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## **ASSOCIATION BETWEEN SELF-IMAGE AND LENGTH OF EXERCISE WITH DEPRESSION IN OBESE PEOPLE**

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### **Abstract**

The aim of this research was to know the relationship between body image and the length of exercise with depression in obese person. Beside both predictors, this research also intended to know the relationship between gender and age with depression in obese person, although both variables of this research taken a position as moderator variables. Subjects were members of two fitness centres in Daerah Istimewa Yogyakarta. They were The Puspita fitness centre dan Lembah Fitness centre. Total subjects were 60. The instruments used in this research were Beck Depression Inventory, Body Image Scale and data of personal identity. Research data were analysed by using regression analysis technique. The result of regression analysis indicated that there was a negative correlation between body image and the length of exercise with depression in obese person. It means that the higher body image of the subject the lower depression they experienced ( $r_{par-xy} = -0,359; p < 0,01$ ); the longer of exercise, the lower depression they experienced ( $r_{par-xy} = -0,536; p < 0,01$ ); there was a positif correlation between gender and depression in obese person, women more depressive than men ( $r_{parxy} = 0,270; p < 0,05$ ) Their age were not correlated with depression ( $r_{par-xy} = -0,112; p > 0,05$ ).

**Keywords:** Depression; Overweight; Self-Confidence; Self-Image; Length of Exercise; Body Image

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### **INTRODUCTION**

Overweight at this time is one of the problems suffered by many people. It is estimated that approximately one-third of the earth's population suffers from obesity. World Health Organization records WHO in 2003 (in Bali Pos, 2004) states, at least 1.2 billion of the world's population has excessive weight. This figure is very worrying because of its rapid increase.

PDi Indonesia, based on several studies, is known to have a relatively high prevalence of obesity. Rachmawati, (2012) estimates that out of 210 million Indonesians there are around 76.7 million (17.5) people who are overweight, while obesity amounts to more than 9.8 million (4.7%). Based on these data, it can be concluded that overweight in Indonesia has become a big problem that requires serious handling.

Friedman and and Brownell in Schwartz & Brownell, (2004) explain that obese people tend to feel life dissatisfaction due to feelings of dissatisfaction with their appearance so that it can trigger anxiety and depression. A survey conducted by the American Psychological Association (APA) in Kazdin & Association, (2000) reported that 30-40% of Americans were unhappy with their appearance and about 45% experienced anxiety and depression due to dissatisfaction with their appearance.

Several studies show a relationship between obesity and depression, among others, Carpenter, Hasin, Allison, & Faith, (2000) reported a relationship between weight gain with major depression, suicide and suicide attempts although differences were found between men and women. For women, an increased body mass index (BMI) is associated with major

depression and suicidal ideation. Men with a low body mass index are associated with major depression, suicidal ideation and suicide attempts.

Depression according to (Kaplan, Sadock, & Grebb,(2010) is a group of clinical disorders characterized by loss of feelings of control and subjective experience due to severe suffering. People who are depressed feel a loss of energy and interest, feelings of guilt, difficulty concentrating, loss of appetite. The combination of symptoms that are felt affects the ability to work, sleep, eat, and enjoy one of the pleasant activities. These episodes of depression can appear once, twice or several times during life (Liu et al., 2018).

The cause of depression in obese people according to research (Borzou, Oshvandi, Cheraghi, & Moayed,(2016) can be seen from two sources of causes. First from psychosocial factors and second from neurochemical factors and body genetics. Psychosocial factors that cause depression in obese people include: broad social stigma regarding obesity conditions, negative body image, negative stereotypes, gender, ethnicity, education, age, diet, marital status, health problems and others.

In this study, the author emphasized the causes of depression from psychosocial factors, including self-image, age and gender. This is based on several studies that prove the contribution of these variables to depression in obese people

Some studies show a contribution of self-image to the emergence of depression in obese people. Here is a survey by Heinz and Terressa in (Vander Wal & Thelen, 2000) which reports that someone with excess weight is tainted with thoughts with problems of the mind. It is known, there are 9 out of 10 people who are obese struggle with self-image problems. One in four people who are obese admits that popular imagery in the media makes her feel worse in her body. The problem is that this negative view will affect the emergence of unhealthy behavior among people who are overweight and obese.

