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# Weight and age as correlates of negative self-image among undergraduate female fitness centre users at the University of Lagos

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## Abstract
This study investigated the relationship between self- image, age and weight among female fitness centre users. A cross-sectional survey research design was adopted, while a purposive sampling method was employed to select a sample of 383 participants. The research instruments comprised bio-data, a scale for weight measurement and the Negative Self Image Inventory (NSII), a scale developed by Agbu (2011) to measure feelings of dissatisfaction with real or imagined defects in physical appearance. The descriptive statistics of mean and standard deviation were used to analyse the demographic data, while the inferential statistics used was ANOVA in testing the proposed hypotheses. Findings showed that there was a high prevalence of negative self-image in the group as all had means greater than the normative score (94.08>90.58). Furthermore, older participants had higher negative body image than the younger ones and weight was significantly related to negative body image as proposed, though these differences were not statistically significant. Results of the current study highlight the importance of appropriate psycho-social intervention through the wellness centres to be provided by mental health professionals to address body image dissatisfaction and other factors associated with it among the general population and recommends further studies using a larger population and across other demographic factors such as socio-economic status.

***Keywords:*** *Self-image, age, body weight, fitness centers.*

## Introduction
The concept of body image as a psychological phenomenon was initially proposed by an Austrian psychiatrist named Paul Schilder, who, in 1935 stated that the mental images that individuals have of their bodies can explain the way their bodies are introduced to them. A negative body image has to do with a distorted or misconceived perception of one's shape and physical appearance. Negative body image (or body dissatisfaction) involves feelings of shame, anxiety, and self-consciousness about one's skin colour, physical features, hair texture and colour, ability status, gender identity and expression, and muscularity. When people experience high levels of body dissatisfaction, they feel that their bodies are flawed in comparison to others, further predisposing them to feelings of depression, isolation, low self-esteem, and eating disorders (Paterna, et. al 2021). Body image is developed in early childhood as one starts becoming aware of ones' appearance, seeking to gain social acceptance first from care-givers, peers, and the wider society. According to Nichols et. al. (2018), by age 3, children have internalized stereotypes about body size and by as young as 5, they start expressing concerns about their own weight or shape. Mills et. al, (2022), stated that while it is still unknown what exactly causes body dissatisfaction, body image issues develop, when people internalize and compare themselves to society's unrealistic and unattainable ideals about the body, often amplified by social media diet culture. Thus, culture, society, and personal beliefs all contribute to how we experience and think about our body. Any concern with real or imagined defects in physical appearance can become a major preoccupation during adolescence and the young adult years, because of changes caused by puberty, rapid physical growth, and resulting sexual maturation that characterize this phase of

life. In addition, the “perfect” body-image as dictated by the social culture becomes a measure of self-worth, which is capable of triggering negative self-image and social anxiety among this group.

Ormsby and Bhogal (2019) stated that complexity in body image formation and changes due to social and psychological factors exert negative effects on an individual's perception and internalization. For instance, there are harmful stereotypes and biases that link obesity with laziness, irresponsibility, and a lack of self-control. These perceptions continue to persist, even though the significant roles of genetic, socio-economic, and environmental factors are being widely acknowledged (Fulton et. al, 2023). In order to address this issue, there is a need to dispel some of these misconceptions and create an environment of empathy and support for individuals of all body sizes. Another research by Purl and Heuer (2010) concluded that overweight girls and women experience significant societal pressures, such as teasing about their weight, discrimination and disapproval, which creates pressure on their minds and in turn impacts them psychologically and physically.

Other range of factors influencing body image perception include socio-demographic factors (gender, age, country), nutrition and psycho-social factors (e.g., stress), social support and quality of life (Cash, 2016). Negative body image is typically more prevalent and severe in women compared to men, which is not to say that men do not experience negative body image. Some studies comparing body image satisfaction in men and women (e. g. & Yager & O’Dea 2008) reported that male and female university students are a population at risk of sub-clinical and clinical body dissatisfaction, disordered eating, excessive body building, steroid abuse and eating disorders. Also, when men experience dissatisfaction with their bodies, it does not push them over the edge towards poor mental health, but rather impacts more on their self-esteem and aggression levels; while for females, it strongly has more impact on their mental health. There is also the media focus on body image with pictures of slim movie stars and fashion models, strongly impacting on a girl’s body shape and image perception. Such mass media and diverse socio-cultural pressures tend to portray being thin as ideal, further contributing to the misperception of body weight, (otherwise called body dysmorphic disorder). In order to deal with or reduce this burden, women may start complying with the societal demands and working hard to “fit in”.

