

## The Influence of Obesity and Self-Confidence on Students' Physical Self-Concept; Correlation Study

Haya Shaluhya<sup>1</sup>, Dimiyati<sup>2</sup>

<sup>1,2</sup> Department of Sport Science, Yogyakarta State University, Yogyakarta Indonesia



**ABSTRACT:** This study aims to analyze: (1) The effect of obesity on physical self-concept. (2) The effect of self-confidence on physical self-concept. (3) The effect of obesity and self-confidence on physical self-concept. This type of research is quantitative with an ex post facto approach. The population in this study were junior high school students in Kulon Progo Regency. The sampling technique used was purposive sampling to collect 60 obese children from schools in Kulon Progo Regency. Inclusion criteria for cases and controls were obese children in the age range of 11-15 years. The instrument used is a questionnaire—data analysis technique using ANOVA analysis. The results showed that (1) there was a significant relationship between obesity and physical self-concept, with a significance value of  $0.000 < 0.05$ . (2) there is a significant relationship between self-confidence and physical self-concept, with a significance value of  $0.002 < 0.05$ . (3) there is a significant effect between obesity and self-confidence on physical self-concept, with a sig.  $0.000 < 0.05$ .

**KEYWORDS:** obesity, self-confidence, physical self-concept

### INTRODUCTION

Adolescence is the arrival of puberty, a transition period from childhood to adulthood. This period is almost always a difficult time for teenagers. The adolescent phase is a very important segment of individual development, which begins with the maturity of the physical organs (Yuldashov & Robilova, 2022). Teenagers usually start paying attention to their physical appearance and want to change their appearance by paying more attention to skin problems, wanting to have an ideal body, wanting to be taller and, of course, having an ideal body weight. The highest level of concern about body shape mainly occurs in adolescents; the problem of body shape is something that is very feared because it is considered something very important to them.

Obesity is a non-communicable disease (non-communicable) which is a health problem both in Indonesia and the world. Overweight and obesity are abnormal or excessive fat accumulation that poses a health risk. The gross population size for obesity is Body Mass Index (BMI), a person's weight (in kilograms) divided by the square of his height (in meters) (Al-Ghamdi et al., 2018). A person with a BMI of 30 or more is considered obese. Obese adolescents whom their peers shun tend to experience low self-esteem and a great sense of hopelessness. Feeling different or distinguished from the group will make obese individuals vulnerable to various psychological problems.

In fact, body shame is experienced by teenagers reaching 64%. Body shame due to being insulted and criticized by others leads to eating disorders, decreased mental health, and poor self-image in adolescents. For many victims, these swearing and embarrassing comments can leave psychological scars that predispose them to binge eating disorders and social withdrawal (Stacey, 2017). Bullied and criticized by their peers because they are fat, they tend to feel afraid, stressed, anxious, embarrassed, feeling less than human. Way of weight loss with dangerous tactics such as induced vomiting, leading to suicide attempts among school-age children.

Physical appearance and the desire to have an ideal body are what teenagers want because, at this time, individuals begin to interact a lot with their social environment and also the opposite sex. The ideal body among adolescents is considered something that has appeal but is not for obese adolescents. This causes self-concept in adolescents who are obese to be seen as disturbed, lacking, or not in accordance with the problems they are experiencing. Self-concept is all the ideas, thoughts, beliefs, and beliefs that individuals know about themselves and affect individuals in dealings with other people (Tus, 2020). Self-concept is the way an individual views himself as a whole, involving the physical, emotional, intellectual, social, and spiritual. Self-concept has five components, namely body image, self-ideal, self-esteem, self-role, and self-identity. Some things included in

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self-concept are individual perceptions of their nature and potential, interactions with other people and their environment, values related to experiences and objects, goals, hopes, and desires (Stuart, 2014).

