

Research Paper

Body Image and Self-Concept among Young Adults: A Comparative Study among Gym-Goers and Non-Gym-Goers across Gender

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ABSTRACT

Body image and self-concept are closely intertwined dimensions of psychological well-being that are increasingly influenced by fitness culture among young adults. The present study examined the association between body image and self-concept in young adults, with particular focus on the role of their gym participation and their gender. A cross-sectional comparison design was employed, with 200 young adults aged between 19 and 25 years. A convenience sampling strategy was used to recruit participants. Body image was measured using the Physical Self-Perception Profile (PSPP) developed by Fox and Corbin (1989). Results revealed that a significant positive correlation was observed between body image and self-concept. Gym-goers demonstrated stronger body image and self-concept associations than non-gym-goers and males scored significantly higher than females on both variables. These findings highlight the gym environment as a psychologically significant context that amplifies the body image and self-concept relationship, with pronounced gender-based differences.

Keywords: *body image, self-concept, gym-goers, physical self-perception, gender differences, young adults*

In today's world, the human body has increasingly evolved into a site of personal identity construction and social performance. With the rise of fitness culture, social media and appearance-centric marketing that focuses heavily on looks, young adults are becoming more aware and concerned about how their bodies appear. Contemporary research indicates that exposure to idealised body standards through digital media contributes to increased body dissatisfaction and self-evaluation processes, thereby influencing mental health outcomes (Merino et al., 2024). This increased focus on physical appearance can have important effects on their mental and emotional well-being (Cash, 2004; Giddens, 2003).

Body image is broadly defined as the mental representation of one's body including perceptions, thoughts, feelings and behavior related to physical appearance (Slade, 1988). It plays a crucial role in shaping psychosocial well-being, self-esteem, and interpersonal functioning among young adults (Parameshwar et al., 2025). Negative body image, in

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particular, has been associated with depression, anxiety and eating disorders. Positive body image is linked to improved mental health and social adjustment.

Self-concept refers to the totality of beliefs, attitudes and perceptions an individual holds about themselves (Purkey, 1988; Shavelson et al, 1976), is particularly susceptible to body-related experiences during young adulthood. The gym represents a unique social and physical environment, where body image formation and self-concept development converge. Gyms are not merely exercise venues. They are culturally coded spaces in which specific body ideals are reproduced, compared and performed (Stacheova, 2009).

Gender constitutes a critical variable in this study of body image and self-concept. Research has consistently documented that males and females differ in their body image concerns, direction of dissatisfaction and the degree to which physical appearance shapes overall self-worth (Fredrickson and Roberts, 1997; Smolak, 2004). Males in gym settings have been found to be particularly motivated by muscular ideals, while females are more likely to be driven by thinness ideals both of which have psychological ramifications for self-concept (Furnham et al., 2002; Achak et al., 2025). Given these dynamics, a gender-stratified examination of the relationship between body image and self-concept across gym-going and non-gym-going populations is warranted.

Despite the growing prevalence of gym culture in urban India, empirical research examining the psychological implications of gym participation, specifically its impact on the relationship between body image and self-concept, remains limited in the Indian context. The present study is grounded in Fox's (1990) multidimensional hierarchical model of physical self-perception, which suggests that specific physical self-perceptions including sport competence, physical conditioning, body attractiveness and physical strength, are organized hierarchically and ultimately influence global self-worth and self-concept.

The present study aimed to examine the relationship between body image and self-concept and also explore the role of gender and gym participation in shaping this relationship.

METHODS

A cross-sectional comparative design was employed in the present study. Convenience sampling was used to recruit 200 young participants aged between 19 and 25 years from Delhi and the National Capital Region (NCR), India. Participants were equally distributed across four groups: male gym-goers (n=50), female gym-goers (n=50), male non-gym-goers (n=50), and female non-gym-goers (n=50). Gym-goers were defined as individuals who engaged in regular structured physical activity in the gym environment. Non-gym-goers were individuals who did not participate in any structured gym-based exercise. Informed consent was obtained from all the participants prior to data collection.

