

The Effect of Body Image and Pocket Money on Food Choice Attitudes in Obese Adolescents In Surakarta

Afifah Istiqomah^{1*}, Eti Poncorini Pamungkasari², Sri Mulyani³

¹Department of Nutrition Science, Sebelas Maret University, Surakarta, Indonesia.

²Department of Medicine, Sebelas Maret University, Surakarta, Indonesia.

³Vocational School, Sebelas Maret University, Surakarta, Indonesia.

*Correspondence author : afhisti@student.uns.ac.id

Abstract

Obesity is a condition of nutritional status due to the accumulation of fat in the body, which causes social and emotional problems. Said to be obese if the body weight is more than 20% of the ideal body weight. In obese adolescents, physical appearance becomes important. The assessment called body image is a feeling of satisfaction or dissatisfaction with the state of the body and its appearance. Furthermore, in giving pocket money, money is a tool in the attitude of choosing food. The greater or higher the pocket money received will support a person in the activity of consuming food or drinks. In adolescents, there can be an increased risk of obesity due to the consumption of foods with low nutrition, high fat, and high carbohydrates. The objective of this study is to know whether there is an influence of body image and pocket money on food selection attitudes in obese adolescents. Methods: Cross-sectional research design. The study population was adolescents of SMAN 6, SMAN 8, and SMA Muhammadiyah 1 Surakarta, with a sample of 48 respondents. The sampling technique used purposive sampling and quota sampling. Data analysis using multiple linear regression test. Results: The multiple linear regression analysis test obtained a p-value of $0.150 > 0.05$. Furthermore, body image and pocket money together affect the attitude of food selection by 8.1%. The remaining 91.9% is influenced by factors not examined in this study. Conclusion: There is no influence between body image and pocket money on the attitude of food selection in obese adolescents in Surakarta City.

Keywords: Adolescent, Body Image, Food selection attitude, Obesity, Pocket money

Introduction

Obesity is a condition of nutritional status due to the accumulation of fat in the body, which causes social and emotional problems. It is said to be obese if the body weight is more than 20% of the ideal body weight (Ferdianti, 2021). The prevalence of adolescent obesity at the age of 16-18 years in Indonesia has increased from 2013 to 2018 by 1.6% and 4%. The prevalence in Central Java was 3.7%, while in Surakarta City, it was 11.47% (Risksedas, 2018). According to data from the Surakarta City Health Office (2015), the highest prevalence of obesity in adolescents is in Banjarsari District, which is 68.57%, and the second is 27.85% in Jebres District.

The process of rapid growth and development occurs in adolescence, so energy and nutrients are also needed by the body. Fulfilling nutrition in adolescents is so that optimal and balanced nutritional intake can be achieved to support growth and development. However, this goal is often not achieved in connection with the attitude of food choices in adolescents who often diet to achieve a positive body image that is not by the guidelines and nutritional needs in the body (Amraini *et al.*, 2020).

Attitudes towards wrong or inappropriate eating choices are influenced by several things, namely that many adolescents are very concerned about their body shape, especially adolescent girls. In general, adolescents are in the stage of paying great attention to their body shape according to the desired body image. Body image is a behaviour that leads to an evaluation of the individual's assessment of his physical appearance, as well as individual experiences in the form of perceptions or thoughts about the shape and weight of his body (Intantiyana *et al.*, 2018). Another factor that causes incorrect or inappropriate food choices is the provision of pocket money from parents. According to Septiani *et al.* (2019), the increase in variations in adolescents' purchasing power toward diet is based on parents' income, which has an impact on the high amount of pocket money given by parents.

Methods

This study was an analytic cross-sectional study that measured risk factors and was conducted at the same time (concurrent). The study was conducted in June 2023 at SMAN 6, SMAN 8, and SMA Muhammadiyah 1 Surakarta. The sample size was calculated using the minimum sample formula Sugiyono (2017), with as many as 48 respondents. Sampling techniques using Non-probability Sampling in the type of Purposive Sampling and Quota Sampling. Data collection consists of data on age, gender, pocket money, body image and food selection attitudes.

In this study, multiple linear regression test data analysis. Researchers first conducted a normality test on the two variables, namely Body Image (X1) and Pocket Money (X2), on the attitude of food selection (Y) using the SPSS (Statistical Product and Service Solutions) application. Inclusion criteria for this study were respondents of the target population actively enrolled in SMAN 6, SMA Muhammadiyah 1, and SMAN 8 Surakarta City, Willing and agreeing to be a respondent, and Anthropometric screening results showed that the student had BMI >27 (Obesity). Exclusion factors were respondents not present when the study was conducted and Suffering from diseases that must carry out certain diets (diabetes, kidney, heart, hypertension).

