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## **BODY IMAGE PERCEPTION, BARBELL ROMANIAN DEADLIFT AND HIP THRUST EXERCISE ON GLUTES MUSCLE HYPERTHROPY IN WOMEN**

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**Abstract.** Most women often feel unease with their body image as it is an asset for their attractiveness, this refers to the perception of body image. When observed, most female members in Recharge Functional Training have the same feeling about their body image, also have the same desire to have an ideal body shape with specific muscle growth, especially buttocks area. The purpose of this study is to determine the perception of body image, comparing the effect of romanian deadlift and hip thrust exercises on glutes muscle hypertrophy of female member. The research method uses quantitative descriptive using two group pre-posttest design. Population includes female participants of Recharge Functional Training, with total of 8 samples. Data collection instruments using body image satisfaction questionnaires, romanian deadlift and hip thrust programs by measuring hip circumference in samples to determine pre-posttest values. Results shows that the perception of body image satisfaction in women is high with value of 100%. There was an increase in the growth of glutes muscle mass in sample A group with romanian deadlift, but none was found in sample B group with hip thrust exercise program. Furthermore, there is no average comparison to post-test results from these 2 sample groups.

**Keywords:** body image; workout; muscle mass



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## **INTRODUCTION**

Most women often feel the anxiety of having the perfect body shape, this often refers to the perception of body image. Body image is a subjective description of the physical appearance and emotions of an individual and can be broadly defined as a multidimensional construct that describes the internal and subjective physical representations of the appearance and experiences of the body, attitudes towards the body, in particular, size, shape and aesthetics. (Rilwan et al., 2021). Body image involves both perceptual and attitudinal components. Disturbances in the perception of the body image component are usually reflected in distorted perceptions of body size, shape, or appearance, whereas disturbances in the attitude component usually result in dissatisfaction with body appearance or functional capacity (Monteath & McCabe, 2014). Body image has a major influence on social interactions and relationships, and individuals with negative body image may experience feelings of shame, embarrassment, and anxiety about their physical appearance (McDermott et al., 2014).

There are many factors, especially for women, that affect body image including culture, norms in society, physical changes in our bodies, and behavioral events. One of the most common influences of dissatisfaction with the personal body stems from recognizing what is seen as the norm for attractiveness and perfection by society and by private groups of friends, colleagues, and contemporaries (B. Pearce et al., 2020). It can be concluded that body image can be defined as a picture of a person's physical representation and appearance which involves a person's view or perception of another individual's physical appearance. Perceived body image involves several factors including gender, body shape, physical changes, personality type, individual behavior, and cultural and social norms. This often refers to a person's dissatisfaction with their body image, especially women. Most women have a bad perception of their body image. Not a few women are dissatisfied with the body image they have, both in terms of the physical shape of the body, or the size of the body they have. This event is commonly known as body image dissatisfaction. In the last few decades, Excessive worry about body image has been reported, and the prevalence of body image dissatisfaction has increased among adolescents and young girls. A higher prevalence of body image dissatisfaction has been seen among women compared to men (Kapoor et al., 2022). Additionally, 93% of women identified that they had negative thoughts about their appearance during the

past week (Reeve, 2013). The results of many previous studies states that the phenomenon of body image dissatisfaction is often experienced by women.

In recent years, it has been recognized that sociocultural idealism of physical attractiveness in women shifts from the ideal of extreme thinness to the ideal of athleticism and ultra-fit. This athletic ideal is characterized by low body fat and toned, and physically healthy muscles, and women have been found to judge other women's bodies more attractive when they are both lean and muscular as opposed to purely thin (Steinfeld et al., 2020). The cultural idealistic view of muscles among women is different from that of men. The ideal muscular body shape for women gives the idea that an athletic body is a healthy body that represents hard work, discipline and strength (Rodgers et al., 2018). For this reason, not a few women make efforts to take part in an exercise program at a fitness center in order to get the ideal body shape they want to have better body image.

There are several types of body shapes that gym members, especially women, usually want to achieve in order to improve their body image, one of which is having a flat stomach with a slim waist and plump and toned-looking hip muscles. The shape and size of the buttocks have become a determining factor in whether an individual is sexy, attractive, good looking, or not (Nteli Chatzioglou et al., 2019). Throughout history, across cultures and times, the buttocks have endured as a major body element of female beauty (Wong et al., 2016). Hypertrophic stimulation due to the influence of physical exercise results in a group of stimuli that can increase the volume of muscle cells (Ilham et al., 2020). One of the goals of strength training is to increase the size of the muscle fibers or what is called muscle hypertrophy. Hypertrophy will occur after training for eight weeks or more, so the size of the muscles will be visible (Sucipto & Widiyanto, 2016). In the growth of muscle mass or muscle hypertrophy, the most effective exercise is exercise which in its implementation involves lifting weights, starting from free weights namely the body weight of an individual, or external loads namely barbells, dumbbells, and machines or other gym equipment. The weightlifting training program is resistance training and strength training. Resistance training is the main training intervention used to develop strength and stimulate muscle hypertrophy. Increases in muscle mass are a key component of conditioning in many sports because of the correlation between muscle cross-sectional area and muscle strength. Additionally, increasing muscle mass is one of the goals of bodybuilding, and many strength-trained