On the contrary, positive body image is not simply the absence of a negative body image, but rather, the active acceptance, care and love for one’s body (Hosseini & Padhy, 2023). It is generally acknowledged that physical activity and exercise are helpful for health, and when done properly, can reduce blood pressure, decrease the risk of cardiovascular diseases, and fight feelings of anxiety and depression, as well as boost energy (Forrest et. al, 2007; Bull et. al., 2020). There are many motivators that play a part in determining exercise habits, both external and internal, but body image, both positive and negative, can be an important factor. These motives can be classified into two domains based on their relationships with body image-related variables. The external motives related to appearance (including weight control, attractiveness and body tone) are associated with body dissatisfaction, internalization of cultural appearance ideals, dietary restraint, and disordered eating symptoms. People may choose to exercise for many different reasons, for example; weight control, health, fitness, stress management, socialization and so on (Cash et. al., 2016). Brudzynski and Ebben (2010) found that body image concerns can be significant motivators for exercise in that body image has been linked with increased exercise participation with participants reporting that body image affected the degree to which they exercised. Tiggemann and Williamson (2013) suggested that those with poorer body image also reported greater amounts of exercise. Fountoulakis and Grogan (2014) also found that body image does predict exercise participation, but their results contradicted other similar research, leading them to conclude

that people who are satisfied with the look of their bodies engage in greater amounts of exercise and that appearance evaluation was the single best predictor of exercise participation.

Despite numerous researches in the area of body dysmorphic disorder, leading researchers have attempted to examine body image disturbances in high-risk groups, such as dancers, gymnasts, athletes and regular gym users (Stapleton et. al. 2016). Cross-sectional studies (e.g. Fulton, et. al. 2023; Yazdani et. al., 2018) in the area of obesity, body image, and quality of life have shown that there is a significant relationship between body image and psychological well-being. Overall, these studies have shown that promoting positive body image is a continuous process that demands resilience, innovation, and collaboration by leveraging on the strengths of various sectors and embracing a comprehensive approach. In this way, significant strides can be made towards improving body image satisfaction with efforts to enhance not only the psychological well-being of individuals, but also contribute to the health and vitality of the broader community. Furthermore, it has been suggested that female gym users are at risk for greater body dissatisfaction and lower levels of self-esteem, when compared to runners and artists.

From the theoretical perspective, most body image research come from the cognitive or behavioural paradigms in psychology. The cognitive social learning perspective sees the causes of body image dissatisfaction as encompassing a range of predisposing, precipitating, and maintaining factors (Cash, 2016). These many factors determine whether a person's body image is developed positively or negatively. According to Matthiasdotti et al. (2012), the high level of dissatisfaction with body image is so prevalent, especially among females that it is commonly termed a 'normative discontent'.

The present study aims to examine the relationship between negative body image and body consciousness in terms of weight in female regular fitness centre users. It has the primary objective to investigate the influence of weight on self-image, as well as to ascertain, if age is a significant predictor of body image.

**Research Hypotheses**

1. There will be significant correlation between age and weight and negative self-image.
2. Older participants (26-30 years) will present significantly higher level of negative self-image than the younger ones (16-20; 21-25 years).
3. There will be a significant influence of weight on manifestations of negative self-image among female fitness centre users.

**Method**

The study utilised a cross-sectional research design. Data were collected from selected female regular gym users comprising adolescents and young adults at the University of Lagos sports centre, Akoka. The purposive Sampling technique was employed in selecting 383 female students and the criterion for inclusion was that they must have visited the gym at least three times a month within the past year. They were interviewed, their weights measured and they completed the Negative Self-Image Inventory (NSII). The Negative Self-Image Inventory (NSII) is a scale developed in Nigeria by Agbu (2011), to measure feelings of dissatisfaction with real or imagined defects in physical appearance. It consists of 40 items designed to assess the emotional and behavioural manifestation that characterise dissatisfaction with real

or imagined defects in physical appearance. The NSII has been standardised and can be administered individually or in groups after establishing adequate rapport with participants. The scale has a Cronbach-alpha internal consistency reliability coefficient of .82, a 14-day test-retest reliability coefficient of 0.82, and split-half reliability coefficient of 0.78, ($p<0.05$). The normative score for NSII is 90.58 meaning that scores higher than 90.58 is an indication of manifestations of negative self-image, while scores lower than the norm indicate a low or total absence of negative self-image (positive self-image).