Body image was measured by the Physical Self-Perception Profile (PSPP) (Fox and Corbin, 1989). It is a 30-item instrument comprising 5 6-item subscales: sports competence, physical conditioning, body attractiveness, physical strength and overall physical self-worth. Items are presented in a structured alternative format rated on a four-point scale. Subscale scores range from 6 to 24, with higher scores reflecting more positive physical self-perception. The PSPP has demonstrated strong psychometric properties with test-retest reliability coefficients ranging from 0.81 to 0.88 and internal consistency (Cronbach's alpha) ranging from 0.81 to 0.92 (Fox, 1990). Self-Concept Questionnaire (SCQ), developed by Saraswat

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(1984), was used to assess self-concept among young adults. It is a 48-item standardized inventory assessing 6 dimensions of self-concept. This includes physical, social, temperamental, educational, moral and intellectual dimensions. Each dimension contains 8 items rated on a 5-point scale. Higher Scores indicate a more positive self-concept. The SCQ has established reliability (test-retest $r = .91$ for total score; dimensional reliability ranging from 0.67 to 0.88) (Saraswat, 1984).

Data was collected via Google Forms, following informed consent and assurances of confidentiality. Data were analysed using Jamovi version 2.7. Descriptive statistics were computed for all the variables. To assess the association between body image (PSPP) and self-concept (SCQ) within each subgroup, Pearson correlation coefficients (r) were used. An independent sample t-test was conducted to compare PSPP and SCQ scores across groups. Simple linear regression was performed to examine the extent to which body image (PSPP) predicted self-concept (SCQ) among the young adults. Statistical significance was set at $p \leq .05$ (two-tailed). Cohen's d was computed as a measure of effect size, with values interpreted as small ($d < .5$), medium ($0.5 \leq d < 0.8$) large ($d \geq 0.8$).

Objectives

This paper pursues the following given objectives:

1. To examine the relationship between body image and self-concept among young adults.
2. To compare body image and self-concept across gym-goers and non-gym-goers.
3. To examine gender differences in body image and self-concept among young adults.

Hypothesis

Based on the objectives of the paper, the hypotheses suggested are:

- H_{a1} : There will be a significant positive relationship between body image and self-concept in the gym-goers.
- H_{a2} : There will be a significant positive relationship between body image and self-concept in non-goers.
- H_{a3} : There will be a significant difference in body image and self-concept between male and female gym-goers.
- H_{a4} : There will be a significant difference in the body image and self-concept between male and female non-gym-goers.

RESULTS

The data was collected from 200 young adults aged between 19 to 25 years. The mean age of participants was 23.18 years ($SD = 1.21$). This sample was evenly split by gender (50% male, 50% female) and gym participation (50% gym-goers, 50% non-gym-goers). In terms of education, 78.5% were graduates, 20% were postgraduates and 1.5% were in high school. To examine the distributional properties of the present study's variable, the descriptive statistics were computed. It has been observed that the mean score for Body image (PSPP) was 82.4 ($SD = 14.1$). This indicates relatively moderate to high levels of physical self-perception among the young adults. The mean score obtained for self-concept (SCQ) was 164 ($SD = 22.8$), suggesting that the participants have reported favourable levels of self-concept overall. The Demographic characteristics are summarized in Table 1.

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Table 1 Descriptive Statistics of the Study Variables (N = 200)

Variables	PSPP score	SCQ score
Mean	82.42	164.04
Std. Deviation	14.074	22.846
Skewness	-0.033	1.05
Kurtosis	-0.421	0.489

Note. PSPP = Physical Self-Perception Profile, SCQ = Self-Concept Questionnaire

Prior to conducting inferential analysis, the normality of the distribution was examined using skewness and kurtosis values. For PSPP score, skewness is -0.033 and kurtosis is -0.421; for SCQ scores, skewness = 1.05 and kurtosis = 0.489. Following the widely accepted criteria of skewness and kurtosis values within the range of +/-2 (George and Mallery. 2010), were deemed approximately normally distributed justifying the use of parametric statistical test. Pearson's Correlation coefficients were computed to examine the association between body image (PSPP) and self-concept (SCQ) across subgroups. Significant positive relation was found between body image and self-concept among the young adults ($r = .565$, $p < .001$), indicating a moderate to strong relationship. This association was significantly stronger among gym-goers ($r = .587$) compared to non-gym-goers ($r = .230$) and substantially stronger among males ($r = .665$) than females ($r = .265$). Among subgroups, male gym-goers demonstrated the strongest body image and self-concept relationship ($r = .607$, $p < .001$), while female and male non-gym-goers showed comparatively weaker associations ($r = .343$ and $r = .393$, respectively). All correlations were statistically significant, supporting Hypothesis 1 and 2.

