The Relationship Between Perceived Body Image, Frequency of Fast Food Consumption, and Nutritional Status

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Article Information	ABSTRACT
	Introduction: The developmental stage of late adolescence can cause changes in attitudes and feelings that can influence perceptions of body image and food consumption habits (especially fast food). This condition will affect nutritional status. This study aims to determine the relationship between perceived body image and frequency of fast-food consumption and nutritional status. **Method:** This research uses an observational research design with a cross-sectional approach and applies the Pearson product moment correlation test. The sample consisted of 82 students of Department of Nutrition Science Universitas Muhammadiyah Surakarta who were selected using the simple random sampling method. Data on body image perception and frequency of fast-food consumption were obtained using the Multidementional Body Self Relations Questionnaires-Appereance Scale (MBSRQ-AS) questionnaire and the Food Frequency Questionnaire (FFQ) form in the last 1 month. Nutritional status is obtained by measuring body weight and height. **Results:** The relationship between perceived body image and nutritional status has a p-value = 0.533 and the relationship between frequency of fast-food consumption and nutritional status has a p-value = 0.042. **Conclusion:** There is no relationship between perceived body image and nutritional status among UMS nutrition students, but there is a relationship between the frequency of fast-food consumption and nutritional status among UMS nutrition students. Respondents are expected to be able to adopt a healthy and balanced diet so that they can maintain normal nutritional status and create a positive body image perception.

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INTRODUCTION

A student is an individual who is included in the late adolescent development stage, where there is a transition period from early adolescence to adulthood that causes changes in attitudes and feelings so that they can regulate their lives individually (Erdenebileg *et. al.*, 2018). In general, most students spend their time on campus doing various activities. Teenagers have bad eating habits, such as consuming fast food. Lifestyle, environment, economic factors, and nutritional knowledge are among the factors that cause students to consume fast food (Suradji, 2013). Late adolescents also have developmental tasks, namely being able to accept their physical condition, understanding sexual roles in adulthood, improving good relationships with other group members of different genders, and developing responsible behaviour to enter the adult world (Paramitasari & Alfian, 2013).

According to research conducted by Munthoharoh (2018) It was explained that 51.65% of female students had a negative body image; this shows a fairly high percentage. According to research Terba (2021), It was explained that there were students who often consumed fast food, namely 41.2%, and researchers stated that there was a relationship between fast food consumption and nutritional status. According to the results of a research survey of 20 UMS Nutrition Science students from the 2019 and 2020 classes, 75% said they were dissatisfied with their body shape, such as looking chubby, fat, and feeling short. Then 50% of respondents like to eat fast food and buy fast food every day, and the rest only like to eat fast food but don't buy fast food every day; this can affect their nutritional status. Therefore, this research was conducted to determine the relationship between perceived body image, frequency of fast food consumption, and nutritional status among UMS Nutrition Science students.

LITERATURE STUDY

Nutritional status is something every individual must know to predict and prevent excess or lack of nutrition. Nutritional status can be influenced by a person's eating behaviour who likes fatty foods, sugar, and fast food, which can cause obesity problems (Nurwulan *et al.*, 2017). Nutritional status can also be influenced by body image perceptions. The perception of poor body image encourages them to take various actions to achieve satisfaction (Miranda *et al.*, 2014). One alternative to determining nutritional status in adolescents is by measuring Body Mass Index (BMI) with indicators of height and weight. When our weight is normal, it will have a good impact on the body, such as reducing the risk of non-communicable diseases, beautiful appearance, and agility. If we are underweight or overweight, there will be negative effects on the body, such as susceptibility to disease as well as affecting later stages of life (Ozdemir *et al.*, 2016).

Body image perception is an individual's perception of how they view their body. Interpersonal relationships, gender, and mass media are factors in the emergence of body image perceptions (Cash, 2000). Everyone has their own assessment of their body shape. Everyone has the desire for a slim and ideal body, especially women. Perception of body image will determine eating habits and nutritional status. According to research by Ribeiro-Silva et al. (2018), someone who is dissatisfied with their body image will tend to eat bad food, while people who are satisfied with their body image tend to eat good food.

Fast food is food with limited nutritional content. There is a high content of calories, fat, sugar, and salt and a low content of protein, minerals, and vitamins. Fast food is divided into two categories, namely local and western; for example, western food such as burgers, fried chicken, pizza, etc. Examples of regional dishes such as fried foods, chicken noodles, batagor, seblak, empek-empek, meatballs, cilok, etc. Eating too much fast food will cause many diseases and weight gain. There are many factors that make students like fast food,

namely economic conditions, busy parents, where they live, and social environment (Bonita & Fitranti, 2017).

