From the reliability test, a Cronbach Alpha value of 0.916 was obtained for the item identifying the anxiety level as a result of body shaming and a Cronbach Alpha value of 0.891 for the item identifying the anxiety level as a result of harassment. It can be concluded that the question items have fulfilled the reliability assumption which is included in the very high reliability category.
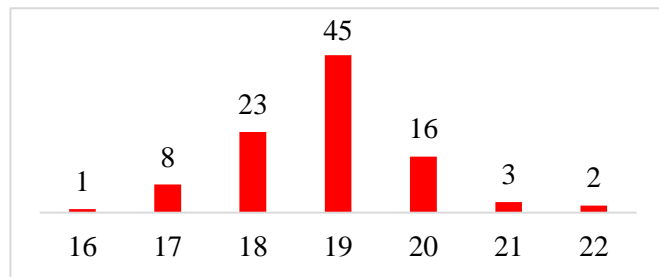
4.3 Respondents Identity
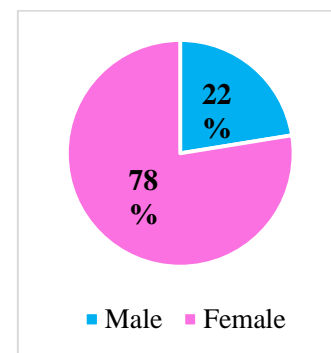
**Picture 1.**Graph of Respondent's Gender
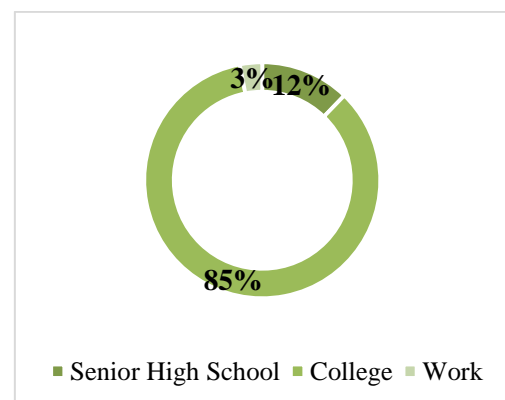
Picture 2. Graph of Respondent's Activity

Picture 3. Graph of Respondent's Age

Based on the graph above, the percentage of female respondents in this study was 77.6% or 76 respondents and male respondents were 22.4% or 22 respondents. The percentage of respondents who are currently pursuing senior high school education in this study is 12.2% or 12 respondents, the percentage of respondents who are currently in college is 84.7% or 83 respondents, and the percentage of respondents who are working is 3.1% or 3 respondents. The most respondents were at the age of 19, that is 45.9% or 45 respondents and the least were at the age of 16, that is 1% or a respondent.
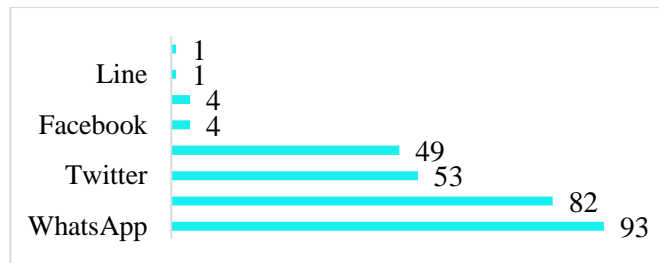
Picture 4. Social Media Used by Respondents

The majority of respondents use social media for five hours each day. The smallest duration of social media use is 2.5 hours and the longest use is 16 hours per day. The most used social media by respondents is WhatsApp, which is 94.9% and Instagram, that is 83.7%. In addition, social media TikTok and Twitter are often used with the percentage of respondents who use them respectively 54.1% and 50%. The most rarely applications used by respondents are Youtube and Facebook that are 4% and Line and Discord which is 1%. In addition, as many as 73.5% of respondents have less than 5 posts on social media.

Bullying in cyberspace that is often experienced by respondents is body shaming, as much as 51% or 50 out of 98 respondents and the remaining 49% experience harassment. This may be due to the views of social media users that a person must have a perfect body, thus demanding physical perfection from others. In addition, social media users may not have respect for other social media users so they are doing body shaming and harassment.