Table 2 Pearson's Correlations between Body Image (PSPP) and Self-Concept (SCQ) Across Subgroups

Variables	Body Image (PSPP) and SCQ (Self -Concept)	
	r	p
Among total sample	0.565***	< .001
Female	0.265**	.008
Males	.665***	< .001
Non-Gym-Goers	.230*	.021
Gym-Goers	.587***	< .001
Female	.343**	.015
Non-Gym-Goers		
Female	.364**	.009
Gym-goers		
Male	.393**	.005
Non-Gym-Goers		
Male Gym-goers	.607***	< .001

*Note. *p < .05, **p < .01, ***p < .001.*

Independent t-tests were conducted to compare PSPP and SCQ scores across groups. Significant differences were found between males and females on both PSPP ($t = -5.41$, $p < .001$, $d = 0.90$) and SCQ ($t = -5.26$, $p < .001$, $d = 0.87$), with males scoring higher on both measures, indicating large effect sizes. Gym-goers scored significantly higher than non-gym-goers on PSPP ($t = -8.20$, $p < .001$, $d = 0.96$) and SCQ ($t = -6.85$, $p < .001$, $d = 0.67$), reflecting large and medium effects, respectively. Among non-gym-goers, males scored significantly higher on PSP than females ($t = -5.73$, $p < .001$, $d = 1.17$), though no

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significant difference was found on SCQ ($t = 1.38$, $p = .085$). Among gym-goers, the most striking finding was the significantly higher SCQ score among males compared to females ($t = -10.55$, $p < .001$, $d = 2.17$). A substantial difference in self-concept scores was observed between male and female gym-goers, suggesting that gym participation is more strongly associated with self-concept enhancement in males than in females.

Linear regression was conducted to examine whether body image (PSPP) significantly predicted self-concept (SCQ) in the total sample ($N = 200$). Results indicated that body image was a significant predictor of self-concept ($B = 0.917$, $p < .001$) with the overall model explaining 31.9% of the variance in the self-concept scores ($R = .565$, $R^2 = .319$). The findings indicate that for every one unit increase in physical self-perception score, self-concept score increased by approximately 0.917 units. This demonstrates a statistically robust predictive relationship, as given in table 3.

Table 3 Simple Linear Regression: Body image (PSPP) predicting Self-concept (SCQ), ($N = 200$)

Predictor	B	SE	t	p
Intercept	88.437	7.958	11.11	< 0.001
PSPP score (Body image)	0.917	0.095	9.64	< 0.001

Note. $R = .565$, $R^2 = .319$. Model $F(1,198) = 92.87$, $p < 0.001$. $B =$ unstandardized regression coefficient

DISCUSSION

The present study investigated the association between body image and self-concept in young adults across 4 gender groups by gym participation. Findings broadly support all four hypotheses and contribute insights regarding the role of gym participation and gender in the body image and self-concept relationship.

Overall correlation of $r = .565$ ($p < .001$) between body image and self-concept in the total sample confirms our moderate to strong positive association. Individuals who perceive their physical selves more favourably also hold a more positive concept of themselves overall. This finding is consistent with Fox's (1990, 2000) model of physical self-perception which suggests that physical self-worth mediates between domain-specific physical perception and the global concept. The present correlation is in line with prior studies reporting a positive relationship between gym participation and body image satisfaction in an Indian sample and aligns with broader literature linking physical self-perception to self-esteem and self-concept (Sonstroem and Morgan, 1989; Wanessa et al., 2019).

The substantially stronger correlation among gym-goers ($r = 0.587$) compared to non-gym-goers ($r = .230$) is a particularly important finding. It suggests that the gym environment amplifies the functional relationship between how one perceives one's body and how one perceives oneself more broadly. This amplification effect may reflect the gym as a psychologically loaded context in which body-related feedback (mirrored appearance, peer comparison, performance metrics) becomes more salient and more tightly integrated with identity (Stackeova, 2009; Dogan, 2015). Gym-Goers may be engaging in what Fox (1998) described as the body as a link between the individual's mental concept and the physical world.

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The gender findings are consistent with and extend prior literature. Men scored significantly higher on both PSPP and SCQ than females, replicating Jadav (2019) and Syeda and Mahnoor (2021) in the South Asian context. The male advantage in PSPP scores is aligned with masculinity linked to a body ideal centered on strength and muscularity (Fox, 2000; Moreno and Cervello, 2005), while the male advantage on SCQ reflects broader patterns of higher global self-concept in males documented in meta-analytic work (Kling et al., 1999; Wastlund et al., 2001).

