

THE RELATIONSHIP BETWEEN WATCHING MUKBANG AND STRESS LEVEL WITH EATING PATTERNS IN ADOLESCENTS

Salwa Salsabillah¹, Noerfitri^{*}

¹Program S1 GIZI, STIKes Mitra Keluarga, Bekasi, Indonesia

^{*}E-mail: noerfitri@stikesmitrakeluarga.ac.id

ABSTRACT

In adolescence, unhealthy eating habits are sometimes formed, because teenagers usually have preferred food choices. Many teenagers think that by eating a lot and having a full stomach, their nutritional needs are met. Unregulated eating habits can be affected by stress. The current trend is watching “mukbang”, the stimulus generated in the form of sound can affect eating behavior. This study aims to determine the relationship between watching mukbang and stress levels and eating patterns in adolescents. The design of this study was a cross sectional study that was conducted at PB Soedirman Islamic High School in Bekasi. There were 138 people aged 16–18 years, who were selected by consecutive sampling. Data collection used the Mukbang Addiction Scale (MAS), Perceived Stress Scale (PSS), and FFQ. Based on the results of the Chi-Square statistical test, a p-value of 0.193 was obtained with an OR of 1.565 for the relationship between the habit of watching mukbang and eating patterns, and a p-value of 0.022 with an OR of 2.258 for the relationship between stress levels and eating patterns. The conclusion of this study is that there is no significant relationship between the habit of watching mukbang and eating patterns, and there is a significant relationship between stress levels and eating patterns in adolescents at PB Soedirman Islamic High School, Bekasi.

Key words: *eating patterns, mukbang, stress level, teenager*

INTRODUCTION

Adolescence is a transitional period between childhood and adulthood, and during this period there are rapid changes in physical, cognitive, and behavioral development (Adriani and Bambang, 2016). Adolescents are a group of individuals who are in search of identity and who like to imitate and admire attractive idols. Dissatisfaction with one's appearance can determine the eating habits and nutritional status of most adolescents (Brown et al., 2017).

In adolescence, unhealthy eating patterns are sometimes formed because adolescents often have preferred food choices. Many adolescents feel that their nutritional needs can be met simply by eating a lot and filling their stomachs (Mardalena, 2017). According to the World Health Organization (2014), there has been a change in diet, namely increased consumption of fast food that is high in energy, high in fat and sugar, but low in vitamins, minerals, and other micronutrients. Based on Riskesdas (2018), it shows that the habits of Indonesian adolescents aged 15–19 years consume sugary foods, sugary drinks, and fatty/cholesterol/

fried foods more than once a day 41%, 56.43%, and 43.8%, respectively.

Irregular eating patterns can affect the nutritional status of adolescents, resulting in overnutrition or undernutrition (Kadir, 2016). According to Riskesdas (2018), the prevalence of very thin and thin adolescents aged 16–18 years in Indonesia based on BMI/A was 1.4% and 6.7%, respectively, while the prevalence of fat and obesity was 9.5% and 4%. In West Java Province, the prevalence of very thin and thin adolescents aged 16–18 years based on BMI/A is 1.4% and 5.6%, while the prevalence of fat and obesity is 10.9% and 4.5%. Meanwhile, in Bekasi City, the prevalence of very thin and thin adolescents aged 16–18 years based on BMI/A was 2.24% and 4.90%, while the prevalence of fat and obesity was 11.28% and 6.13% (Riskesdas, 2019).

Based on the results of research conducted by Marhama (2015), it shows that irregular eating habits can be influenced by stress. Stressed people tend not to pay attention to their diet, which can cause weight gain or loss. According to Syamsuddin (2017), the causes of stress in

adolescents are many, including internal and external life demands that can put pressure beyond their abilities, which can cause physical or mental stress, reduced stamina, and emotional outbursts. Stress that often occurs in adolescents is caused by the need to learn and the perception of it as a distraction. Academic stress is caused by academic stressors sourced from the learning process (Rahmawati, 2015). This situation is a stressor for adolescents that can trigger stress that affects diet.

The results of research conducted by Aulia and Lilik (2018), show that media exposure can influence the eating choices of adolescents who are easily influenced by current trends, one of which is the broadcast of eating in large portions or mukbang (Margawati et al., 2020). Mukbang videos feature large amounts of food, usually done while chatting casually with viewers who are disseminated through social media (Strand and Sanna, 2020). Mukbang videos featuring large quantities of food, often prepared in the community, are disseminated through social media (Strand and Sanna, 2020). Attractive mukbang videos can arouse a person's appetite, influencing their eating behavior and food intake. This is in accordance with research conducted (Amalia et al., 2021), which shows that there is a relationship between viewing habits and changes in eating behavior in individuals who follow mukbang accounts on Instagram ($p = 0.003$). According to Saftarina and Devita (2016), a person's desire to eat can also be influenced by stimuli in the form of sound. If this stimulus affects eating behavior, it will become a risk factor for overeating (Margawati et al., 2020).