Self-image contributes greatly to the emergence of depression because obese people have a tendency to experience dissatisfaction with their own bodies. Many obese people kick their bodies in a negative view and believe that others reject them in the process of social interaction (WHO, 1998). The subject tends to feel that his body is poorly shaped and unattractive (Yakin, 2020).

Kihlstrom and Cantor (in Dwi & Pudjiastuti, 2018), define self-image as an individual's mental image and assessment of one's own body that is integral to self-concept. Self-image is generally formed by comparing physical values with the standards of beauty of one culture. These standards are very different from one society to other societies.

According to (Diza & Raihana, 2021)self-image is a multi-faceted concept of body experience that includes perceptual, affective, cognitive and behavioral aspects. Moitra (tt) added, self-image concerns how a person perceives and forms an understanding of the body that describes the structure and function of the body, concerns previous and ongoing experiences and social responses to appearance and sociocultural values related to the body.

Women develop more negative self-image than men. Some women become so dissatisfied with their size that they push them to slim down and maintain their slimness (Abend et al., 2022).

In addition to self-image and gender, a person's age is one predictor for the risk of depression in obese people. Some research (George, Blazer, Hughes, & Fowler, 1989) suggest

age to be a risk factor for the emergence of depression. Know that obese people who are classified as young are more prone to depression than older people. This is due to the drive to look attractive and perfect greater at a young age.

In an effort to conform to ideal body standards and various other reasons, many people who are obese try to lose weight. Some ways to do it, or others by doing a strict diet or physical activity that can reduce fat, such as aerobic gymnastics, body language, fitness and so on.

Some previous research physical exercise or sports proven in addition to losing weight can also overcome the emergence of depression. Gersten (in Kompas, 2002) suggests that gymnastics is an effective effort to overcome depression. Exercise benefits especially can facilitate blood circulation and oxygen in the body, so according to health experts, if emotions are at their lowest, patients are recommended to exercise for 20 minutes for each session and done approximately three times a week.

Based on the description above, it is concluded that the high and low depression in obese people is determined by, among others, self-image, length of physical exercise or exercise, gender and age. Thus, a problem can be raised, is there a relationship between self-image and longevity with depression in obese people?

## **METHOD RESEARCH**

The method used in this study is quantitative method. Depression is a dependent variable and the independent variables are self-image and length of exercise as well as gender and age as moderator variables. The population in this study is men and women who are classified as obese and registered as members of fitness centers, namely: valley fitness center and puspita gymnastics studio with characteristics of subjects who have a Body mass index (BMI) / Body mass index (BMI) greater than or equal to 25 according to WHO standards in [adult Asian population. In this study, the sampling technique was determined axirally as many as 60 subjects.

The data collection tool in this study used personal identity data methods and two forms of psychological scales to uncover self-image and depression variables. The scale used to reveal depression uses the Beck Depression Inventory with manifestations of affective, motivational, cognitive and physical and vegetative symptoms. The image of dir is revealed with a scale that the author arranges himself which refers to the theory of Banfield and McCabe (2002) with 4 components, namely: perceptual, affective, cognitive and behavioral

## **RESULT AND DISCUSSION**

The normality test in this study used the Kai-squared statistical model. The rule used to determine the normality of distribution is if the chance of error ( $p$ ) is greater or at least equal to 0.05 ( $p \geq 0.05$ ), and vice versa if the chance of error ( $p$ ) is smaller or at least equal to 0.05 ( $p \leq 0.05$ ), the spread is declared abnormal (Hadi, 1996). The results of testing the normality of the distribution of bound variables show the price of Kai-Squared = 14.071, with  $db = 9$ ;  $p =$

0.120. This means that the variable tied to depression is normal, so it is considered to meet assumptions for the purposes of research data analysis.