## Results

### Descriptive statistics

Mean and standard deviation were computed for assess the construct studied (body image) against the demographic variables. The results are shown in Table 1 below:

**Table 1: Mean and standard deviation of body Image by age and weight**

| | | Body image | |
|---|---|---|---|
| | | **Mean** | **SD** |
| **Age** | 16-20yrs | 97.07 | 11.899 |
| | 21-25yrs | 96.47 | 11.176 |
| | 26-30yrs | 94.08 | 10.418 |
| **Body weight** | 40-59Kg | 97.13 | 10.861 |
| | 60-79Kg | 96.75 | 11.986 |
| | 80-Above Kg | 95.54 | 11.485 |

On body image, the results revealed that respondents aged 16-20yrs reported higher mean scores (M = 97.07; SD = 11.899) than respondents aged 21-25yrs (M = 96.47; S.D = 11.176) and respondents aged 26-30yrs (M = 94.08; S.D = 10.418). On Psychological Well-Being, respondents aged 21-25yrs reported higher mean scores (M = 77.96; SD = 8.625) than respondents aged 16-20yrs (M = 76.58; S.D = 9.039) and respondents aged 26-30yrs (M = 74.54; S.D = 6.221).

On body weight, the results revealed that respondents that weighed 40-59kg reported higher mean scores (M = 97.13; SD = 10.861) than respondents that weighed 60-79kg (M = 96.75; S.D = 11.986) and respondents that weighed 80kg and above (M = 95.54; S.D = 11.485).

### Test of hypotheses (inferential statistics)

**Hypothesis 1**: Age differences will significantly influence negative body image of participants. In order to test this hypothesis, a one-way ANOVA was computed and the results are presented in Table 2

**Table 2:** *One way ANOVA results of age differences on negative body image.*

| Negative body image | N | Mean | Sd | df | F-ratio | Mean square | Pv |
|---|---|---|---|---|---|---|---|
| 16-20 Years | 187 | 97.04 | 25.15 | 2 | 1.220 | 746.639 | .296 |
| 21-25 Years | 159 | 93.74 | 24.85 | 382 | | | |
| 26-30 Years | 39 | 99.51 | 22.08 | | | | |

Result is not significant at P>.05

Note: The result above shows age differences on negative body image. However, no significant difference was revealed F (2,382) =1.220, P>.05. To further explain the result, it

was revealed that participants, who are between the age group of (26-30 years) experienced the highest level of negative body image (M = 99.51, *s* = 22.08), while participants, who are within the age group of (21-25 years) experienced the lowest level of negative body image (M = 93.74, *s* = 24.85). Therefore, the hypotheses, which states that "Age differences will significantly influence negative body image of participants" was rejected**.**

**Hypothesis 2:** Weight differences will significantly predict negative body image of participants. In order to test the hypothesis, a one- way ANOVA was computed and the results are presented in Table 3 below

**Table 3:** *One way ANOVA results of weight differences on negative body image*

| Negative Body Image | N | Mean | Sd | df | f-Ratio | mean square | pv |
|---|---|---|---|---|---|---|---|
| 40-59 Kg | 226 | 95.36 | 24.26 | 2 | 2.408 | 1453.920 | .091 |
| 60-79 Kg | 136 | 94.80 | 25.56 | 372 | | | |
| 80 Kg and above | 17 | 108.47 | 19.96 | | | | |

Result is not significant at P>.05

Note: The result above shows that there was a relationship between weight differences and negative body image. However, no significant difference was revealed as F (2,372) =2.408, P>.05. Furthermore, the result revealed that participants, who weighed more (80kg and above) experienced the highest level of negative body image (M = 108.47, *s* = 19.96), while participants that weighed between (60-79kg) reported the lowest levels of negative body image (M = 94.80, *s* = 25.56). Therefore, the hypotheses, which states that "weight will significantly influence negative body image of participants" was rejected.