Among gym-goers, the SCQ difference between male and female gym-goers was the large effect ($d=2.17$, $p < .001$). Male gym-goers ($M = 192.1$) scored higher on self-concept than female gym-goers ($M= 155.9$), despite both groups showing similar PSPP improvement relative to non-gym-goers. This dissociation, where females demonstrated improvements in physical self-perception but comparatively lower gains in self-concept, warrants clinical attention. One explanation lies in Fredrickson and Roberts' (1997) objectification theory. It states that female gym participation, when driven by appearance-related rather than performance-related motives, may reinforce self-objectification. Thereby, suppressing self-concept gains that might otherwise follow from improved physical fitness. Strelan et al., (2003) found that appearance-related exercise motives in women were associated with lower body esteem and self-esteem, a pattern that may explain the female gym-goers' relatively constrained SCQ scores in the present data.

In the non-gym goer comparison, the significant gender difference among the physical self-perception score and a non-significant difference in score suggest that physical self-perception and self-concept may be more decoupled in non-exercising populations. In the absence of a gym environment that actively foregrounds physical appearance and performance, the body's contribution to self-concept may be attenuated. This is consistent with Ivanka and Triggeman (2008), who found that appearance-driven exercise motives were associated with body image effects. This implies that the gym context modulates the body image and self-concept relationship.

Regression analysis further extends and quantifies these correlational findings. Body image emerged as a significant predictor of self-concept in the total sample, explaining 31.9% of the variance. This finding makes a meaningful contribution to the existing literature. The present study demonstrates that physical self-perception is a significant predictor of the relationship with self-concept is amplified by gym participation. This suggests that the fitness involvement functions as a psychological context, not just a physical one. That disproportionately large effect among male gym-goers further suggests that Indian fitness culture may be constructing male identity through physical self-perception in ways that remain clinically underrecognized and warrant longitudinal investigation.

Implications

The findings carry several practical implications. For mental health professionals and counselors working with young adults, body image can be assessed as a substantive psychological concern. The strong body image and self-concept correlation justifies including physical self-perception measures and psychological intake assessment, particularly for clients presenting with low self-concept, depression or social anxiety.

For fitness professionals and gym owners, the finding that gym culture significantly amplifies the body image and self-concept relationship underscores the importance of trainer

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literacy in psychological well-being. Signs of body dysmorphia, muscle dysmorphia and appearance focus exercise motivation may be recognised by fitness professionals, particularly among male clients. For university administrators and student welfare cells the study supports the provision of subsidised gym access as a mental health resource alongside psychoeducation on body image, particularly for female students, given the weaker body image and self-concept linkage in the group.

Limitation And Future Directions

Several limitations are observed in the present study.

1. The cross-sectional design limits causal inference. It is not possible to determine whether gym participation improves body image and self-concept or whether individuals with pre-existing positive self-perceptions are more likely to join gyms.
2. Self-report measures are susceptible to social desirability bias, particularly in gym context where positive body image may be normatively expected. Future studies should employ a longitudinal or experimental design to establish directionality.
3. The inclusion of additional variables such as exercise motivation, duration of gym participation, social media use and year comparison tendencies would enrich our understanding of the mechanism underlying the observed effects. Studies with a diverse Indian population, including rural areas, older adults, and non-college educated groups are needed to establish representativeness.

CONCLUSION

This study provides empirical evidence for a significant positive association between body image and self-concept among young Indian adults, with the strength of this relationship modulated by gym participation and gender. Gym-goers demonstrated a substantially stronger body image and self-concept relationship than non-gym-goers, and males scored significantly higher on both constructs than females across conditions. The most striking finding is that male gym-goers show an exceptionally large advantage in self-concept over female gym-goers, despite comparable gains in physical self-perception. This points to gender differentiated psychological mechanisms within the gym environment that have both clinical and public health significance. As gym culture continues to expand rapidly in urban India, healthcare professionals, educational institutions, and fitness practitioners must work collaboratively to ensure physical engagement within the body translates into holistic rather than selective gains in psychological well-being.

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Conflict of Interest

The author declared no conflict of interest.

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APPENDIX

Appendix A

Correlation Matrix of Study Variables

Variable	M	SD	Age	Body Image (PSPP)	Self-Concept (SCQ)
Age	23.18	1.21	-		
Body Image (PSPP)	82.42	14.07	-0.189**	-	
Self-Concept (SCQ)	164.03	22.85	-0.136	0.565***	-

Note. PSPP (Physical Self-Perception Profile); SCQ (Self-Concept Questionnaire);

* $p < .05$, ** $p < .01$, *** $p < .001$