METHOD

The type of research was observational with a cross-sectional approach to UMS nutrition students. This research was conducted in the campus environment of the UMS nutritional science study program, and data collection was carried out from June to July 2023. The population that was the subject of this research consisted of 4 classes of the Nutritional Science Study Program, namely 678 students. The inclusion criteria in this study were students who were not on a weight loss diet and did not have illnesses or allergies. The number of subjects in this study was 74 samples calculated using the Lemeshow formula (1997). So the sample for this study was 74 students; taking into account the loss of follow, the sample used was 82 UMS Nutrition Science students. Sampling was carried-out randomly using a simple random sampling method from the 4 batches, randomized based on online spin so that for each batch a sample was obtained according to the proportional formula calculation.

Respondent identity data was obtained by direct observation at the research location, and respondents filled out the respondent identity form. Body image perception data was obtained from the Multidemential Body Self Relations Questionnaire-Appearance Scale (MBSRQ-AS) questionnaire regarding body image perception adapted from Cash (1990) with a reliability coefficient of 0.75. Fast food consumption data was collected by filling out the Food Frequency Questionnaire (FFQ) form for the last month, which contains a list of fast food. Nutritional status data was obtained by measuring body weight with a digital scale and height using a microtoa directly and calculating the Body Mass Index (BMI). Univariate data analysis was carried out to describe body image perception, frequency of fast-food consumption, and nutritional status. SPSS 23 software was used for bivariate analysis. To test the normality of the data, the Kolmogorov test was carried out, followed by the Pearson Product Moment correlation test because the data was normally distributed. This research has received approval from the Ethics Committee of Dr. Moewardi with Number: 1.133/VI/HREC/2023.

RESULT AND DISCUSSION

The distribution of characteristics of UMS nutrition students based on age, gender, pocket money, and place of residence is shown in Table 1. The respondents in this study were UMS Nutrition Science students, with a total of 82 students. Based on Table 1, the distribution of respondent characteristics shows that the majority of respondents are aged 18-20 years (57.3%). According to Haditono & Rahayu (2019) Explains that age 12-14 is early adolescence, age 15-17 is middle adolescence, age 18-20 is late adolescence, and age 21-35 is adulthood. Approaching adolescence, they tend to have self-image characteristics and are able to control themselves and interfere in interacting with friends (Corey, 2013). A person's nutritional status can be influenced by age. The reason is because the body's metabolism decreases as a person ages, causing muscle function to decrease and the amount of body fat to increase. If it is not balanced with a healthy lifestyle, this can have an impact on a person's weight and nutritional status (Devi *et al.*, 2021).

Table 1 shows the distribution of characteristics of respondents, all female, namely 82 respondents (100%). In general, women are more dissatisfied with their bodies than men, due to increased total body fat, whereas men tend to be more satisfied with their bodies due to increased muscle mass (Santrock, 2015). Then, the distribution of respondents' pocket money in Table 1 shows that respondents' pocket money has the same frequency,

namely 41 respondents who have pocket money <1,500,000/month with medium classification (50%) while 41 respondents have pocket money ≥1,500,000/month with high classification (50%). Respondents who live far away and have a boarding house close to the campus tend to have more pocket money than respondents who live close to the campus and don't have a boarding house. The level of a person's purchasing power for a product can be influenced by pocket money. The greater a person's desire to buy a product is due to how much money a person has (Kurniawan & Widyaningsih, 2017). Pocket money influences a person's eating habits because it can increase a person's desire to buy desired products easily (Ma *et al*., 2020).

Table 1. Distribution of Respondent Characteristics (N= 82)

Characteristics	Frequency	Percentage (%)
Age		
18-20	47	57.3
21-35	35	42.7
Gender		
Female	82	100
Male	0	0
Allowance		
Medium (<1.500.000/bln)	41	50
High (≥1.500.000/ bln)	41	50
Residence		
Boarding	79	96.3
Non-boarding	3	3.7
Body Image Perception *(Body Image)*		
Negatif (mean <1,94)	42	51.2
Positif (mean ≥ 1,94)	40	48.8
Frequency of fast-food consumption		
Infrequently (scor mean <1)	45	54.9
Frequently (scor mean ≥1)	37	45.1
Nutritional status		
Underweight	13	15.9
Normal	52	63.4
Overweight	17	20.7

The distribution of respondent characteristics based on place of residence is shown in Table 1. Most of the respondents in this study lived in boarding houses, namely 79 respondents (96.3%). This can influence respondents' eating habits because usually, respondents who live with their parents are more careful about their food patterns. Students' eating habits can be influenced by where they live; usually, students who live in boarding houses more often buy food from outside to consume every day, so students pay less attention to the nutritional composition of the food. Students who live at home with their siblings and parents will pay more attention to their diet because generally the family food is provided by their mother, so mothers pay more attention to the cleanliness and nutritional composition of what the family consumes (Kurniawan & Widyaningsih, 2017).