individual recreations. Besides that, Adequate levels of muscle mass are an important issue from a health standpoint because low levels are associated with an increased risk of some of those diseases as cardiovascular disease and cardio-metabolic risk in adolescents as well as type II diabetes in middle-aged and older adults (Krzysztofik et al., 2019). For this reason, not a few women choose to take part in resistance training programs in order to get an increase in the growth of muscle mass or muscle hypertrophy so that their dreams or goals of having the desired figure and body image are achieved.

The hip thrust exercise is a multipurpose hip extension that has been correlated with increased gluteal muscle strength for long distance hip extension, improvements in horizontal force production through post-activation potentiation during sprinting and sprinting, and hamstring coactivation for injury prevention (Andersen et al., 2021). The Romanian Deadlift (RDL) is suggested to be important in developing movement skills in weightlifting, because the RDL establishes the correct body position (stance and posture) through the initiation of the posterior hip, buttock, and hamstring chain segments (Bird & Barrington-Higgs, 2013). The results of several studies show that the most effective exercises in the activation and growth of muscle mass in the glutes are the barbell romanian deadlift and barbell hip thrust exercises. For this reason, an exercise program is needed that uses a barbell Romanian deadlift and a barbell hip thrust as the main exercises with the aim of increasing muscle mass in the glutes. When observed, the majority of members have the same anxiety about their body image, and also have the same desire in participating in an exercise program namely, to have an ideal body shape with specific muscle growth, especially in the buttocks. However, the preparation of the Recharge Functional Training training program that the members get cannot be specified for building the muscles of the buttocks only, because the program created targets for all parts of the body's muscles. In one week, special exercises for glutes muscle growth were only done once with a barbell hip thrust as the main exercise, this caused the growth of muscles in the gluteal area of the female members in Recharge Functional Training to be insignificant. In fact, simply doing barbell hip thrust is not enough for the growth of the glutes muscles.

Many research state that the barbell romanian deadlift is one of the exercises that can provide muscle growth in the gluteal area. Therefore, to get the results of building the glutes muscles according to the wishes of the female members, a barbell romanian

deadlift training program is also needed. On this basis, this research was conducted with the aim of knowing how perceptions body image on members as well as comparing the effectiveness between the romanian deadlift and barbell hip thrust training programs in building the glutes muscles in female members at Recharge Functional Training Jakarta.

## **METHOD**

This study used a quantitative descriptive research method with a research design using the two Group Pre-test Post-test design, namely experiments conducted in two different groups by applying different treatment training programs. The sampling technique used in this study is a non-probability sampling approach using purposive sampling. In other words, the selected sample must meet certain considerations and criteria. The total sample in this study consists of 8 people who will be divided into two groups with a total of 4 people in each group. Group A will be given the romanian deadlift exercise program and group B will be given the hip thrust exercise program. The data collection instrument in this study used a body image satisfaction questionnaire which contained 32 statement items which were divided into 3 factors with the first factor containing 18 statement items regarding satisfaction with self-appearance. The second factor contains 6 statement items regarding appearance satisfaction and its relationship with the opinions of others. The third factor which consists of 8 statement items regarding the satisfaction of the physical form of the respondents. In the statements on the first and second factors each respondent was asked to choose options regarding self-appearance on a likert scale with a value of 1 = "strongly disagree" to 5 = "agree". In the third factor statement, they were asked to choose options regarding physical form satisfaction on a Likert scale with a value of 1 = "very dissatisfied" to 5 = "very satisfied". The scale of values and determination of categories in the body image satisfaction questionnaire can be seen from table 1.

**Table 1.** Body Image Satisfaction Scale

<b>Scale</b>	<b>Category</b>
75-102	Low
103-131	High

The body image satisfaction questionnaire will be distributed to the sample when the research begins. In addition, the pre-test will be carried out in the two sample groups

by measuring the hip circumference in each sample before being given treatment, namely the Romanian deadlift exercise program for sample group A and the hip thrust exercise program for sample group B. Then the post-test will be carried out again in the two groups after the exercise program has been carried out. The collected data will be analyzed using the Statistical Package for Social Science (SPSS) version 25 by conducting univariate analysis to see an overview of the characteristics of the research sample and see the perceptual overview of body image of the sample, then a data normality test will be carried out with significant level ( $p < 0.05$ ). In addition, a paired sample t-test will be carried out to find out whether or not there is a difference between before and after the training program treatment between the two sample groups on increasing glutes muscle mass in female members at Recharge Functional Training Jakarta. Lastly, an independent sample t-test will be carried out again to see whether or not there is a comparison of the post-test results in the two sample groups.

