



Body image and eating behaviors among university students

Rezki Amelia Choirunnisa¹, Farida Harahap¹

¹Department of Psychology, Faculty of Education, Universitas Negeri Yogyakarta; Jl. Colombo No 1, Yogyakarta, 55281, Indonesia
cameliarezki.09@gmail.com, farida_harahap@uny.ac.id

Article Info

Manuscript Received

August 18th 2023

Revision Accepted

November 28th 2023

Accepted for Publication

December 30th 2023

doi:

<http://dx.doi.org/10.21831/pri.v6i2.65165>

Abstract

University students are vulnerable to body image and eating behavior problems. This research aims to understand the body image, eating behavior, and the relationship between body image and eating behavior among students at Universitas Negeri Yogyakarta. The research was conducted with 112 students as participants. Body image and eating behavior scales were used as instruments in this study. Pearson's bivariate correlation was employed as the data analysis technique. The results show that students at Universitas Negeri Yogyakarta have a good body image. Moreover, the students' eating behavior is restrained, not too controlled, and not too emotional. There is a relationship between body image and cognitive-restrained eating behavior. A relationship between body image and uncontrolled eating was also found. However, no relationship was found between body image and emotional eating behavior. The contribution of body image to cognitive-restrained eating behavior is 7.4%, while the contribution to uncontrolled eating is 75.6%.

Keywords: *body image, eating behavior, students, campus*

Suggested citation

Choirunnisa, R. A., & Harahap, F. (2023). Body image and eating behaviors among university students. *Psychological Research and Intervention*, 6(2), 75-83.
<http://dx.doi.org/10.21831/pri.v6i2.65165>

Introduction

Appearance is important for students. Moreover, students are vulnerable to body image issues due to the negative body image of female students (Megawati, 2022). In addition, there is potential for unique eating behaviors among students because of the diverse culinary options around campus in terms of type and price, as well as the varied socioeconomic backgrounds of the students (Prasetyaningsih, 2019). These conditions make research on the relationship between body image and eating behavior among students necessary.

The topic of the relationship between body image and eating behavior has been widely discussed in previous studies. However, previous studies have predominantly focused on disorders related to body image and eating behavior (Corno, 2022). Previous research on body image and eating behavior has also largely been conducted on adolescent participants (Fajriani, 2022). In fact, Sai (2018) stated in his research that age differences are one of the factors influencing variations in body image in individuals. Previous research on body image has also often highlighted only female participants (Laksmi, 2018; Corno, 2022).

Compared to female participants, male participants in body image research are fewer. Yet, body image can also differ between male and female participants (Gualdi-Russo et al., 2022). Therefore, this research will involve participants of both male and female genders, focusing on body image and eating behavior without being confined to disorders or different age groups. The objectives of this study are to understand body image among students, to understand eating behavior among students, and to explore the relationship between body image and eating behavior among students at Yogyakarta State University.

Methods

The research method used in this study is a quantitative method with a correlational research type. The research was conducted at Yogyakarta State University with a population of undergraduate students. The sampling technique used is random sampling. The minimum sample calculation was conducted using power statistics analysis with GPower software. The calculation results indicate that the research requires a minimum sample size of 84 samples ($\rho_{H1} = 0.3$; $\alpha = 0.05$; $1 - \beta = 0.8$). Therefore, a sample size of 112 samples was used in this study. The criteria for inclusion as samples include being a UNY student and aged 19 to 25 years. Data collection was conducted using a questionnaire that was then distributed to respondents via Google Form. The questionnaire was designed using a Likert scale model.

The research instruments used are the Body Image Scale and the Eating Behavior Scale. The Body Image Scale is a modification of the Multidimensional Body Rating Scale Questionnaire Appearance Scale (MBRSQ-AS) modified by Nabila (2022). This instrument consists of 18 items and has 5 aspects, including appearance evaluation, appearance orientation, satisfaction with body areas, weight-related anxiety, and weight classification. Some example items presented in this instrument include “I feel that my entire appearance is attractive,” which falls under the appearance evaluation aspect, and “I am worried if my body is fat,” which falls under the weight-related anxiety aspect.

The Eating Behavior Scale is a modification of the Three-Factor Eating Questionnaire-18 (TFEQ-18) developed by Karlsson (2000). This scale consists of 17 items and has dimensions of cognitive control, uncontrolled eating behavior, and emotional eating behavior. Some example items presented in this instrument are “I try to eat less to control my weight,” which represents

the cognitive control dimension, “I definitely taste food even when I am full,” which represents the uncontrolled eating behavior dimension, and “When I feel anxious, I will eat,” which represents the emotional eating behavior dimension.