Based on the description above, the researcher is interested in conducting research related to "The Relationship between Watching Mukbang and Stress Level with Diet in Adolescents at PB Soedirman Bekasi Islamic High School." Researchers chose PB Soedirman Bekasi Islamic High School as the location to be studied, because it is strategically located near culinary places and has a variety of social, economic, and cultural backgrounds and lifestyles.

METHODS

This study is a community nutrition research with observational design and cross sectional design. The subjects in this study were students of PB Soedirman Islamic High School Bekasi. Subjects included adolescents aged between 16 - 18 years. The number of respondents in this study was 138. This research was conducted in March 2023. The sampling technique used was Non Probability Sampling using the Consecutive Sampling method. This research has passed the Health Research Ethics Committee of Muhammadiyah Prof. Dr. Hamka University (KEPKK-UHAMKA) at number : 23/03/02336.

Subject retrieval began by asking directly in class, then selecting subjects who fit the inclusion criteria to get 138 subjects. Inclusion criteria include students who are active as students from PB Soedirman Bekasi Islamic High School aged 16–18 years, students who are willing to become respondents, students who have watched mukbang in the past month, and students who are not sick. Exclusion criteria are sick subjects, students who are on a certain diet, and students who are not willing to fill out the questionnaire.

The study examined the independent variables of watching mukbang and stress levels, with eating patterns as the dependent variable. This research was conducted directly. Before filling out the questionnaire, the researcher gave informed consent for approval to become a research subject. Then the research subject was asked to fill out a questionnaire.

The watching mukbang was obtained using the MAS (Mukbang Addiction Scale) questionnaire, which assessed the addiction of watching mukbang over the past week. The questionnaire a list of eight types of habit of watching mukbang. The form has been validated for high school martia bhakti which is located in the same region. Habit of watching mukbang frequency was classified as frequently (0-4 times/week) or rarely (>4 times/week). This classification was based on modifications from research that also used a sample of college students (Fayasari et al., 2022). Stress level data was obtained using the PSS-10 (Perceived Stress

Scale-10) questionnaire. which assesses stress level over the past month. The form has been validated for high school martia bhakti which is located in the same region. The questionnaire a list of ten types of stress level. A PSS total score of twenty or greater than is considered severe, while a score less twenty is considered mild. This classification was based on modifications from research that also used a sample of high school students (Mulyono, 2020).

Eating patterns was collected using a food frequency questionnaire (FFQ), which assessed the frequency of consumption over the past month. . The form has been validated for high school martia bhakti which is located in the same region. A FFQ total score greater than two hundred and thirty five is considered enough, while a score of two hundred and thirty five or less is considered not enough (margawati et al., 2022).

Microsoft Excel and SPSS were used for data processing and analysis. Editing, coding, processing, and cleaning were the primary stages of data processing in this study. This study used univariate and bivariate analyses. Univariate analysis was used to determine the frequency distribution of subject characteristics (gender, grade, pocket money), watching mukbang, stress level, and student eating patterns. Bivariate analysis was used to determine the relationship between watching mukbang and eating patterns, using the Chi-Square test.

RESULTS AND DISCUSSIONS RESULTS

According of Table 1, it can be seen that the total sample of 138 people conducted a normality test on the age variable of all data that has been inputted. The normality test results obtained from the data are $p\text{-value} > 0.05$ which can be concluded that the data is not normally distributed. Therefore, the age variable uses the median and interquartile range indicators. The median age of adolescents is 16.00 years, with an interquartile range variation of 1 between 16.00 and 17.00.

Table 1. Subject Age

Variable	n	Median	Interquartile Range
Age	138	16.00	17.00 – 16.00

Table 2. Subject Characteristics

Subject Characteristics	n	(%)
Gender		
Male	33	23.9
Female	105	76.1
Grade		
X	69	50
XI	69	50
XII	0	0
Pocket Money		
High	128	92.8
Low	10	7.2
Total	138	100

The characteristics of the subjects, including gender, grade, and pocket money are shown in Table 2. According to the table, the majority were female 76.1%. Grade X and XI with a balanced number 50%. Students with high pocket money were 92.8% and students with low pocket money category were 7.2%.