Data related to body image using the Body Shape Questionnaire (BSQ)-16. The BSQ-16 questionnaire consists of 16 questions about body shape and appearance. This questionnaire uses a Likert scale to measure responses or answers from respondents. The score is obtained from the sum of all questions, then categorized into positive body image if the score is <38 and negative body image if the score is ≥38 (Merita *et al.*, 2020).

Data related to food selection attitudes using a questionnaire developed by Rosdianti (2016), consisting of 10 questions. Research respondents were asked to provide statements or reactions according to the choices in the questionnaire. Attitude was measured by Agree (S) and Disagree (TS). Processing of questionnaires to identify negative food selection using scores < mean and positive scores ≥ mean. This study obtained ethical journal approval from the Research Ethics Committee of the Faculty of Medicine, Sebelas Maret University, Surakarta, in the form of a statement of Ethical Approval with number No.110/UN27.06.11/KEP/EC/2023 dated May 22, 2023.

Results and Discussions

Respondent Characteristics

The sample used in the study amounted to 48 respondents from SMAN 6, SMAN 8, and SMA Muhammadiyah 1 Surakarta. The following is the distribution of respondent characteristics

Table 1. Distribution of Respondent Characteristics

Respondent Characteristics	n	%
Gender		
Male	21	43,8
Female	27	56,2
Age		
15	9	18,8
16	25	52,1
17	12	25
18	2	4,2

Table 1 shows that in SMA N 6, SMA N 8, and SMA Muhammadiyah 1 Surakarta, 27 respondents (56.2%) were female. And the male gender is 21 respondents (43.8). According to age characteristics, the proportion of respondents at the age of 16 years was more, namely 25 respondents (44%) and 18-years-old respondents were less, namely 2 respondents (4.2%). In research, Qoirinasari *et al.* (2018) said that in women, the influence of hormones also results in the risk of obesity. According to Wahyono (2019), women are more at risk of obesity than men. The high rate of obesity in women is due to differences in levels of physical activity and energy intake in men and women. Based on research by Weni (2015) states that adolescence (10-18 years) is a period of nutritional vulnerability due to various reasons, namely, adolescents require higher nutrients due to increased physical growth, changes in lifestyle and eating habits, and special nutritional needs. Adolescents are one of the target groups at risk of overnutrition or obesity. Adolescents have a risk of obesity that may continue into adulthood. This risk of obesity can occur in early adolescence, as evidenced in this study, and relatively young adolescents are more at risk of obesity (Nugroho, 2020).

Distribution of respondents based on pocket money, Body image, and meal selection attitude

In **table 2**, it is known that in SMAN 6, SMAN 8, and SMA Muhammadiyah 1 Surakarta, the characteristics of respondents' pocket money obtained data mostly have a high category, namely >Rp. 18,300 which amounted to 37 respondents (77.1%). And for 39 respondents (81.2%) had negative body image and 9 respondents (18.8%) had positive body image. Attitude for 20 respondents (41.7%) have negative food selection attitudes, and 28 respondents (58.3%) have positive food selection attitudes.

Table 2. Distribution of respondents

Variable	n	%
Pocket money/day		
Low (<IDR 11,700)	0	
Medium (IDR 11,800 - 18,299)	11	22,9
High (>IDR 18,300)	37	77,1
Body image		
Negative (< 38)	39	81,2
Positive (≥ 38)	9	18,8
Attitude		
Negative (score < mean)	20	41,7
Positive (score ≥ mean)	28	58,3

According to the characteristics of the respondents, most of the pocket money obtained data has a high category, namely >Rp. 18,300 (77.1%). Based on research by [Widyoningsih et al. \(2016\)](#), giving high pocket money to children can cause children to be more able to consume a variety of foods, such as unhealthy snacks, so the amount of pocket money has a significant effect on behaviour in choosing snacks.