The validity of this research instrument is measured using content validity assessed by expert judgment and assessment through trials on subjects meeting the study criteria. The determination of instrument reliability is conducted by first testing internal consistency by calculating item-total correlation, then tested using Cronbach’s Alpha. The reliability calculation results indicate that the Body Image Scale has a reliability value of 0.850. Meanwhile, the Eating Behavior Scale has reliability values for the dimensions of uncontrolled eating behavior, emotional eating behavior, and cognitive control of 0.855, 0.852, and 0.731, respectively.

Data analysis techniques use descriptive analysis, prerequisite tests, and hypothesis tests. Descriptive analysis is conducted to describe the data that has been obtained and presented in the form of tables. The prerequisite tests conducted were normality tests and linearity tests. Hypothesis testing was conducted using bivariate correlation analysis by processing data on body image, cognitive control in eating behavior, uncontrolled eating behavior, and emotional eating behavior. This test aims to determine the relationship between body image and each factor of eating behavior among student respondents.

Result and Discussion

Result

The results of the descriptive analysis include the profile of the respondents consisting of gender, age, faculty, place of residence, body mass index obtained from the calculation of weight and height, as well as the pocket money allocated by students specifically for food. The description of the respondents' profile can be seen in Table 1.

The results of the descriptive profile of respondents testing the instrument in Table 1 show that there are more female respondents than male respondents, with a total of 88 people (78.57%). Respondents aged 19-21 years are the most numerous in this study with a total of 86 respondents (76.79%), while respondents aged 24-25 years are the least numerous with 5 respondents (4.46%). The majority of respondents come from the Faculty of Education and Psychology, with a total of 28 respondents (25%), while the fewest respondents come from the Faculty of Sports Science (1.79%). The majority of respondents live with their parents, totaling 65 respondents (58.04%), while 47 respondents (41.96%) live in boarding houses/dormitories. A total of 58 respondents (51.79%) are given pocket money by their parents or allocate pocket money for food in the amount of less than Rp 500,000. The majority of respondents have a normal body weight, totaling 50 respondents (44.64%). Respondents with overweight and obesity type 2 BMI categories are the least numerous, with 11 people each (9.82%).

Students' culinary preferences (Table 2) are assessed based on whether someone likes activities related to culinary or not. The culinary activities referred to are the hobby of eating, culinary tourism, trying new menus, the hobby of cooking, and trying new recipes.

Table 1. Demographic characteristics of respondents

Demographic variables	N	Percentage
Sex		
Male	24	21.43%
Female	88	78.57%
Age		
19 - 21	86	76.79%
22 - 23	21	18.75%
24 - 25	5	4.46%
Faculty		
Faculty of Language and Arts	14	12.50%
Faculty of Economics	25	22.32%
Faculty of Sports Science	2	1.79%
Faculty of Education and Psychology	28	25%
Faculty of Social Sciences	18	16.07%
Faculty of Mathematics and Natural Sciences	8	7.14%
Faculty of Engineering	17	15.18%
Living arrangement		
With parents	65	58.04%
Dormitories	47	41.96%
Body mass index		
Underweight	28	25%
Normal	50	44.64%
Overweight	11	9.82%
Obesity I	12	10.71%
Obesity II	11	9.82%
Money allowance for food		
No allowance	7	6.25%
<Rp 500.000	58	51.79%
Rp 500.000 - Rp 1.000.000	40	35.71%
>Rp 1.000.000	7	6.25%
Total	112	100%

Tabel 2. Students' culinary preference

Culinary activities	N	%
Dislike culinary activities	6	5.36%
Enjoying culinary activities	106	94.64%
Total responden	112	100%

Based on Table 2, it can be concluded that the majority of participants like culinary activities (94.64%). There are only a few participants who do not like culinary activities (5.36%). The research variables Body Image and eating behavior are categorized to determine the body image and eating behavior of the respondents. The results of the categorization of the research variables are presented in Table 3.