Self-concept in students can be seen in students who have self-confidence, they can express their opinions in front of the class but if they do not have self-confidence then they can only be silent. He was afraid that one class would make fun of him if the opinions expressed were far from perfect. Sometimes symptoms of lack of confidence appear suddenly, without being noticed by someone when doing something so that person cannot optimally use their abilities. Likewise, a student who has a low physical self-concept result in a lack of self-confidence, which will then hinder the development of intellectual achievement, skills, and independence and make the student incapable of socializing (not sociable). These students do not have the courage to actualize themselves in the social environment. A lack of self-confidence makes a person angry with himself and results in a disruption of learning achievement. Most students who feel they have failed with their achievements find it difficult to develop self-confidence. Fear of challenging tasks, fear of failure, and accustomed to taking on tasks with little challenge. Moreover, teenagers who are obese, feel inferior in dealing with everything.

Research by Serassuel Junior et al., (2015) shows that the obese group is more likely to present an imbalance in behavior and emotional context compared to the normal weight group, regardless of age, skin color, and gender. The results show a negative impact on the perception of the overall self-concept and a difference between boys and girls caused by obesity. These results indicate the magnitude of the effect caused by obesity, especially in adolescence. A study by Tyrrell et al., (2019) also stated that obesity can increase the risk of depression. In addition, adolescents who have low physical activity and a highly sedentary lifestyle are more at risk of being overweight or obese (Almughamisi et al., 2017); (Aryeetey et al., 2017). From several existing theories and facts, no research has been found that examines this issue in detail. So the researcher hopes that conducting this research will help many parties in overcoming the problems described in the background.

### METHOD

This type of research is descriptive quantitative with an ex post facto approach. Ex post facto is research that aims to find causes that allow changes in behavior, symptoms or phenomena caused by an event, behavior or things that cause changes in the independent variables that have taken place as a whole. The population in this study were junior high school students in Kulon Progo Regency. The sampling technique used was purposive sampling to collect 60 obese children from schools in Kulon Progo Regency. Inclusion criteria for cases and controls were obese children in the age range of 11-15 years. The obesity instrument measures ideal body condition using the Body Mass Index (Valenzuela et al., 2020). The instrument on the physical self-concept variable uses the Children and Youth Physical Self-Perception Profile (CY-PSPP) questionnaire (Ruiz-Montero et al., 2020). The self-confidence instrument uses a questionnaire. The analysis technique used is regression analysis using SPSS for windows version 23.

### FINDING

The results of the descriptive analysis are intended to determine respondents' responses to obesity and self-confidence variables in physical self-concept based on the results of filling out the questionnaire. Statistical descriptive results based on the mean and standard deviation are detailed in Table 1.

**Table 1. Descriptive Statistics**

No	Variable	Statistic
1	Obesity	30.12±3.22
2	Confidence	196.12±6.45
3	Physical self-concept	100.42±8.36

The data normality test in this study used the Kolmogorov-Smirnov method. The results of the data normality test performed in each analysis group were carried out with the SPSS version 20.0 for windows software program with a significance level of 5% or 0.05. The summary of the data is presented in Table 2

**Table 2. Normality Test Results**

One-Sample Kolmogorov-Smirnov Test		
		Standardized Residual
N		60
Normal Parameters <sup>a,b</sup>	Mean	.0000000

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	Std. Deviation	.98787834
Most Extreme Differences	Absolute	.056
	Positive	.041
	Negative	-.056
Test Statistic		.056
Asymp. Sig. (2-tailed)		.200 <sup>c,d</sup>

Based on the statistical analysis of the normality test that was carried out using the Kolmogorov-Smirnov test in Table 6, the obesity and confidence in physical self-concept variables obtained the results of the normality test with the Asymp.Sig value (2-tailed)  $p > 0.05$ , which means normally distributed data.

Testing the linearity of the relationship is carried out through the F test. The relationship between the independent variable (X) and the dependent variable (Y) is declared linear if the sig value  $> 0.05$ . The results of the linearity test can be seen in Table 3.