## **RESULTS AND DISCUSSION**

### **RESULTS**

The subjects of this study amounted to 8 female members who had agreed to be sampled and had filled in personal data which can be seen in Table 2.

**Table 2.** Characteristics of Respondents

Characteristics	N = 8	
	N	%
<b>Gender</b>		
Female	8	100
<b>Age (year)</b>		
25-35	5	62.5
36-45	2	25.0
46-55	1	12.5
<b>Weight (kg)</b>		
50-59	4	50.0
60-69	3	37.5
70-79	1	12.5
<b>Height (cm)</b>		
145-159	2	25.0
160-169	4	50.0
170-180	2	25.0
<b>Job</b>		
Private Employee	6	75.0

Others	2	12.5
<b>BMI</b>		
Normal	3	37.5
Overweight	4	50.0
1 <sup>st</sup> degree obesity	1	12.5

Table 2 Shows the results that, from a total of 8 people all samples were found to be female, it was found that almost all samples were at the age of 25-35 years with total of 5 people. In weight characteristics, most samples were at 50-59 kg with a total of 4 people, in height characteristics, it was found that most samples were at 160-169 cm with a total of 4 people. In the job characteristics almost all samples worked as private employees with a total of 6 people, in the characteristics of body mass index (BMI) it was found that the majority of samples were in the overweight category with a total of 6 people.

**Table 3.** Perceptual Overview of Body Image Satisfaction

Respondent	Score	(%)	Category
Resp 1	106	66.2	High
Resp 2	104	65.0	High
Resp 3	99	61.0	High
Resp 4	93	58.0	High
Resp 5	85	53.0	High
Resp 6	101	63.0	High
Resp 7	106	66.2	High
Resp 8	118	73.0	High

Tabel 3 shows that all samples had a high perception of body image satisfaction, which was >50% with a score of >75.

**Table 4.** Test of Normality Shapiro-wilk

Group	Shapiro-wilk	
	Pre-test (sig)	Post-test (sig)
A	0.275	0.267
B	0.556	0.785
Capt	p>0.05	p>0.05
Status	Normal	Normal

Table 4 shows the result that the pre-test data of sample group A is  $0.275 > 0.05$  and the post-test data of sample group A were  $0.267 > 0.05$  so that it can be said that the data is normally distributed. In the pre-test data of sample group B found results of  $0.556 > 0.05$  and the post-test data of sample group B found results of  $0.798 > 0.05$  so that it can be said to be normally distributed. These results indicate that the data can be continued for the t-test.

**Table 5.** Paired Sample T-Test

<b>Group</b>	<b>Pair</b>	<b>t<sub>count</sub></b>	<b>Status</b>
A	Posttest - Pretest	2.823	Significance
B	Posttest - Pretest	1.732	No Significance

In the table above it is found that the  $t_{count} > t_{table} = 2.823 > 2.353$  and the sig.  $0.033 < 0.05$ , meaning that there is a difference between the pre-test and the post-test in sample group A. Meanwhile in sample group B it was found, the value of  $t_{count} < t_{table} = 1.732 < 2.353$  and the sig.  $0.091 > 0.05$ , meaning that there is no difference between the pretest and the posttest in sample B group. It can be concluded that the administration of the Romanian deadlift exercise program in sample group A has an increasing effect on the growth of the glutes muscles. Whereas in sample group B there was no increase after being given the hip thrust exercise program. For this reason, it can be concluded that the Romanian deadlift exercise program is more effective for glute muscle growth than the hip thrust exercise program.

**Table 6.** Independent Sample T-Test

<b>Group</b>	<b>Pair</b>	<b>t<sub>count</sub></b>	<b>Status</b>
Two Sample Groups	Posttest A&B	0.000	No Significance

## **DISCUSSION**

The results obtained from this study indicate that the perception of body image among women at Recharge Functional Training Jakarta is quite high, which means that the entire sample has a positive perspective and tends to be satisfied with the body image they have. Thus, it can be said that all research samples have high self-esteem, high self-confidence, high self-acceptance, and feel concerned about the condition of their body

and health. This is supported by research that is relevant to this study. The results of research conducted by Della (2021) which states that people with high body image will have a positive effect on their self-esteem, and vice versa. In addition, similar studies that support this study with body image and self-confidence variables were carried out by (Ifdil et al., 2017) and (Abdillah et al., 2020) shows that there is a significant positive relationship between the two variables, the results of the study state that the higher a person's body image, the higher the self-confidence they have. Furthermore, research with body image variables and self-acceptance conducted by (Ridha et al., 2020) states that the higher the body image they have, the greater the feeling of accepting their identity as it is. Some of the relevant research shows that there is a strong relationship between body image variables and self-esteem, self-confidence and self-acceptance where the higher the body image a person has, the higher their self-esteem, self-confidence and self-acceptance is.