Table 1 shows the distribution of respondents' characteristics, namely that the frequency of negative body image perception is 51.2% of respondents and positive body image perception is 48.8% of respondents. Respondents were declared to have a positive body image perception if the questionnaire score was ≥ mean (1.94) and had a negative

body image perception if the questionnaire score was < mean (1.94). This can be concluded that more students do not appreciate and are not confident in their own body shape. Body image perception data was obtained from filling out the Multidemential Body Self Relations Questionnaire-Appearance Scale (MBSRQ-AS) questionnaire. This questionnaire was answered using a Likert scale consisting of 34 questions. This questionnaire consists of 5 aspects, namely categorization of body size, anxiety about becoming fat, satisfaction with body shape, appearance orientation, and appearance evaluation. Table 2 shows the average results of items regarding body image perception.

Table 2. Average distribution of items regarding body image perception (Body Image)

Aspects of Body Image	Total Mean
Body Size Categorization	1.05
Anxiety about Getting Fat	1.57
Satisfaction with Body Shape	2.14
Appearance Orientation	2.08
Appearance Evaluation	1.93

Table 2 shows that the results for items regarding body image perception were highest for items regarding satisfaction with body shape with an average score of 2.14. This means that the majority of UMS nutrition students are satisfied with their specific and overall body parts, including the shape of their face, hair, upper body (chest, hips, stomach), lower body (thighs, legs), body weight, and height. Then the lowest average score was 1.05, namely on the question item regarding body size categorization. In this aspect, most respondents felt that they could assess and measure their body weight. Categorizing the respondents' body weight can increase satisfaction with their body condition if it is close to ideal condition. Someone with a positive body image perception is more likely to pay attention to their health, especially in choosing a healthy diet. Meanwhile, someone with a negative body image perception tends to feel unhealthy, resulting in obsessive behaviour as if achieving an ideal body makes the individual pay less attention to body image choices, eating healthily, and limiting food (Meriyanti, 2013).

The distribution of fast-food consumption frequency in Table 1 shows that 45 respondents (54.9%) have the frequency of fast-food consumption in the rare category, while 37 respondents (45.1%) have the frequency of fast-food consumption in the frequent category. Respondents are said to have a frequency of fast-food consumption in the frequent category if the questionnaire score is ≥ mean (1.03) and have a frequency of fast-food consumption in the rare category if the questionnaire score is < mean (1.03). Fast food is a type of practical food that contains high levels of energy, sugar, fat, sodium, and low levels of vitamins and fiber. There are more and more fast food restaurants spread across Indonesia, which can increase the influence of eating habits on teenagers (Bonita & Fitranti, 2017).

The results of research observations show that apart from consuming fast food, respondents also consumed sweet drinks such as Thai tea, sweet iced tea, fruit juice, and others. There are attractive promotions on online motorcycle taxi delivery services, so that outside activities are decreasing. This also has a small role in increasing the BMI of respondents.

Table 3 shows that there are 10 types of food that are often consumed by respondents, namely local fast food is consumed more often with a frequency of 1-2x/week with a high percentage, such as instant noodles, meatballs, risolmayo, chips, soimai, and batagor; apart from that, respondents consume seblak and chicken noodles with a

frequency of 2x/month. Then, western fast food is also consumed with a fairly high percentage, such as ice cream and fried chicken. This can also increase a person's chances of experiencing an increase in Body Mass Index (BMI). According to research Goon (2014) It was shown that students who consumed fast food >2x/week tended to gain weight. This research provides evidence that the growing trend of being overweight among students is when they consume fast food continuously.

Table 3. Distribution of Types of Fast Food Most Frequently Consumed by Respondents

Type of Food	Most Frequent Frequency	Consumption Percentage (%)
Instant noodles	1-2x/week	42.6
Meatball	1-2x/week	41.4
Ice cream	1-2x/week	40.2
Risolmayo	1-2x/ week	34.1
Chips	1-2x/week	32.9
Shumai	1-2x/week	30.4
Batagor	1-2x/week	29.2
Fried Chicken	3-6x/week	32.9
Seblak	2x/month	46.3
Chicken noodle	2x/month	45.1

Table 1 shows the distribution of nutritional status. Most respondents had normal nutritional status, namely 52 respondents (63.4%). However, there are still many respondents who still have nutritional problems, namely the underweight nutritional status of 13 respondents (15.9%) and the overweight nutritional status of 17 respondents (20.7%). The research results of Serly et al. (2015) showed that 47.3% of teenagers had normal or good nutritional status; this was because they had a balance between the food intake they received and the food intake needed by the body. Nutritional status can also be influenced by many factors, including daily physical activity, food intake, knowledge about nutrition, and environmental factors.