**Table 3. Linearity Test Results**

No	Functional Relations	<i>p</i>	<i>Sig.</i>	Description
1	Obesity * Physical self-concept	0.542	0.05	Linier
2	Self-confidence * Physical self-concept	0.325	0.05	Linier

Based on the results of the analysis in Table 3 above, it can be seen that the relationship between obesity and physical self-concept has a significance value of  $0.542 > 0.05$  and the relationship between self-confidence and physical self-concept has a significance value of  $0.325 > 0.05$ , otherwise linear.

The multicollinearity test uses the Variance Inflation Factor (VIF) value in the regression model, if  $(VIF) > 10$ , then this variable has problems with other independent variables. The results of the multicollinearity test can be seen in Table 4.

**Table 4. Multicollinearity Test Results**

No	Variable	Tolerance	VIF
1	Obesity	0.871	1.112
2	Confidence	0.871	1.112

Based on Table 4 above, the value of the variance inflation factor (VIF) is obtained, the Obesity variable ( $X_1$ ) = 1.112 and Confidence ( $X_2$ ) = 1.112. The two independent variables have a VIF value of less than 10, so it can be concluded that there is no multicollinearity between the independent variables.

Further analysis of the hypothesis, namely partial test and simultaneous test. The t (partial) test was conducted to determine the effect of each independent variable, namely obesity and self-confidence on physical self-concept. The results of the (partial) t test analysis are presented in Table 5 as follows.

**Table 5. Results of Partial Test Analysis (t test)**

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig,
		B	Std. Error	Beta		
1	(Constant)	17.659	2.746		13.904	0.000
	Obesity	1.263	0.098	0.583	6.208	0.000
	Confidence	-0.115	0.060	-0.334	-4.021	0.002

a. Dependent Variable: Physical self-concept

The obesity variable obtained a significance value (sig) of 0.000. Because the significance value is  $0.000 < 0.05$ , then  $H_0$  is rejected, meaning that  $H_1$  which reads "there is a significant relationship between obesity and physical self-concept" is accepted. Negative value, meaning that if obesity is higher, then the physical self-concept will be less.

The confidence variable obtained a significance value (sig) of 0.002. Because the significance value is  $0.002 < 0.05$ ,  $H_0$  is rejected, meaning that  $H_2$  which reads "there is a significant relationship between self-confidence and physical self-concept" is accepted. Positive value, meaning that if the self-confidence is getting better, then the physical self-concept will also be getting better.

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The F test is used to test the hypothesis whether the independent variables simultaneously (simultaneously) affect the dependent variable. H3 reads "there is a significant influence between obesity and self-confidence on physical self-concept". The results of the analysis in Table 6.

**Table 6. Results of F Test Analysis (Simultaneous)**

ANOVA <sup>b</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	427.455	3	142.485	327.160	.000 <sup>a</sup>
	Residual	59.231	136	.436		
	Total	486.686	139			
a. Predictors: (Constant), Confidence, Obesity						
b. Dependent Variable: Physical self-concept						

Based on Table 6 above, the calculated F coefficient is 327,160 and the sig. 0.000 <0.05, then Ho is rejected, meaning. The alternative hypothesis which reads "there is a significant effect between obesity and self-confidence on physical self-concept", is accepted.

The coefficient of determination is basically used to measure how far the ability of the regression model is to explain the variation of the dependent variable. The results of the analysis in Table 7 are as follows.

**Table 7. Results of the Analysis of the Coefficient of Determination**

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.548 <sup>a</sup>	0.300	0.298	2.59762
Predictors: (Constant), Confidence, Obesity				

The coefficient of determination R Square or obesity and confidence in explaining or predicting physical self-concept variables is 0.300 or 30.00%. This means that the variables of obesity and self-confidence have an influence on the physical self-concept of 30.00%, while the rest are influenced by other factors by 70.00% outside this study.