This is also due to the existence of several things that affect the way an individual perceives and evaluates the body image they have. One of them is the physical activity they do. The results of many similar studies show that people with high physical activity have a large effect on the perception of their body image. Research conducted by (Guszkowska, 2015) and (Greeff, 2016) states that good physical activity can be one's motive and effort to get a good body image as well. Research similar to this study states that one of the physical activities that has a positive effect on body image is resistance training. Generally, exercise has a positive impact on body image. In a meta-analytic study, it was shown that exercisers have a more positive body image than non-exercise. They also demonstrated that the exercise intervention led to participants reporting better body image throughout and at the end of the intervention when compared to participants who did not exercise. Resistance training interventions have also been associated with increased body image satisfaction. A qualitative study of female students enrolled in strength training classes noted that participants felt firmer, better about themselves, more confident, healthier (Hubbard, 2013). Given that all samples are workers and are membership at a fitness center, it can be concluded that their physical activity is quite high and can be expressed as an active person in sports.

Furthermore, the results comparing the romanian deadlift and hip thrust exercises on the growth of glutes muscle mass in women is that there was an effect on the growth

in glutes muscle in sample group A which was given the Romanian deadlift. Whereas in sample group B, which was given the hip thrust exercise program, there was no visible growth of glutes muscle mass. This is caused by one of the factors that support the growth of muscle mass, namely the age factor. (B. Schoenfeld, 2016), stated that Human muscle mass peaks between the ages of 20 and 40. After that, the body loses approximately 0.5% of its muscle mass per year during the fourth decade of life, increasing to 1% to 2% annually after age 50 and then increasing to 3% annually after age 60". From the results of data collection conducted on the two sample groups, there was a significant difference in age. Sample group A was somewhat younger considering that the average sample was 25-35 years old with a total of 3 people out of a total of 4 samples, when compared to sample group B. This was one of the reasons why sample group A found a more significant increase in the growth of glutes muscle mass, when compared to sample group B.

In addition, the thing that differentiates why the romanian deadlift exercise is more effective than the hip thrust exercise can be seen from the type of movement performed. The Romanian deadlift exercise can be said to be included in the type of eccentric movement which in the execution of the movement requires the muscles involved to move lengthwise. While the hip thrust exercise can be said to be included in the concentric category in which the execution of the movement requires the muscles involved to shorten. The results of research conducted by (Douglas et al., 2017),(B. J. Schoenfeld et al., 2017) and (Unlu et al., 2020) states that eccentric type exercise movements are proven to provide greater promotion in the formation and increase in muscle mass. The results of these studies consistently demonstrate that eccentric action promotes a more rapid protein synthesis response and a greater increase in anabolic signaling and gene expression when compared to the concentric type of muscle action. Which means that eccentric movements produce more muscle damage which is necessary in increasing muscle mass.

This is also strengthened by the many research results which state the effectiveness of the Romanian deadlift exercise on muscle activation in the gluteal area and growth of gluteal muscle mass. The results of research conducted by (Flandez et al., 2020), (Matt et al., 2014) and (Andersen et al., 2021) stated that the activation of the muscles in the gluteal area will be very visible when the Romanian deadlift exercise is performed, which means that the activation of the muscles will cause significant muscle

growth as well. It can be concluded that the romanian deadlift exercise is one of the most effective exercises in activating the glutes muscles, which means that growth in glutes muscle mass will occur. This could be the reason why sample group A found an increase in the growth of glutes muscle mass due to the treatment of the romanian deadlift exercise program, which means the Romanian deadlift exercise program will be more suitable for people who have a desire to get muscle growth in the gluteal area, especially women. Furthermore, when calculating a comparison of the average post-test results in the two sample groups, no significant comparison was found. This can be said to be a limitation in this research because the number of subjects used is small.

## CONCLUSIONS

Having a positive body image is important for women, to get a good body image can be done by doing healthy physical activity namely exercising, it is important for everyone to exercise to improve their body image. Barbell romanian deadlift exercise is a suitable exercise for people who have the desire to increase muscle mass in the gluteal area, this is evidenced by the results of this study, it is important for trainers to know what exercise program should be given to client according to the wishes of the client.

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