**Discussion**

The present study was conducted among a group of female regular gym users to find out the relationship between age, weight and body image within the group. Understanding how age and weight interact to shape body image is crucial for promoting body positivity and mental well-being across all age groups. These determinants and their complex inter-relationships are important to any efforts to improve body image and should be considered. The study found a high prevalence of negative self-image as most of the participants had scores above the mean. This finding is in agreement with Olatona et al (2023) who reported in their study the prevalence of body image dissatisfaction to be 63.5%.

The first hypothesis was that age will significantly predict differences in the perception of negative body image and despite the fact that the older age group (young adults) showed higher levels of negative self-image than the young ones (late adolescents) was rejected. Although age was a significant predictor of negative self-image, in that younger adolescents in the age range of (16-20years) demonstrated a lower level of negative body image than the young adults aged 26-30 years, this difference was not statistically significant. This finding is in agreement with Tamimi et al (2020) in their study of Saudi women gym users, who found that overweight status among the younger age group was significantly lower than those of the older age group. According to Nasuha & Suriati, (2018) university undergraduates tend to be more concerned and affected by body image related issues, including body image dissatisfaction because of their environment. This finding also finds support from the conclusion of Rudd and Lemon (2010), that body image specifically plays a key role in health and psychological well-being for young adult women. Generally speaking, adolescence represents a critical period for healthy body image development due to the type and magnitude of age-related transitions occurring during this time, which may obliterate any age differences by young adulthood. Another support can be found in the study by Groesz et. al. (2017) which concluded that from a young age, females learn that they must be attractive, that their worth lies in their beauty, and that looks are their most powerful asset.

The second hypothesis of this study focused on weight to determine, if participants were satisfied with their body image, when perceived as either overweight or underweight considering that they constantly visit the fitness centre. The results revealed that even though weight was a predictor of negative body image as participants who weighed the most (80kg plus) reported the highest levels of negative body image, the differences were not statistically significant. Those in between (60-79kg) reported the lowest levels of negative body image and those within the lowest weight category (40-59kg) had the second highest mean scores in negative body image, although they did not differ significantly from the other groups. Since this study focused on older adolescents and young adults, who are vulnerable to recommendations of the society and media and their continuously changing bodies, the reasons for these findings may not be far-fetched. The internalization of societal standards for body ideals and the pressure to conform to these norms may help clarify the relationship between weight status and body image, especially negative perceptions. The source of these salient influences on body image can be traceable to the media, which can target these age groups and their peers, helping to shape their beliefs about the perceived body ideal. In agreement, Voelker et. al, (2015) have asserted that the concepts of fat talk and weight-related bullying during adolescence greatly contribute to an over-emphasis on body weight and appearance, as well as the development of negative body perceptions and dissatisfaction surrounding specific body parts. Other research indicates that young children report weight concerns and body dissatisfaction in line with this study.

**Conclusion**

The findings of this study have wider implications for adolescents and young adults in terms of their body image perception, which tends to increase as they grow older but also stabilizes by middle adulthood. A few studies in the past are in support of the current result that gym users are often concerned about their physical status and worried about their image and weight. The majority of the people think that gym is the place, where the individual can improve her/his body image. In particular, female exercisers tend to display poorer body image and greater eating disturbance than female non-exercisers.

**Implication and recommendations**

It is universally known that body image has become an important aspect of one's mental health, self- esteem and well–being. The results from this study will, however, be significant to the participants and to the society at large in the sense that one needs to adopt a positive attitude towards his / her their body, otherwise it can lead to feelings of worthlessness and low confidence levels with further implications for overall well-being. Negative body image was noted among older adolescents and young adults, who are regular gym users, meaning that exercise alone is not enough to foster a positive body image, but rather psycho-education should be incorporated. It is also recommended that schools and parents should implement both formal and informal education about one's body image, in order for people to have better appreciation of their body image. Further studies can be carried out using a larger population and across wider demographic variables such as gender, older adults and socio-economic status.

**Limitation of the Study**

The evident limitation of this study includes the possibility that some participants were not honest with their responses, however, the number of the responses were good enough for meaningful generalizations of the result. The research setting and environmental conditions, as well as time and financial constraints may have added to these limitations.

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