According to Table 3, 55.1% of students watching mukbang frequently and 44.9% of students watching mukbang rarely. Based on the analysis, students of high school watching mukbang frequently. According to the researcher, a study stated that a mukbang can meet some of the psychological needs of individuals (Kircaburun et al., 2021). A person watching a mukbang can mitigate loneliness and social alienation in real life by making them feel emotionally connected to other viewers and Broadcast Jockey (Choe, 2019).

According to Table 3, 62.3% of students have severe stress level while the remaining 37.3% have mild stress level. Based on the analysis, most students at high school PB Soedirman Bekasi have a severe stress level. The causes of stress are different for everyone. Internal factors refer to factors that can cause stress in the individual itself, such as their physical condition, motivation, and personality type (Gamayanti et al., 2018). External factors usually come from outside the individual, like family, work, facilities, the environment, or a lecturer. (Sutjiato et al., 2015).

According to the researcher, it can be triggered by the many activities and basic tasks performed by students, which are also accompanied by learning activities. One of them at Islamic High School,

Table 3. Frequency Distribution of watching mukbang, stress level and eating patterns among PB Soedirman Bekasi Students

Variable	n	(%)
Watching Mukbang		
Frequently	76	55.1
Rarely	62	44.9
Stress Level		
Severe	86	62.3
Mild	52	37.7
Eating Patterns		
No Enough	74	53.6
Enough	64	46.4
Total	138	100

PB Soedirman has implemented an independent curriculum where there is no longer a science, social, or language for grade X and the students are allowed to choose the subjects of the group of choice at grades XI and XII. Therefore, in grade X, they have to study all the topics of both the natural sciences and social sciences, as well as languages and religion, which includes reading and memorizing activities. When these activities are accompanied by tasks, the pressure on respondents tends to be greater. It's one of the factors that makes respondents feel stressed (Kemendikbud RI, 2022).

According to Table 3, 53.6% of students with no enough eating patterns, while 46.4% of students within an enough eating patterns. Based on the analysis, most students at high school PB Soedirman Bekasi have a no enough eating patterns. According to the researcher, though most teenagers have a good diet, the high consumption of high-sugar, low-fruit, and high-level junk foods can worsen the nutritional status of their future teenagers (Thania and Wardani, 2023). The irregular diet that is developing today is low-carbohydrate, low-raw-fiber, and high fat. This results in the body's intake of nutrients that are not in line with the needs of balanced nutrition. (Irfani and Noerfitri, 2021).

Based on Table 4, the Chi-Square test analysis revealed no significant association between the watching mukbang and eating patterns of high school PB Soedirman Bekasi ($p=0.193$). There was no significant association between watching

Table 4. Association between of Watching Mukbang and Stress Level with Eating Patterns

Variable	Eating Patterns		<i>p value</i>		
	No Enough	Enough			
	n	(%)	n	(%)	
Watching Mukbang					
Frequently	44	57.9	32	42.1	0.193
Rarely	29	46.8	33	53.2	
Stress Level					
Severe	52	60.5	34	39.5	0.022
Mild	21	40.4	31	59.6	

mukbang and eating patterns because confounding factors were not examined, including genes, sleep duration, physical activity, psychological health problems, body preferences, family income, and parental education level. Watching mukbang may be an indirect factor affecting appetite, eating patterns, and nutritional status. (Thania and Wardani, 2023).

A study of Diponegoro University students showed that respondents enjoyed watching mukbang, but respondents did not want to buy food immediately after watching the video. In addition, pocket money has a greater impact on a person's eating habits as they tend to buy food in excess. Some people change their eating habits at the beginning of the month and save at the end of the month, thus making eating habits unstable and affecting access to food (Margawati et al., 2020).

One of the reasons people watch mukbang is as entertainment, the sounds produced during mukbang can provide a sensory response for some viewers that can lead to happiness (Choe, 2019; Pettit, 2019; Woo, 2018). Thus, they become more interested in the sounds produced by the act of eating in the consumption itself (Schwegler-Castañer, 2018). Watching mukbang can also provide viewers with an escape mechanism that the real world seeks with different social, and entertainment features, especially those videos where BJs talk and interact about their daily lives, which might distract viewers from their own real-life problems and unpleasant realities (Hong and Soejang, 2017).

According to the data obtained by researchers, the reasons why respondents watch mukbang are mostly for entertainment or personal satisfaction. A study of DKI Jakarta students found that 278

students (67.3%) watched mukbang videos while eating. They do it because they want to entertain themselves, pass the time, and get personal satisfaction (Fayasari et al., 2022). When one is stressed, one way to relieve stress is to watch mukbang videos, as watching someone eat can help relieve stress due to a fast-paced and highly competitive lifestyle, such as pressure in studying and public and work responsibilities. One can feel satisfied watching someone eat (Husna and Rashad, 2015).