Table 3. Categorization of the variables levels

Variables	M	Categories	N	%
Body image	52.80	Very bad	1	0.89%
		Bad	17	15.18%
		Good	70	62.50%
		Very good	24	21.43%
Controlled eating behaviors	12.52	Uncontrolled	13	11.61%
		Less controlled	48	42.86%
		Controlled	40	35.71%
		Very controlled	11	9.82%
Uncontrolled eating behaviors	22.52	Very controlled	10	8.93%
		Controlled	53	47.32%
		Less controlled	38	33.93%
		Uncontrolled	11	9.82%
Emotional eating behaviors	7.40	Not emotional	19	16.96%
		Less emotional	49	43.75%
		Emotional	19	16.96%
		Very emotional	25	22.32%
Total			112	100%

Based on Table 3, it can be seen how the body image and eating behavior of the research respondents are. The body image variable has an average value of 52.80, which falls into the good body image category. Respondents with a good body image total 70 respondents (62.50%). Cognitive control in eating behavior has an average value of 12.52, which falls into the controlled category. Respondents with controlled cognitive control total 40 respondents (35.71%). Uncontrolled eating behavior has an average value of 22.52, which falls into the less controlled eating behavior category. Respondents with less controlled eating behavior total 38 respondents (33.39%). Emotional eating behavior has an average value of 7.40, which falls into the less emotional category. Respondents with less emotional eating behavior total 49 respondents (43.75%). Body image is influenced, among other things, by gender. Table 4 shows the comparison of the number and percentage of body image by gender.

Table 1. Body image by gender

Body Image	Male		Female	
	N	%	N	%
Very bad	0	0%	1	1.14%
Bad	5	20.83%	12	13.64%
Good	12	50%	58	65.91%
Very good	7	29.17%	17	19.32%
Total	24	100%	88	100%

Based on Table 5, it can be seen that students with less controlled eating behavior are more predominantly those living with their parents (36.92%) compared to students living in boarding houses/dormitories (29.79%).

Table 5. Eating behaviors by living arrangement

Eating behaviors	With parents		Dormitories	
	N	%	N	%
Very controlled	2	3.08%	8	17.02%
Controlled	31	47.69%	22	46.81%
Less controlled	24	36.92%	14	29.79%
Uncontrolled	8	12.31%	3	6.38%
Total	65	100%	47	100%

The prerequisite analysis tests conducted before hypothesis testing are the normality test and the linearity test. Our data has met all the assumption requirements for regression analysis.

Table 6. Correlation matrix of all independent variables

Variables		Body image	Controlled eating behaviors	Uncontrolled eating behaviors	Emotional eating behaviors
Body image	r	1	0.272	-0.87	-0.133
	p	-	0.004	0.361	0.161
Controlled eating behaviors	r	-0.272	1	-0.81	0.103
	p	0.004	-	0.395	0.282
Uncontrolled eating behaviors	r	-0.87	-0.81	1	0.524
	p	0.361	0.395	-	0.000
Emotional eating behaviors	r	-0.133	0.103	0.524	1
	p	0.161	0.282	0.000	-

The hypothesis test using bivariate correlation between body image and cognitive control shows a positive relationship between body image and cognitive control ($r = 0.272, p < .005$). The bivariate correlation test between body image and uncontrolled eating behavior shows an inverse relationship between body image and emotional eating behavior ($r = -0.87$), although not significant. The bivariate correlation test between body image and emotional eating behavior shows that there is no relationship between body image and emotional eating behavior among students ($r = 0.133, p = 0.161$). Based on the bivariate correlation analysis table, it is found that the variable of uncontrolled eating behavior has a significant relationship with emotional eating behavior ($r = 0.524, p < .001$). Body image and cognitive control contribute 0.074 or 7.4% based on the square of the Pearson correlation coefficient. Body image and eating behavior contribute 0.756 or 75.6%. Meanwhile, emotional eating behavior and uncontrolled eating behavior contribute 0.275 or 27.5%.

Discussion

The first objective of this study is to understand body image among students. Descriptive analysis results show that students have a positive body image. This means that many students feel that their appearance is good. The positive body image among students is influenced by factors affecting body image. Age groups are one of the factors causing differences in body image. In previous research on body image among adolescent girls by Fajriani, nearly half of the participants had a negative body image. In another study on early adult women, it was found that more participants had a positive body image. This is also supported by this study. Therefore, it can be concluded that people in the early adult age group have a better body image compared to those in the adolescent age group.

Gender is also a factor influencing body image. A higher percentage of negative body image appears among male participants. This may be due to double standards for men. Voges et al. (2019) mention that there are double standards for men in perceiving their body condition. The double standard referred to is that men view less attractive bodies negatively if it is their own, but if others have less attractive appearances, men do not view it as negatively.

BMI (Body Mass Index) is also a factor affecting body image. The BMI results in this study show that most students have a normal BMI. This explains why many students in this study are generally satisfied with their body condition. This is supported by research by Watkins et al. (2008) which states that dissatisfaction with one's body increases with a higher body mass index.