4.4 Cyberbullying Victims

Based on the results of the research, 64% of respondents who were victims of body shaming experienced humiliation because their body shape was out of proportion, such as being overweight or too thin. In addition, 34% of respondents experienced humiliation because their height was either too tall or too short and 32% of respondents were insulted because of their skin color. In adolescents and adults, maybe acne skin is normal because of hormones. However, there are still many social media users who demean other users because they have acne-prone skin as evidenced by 26% of respondents experiencing humiliation because of this. In addition, as many as 4% of respondents experienced humiliation because of their hair and 4% because of their teeth.

Respondents who were victims of harassment also mentioned the forms of harassment they experienced on social media. The majority of respondents had been terrorized by several unknown Instagram accounts with insulting and demeaning words. In addition, respondents have also been sent several inappropriate photos by other social media users, received inappropriate comments, experienced physical harassment in the form of jokes, and been threatened by other social media users if they did not want to communicate with these users.

4.5 Anxiety Level Score

Based on the calculation results, the lowest anxiety level score for body shaming victims is 10 and the highest is 100. Using the same calculation formula, the lowest anxiety level score for harassment victims is 15 and the highest is 93.75. The range of anxiety level scores for body shaming and harassment victims will be divided into three levels, namely quite anxious, anxious and very anxious.

Table 4. Anxiety Level Score of Body Shaming Victims

Anxiety Level	Score
Quite Anxious	0 - 45
Anxious	45.1 - 65
Very Anxious	> 65

Table 5. Anxiety Level Score of Harassment Victims

Anxiety Level	Score
Quite Anxious	0 - 55
Anxious	55.1 - 70

Very Anxious	> 70

4.6 Analysis of Body Shaming Victims Data

After dividing the anxiety level score into three levels, the data tabulation process will be carried out in the contingency table. This process aims to assist researchers to carry out the Chi-Square test in analyzing the relationship between the frequency in using social media and the anxiety level of body shaming victims. In constructing contingency table, it is requires to pay attention to each cell because the expected frequency value should not be less than 5.

Table 6. Contingency Table of Body Shaming Victims

Frequency in Using Social Media	Anxiety Score			Total
	Quite Anxious	Anxious	Very Anxious	
0-5 hours	10	6	7	23
> 5 hours	9	10	8	27
Total	19	16	15	50

The following is a hypothesis formulation to test whether there is a relationship between the frequency in using social media and the anxiety level of body shaming victims or not.

H_0: There is no relationship between the frequency in using social media and the body shaming victim anxiety level.

H_1: There is a relationship between the frequency in using social media and the body shaming victim anxiety level.

The following table is the result of observation frequency, expectation frequency, and Chi-Square Test analysis using SPSS.

Table 7. Expectations Frequency Table of Body Shaming Victims

			Anxiety Level			Total
			Quite Anxious	Anxious	Very Anxious	
Frequency in Using Social Media	0-5 Hours	Observation	10	6	7	23
		Expected	8.7	7.4	6,9	23
	> 5 Hours	Observation	9	10	8	27
		Expected	10.3	8.6	8.1	27
Total		Observation	19	16	15	50
		Expected	19	16	15	50

Based on the SPSS output, the p-values is 0.669 which is greater than the significance level of 0.05 so it is

decided to fail to reject H_0. The conclusion that can be drawn is that there is no relationship between the frequency in using social media and the anxiety level of body shaming victims. Thus, there is a high probability that body shaming on social media is caused by factors other than the frequency in using social media, such as the behavior of the perpetrator.

4.7 Analysis of Harassment Victims Data

Similar to data analysis on body shaming victims, a contingency table between the frequency in using social media and the anxiety level of harassment victims are also needed to be formed. This aims to facilitate the process of data analysis. The following is a contingency table for the frequency in using social media and the anxiety level of harassment victims.

Table 8. Contingency Table of Harassment Victims

Frequency in Using Social Media	Anxiety Score			Total
	Quite Anxious	Anxious	Very Anxious	
0-5 hours	8	10	10	28
> 5 hours	7	6	7	20
Total	15	16	17	48

The following is a hypothesis formulation to test whether there is a relationship between the frequency in using social media and the anxiety level of harassment victims or not.