**Table 1 Linear test**

Variabel	Db	F	P	correlation
X1 > Y	1	78,421	0,000	Linier
X2 > Y	1	98,506	0,000	Linier
X3 > Y	1	5,745	0,019	Linier
X4 > Y	1	12,599	0,001	Linier

The four variables show that they all have a linear relationship with the dependent variable. All variables can satisfy assumptions for the purposes of subsequent analysis.

Major hypothesis is tested using regression analysis. Based on the results of the analysis obtained Fisher price (F) = 35.334, The coefficient of determination (R<sup>2</sup>) obtained is 0.728 with an error chance p = 0.000, db = 4, then referring to the rules of research results obtained very significant results, with a price of p < 0.01. That is, the variables self-image, duration of study and sex and age together showed a very significant correlation with depression in obese people.

There are several minor hypotheses, including the first minor hypothesis testing a negative correlation between self-image and depression in obese people, known as rpar-xy1 = -0.359 with p = 0.000 or p < 0.01 (very significant). It was concluded that there is a very convincing negative correlation between self-image and depression in obese people. Second, it tested for a negative correlation between the length of exercise and depression in obese people. Known rpar-xy2 = -0.536 with p = 0.000 or p < 0.01 ( Very significant). It was concluded that there was a very significant negative correlation between the length of physical exercise or exercise in the form of aerobic gymnastics, body language and fitness in the fitness center with depression (Yakin, 2020).

Sex and age variables disguised as moderator variables, the results of the analysis are the correlation between sex variables and depression shows a positive correlation with rpar-xy = 0.270 and p = 0.032.that is, sex and depression are significantly positively correlated. The test results of age and depression variables amounted to rpar-xy = -0.112 with p = 0.651. That is, there is no correlation between age and depression.

The effective contribution of all predictors is 71.987% while the effective contribution for each predictor variable is: self-image variable 6.664%, exercise duration variable 62.941%. That is, the variable length of exercise contributes greatly to minimizing the chances of depression. As for self-image, although significantly related to depression, the contribution is quite small compared to the variable length of exercise. The effective contribution of sex is 2.044% and the age variable is 0.358%, so it is concluded that sex contributes little to depression while age is very small and because the correlation is not significant then the results are ignored.

The results of computational statistical data regression analysis concluded that self-esteem was significantly negatively correlated with depression in obese people. This means

that an altered self-image is associated with high levels of depression in obese people. Its effective contribution of 6.664% means that although this variable is very significantly negatively correlated with depression, its contribution is relatively small when compared to other variables so it is concluded that its contribution is not dominant.

This research is in line with the research of Friedman et al, 2002, grant et al, 1999; Stice et al, 2001) Which proves that self-image is negative with depression. According to Friedman et al (2002), there are several factors that can cause depression in obese people, namely low self-image, obesity and social status.

The results of this study have proven that the length of exercise is very significantly negatively correlated with depression in obese people. This means that the length of physical exercise or exercise in obese people is associated with reduced levels of depression in obese people.

This research reinforces the research of Miser (2000), Jerry (2001) that regular exercise is very effective in reducing depression levels. McMallum (2004) in his research found that regular exercise within 9 consecutive weeks showed a very significant reduction in depression compared to the control group.

The variables sex and depression were significantly positively correlated, meaning women were more depressive than men conclusively. These results support the results of Barber's (2001) research which states that women who are obese have a higher level of depression than obese men because women have a sensitive emotional character than men because women estimate their body condition more than they really are, whereas if obese men see themselves as does not contribute to depression experienced by obese people. There was no correlation between age and depression in this study because the distribution of the youngest age of the subjects was 18 years and the oldest was 41 years and classified as homogeneous.

## **CONCLUSION**

Based on the results of the analysis, it was concluded that there is a significant negative relationship between self-image and depression in obese people. That is, obese people who have a low self-image have high levels of depression, conversely, obese people who have a high self-image have a high chance of depression that is broken. There was a very significant negative relationship between the length of exercise and depression in obese people. The longer the span of time that obese people have done to do physical exercise or sports, the smaller the chance of experiencing depression. There is a significant positive relationship between sex and depression in obese people. women are more depressive than men. There was no negative association between age and depression in obese people.

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