Body image can be linked to psychosocial images of self-assessment, body size and body shape. Disruption of body image causes dissatisfaction with his low self-confidence ([Abdul Muhith, 2015](#)). In the results of the study, most respondents had a negative body image (81.2%) and a positive (18.8%). This is due to several factors that can affect negative body image, namely gender and age. In the characteristics of the gender and age of respondents, most of them were female, 27 respondents (56.2%) and the age of all respondents was 16-18 years (100%). In adolescence, a new element will arise, namely awareness of personality and physical life, so that adolescents, especially women, begin to pay attention to their physical appearance. In general, there is dissatisfaction with body shape, so adolescent girls tend to make efforts to get the desired weight ([Nugroho, 2020](#)). Therefore, many respondents avoid wearing clothes that make them aware of their body shape (35%).

Attitude is the most important component in influencing food choices. The attitude in choosing good food will be able to affect a person's health condition. This is influenced by the ability to accept, practice and respond to healthy food. Some types include food selection, namely the type, amount and time of consuming these foods ([Laenggeng & Lumalang, 2015](#)).

In the results of the study, there were negative (41.7%) and positive (58.3%) food selection categories. This can be due to the availability of canteens and food vendors outside the school that provide varied and colourful food so that it can potentially consume unhealthy food. Most respondents preferred fatty foods (meat, chicken skin, cheese, butter, ice cream) (91.7%) and fast foods (instant noodles, instant porridge) (83.3%). This can be due to one of the factors that can directly influence food choices, namely the individual and the surrounding environment, which will show how a person's lifestyle is ([Ratih, 2020](#)).

The effect of body image and pocket money on food choice attitudes in obese adolescents

Based on **Table 3**, the results of the analysis obtained for the food selection attitude variable, the Z K-S value is 1.266 with asymp sig. 0.081>0.05, it can be concluded that the data on the attitude variable of food selection is normally distributed. The body image variable has a Z K-S value of 0.766 with an asymp sig of 0.600 (>0.05), it can be concluded that the data distribution is normally distributed. And the pocket money variable has a Z K-S value of 1.520 with an asymp sig of 0.020 (<0.05), meaning that the data distribution is not normally distributed

Table 3. Normality Test

	Normal parameters		Kolmogrov-Smirnov Z	AsympSig. (2-tailed)
	Mean	Std. Deviation		
N	48	48		
Attitude	50,21	14,065	1,266	0,081
Body image	58,73	18,839	0,766	0,600
Pocket money	19,47	6,782	1,520	0,020

The results of this study indicate that each increase of 1 score on body image will reduce attitudes in food selection by 0.193 ($p=0.079$) but not statistically significant. Each increase of 1 score on pocket money will reduce attitudes in food selection by 0.195 ($p=0.517$) but not statistically significant. Body image and pocket money together affect the attitude of food selection by 8.1%, the remaining 91.9% is influenced by factors not examined in this study.

Table 3. Result of multiple linear regression analysis of the effect of body image and pocket money on food selection attitudes

Variabel	β (Koefisien regresi)	P	CI 95%	
			Lower limit	Upper limit
Constant	65,341	0,00	48,544	82,139
Body image	-0,193	0,079	-0,409	0,023
Pocket money	-0,195	0,517	-0,795	0,406
N observation	48			
Adjusted R2	0,081			
P model	0,150 ^a			

Based on the results of statistical tests, it was found that there was no effect of body image and pocket money on food selection attitudes. This is in line with previous research by [Ritan et al. \(2018\)](#), which shows that there is no effect of body image on diet with a p -value of $0.137 > 0.05$. This is based on several factors, namely interpersonal or peer relationships, that provide an assessment of body shape that can build perceptions of themselves. So many adolescents need more confidence and satisfaction with their body shape, which is not ideal. Some respondents feel very often (23%) and always (27%) when their slim peers make them aware of their body shape and assume that the ideal body is thin and tall (54.2%). In line with the provision of pocket money [Jung et al \(2010\)](#) stated that receiving more pocket money gives adolescents more free-spending power, and they can choose preferred foods and tend to prefer unhealthy foods such as snacks with various flavours and higher energy intake.