Table 4. Relationship between Body Image Perception and Nutritional Status

Body Image Perception	Nutritional status						Total		p value
	Underwieght		Normal		Overweight				
	n	%	n	%	n	%	N	%	
Negatif	9	21.4	23	54.8	10	23.8	42	100	0.533
Positif	4	10	29	72.5	7	17.5	40		

Table 4 shows the results of the Pearson Product Moment (PPM) test analysis, which obtained a p-value = 0.533, which means H0 is accepted, so it can be concluded that there is no relationship between body image perception and nutritional status in UMS nutrition students. There is no relationship because nutritional status is not only influenced by perceived body image but can be influenced by food intake and infection (Yusintha & Adriyanto, 2018). Research by Fatimatuzzahro & Kurniawati (2017) stated that there were 15 respondents (15.8%) with a negative body image and good nutritional status. Respondents who have good nutritional status feel dissatisfied with their appearance; this could be caused by teenagers idolizing someone who is thinner or fatter. This can influence a person when assessing their body shape. Mass media also influences the formation of teenage idols. Assessing body shape is very important in building self-awareness.

According to Yusnita et al. (2019), explains that body image perception is not related to individual consumption habits, which can influence nutritional intake. Availability of food, family income, and upbringing are factors that can influence a person's eating habits. In economically disadvantaged families, they are accustomed to consuming low-nutrient foods, so the body's nutritional intake is not met, and this leads to malnutrition (Brown, 2016). Research by Brown (2016) explained that the role of parents is very important in forming a person's eating habits because, since childhood, we have been trained to consume family food. In addition, research by Anisa *et al.* (2017) explained that in adolescents, if the food consumed is less varied, it can cause changes in food consumption habits, causing the body's nutritional intake to be less than optimal. Apart from that, mass media can also influence food consumption behavior (Azmi & Sarika, 2014).

Table 5. Relationship Between Frequency of Fast-Food Consumption and Nutritional Status

Fast food Consumption	Nutritional Status						Total		p value	r
	Underwieght		Normal		Overweight					
	n	%	n	%	n	%	N	%		
Infrequently	9	20	32	71.1	4	8.9	45	100	0.042	0.223
Frequently	4	10.8	20	54.1	13	35.1	37			

Table 5 shows that the results of the Pearson Product Moment (PPM) test analysis obtained a p-value = 0.042, which means that H0 is rejected, so it can be concluded that there is a relationship between the frequency of fast-food consumption and the nutritional status of UMS nutrition students. The strength of this relationship can be expressed in the Pearson correlation value, or r-value, which is 0.223. This means there is a low relationship (close to number 1). According to Sugiono (2019), the coefficient interval is (0.20-0.399), which means the Pearson correlation is low. The positive sign indicates a one-way relationship, that is, there is a significant positive relationship between the frequency of fast-food consumption and nutritional status. This shows that if there is an increase in fast food consumption, there will be an increase in the nutritional status of students and vice versa. This research is in line with the research by (Ambariyati & Kristianingsih, 2017) shows that there is a relationship between fast food consumption and obesity, with a correlation coefficient of +0.668, meaning there is a strong positive relationship between fast food consumption and obesity, which means the more someone consumes fast food, the greater the impact.

Fast food has relatively low nutritional content but is high in energy. The world economy currently considers fast food to be a global problem in both developed and developing countries, where this is because fast food can increase the problem of obesity (Poudel, 2018). The habit of consuming fast food in teenagers results in an increase in nutritional status in teenagers. Generally, the content of fast food is quite high in sugar, fat, calories, and grease, but the content of calcium, folate, fiber, and vitamins is low. (Widyastuti, 2018). The reason that can cause teenagers to become fond of consuming fast food is because some teenagers have made fast food their favorite food. Apart from that, fast food restaurants are a place to relax with an attractive layout, comfortable for families, and to gather with friends (Alamsyah, 2010).

According to Zulfa (2014), There is a significant relationship between fast food consumption and adolescent nutritional status, which means that frequent consumption of fast food can cause obesity because of its high calorie, fat, and low fiber content. According to research (Wiwied & Lintang, 2013), shows a significant relationship. The more often we

consume fast food, the greater the BMI value, and vice versa. According to research Terba (2021), It was explained that there were students who often consumed fast food, namely 41.2%, and researchers stated that there was a relationship between fast food consumption and nutritional status.

CONCLUSION

There is no relationship between perceived body image and nutritional status among UMS nutrition students, but there is a relationship between the frequency of fast food consumption and nutritional status among UMS nutrition students. Respondents are expected to be able to adopt a healthy and balanced diet in order to maintain normal nutritional status and create a positive body image perception.

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