

Interaction Between Body Image and Exercise Activity

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Abstract— This article review was made to discuss the relationship between body image and exercise activity. It is suggested on the articles that negative body image was mostly found in women. Negative body image restricts person's choices to do exercise activity and related to eating pattern of athletes. In the other hand, good exercise activity decrease feelings for negative body image and it is more effective when combined with positive perfectionism and resistance session training. It can be concluded that body image interacts negatively with exercise activity, but exercise activity impacts positively to body image. It is suggested to provide positive body image on the early phase of exercise activity especially for the person intended to decrease his/her body weight through exercise activity.

Keywords—body image; exercise activity; body weight.

I. INTRODUCTION

Humans as social beings tend to conform with each other. This tendency causes humans often to compare themselves with other humans. They also tend to adjust to various norms in the community. One of the norms which is currently being circulated massively by the media is the norm of ideal body shape. The ideal body shape norm is not entirely true in the health aspect, but the norm is generally accepted and made by community members. With the norm reference to ideal body shape, individuals begin to compare themselves with this norm which are reflected in the form of body image. Body image is a picture or perception of the body that is not real.

Shape of the body in some respects affects how individuals act or behave. One effect of body shape is eating disorders that lead to unhealthy eating patterns. A negative body image or body dissatisfaction is also associated with a low level of confidence. With a negative body image, individuals tend to respond by making various efforts that makes the body shape as what they expected. One of the ways to do this is exercising. But the relationship between body image and exercise in physical education and sports literature in Indonesia is still not explained in detail. In this paper, the researchers examine the relationship between body image and exercise activity.

II. METHOD

The library research was obtained from the internet through the Google search engine with the keywords "The effects of exercise on body satisfaction and affect". In addition, the

library research is also obtained through searching on Indonesian-language sites with the keyword "body image".

III. DISCUSSION

A. Body Image and Its Impact

Body image is defined as a person's perceptions, thoughts, and feelings towards his body. Dissatisfaction with body shape or body image dissatisfaction is generally measured by asking participants to assess their body shape compared to their ideal body shape, then measuring the gap between actual body shape and ideal body shape.

Other aspect of body image is individual perception views on their own physical appearance. A study in Spain found that self-perceptions among children between 9 to 12 years old, which was categorized as satisfaction and dissatisfaction of their physical apperancy, shown that similarity figure in boys and girls, although it could be appreciated that the ideal body image is partly conditioned by the gender stereotypes. Other data has shown that children with lower family self-concept have higher negative body image. Higher family self-perception signed as appreciate what they already have, shown a group of children with positive body image [1]

Adolescent has a different variable contributing to their body image. A study among adolescent was designed in order to analyze the correlation between weight self-perception, self-reported physical fitness, and weight control behaviors, and explored possible relations among those with dietary intake, self-weighing frequency and body mass index (BMI) and different eating behaviors. Those study used total of 336 students (mean age of 12.46 ± 2.14 ; 47.62% females) as samples and data has shown that more than 70% of participants reported average or good physical fitness and more boys reported good or excellent physical fitness. Almost 60% of participants who planned to diet for aesthetic reasons were girls, and girls more than boys self-weighed to feel better. The importance results were there were some differences between boys and girls at this age that BMI was significantly have a correlation with body image dissatisfaction. This dissatisfaction of body image pursuing girls to do restrictive eating [2].

Several studies have concluded that there are clear links between weight self-perception, body image, dietary intake, self-weighing, and eating behaviors. This may conduct some

other problems in adolescent such as mental health problems. Common mental health problems faced by the girls is eating behavior disturbances as a result of their negative body image.

Body image is known as one of the significant components of the individual's self-concept. This self-concept provides some effort to get healthier and gain their ideal body mass index. Another opportunity in this self-concept also is in a good mental state. This concludes by an author of a study that in this way, the perception of our body appearance and those self-concepts, are associated with the body image. This also greatly influences not only our self-concept but also our self-esteem. The results of that study confirmed that there was a closed correlation between the body image, the self-concepts, and self-esteem. Results have shown that between the perceived and ideal body images have a major difference which predicted lower level of self-esteem [3].