According to research by [Wulandari et al. \(2016\)](#), the level of parental income is related to the ability of parents to meet their needs, choose the type and amount of food, and influence the family lifestyle, which will also have an impact on children. High income can also lead to the selection of foodstuffs that are more delicious, ready to eat, fast, and contain more fat, oil, and other ingredients that can cause obesity. In line with the research of [\(Intantiyana et al., 2018\)](#), there are differences in food selection in adolescents who have a positive body image and adolescents who have a negative body image. Adolescents with a positive body image tend not to limit their diet, so in the selection of food, they pay less attention to the content of the nutritional value of the foods they consume. The choice of food tends to lead to fast food, favouring certain foods and also following the development of new food products that are currently popular among the community. Obese adolescents want to limit their diet, so the selection of food is limited, and they follow the wrong diet, such as slimming drugs. In addition, psychological disorders can also occur in adolescents with obesity. A body that is too fat often makes the teenager often ridiculed by their peers. So, it has a less good impact on psychological development, and another impact that is often overlooked is that obese adolescents can interfere with the psyche, namely often feeling less confident and experiencing learning disorders in school children. Especially if the child is in adolescence and is obese, it will usually become passive and depressed (stressed) because it is often not involved in activities carried out by their peers ([Lidiawati et al., 2020](#)).

However, in body image and pocket money, some factors can have no effect due to family environmental factors in providing attention related to diet. Based on research results, Septiani *et al.* (2019) showed a significant influence on the attitude of choosing staple foods, choosing vegetables, and choosing vegetables and fruits with each p-value <0.05. Food ingredients that the family has provided can provide examples of good food choices. The study of Berge *et al.* (2010) also revealed that the role of the family has a major impact on food selection and diet in adolescents, so the attitude toward food selection in respondents depends entirely on the family environment. Other factors include heredity (parents), living habits and the type of food consumed. The risk of adult obesity is greater in obese or non-obese children if at least one parent is overweight. There are other factors, such as excessive food intake in the selection of meals, influenced by the family environment, especially those with hereditary factors (parents), living habits and types of food consumed. The risk of adult obesity is greater in obese or non-obese children if at least one parent is overweight (Lidiawati *et al.*, 2020).

Conclusions

There is no effect between body image and pocket money on food selection attitudes among obese adolescents in Surakarta city. Based on the results, discussion and conclusions obtained, suggestions can be made for parents to student pocket money at school and urge children not to buy fast food and snacks excessively. It is hoped that the attention of parents who are obese is limited further and supervise children's eating habits that are excessive, high in calories but low in fibre, so that children can consume these foods not excessively. Moreover, for schools, it is necessary to hold health programs for obese people through school health efforts (UKS) or counselling guidance (BK), such as healthy adolescent diets, balanced nutrition counselling, and providing education about healthy food.

Acknowledgments

The researcher is grateful to the supervisors who have guided them during the research period and to the students of SMA N 6, SMA N 8, and SMA Muhammadiyah 1, who are willing to be respondents in this study.

References

- Abdul Muhith. (2015). *pendidikan keprawatan jiwa*. 447.
- Amraini, A., Yanti, D. E., Sari, N., Print, I., & Online, I. (2020). Hubungan Citra Tubuh , Pengetahuan Gizi dan Perilaku Makan terhadap Status Gizi Remaja di SMA Negeri 5 Kota Metro. *Jurnal Dunia Kesmas*, 9(2), 264–269.
- Azka, F. I., & Miko Wahyono, T. Y. (2019). Hubungan Pola Konsumsi Makanan Berisiko dengan Obesitas Sentral Pada Wanita Usia 25-65 Tahun di Bogor Tahun 2011-2012. *Jurnal Epidemiologi Kesehatan Indonesia*, 2(1), 11–18. <https://doi.org/10.7454/epidkes.v2i1.1675>
- Berge, Jerica, Melanie Wall, Katie Loth, and D. N.-S. (2010). Parenting Style as a Predictor of Adolescent Weight and Weight-Related Behaviors. *Journal Of Adolescent Health*, 46 (4), 331-8. <https://doi.org/10.1016/j.jadohealth.2009.08.004>
- Ferdianti, L. (2021). Literature Review : Hubungan Aktivitas Fisik dan Kebiasaan Konsumsi Fast Food dengan Kejadian Obesitas Pada Anak Sekolah Dasar. *Media Kesehatan Masyarakat Indonesia*, Vol 20, No 2 (2021): MKMI, 139–143. <https://ejournal.undip.ac.id/index.php/mkmi/article/view/35624/19131>
- Intantiyana, M., Widajanti, L., & Zen, M. (2018). Hubungan Citra Tubuh, Aktivitas Fisik Dan Pengetahuan Gizi Seimbang Dengan Kejadian Obesitas Pada Remaja Putri Gizi Lebih Di Sma Negeri 9 Kota Semarang. *Jurnal Kesehatan Masyarakat*, 6(5), 2356–3346.
- Jung SH, Tsakos G, Sheiham A, Ryu JI, W. R. (2010). Socio-economic status and oral health-related behaviours in Korean adolescents. 2010 Jun 1;70(11):1780–8. *Soc Sci Med.*, 1;70(11), 1780–8. <https://www.sciencedirect.com/science/article/abs/pii/S0277953610001838?via%3Dihub>
- Laenggeng, A. H., & Lumalang, Y. (2015). Hubunan pengetahuan gizi dan sikap memilih makanan jajanan di SMP N 1 Palu. *Jurnal Kesehatan Tadulako Vol.1 No.1, 1*, 49–57.
- Lidiawati, M., Lumongga, N., & Anto. (2020). Faktor Yang Mempengaruhi Perilaku Makan pada Remaja Obesitas di SMA Kota Banda Aceh. *Jurnal Aceh Mdedika*, 4(1), 52–62. <http://jurnal.abulyatama.ac.id/index.php/acehmedika>
- Merita, M., Hamzah, N., & Djayusmantoko, D. (2020). Persepsi Citra Tubuh, Kecenderungan Gangguan Makan Dan Status Gizi Pada Remaja Putri Di Kota Jambi. *Journal of Nutrition College*, 9(2), 81–86. <https://doi.org/10.14710/jnc.v9i2.24603>