The second objective of this study is to understand eating behavior among students. Analysis results show that students' eating behavior is controlled and less emotional, but less controlled. This means many students manage their food intake and eating patterns to maintain or reduce weight. Additionally, students are less emotional about eating. This indicates that when experiencing negative emotions, most students do not vent those emotions through eating. However, students have less control over their food intake, which indicates tendencies towards binge eating or eating even when not hungry.

The variety in eating behavior among students is influenced by individual and environmental factors. Individual factors are influenced by a person's culinary preferences, while environmental factors are influenced by their living conditions. According to the culinary preferences table, most students enjoy culinary activities. This may lead to less control over food intake and eating patterns among students.

Environmental factors are influenced by the physical environment where students are located and their living arrangements. Yogyakarta State University campus offers many culinary options close by. The easy availability of food contributes to less control over eating behavior, especially as most students at Yogyakarta State University enjoy culinary activities. Differences in living arrangements can also affect eating control. The comparison table of uncontrolled eating behavior and living arrangements shows that students who have less control over their eating are more likely to live with their parents compared to those living in boarding houses/dormitories. This may be because, at home, food is provided by parents, so students do not need to think about preparing or obtaining food. In contrast, students living in boarding houses have to provide their own food and must be economical, leading to more awareness in controlling their food consumption.

The third objective of this study is to understand the relationship between body image and eating behavior among students. Correlation tests show that body image has a positive relationship with eating behavior in the cognitive control dimension. This means that the better the body image of the students, the more controlled their eating behavior is. Conversely, more controlled eating behavior also improves students' body image. This indicates that body image and eating behavior in the cognitive control dimension are related, though the relationship between these variables is weak.

The interrelationship between cognitive control and body image among students may be triggered by the connection between cognitive control eating behavior and BMI. Research by Wrzeczionkowska and Rivera Aragon (2021) found that among the three dimensions of eating behavior, only the cognitive control dimension is related to BMI. The relationship between BMI and cognitive control may explain the connection between cognitive control and body image.

Correlation tests between body image and uncontrolled eating behavior show an inverse relationship. This means that the better the body image of the students, the more controlled their eating behavior is. Conversely, less controlled eating behavior worsens students' body image. The correlation test between body image and uncontrolled eating behavior also shows a strong relationship.

The connection between uncontrolled eating behavior and body image may be because uncontrolled eating behavior is a symptom of binge eating disorder (National Institute of Diabetes and Digestive and Kidney Diseases, 2021). Binge eating leads to rapid weight gain, which can result in obesity. People with overweight and obesity are at risk of having a negative body image. This creates a link between uncontrolled eating behavior and body image among students.

The correlation test between the emotional eating behavior dimension and body image shows no relationship. Other unexamined variables may explain the absence of a relationship between body image and emotional eating behavior, such as depressive symptoms. Depressive symptoms are related to emotional eating behavior (Konttinen et al., 2019). One depressive symptom, negative emotional states, also has a strong connection with uncontrolled eating behavior (Fernandez et al., 2022). Depressive symptoms are also strongly associated with dissatisfaction with body image (Soares Filho et al., 2021). Based on this, there is a possibility of a relationship between negative body image, emotional eating behavior, and depressive symptoms. However, the relationship between these variables requires further research for confirmation.

Conclusion

Students have a body image categorized as good. Their eating behavior falls into the categories of controlled, less controlled, and less emotional. Body image has a positive relationship with cognitive control and an inverse relationship with uncontrolled eating behavior.

Suggestions

Students are advised to maintain awareness and adherence to a good eating pattern to manage their weight, so that their positive body image can be sustained and to improve control over their eating behavior. Awareness and adherence to a healthy diet can be fostered through intrinsic motivation and support from the surrounding environment. Additionally, the study results indicate that body image does not have a relationship with the emotional eating behavior dimension. However, there is a possibility of a relationship between body image dissatisfaction, emotional eating behavior, and negative emotional states as symptoms of depression. Therefore, future researchers are recommended to further investigate this in subsequent studies.

References

- Corno, G., Paquette, A., Monthuy-Blanc, J., Ouellet, M., & Bouchard, S. (2022). The Relationship Between Women's Negative Body Image and Disordered Eating Behaviors During The COVID-19 Pandemic: A Cross-Sectional Study. *Frontiers in Psychology, 13*. <https://doi.org/10.3389/fpsyg.2022.856933>.
- Fajriani, N. (2022). *Hubungan Persepsi Citra Tubuh (Body Image) Dengan Perilaku Makan Remaja Putri di Sma N 1 Watampone* (Skripsi). Universitas Hasanuddin, Makassar.
- Fernandez, M. S., Pilatti, A., & Pautassi, R. M. (2022). Eating-to-cope motives and uncontrolled eating as mediators between negative emotional states and food addiction among Argentinean Young Adults. *International Journal of Mental Health and Addiction*. <https://doi.org/10.1007/s11469-022-00934-7>.
- Gualdi-Russo, E., Rinaldo, N., Masotti, S., Bramanti, B., & Zaccagni, L. (2022). Sex differences in body image perception and ideals: Analysis of possible determinants. *International Journal of Environmental Research and Public Health, 19*(5), 2745. <https://doi.org/10.3390/ijerph19052745>.
- Karlsson, J., Persson, L.-O., Sjöström, L., & Sullivan, M. (2000). Psychometric properties and factor structure of the three-factor eating questionnaire (TFEQ) in obese men and