The distortions of visual perception were found in many cases in adolescents. This negative body image pursuit them to choose the newest design of exercise and dietary intake. They judge that the body appearance they already have are not a good one so this negative visual perception lead to some case of exhaustive exercise and wrong dietary program also explored by individuals with negative body image.

Body image depends on several factors such as psychological components, cultural influences, peers, ethnicity, and media. Media plays an important role in influencing body image by promoting ideal body shape which is described as thinner in which body shape values promoted by the media become internalized in themselves as the reference for them to shape their body [4].

In almost all forms of media such as printed media, online media, or television, models are described as an ideal form that is almost impossible to achieve. However, many members of society accept this ideal form as a norm that can be achieved. In addition to ideal body shape, white skin color is also promoted by the media as something ideal [5]. Research on beauty contest contestants found that most contestants tended to perceive that ideal body shapes were judged to be better by judges which lower or thinner than their current body shape. It was also found that most contestants wanted to lose their weight again to be more ideal. It can be concluded that the contestants tend to lose more weight [6].

There is a tendency that more women experience a lower body image compared to men. A negative body image is found in all ethnicities and all types of ages, but the tendency of negative body image mostly happens at a young age and white ethnicity. Factors that have the potential to cause a negative body image include excess weight or fat, exposure to images of ideal body shape promoted by the media, the influence from family and close friends, and individual psychological factors such as the tendency to compare themselves with others.

Body image is also supported by individual efforts in various kinds that make the body as what is ideal body shape expected. Negative body image or body dissatisfaction influences physical and mental health. In physical health, extreme diets such as eating disorders, cosmetic or plastic surgery, drug abuse, and heavy exercise can happen. In the mental aspect, negative self-assessment and depression can be happened [7]. A research done

by [8] stated that on three women who experienced plastic surgery showed that all three women had negative body image because of unhappy experiences and plastic surgery as a solution to overcome anxiety towards a negative body image to themselves.

However, individual efforts in anticipating negative body images can have an impact on health. Research that were involved 120 participants of SMK students in Kediri which are all female had a purpose to find that body image dissatisfaction which was associated with a tendency to experience eating disorders in the form of anorexia nervosa with a contribution rate of 26.1% [9]. The tendency for anorexia nervosa reached its peak in the age of 15 to 20 years on female teenagers. This study confirmed the hypothesis of the negative association between girls' body image and confidence with the tendency for anorexia nervosa.

B. Relationship between Body Image and Exercise Activity

Assessment of body image in athletes is related to their behavior or diet. The study by [10], used the Body Shape Questionnaire (BSQ) instrument to assess body dissatisfaction, an Instrument to Exercise Scale (CES) instrument to assess the level of psychological commitment to exercise (LPCE), and the instrument The Eating Attitudes Test (EAT-26) to assess eating behavior. Fortes found that body dissatisfaction and high LPCE scores increased the athlete's tendency towards unhealthy eating behavior (eating disorder or ED). A high LPCE score indicates that the athlete has a high commitment to practice. Young athletes with a high commitment to practice tend to be more at risk of developing ED. In fact, female athletes try to increase the volume of their training without consideration with their coach hoping that the increase in training will improve their performance [10].

A negative body image also affects one's preference in choosing a place to exercise. There was an effect of body image on the preferences of the place to exercise [11]. This study surveyed 1044 students in an American university. The study found that students tend to practice in private places with few people. This is caused by the influence of body image. Some of the reasons stated include shame, fear of judgment by others, and a low body image. Some of these things cause a person to prefer to avoid a crowded training place. A negative or low body image inhibits the selection of a training place. It caused by the training place. This happens especially for individuals who experience anxiety about judgment by others. However, by also revealed that body image is a motivation for someone to exercise [11].

The different prevalence of negative body image between men and women has different consequences for their motivation in exercise. Research that was using 235 samples in 12th or 13th-grade teenagers (ages 16 to 18 years) who are mostly coming from middle socioeconomic circles in the UK who do exercise and do not do exercise. The results showed that there were relatively similar degrees of body dissatisfaction between men and women, but they had a different orientation towards their bodies in the future. Young men who want to be fatter or thinner are almost the same (37% vs 34%). But compared to young women mostly want to be thinner; only 8% of young women want to be fatter. This shows that body dissatisfaction between

young men and women are different. Young men who have a lack of weight tend to feel unhappy, while young women who have a lack of weight tend to feel satisfied [12].