H_0: There is no relationship between the frequency in using social media and the harassment victim anxiety level.

H_1: There is a relationship between the frequency in using social media and the harassment victim anxiety level.

The following table is the result of observation frequency, expectation frequency, and Chi Square Test analysis using SPSS.

Table 9. Expectations Frequency Table of Harassment Victims

			Anxiety Level			Total
			Quite Anxious	Anxious	Very Anxious	
Frequency in Using Social Media	0-5 Hours	Observation	8	10	10	28
		Expected	8,8	9,3	9,9	28
	> 5 Hours	Observation	7	6	7	20
		Expected	6,3	6,7	7,1	20
Total		Observation	15	16	17	48
		Expected	15	16	17	48

Based on the SPSS output, the p-values is 0.874 which is greater than the significance level of 0.05 so it can be decided to fail to reject H_0. The conclusion that can be drawn is that there is no relationship between the frequency in using social media and the anxiety level of harassment victims. Thus, there is a high probability that harassment on social media is caused by other factors besides the frequency in using social media, such as the educational level of the perpetrator.

4.8 Proportion of Respondents

Based on the results of the data analysis above, it can be concluded that there is no relationship between the frequency in using social media and the anxiety level as a result of body shaming and harassment. The following is the proportion of respondents in each contingency table.

Table 10. Proportion of Body Shaming Victim Respondents

Frequency in Using Social Media	Anxiety Score			Total
	Quite Anxious	Anxious	Very Anxious	
0-5 hours	0.2	0.12	0.14	0.46
> 5 hours	0.18	0.2	0.16	0.54
Total	0.38	0.32	0.3	1

The calculation of the proportions in the contingency table above shows that there are the same proportions at each anxiety level. It is known that around 0.3 or 30% of respondents feel quite anxious, anxious, and very anxious after experiencing body shaming on social media.

Table 11. Proportion of Harassment Victim Respondents

Frequency in Using Social Media	Anxiety Score			Total
	Quite Anxious	Anxious	Very Anxious	
0-5 hours	0.166666667	0.20833333	0.208333333	0.583333333
> 5 hours	0.145833333	0.125	0.145833333	0.416666667
Total	0.3125	0.33333333	0.354166667	1

Similar to body shaming victims, around 30% of harassment victims feel quite anxious, anxious, and very anxious after experiencing harassment on social media. There is no difference in proportion that causes no relationship between the frequency in using social media and the anxiety level of body shaming and harassment victims.

4.9 Respondent Opinions

Because the frequency of using social media does not affect the anxiety level of body shaming and harassment victims, it is possible that there are other factors that contribute to the victims anxiety level. This is based on the assumption that the large number of perpetrators of cyberbullying, especially body shaming and harassment, may be due to the low level of education of social media users which causes the perpetrator's behavior and words to be out of control so that it hurts the victims both psychologically and mentally.

Based on calculation, 81.6% of respondents thought that cyberbullying which occurs on social media must be minimized immediately. If cyberbullying that occurs on social media continues, other social media users will also be anxious. This can be seen from 63.3% of respondents stating that bullying in cyberspace can increase anxiety and 70.4% of respondents think that cyberbullying which occurs to other people also causes anxiety to other users on social media. As much as 69.4% of respondents think that cyberbullying perpetrators must be dealt with in order to have a deterrent effect and not continue in doing cyberbullying.

Respondents in the study provided opinions on possible solutions to minimize bullying in cyberspace. The solutions suggested by the respondents are as follows.
1. Strengthen faith, respecting yourself, and be grateful for what you have so you do not have to listen to other people condescending words.
2. Providing a place to report acts of bullying in cyberspace and a place to educate both victims and perpetrators.
3. Providing socialization regarding the impact that can be caused by cyberbullying.
4. Controlling emotions, words, and actions in using social media.
5. Using social media as a place to spread positive things..
6. Considering anything before posting something on social media.

5. Conclusion

Based on the research above, it can be concluded that there is no relationship between the frequency in using social media and the anxiety level for both body shaming and harassment victims. Based on the respondent opinions, there are other factors that cause cyberbullying, such as the perpetrator's educational level, attitudes, and behavior.

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