Based on Table 3, the Chi-Square test analysis revealed a significant association between stress level and eating patterns in high school PB Soedirman Bekasi ($p=0,022$). Based on the results of the study, there is a relationship between respondents' eating behavior and their stress level. The higher the stress level, the more negative the eating behavior. There is evidence that stress can lead to eating disorders, manifested by decreased or increased appetite. People with certain characteristics tend to snack more and increase their overall food intake when they are stressed. An unsettled mood leads individuals to choose to escape by consuming large amounts of energy-dense foods, as food has been shown to produce feelings of comfort. Stress can also cause appetite to decrease as the mood does not support the body's food intake (Defie and Enny, 2018).

The stress response is divided into two categories: eustress and distress. Eustress is a positive response to stress, while distress is a negative response to stress. One of the common coping strategies for stress is eating. Often, individuals choose to eat not because they are hungry but to improve their mood and minimize discomfort due to stress. This is in accordance with previous research conducted by Gori and Kustanti (2019), which suggests that eating something during stress is a form of compensation that aims to relieve stress because it provides mental comfort.

There are two types of changes in eating behavior due to stress. Some people eat more when stressed (emotional eaters), and conversely, some people eat less or are not affected by stress (non-emotional eaters). A person under stress tends to lose their appetite or otherwise overeat, which will affect changes in their nutritional status. Stress can stimulate the release of noradrenalin and

corticosteroid-releasing hormone (CRH), which can decrease appetite, and cortisol, which can increase appetite. (Sominisky and Spencer, 2014).

The analysis showed that adolescents consumed carbohydrates, protein, and fiber from vegetables. However, the carbohydrate sources favored by adolescents turned out to have approximately the same nutritional content, such as noodles, white rice, white bread, and cookies. This finding is in line with Insani's (2019) research, which showed that rice, noodles, and potatoes are the staple foods most consumed by adolescents.

Adolescents at PB Soedirman Bekasi Islamic High School usually only consume certain types of protein, such as chicken, eggs, and cow's milk, which contain many growth-supporting nutrients and not much fat or sugar (Ministry of Health of the Republic of Indonesia, 2020). According to another study, tofu and tofu are the sources of vegetable protein most consumed by adolescents (Insani, 2019).

In terms of vegetable consumption, the adolescents in this study consumed a variety of vegetables, especially spinach, carrots, and kale. These vegetables tend to be easily available and cheap. Eating fruits and vegetables is important because they contain substances that help strengthen the immune system, such as vitamins A, B6, C, E, and folic acid. Vegetables are also rich in minerals and fiber that help maintain body and organ functions. Fruit consumption among adolescents varies widely (Ministry of Health, 2020). Bananas, oranges, apples, and papayas are the most consumed fruits. Fruits, especially colored ones, are rich in vitamins A and C, minerals, fiber, and antioxidants that are important for maintaining a healthy body (Kemenkes RI, 2020).

In addition, adolescents who participated in the study also frequently consumed high-sugar beverages such as tea and coffee. Weight gain and the risk of developing type 2 diabetes may be associated with consuming too much sugar (MOH, 2014). Adolescents also often consume foods that are low in nutrients, high in calories, and high in sodium. Fast food, or junk food, is a favorite in social situations because it tastes good, is served quickly, and is relatively cheap (Agustina et al., 2021). In addition, they can even be purchased through online applications. Too much junk food

can increase body fat and increase the risk of diabetes, obesity, cancer, coronary heart disease, and other diseases (Kemeskes RI, 2014; Riskesdas, 2018).

The diet carried out by most subjects is included in the deficient category, because subjects consume a lot of high-sugar drinks, consume less fruit, and consume a lot of junk food, which can reduce the quality of the subject's nutritional condition in the future (Thania and Wardani, 2023). Irregular eating habits that are now developing include a diet low in carbohydrates, low in crude fiber, and high in fat. This causes the absorption of nutrients received by the body to be inappropriate according to the principles of a balanced diet (Irfani and Noerfitri, 2021).

CONCLUSION

There is no significant relationship between watching mukbang and eating patterns in adolescents at PB Soedirman Bekasi Islamic High School, with a p-value of 0.193 ($p > 0.05$). There is a significant relationship between stress levels and eating patterns in adolescents at PB Soedirman Bekasi Islamic High School, with a p-value of 0.022 ($p < 0.05$). It is hoped that future researchers can expand the research site, add the duration of watching mukbang to the questionnaire, and add factors that affect research variables such as age, peer influence, social media, and socioeconomics.

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