Another result of this study that focused on the body part shows different satisfaction between men and women. About 73% of young men wanted to increase their upper body size (compared to 22% of young women), while 41% of young men want to reduce their lower body size (compared to 63% of young women). This shows that young men want to appear more muscular in their upper body (the shape of the letter V), while young women tend to pay more attention to the excess size that occurs in their lower body. Furthermore, their purpose in doing the exercises is different. Young women tend to do exercises for controlling weight and maintaining a mood, which tends to be associated with young women who experienced ED. ED is more likely to occur in young women due to the ideal picture of very thin women (this is strengthened by the media). Besides, men are more likely to be attracted to women's body shape. In general, the results of these studies partly support the hypothesis that exercise to control body weight and body formation is associated with ED and low self-confidence. Meanwhile, exercising for mood control, health, pleasure, and maintaining fitness is associated with high self-esteem. In this study, it can be concluded that sports activities are done by having different objectives for men and women.

The difference in motivation is also supported by the results of other studies. It was found that there is different motivation to exercise. In this study, the sample used was the University of New Hampshire students who came to the gym for about 198 people (114 women, 84 men) with ages between 18-23 years. In this study, stress or anxiety motives are described as exercises to release tension or pressure. Fitness or health motives are described as exercises to get better muscle, stamina, and tension, and has a fit body. A mood or pleasure motive is described as exercises to get a better feeling. Body shape motive is described as exercise to become thinner and more attractive [13].

The motivation in female and male students are different. This study found that the motivation for female students to come to the gym was the pressure from their social environment to get the ideal body shape. On the other hand, the male students' purpose to come to the gym is not because of the pressure from the social environment but it is more because of personal pleasure.

The description of exercise motivation that is different in women has an impact on different exercise behaviors. Women with eating disorders tend to exercise compulsively because of a guilty feeling. They will feel guilty if they do not exercise. By exercising, it will reduce their guilty feeling of losing weight behavior.

Furthermore, in women with eating disorders which prefer to control their diet while doing exercise to find out a different method to lose weight while a method of losing weight is done. Whereas in women without eating disorders have a normal diet while doing exercise because they have self-confidence. Besides, they willing to control their weight by exercising. In general, exercise has a positive impact, whereby exercising there is a decrease in the negative body image. Other influences of doing exercise include increasing positive feelings, decreasing

negative feelings, and decreasing the frequency of thinking that exercise is only for changing body weight or body shape [14]. Individuals who undergo training experience an increase in affection (feeling) towards the exercise itself. This happens both to individuals with high body image and individuals with low body image [15].

Another study conducted a cross-sectional survey of 2527 Norwegian teens. The results of the study found that young women who were overweight tended to feel lower self-rated health. This study also found that the more intense of the involvement by the teenager in exercising related to the higher feeling of the health level. It can be concluded that involvement in exercising is related to the health level feeling. Satisfaction with the health level is related to satisfaction with the body image [16]. But other studies did not get a meaningful relationship between exercise activities with body image. There is a relationship between exercise and self-confidence and satisfaction with some aspects of their body (body cathexis), but in this case, there is no significant relationship between exercise and body image and weight satisfaction. Furthermore, it was explained that the finding of this result was probably because of a body cathexis instrument that measured the whole body [17].

Exercise activities are not always reducing a negative body image. A study of 99 adult women found that the combination of positive perfectionism and exercise dependence was related to satisfaction with body shape. While negative perfectionism is related to satisfaction with better body shape. In this study, negative perfectionism was described as an exercise to get the ideal body shape, while negative perfectionism was described as exercise to avoid bad or unexpected body shape. In this case, if the exercise activity is more intended to get a good body shape than just to avoid a bad body shape, it will be easier to get satisfaction with body shape [18].