- women. results from the Swedish obese subjects (SOS) study. *International Journal of Obesity*, 24(12), 1715–1725. <https://doi.org/10.1038/sj.ijo.0801442>.
- Konttinen, H., van Strien, T., Männistö, S., Jousilahti, P., & Haukkala, A. (2019). Depression, emotional eating and long-term weight changes: A population-based prospective study. *International Journal of Behavioral Nutrition and Physical Activity*, 16(1). <https://doi.org/10.1186/s12966-019-0791-8>.
- Laksmi, Z.-Z. A., Ardiaria, M., & Fitranti, D. Y. (2018). Hubungan Body Image Dengan Perilaku Makan Dan Kebiasaan Olahraga Pada Wanita Dewasa Muda Usia 18-22 Tahun (Studi pada Mahasiswi Program Studi Kedokteran Universitas Diponegoro). *Jurnal Kedokteran Diponegoro (Diponegoro Medical Journal)*, 7(2), 627–640. <https://doi.org/https://doi.org/10.14710/dmj.v7i2.20706>.
- Megawati, Siska Bella. (2022). *Pengaruh Perbandingan Sosial Terhadap Body Image pada Mahasiswi Angkatan 2017 Fakultas Ilmu Pendidikan Universitas Negeri Yogyakarta*. (Skripsi). Universitas Negeri Yogyakarta.
- Nabila, B. (2022). *Pengaruh Body Image terhadap Performance Anxiety pada Performing Arts di Daerah Istimewa Yogyakarta*. (Skripsi). Yogyakarta: Universitas Negeri Yogyakarta.
- National Institute of Diabetes and Digestive and Kidney Diseases. (2021). *Symptoms & causes of binge eating disorder - NIDDK*. National Institute of Diabetes and Digestive and Kidney Diseases. <https://www.niddk.nih.gov/health-information/weight-management/binge-eating-disorder/symptoms-causes>
- Prasetyaningsih, Rizka Fitri. (2019). Pengaruh Tingkat Literasi Keuangan, Status Sosial Ekonomi Orang Tua, Jenis Kelamin Dan Jurusan Terhadap Pola Konsumsi Mahasiswa FE UNY. *Jurnal Pendidikan dan Ekonomi*. Vol 8 (4).
- Sai, A., Othman, M. Y., Wan Zaini, W. F., Tan, C. S., Mohamad Norzilan, N. I., Tomojiri, D., & Furusawa, T. (2018). Factors affecting body image perceptions of female college students in Urban Malaysia. *Obesity Medicine*, 11, 13–19. <https://doi.org/10.1016/j.obmed.2018.06.004>.
- Soares Filho, L. C., Batista, R. F. L., Cardoso, V. C., Simoes, V. M. F., Santos, A. M., Coelho, S. J. D. D. A. C., & Silva, A. A. M. (2021). Body image dissatisfaction and symptoms of depression disorder in adolescents. *Brazilian Journal of Medical and Biological Research*, 54(1). <https://doi.org/10.1590/1414-431x202010397>.
- Voges, M. M., Giabbiconi, C.-M., Schöne, B., Waldorf, M., Hartmann, A. S., & Vocks, S. (2019). Gender differences in body evaluation: Do men show more self-serving double standards than women? *Frontiers in Psychology*, 10. <https://doi.org/10.3389/fpsyg.2019.00544>.
- Watkins, J. A., Christie, C., & Chally, P. (2008). Relationship between body image and body mass index in college men. *Journal of American College Health*, 57(1), 95–100. <https://doi.org/10.3200/jach.57.1.95-100>.
- Wrzecionkowska, D., & Rivera Aragón, S. (2021). Three-factor eating questionnaire-R18 (TFEQ-R18) Spanish version: Factor structure analysis among normal weight and overweight adults. *Acta De Investigación Psicológica*, 11(1), 84–94. <https://doi.org/10.22201/fpsi.20074719e.2021.1.376>.