## DISCUSSION

### The Effect of Obesity on Physical Self-Concept

Based on the results of the study showed that there is a significant relationship between obesity and physical self-concept. This research is in line with research conducted by Rupang et al., (2013) where obesity greatly influences adolescent development, especially in the formation of self-concept. Self-concept is critical to psychological well-being and is a term used to describe an individual's awareness of their qualities and limitations (Jacobs et al., 2002). Self-concept can improve one's development by influencing body image not avoiding negative appearances. If a person has knowledge about himself and a better self-concept character in perceiving an individual's mental image of his body (positive self-concept), then he has a body-image satisfaction (Cade et al., 2018).

Physical self-concept was significantly higher for boys than for girls across eight subdomains, as well as global physical self-concept and self-esteem. Physical self-concept decreases with age, and there are significant age-related gender interactions in the global physical, body fat, appearance, sporting competence, and strength dimensions. Physical appearance is the subdomain that most strongly predicts global self-esteem (Klomsten et al., 2004). Sports participation has a greater effect on positive body satisfaction among boys (Gomez-Baya et al., 2019).

Boys have greater sports confidence and competence than girls, while girls have better perceptions of physical appearance and physical strength than boys. The better the physical self-concept, the less obesity is found in men and women (Zsakai et al., 2017). Cash (2012) stated that women are often dissatisfied with their bodies and also often talk about negative statements about their bodies, including weight, diet, and exercise.

The significant relationship between self-concept and body image is because someone with a positive self-concept will include compatibility between identity or ideal self-expectations. That someone will face change. Individuals who have a positive level of self-concept change can be one of the factors of body image. Self-concept can be viewed from knowledge, which means that individuals know all ways of regarding or treating themselves, expectations for the future, and each individual certainly has

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different expectations; and the assessment of individuals who evaluate and evaluate themselves, which includes conformity between identities or ideal self.

Adolescents who are obese tend to be ridiculed by their friends, so they have impaired self-concepts. One of the factors that influence self-concept is a stressor. Stressors can strengthen self-concept when individuals successfully deal with problems. On the other hand, the excessive stressor comes from the problem of the respondent's weight, and the effects of this weight are in the form of an influence on himself and the surrounding environment. Stressors in the form of excess body weight in respondents can cause a lack of confidence, inferiority, and withdrawal. In contrast, the individual's ability to deal with stressors is highly dependent on each individual's resources. If personal power is lacking, the stressor can cause the self-concept to become a negative self-concept.

Obesity is often associated with psychological and social disorders such as low self-esteem and low self-concept, feelings of inferiority, lack of self-control, depression, anti-social behavior, or inactive behavior (Teixeira et al., 2012). Higher levels of physical activity intensity can improve physical fitness and prevent or reduce excess weight among children and adolescents (Aires et al., 2010). Educational policymakers and Physical Education teachers should implement strategies to promote physical activity in schools and provide quality Physical Education programs to increase physical activity during adolescence (Fernández-Bustos et al., 2019).

### **The Effect of Self-Confidence on Physical Self-Concept**

Based on the results of the study shows that there is a significant relationship between self-confidence and physical self-concept. Someone who has a positive self-concept will be able to be an individual who is optimistic, responsible, and has high self-confidence. Self-concept is a view of the feelings that students have about themselves, which are obtained from the process of observing themselves and according to the perceptions of others in the form of physical, psychological, and social characteristics. The expected self-concept is positive because a positive self-concept will form high self-confidence in individuals that can lead to humility and generosity as well as a positive, optimistic attitude related to the success that the individual wants to achieve. Mualifah et al., (2019) stated that a positive self-concept encourages a person to be optimistic and have high self-confidence. Individuals who have a positive self-concept or tend to be high in mental health will be better at perceiving themselves as a whole, which in turn will also lead to high self-confidence.

Sharma & Sahu, (2013) on 25 schools in 5 countries, states that gender greatly influences the level of individual confidence. Specifically, this study states that the male gender has a higher level of self-confidence than the female. The results of research by Goel & Aggarwal (2012) on 363 students in 1 public junior high school and one public high school showed that age differences resulted in differences in the level of self-confidence in students, where high school students had a higher level of self-confidence. Confidence is an individual's ability to take appropriate and effective actions in any situation, even in a challenging one. Confidence is an attitude or belief in the abilities possessed by individuals so that individuals are not always anxious to act, are free to do what they like, are responsible for every action, are warm and polite when interacting with other individuals, and are able to recognize their own strengths and weaknesses. Self-confidence is formed through physical condition, ideals, caring attitude, and life experience (Oktafiani & Yusri, 2021).