- Nugroho, P. S. (2020). Jenis Kelamin Dan Umur Berisiko Terhadap Obesitas Pada Remaja Di Indonesia. *An-Nadaa: Jurnal Kesehatan Masyarakat*, 7(2), 110. <https://doi.org/10.31602/ann.v7i2.3581>
- Qoirinasari, Q., Simanjuntak, B. Y., & Kusdalinah, K. (2018). Berkontribusikah konsumsi minuman manis terhadap berat badan berlebih pada remaja? *Action: Aceh Nutrition Journal*, 3(2), 88. <https://doi.org/10.30867/action.v3i2.86>
- Ratih, R. H. (2020). Hubungan Perilaku Makan dengan Status Gizi pada Remaja Putri di SMAN 2 Tambang. *Jurnal SMART Kebidanan*, 7(2), 95. <https://doi.org/10.34310/sjkb.v7i2.397>
- Riskesdas. (2018). Laporan Provinsi Jawa Tengah Riskesdas 2018. In *Kementerian Kesehatan RI*.
- Ritan, A. F. G., Murdhiono, W. R., & Syafitri, E. N. (2018). Hubungan body image dengan pola makan dan aktivitas fisik pada mahasiswa obesitas di Fakultas Ilmu Kesehatan Universitas Respati Yogyakarta. *Ilmu Gizi Indonesia*, 2(1), 25. <https://doi.org/10.35842/ilgi.v2i1.85>
- Rosdianti, Y. (2016). *Hubungan Pengetahuan, Sikap, dan Praktik Gizi terhadap Status Gizi Remaja Putri di SMPN 1 Payung Kabupaten Bangka Selatan Provinsi Bangka Belitung*. 135. [http://repository.unair.ac.id/54300/13/FK.BID.49-16Ros h-min.pdf](http://repository.unair.ac.id/54300/13/FK.BID.49-16Ros%20h-min.pdf)
- Septiani, I. P., Herawati, H., & Tsani, A. F. (2019). Faktor – Faktor Yang Berhubungan Dengan Pemilihan Makanan Siswa Sekolah Menengah Atas Di Kota Yogyakarta. *Jurnal Kesehatan Terpadu (Integrated Health Journal)*, 8(2), 73–83. <https://doi.org/10.32695/jkt.v8i2.36>
- Sugiyono. (2017). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Alfabeta, CV. <https://elibrary.bsi.ac.id/readbook/206060/metode-penelitian-kuantitatif-kualitatif-dan-r-d.html>
- Widyoningsih, Subakti, E., & Kusnaeni, A. (2016). Hubungan besaran uang saku dengan pemilihan jajanan sehat. *Jurnal Kesehatan Al-Irsyad*, 9(2), 31.
- Wulandari, S., Lestari, H., & Fachlevy, A. F. (2016). Faktor yang Berhubungandengan Kejadian Obesitas pada Remaja di SMA Negeri 4 Kendari Tahun 2016. *Jurnal Ilmiah Mahasiswa Kesehatan Masyarakat Unsyiah*, 1(3), 1–13.