These findings are consistent with the results of other studies. In this study, a sample of girls was divided into three groups. These groups include groups that participate in sports, groups that participate in physical activity, and groups that do not participate in physical activity. The body image in this study is divided into two dimensions: the dimensions of bodily functions and the dimensions of bodily appearance (aesthetic). The results found that the group participating in sports-focused more on the dimensions of bodily functions rather than the dimensions of bodily appearance. The tendency in this group is even higher than in the group participating in physical activity. Comparison with other studies leads to the notion that there are different motivations between groups participating in sports and groups participating in physical activity. In this comparison, practicing at home and practicing at the gym are included in participation in physical activity. In groups that participate in physical activity, their motivation to participate is more likely to the bodily appearance. The existence of these two groups is not only caused by differences in motives but also environmental differences. In groups that participate in sports, those who wish to participate in sports generally must be a member of a club and accepted by other group members. Acceptance by other members is related to more focus on bodily functions. However, the comparison between those participating in team sports and those participating in individual sports still needs to be proven through further research. In this study, a tendency to focus on

bodily functions has been observed in various types of exercise. This trend in each type of sport is consistently found to be higher than in the non-participant group [19].

A study of college students found interesting findings that although in this study little body mass index (BMI) was found overweight, the study obtained a high significance of body image dissatisfaction (BDI). This shows that BMI and BDI are two different dimensions. BMI is assessed objectively while BDI comes from subjective self-assessment. The study also found that male students who wanted to increase their body weight tended to choose the method of physical activity over the diet method. On the other hand, female students who want to lose weight tend to choose the diet method rather than the method of physical activity. Following the hypothesis in this study, most of the students who were not satisfied with their body shape did not get enough physical activity [20].

The results of this study are also consistent with the results of other studies. This study used an instrument called SPA (Social Physique Anxiety). The results of this study found that individuals who underestimated their body image were associated with higher SPA scores. A high SPA score is associated with an individual's tendency to avoid places to practice or exercise that accentuate the body more like for example in the gym. This tendency is increasingly hampering someone to do sports activities. Barriers to sports activities result in decreased ability to control body shape as desired. In the end, the person underestimates his body image. At this stage, a negative feedback cycle can occur. But on the other hand, another method for weight loss besides exercise is diet. The results showed that individuals who chose the diet method had higher SPA scores compared to individuals who did not choose the method at all. Individuals with high SPA scores may tend to choose a diet method to control body weight and then to be able to control the SPA [21].

A review of various research results found that there was little effect of training interventions on improving body image scores. This effect is moderated by the type of participant, design, and type of exercise intervention. Although not statistically significant, the effect of exercise was greater in women than in men. These insignificant statistical results are likely due to the wide confidence interval and the number of studies specifically involving a smaller male population. The effect of exercise intervention is also greater in the older population compared to the younger population. This is likely due to the body dissatisfaction score which increases with age and is stable when reaching adulthood. Body dissatisfaction increases continually through adolescents for female and male populations, in which girls continuing to report higher negative body image than boys. Body dissatisfaction remains stable through the adult life span for men and women with over 60 percent of female adults and older adults (aged 60–70 years) reporting body dissatisfaction. Further research is needed to examine the effects of exercise on body image in adolescents considering the high percent reporting body image concerns coupled with the increase in overweight. Judging from the body composition, although statistically insignificant, overweight bodies tend to get the effect of greater exercise intervention. This finding is in line with the notion that overweight individuals tend to have high body dissatisfaction scores. Thus, the exercise

intervention will have a greater effect. In the white population, the effect of exercise intervention is greater than that of the non-white population. This may be due to access to greater exercise intervention in the white population than the non-white population.

In this study, the effect of exercise intervention was not seen if the exercise intervention was combined with other interventions (for example: drug therapy or cognitive behavioral therapy). The type of control also cannot be assessed for its effect on exercise intervention given the variation in the various types of control. The effect size of the exercise intervention did not differ between the groups that increased their fitness level and body composition compared to the group that did not increase their fitness level and body composition. In this case it is concluded that changes in body image scores (psychological aspects) need not be followed by changes in physical parameters (physiological aspects) [22].