Mindset is very influential on self-confidence and physical reactions and will lead to one's social interactions. Changes in individual behavior affect how the individual thinks and how the individual feels, both physically and emotionally. One's mindset is very helpful in overcoming problems related to moods, such as depression, anxiety, anger, and guilt. If a person has a positive mindset, the individual can overcome mood-related problems. Likewise, it is better if individuals think negatively, they will tend to feel depressed, insecure or embarrassed, anxious, panicked, feel guilty, which in turn interferes with their social interactions. Although positive thinking is not a solution to life's problems, thinking will help determine the mood experienced in certain situations.

In this case, self-concept has a very important role in increasing one's self-confidence, especially in increasing self-confidence in students, because a positive perspective on the abilities possessed by each individual it will make each individual feel more confident, and there will be no worry or anxiety with the abilities they have. Likewise, it is better to have a negative perspective on yourself or your abilities so that you will feel worried, insecure, and anxious about yourself.

### **The Relationship between Obesity and Self-Confidence on Physical Self-Concept**

Based on the results of the study, it can be concluded that there is a significant influence between obesity and self-confidence on physical self-concept. Among adolescents, obesity is a worrying problem because it can reduce self-confidence and cause serious psychological disorders, not to mention the possibility of discrimination from the surrounding environment. You can imagine that if obesity occurs in adolescents, then these adolescents will grow into teenagers who lack confidence. Obesity experienced by a person as a teenager is closely related to an increased risk of death in middle age. Most adolescents who are

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overweight reveal that they tend to be insecure about their weight; they show obvious changes in attitudes, such as feeling insecure about their weight because they feel they do not look better than others; in their minds, people who are overweight excess can worsen appearance (Hu & Liu, 2022). They think that a good appearance can be seen from an ideal body posture, which is why efforts to lose weight appear so that they can look better, even though the methods taken are not always for the health of the body.

Factors that affect self-concept are body image disturbances such as changes in perception of the body both in function, size, and shape, disturbances in self-ideals, role disturbances such as the aging process, identity disturbances such as uncertainty of looking at oneself doubtfully, and being unable to make decisions. Obesity in adolescents impacts psychosocial disorders such as low self-esteem, depression, withdrawal from the environment, respiratory disorders, degenerative and metabolic diseases, narrowing of blood vessels, faster physical growth, and so on (Zeiler et al., 2021). The impact caused by obesity is psychosocial disorders and self-concept, for example, low self-esteem and lack of confidence, if it is prolonged, you will experience social isolation and depression.

In adolescence, they begin to be more aware of themselves than during childhood. Adolescents will be more self-aware and pay more attention to their body image and this concern for body image will be more pronounced in young women. Psychologically, the conditions that often appear side by side with obesity are disturbances of self-concept, such as disturbances of body image and disturbances of self-esteem. Self-image, body image, body image, and body image is a person's attitude towards his body consciously and unconsciously. This attitude includes perceptions and feelings about the body's current and past size and shape, function, appearance, and potential.

### CONCLUSION

Based on the results of the study, it can be concluded that (1) there is a significant relationship between obesity and physical self-concept, with a significance value of  $0.000 < 0.05$ . (2) there is a significant relationship between self-confidence and physical self-concept, with a significance value of  $0.002 < 0.05$ . (3) there is a significant effect between obesity and self-confidence on physical self-concept, with a sig.  $0.000 < 0.05$ . For students, it is hoped that they will be able to interact with each other in a mutually supportive manner to create an attitude of mutual respect and need for each other which will be able to form a more positive self-concept which in the end can also create high self-confidence as well. Future researchers who wish to carry out this research are expected to examine other factors related to physical self-concept.

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