Not all types of sports activities are suitable to improve body image. Study that used 25 female participants (ages between 17–22 years old, with a BMI of 23.6 ± 4.0 , body fat percentage 25.5 ± 6.0). All participants were given 4 types of treatment (3 interventions, 1 control). The treatment included: an aerobic session (AE) consisting of 5 minutes warm-up, 30 minutes treadmill, and 5 minutes cooling; interval session (IC) in the form of 5 minutes warming up, two circuits with each of 5 weight training, and five minutes stretching; resistance session (RE), which is heating, three sets with eight bench press repetitions, over-row rowing, overhead presses, squats, deadlifts, and lunge exercises, and five minutes of cooling; and control session (CO) in the form of 40 minutes of silent reading activities. The state of the body image is directly assessed both before and after each treatment. The results showed that in AE and RE sessions, body image increased significantly from pre-to post-session (AE: 5.2 ± 1.2 to 5.7 ± 1.0 ; RE: 5.4 ± 1.4 to 5.9 ± 1.2 ; $p < 0.05$). But only on the RE post-session, body image (5.4 ± 1.4) was significantly different compared to CO post-session (5.4 ± 1.1 ; $p < 0.05$). AE and RE sessions significantly improved positive mood and decreased negative mood from pre-to post-session ($p < 0.05$). It can be concluded that RE (resistance) session is suitable to be used to improve body image [23].

Socio culture aspects also have an important influence on body image. Research about body image has concluded that achieving the desired body image becomes a common motivator for exercising. Most research shows that these types of pressures such as fell pressure to feel pressured to look a certain way to feel worthy, attractive, or desirable can become external motivators to exerciser order to change their body appearance or to avoid exercise due to embarrassment or lack of confidence [24]. A combination of the sociocultural pressures and the perception of body image can give a huge impact on determining the type and frequency of exercise.

Two of these variables which are body image and body weight often closely connected to the external factor pressure. Those external pressure factors came from pressures from family, peers, and media. Those factors are very impactful in influencing how an individual view his or her body appearance. While research has shown that those with negative body

perceptions involve more frequent exercise habits. Negative body image perceptions influence the frequency of exercise which more regular exercise can help improve overall health status, their psychosocial functioning, and quality of life can be negatively affected [25]. Some individuals who experience serious negative body perceptions could have maladaptive exercise habits because they were doing their exercise motivates by rooted in disgust or aversion to their appearance and a desire to change that appearance [26].

Other studies examined the self-evaluate investment. Determining self-worth from physical appearance and exercising to change appearance into something that is deemed more desirable by others called self-investment. These characteristics of self-investment are often linked to negative body image. Some studies also associated this self-investment with perfectionism and the case of eating disorders. Investment in physical appearance often leads to some activities such as obsessive and overdone exercise. This exercise habits may result in some health problems rather than improving health [26].

A desire to improve appearance is not always a bad thing for a person's life. This desire would be a strong motivation for someone to do their exercise and doing their more intensive physical activity. Another example has shown that a desire to alter their desired physical appearance leads a person to work harder to get their desired body image or to lose some unhealthy weight. Sometimes those good purposes followed by other bad impacts. The problem arises as a bad impact when a person doing some exercise for his or her self-worth from appearance and to change a body that they hate. This psychological perceptions as a bad look of what already his or her body appearance have made them do some bad obsessive effort [26].

It is a huge and wide difference between what an individual perceives and how they view their body size and shape could result in some negative habits in their exercise. This discrepancy in perceives and views their body shape also leads to some bad effort to gain an ideal body image by doing bad exercise habits. Some of this negative body image could result in some health problems by symptoms of depression, excessive dieting, and decreased leisure activity [26]. The results of other studies found that for adolescent age some depressive symptomatology may be variables as a mediator in the relationship between dissatisfaction and concern about body image. These two variables result in somebody's image behavioral impairment [27].

IV. CONCLUSION

Body image can be described as a person's point of view of their body shape. Body image is used by individuals to judge themselves. Body image is influenced by several factors, one of which is intense promotion by various media. The promotion of the ideal body shape by the media raises a comparison of the ideal body shape. This is one of the triggers of perception of a negative body image. A negative body image mostly happened in women. It has an impact on women's motivation in doing different sports activities. A negative body image also limits a person's choice of sports activities and is associated with differences in athletes' eating patterns.

In general, exercise activity has a positive effect on decreasing negative body image. But exercise activities need to be combined with a positive view of perfectionism to make it easier to achieve satisfaction with the body image. In this case, a negative perfectionism view needs to change to become a positive perfectionism. The type of sports activity that is more suitable for improving body image is a type of resistance session, compared to an aerobic session or circuit session interval.

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