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Relationship Between Body Dissatisfaction and Anxiety: The Mediating Role of Self-Esteem

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Abstract

Body dissatisfaction has become an increasingly important public health concern because of its association with adverse psychological outcomes among young adults. The present study examined the relationship between body dissatisfaction and anxiety and investigated the mediating role of self-esteem among Pakistani university students. A quantitative, cross-sectional correlational research design was employed. Data were collected from **200 undergraduate and postgraduate university students** using a non-probability convenience sampling technique. Body dissatisfaction was assessed using the **Multidimensional Body-Self Relations Questionnaire (MBSRQ)**, self-esteem was measured using the **Rosenberg Self-Esteem Scale (RSES)**, and anxiety symptoms were assessed using the **Generalized Anxiety Disorder-7 (GAD-7)** scale. Data were analyzed using IBM SPSS Statistics Version 27. Descriptive statistics, reliability analysis, Pearson product-moment correlation, and mediation analysis following the Baron and Kenny approach with bootstrapped confidence intervals were performed to examine the study hypotheses. The findings indicated that all measurement instruments demonstrated satisfactory internal consistency. Correlation analysis revealed a significant negative association between self-esteem and anxiety, whereas body dissatisfaction was positively associated with self-esteem. The direct relationship between body dissatisfaction and anxiety was positive but not statistically significant. However, mediation analysis demonstrated that self-esteem significantly influenced the relationship between body dissatisfaction and anxiety, indicating an inconsistent mediation (suppression) model. These findings suggest that self-esteem represents an important psychological factor in understanding how body dissatisfaction is associated with anxiety among university students. The study contributes to the growing literature on body image and psychological well-being by providing empirical evidence from a Pakistani context. The findings further suggest that interventions aimed at strengthening self-esteem may help reduce the psychological consequences associated with body dissatisfaction and promote better mental health among university students. Future research should employ longitudinal designs and more representative sampling methods to further investigate these relationships.

Keywords *Body dissatisfaction, anxiety, self-esteem, mediation, university students, Pakistan*

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Introduction

Body image has become an increasingly important area of psychological research due to its profound influence on mental health and psychological well-being. Body dissatisfaction, defined as negative thoughts, feelings, and evaluations regarding one's physical appearance, has emerged as a prevalent concern among adolescents and young adults worldwide. The transition to university is characterized by significant developmental, academic, and social changes, making university students particularly vulnerable to concerns about physical appearance and self-perception. During this stage, individuals experience increased exposure to peer comparison, social evaluation, and media-driven appearance ideals, all of which may contribute to dissatisfaction with one's body image. Consequently, body dissatisfaction has become a significant psychological issue associated with various adverse mental health outcomes, including anxiety, depression, eating disturbances, and reduced quality of life.

Recent technological developments and the widespread use of social media have further intensified concerns regarding physical appearance. Online platforms frequently promote unrealistic beauty standards through carefully curated and digitally enhanced images, encouraging individuals to compare their appearance with idealized representations. Repeated exposure to these standards may lead to negative body evaluations, increased self-criticism, and diminished confidence in one's physical appearance. Previous studies have consistently demonstrated that individuals experiencing greater body dissatisfaction are more likely to report psychological distress, impaired emotional well-being, and difficulties in social functioning. These findings suggest that body dissatisfaction is not merely an appearance-related concern but represents a broader psychological phenomenon with important implications for mental health.

Anxiety is among the most common mental health concerns affecting university students. It is characterized by persistent feelings of worry, nervousness, fear, and physiological arousal that interfere with daily functioning and academic performance. University students frequently encounter multiple stressors, including academic demands, uncertainty about future careers, financial pressures, interpersonal relationships, and the developmental challenges associated with emerging adulthood. These stressors may increase susceptibility to anxiety symptoms, particularly when accompanied by negative self-perceptions and appearance-related concerns. Previous research has reported that students who experience dissatisfaction with their physical appearance often demonstrate higher levels of anxiety, largely because concerns about appearance contribute to social comparison, fear of negative evaluation, and reduced psychological well-being.

One psychological factor that may explain the association between body dissatisfaction and anxiety is self-esteem. Self-esteem refers to an individual's overall evaluation of personal worth and reflects the extent to which individuals perceive themselves as valuable, competent, and worthy of respect. High self-esteem has consistently been associated with greater psychological

resilience, adaptive coping strategies, and emotional stability, whereas low self-esteem has been linked to increased vulnerability to anxiety, depression, and other psychological difficulties. Individuals who evaluate themselves negatively are more likely to interpret stressful situations as threatening, experience greater emotional distress, and exhibit heightened anxiety symptoms. Consequently, self-esteem may represent an important psychological mechanism through which dissatisfaction with one's body influences emotional well-being.

The relationship among body dissatisfaction, self-esteem, and anxiety has received increasing empirical attention during the past decade. Studies conducted across different cultural settings have consistently reported positive associations between body dissatisfaction and anxiety, negative associations between body dissatisfaction and self-esteem, and inverse relationships between self-esteem and anxiety. These findings suggest that individuals who experience greater dissatisfaction with their physical appearance often report lower self-esteem, which may subsequently increase their vulnerability to anxiety. Such evidence supports the possibility that self-esteem functions as an intervening psychological mechanism linking body dissatisfaction with anxiety rather than merely acting as an independent correlate of psychological well-being.

Although substantial evidence has established associations between body dissatisfaction, self-esteem, and anxiety, the psychological mechanisms underlying these relationships remain insufficiently understood. Most previous studies have focused primarily on direct relationships, demonstrating that individuals who are dissatisfied with their bodies often report poorer psychological well-being. However, psychological responses to body dissatisfaction are unlikely to occur through a single direct pathway. Individual differences in self-perception and self-worth may influence how concerns about physical appearance translate into emotional distress. Therefore, identifying the psychological processes that explain this relationship is essential for developing effective preventive and therapeutic interventions.

One theoretical perspective that provides a useful explanation for these associations is **Gender Role Conflict Theory** (O'Neil, 2008, 2015). Although originally developed to explain the psychological consequences of rigid gender-role expectations, the theory also highlights how societal standards regarding appearance and identity can influence individuals' psychological well-being. Contemporary societies frequently promote unrealistic ideals of attractiveness through family expectations, peer interactions, traditional media, and social media platforms. When individuals perceive themselves as failing to meet these culturally valued appearance standards, they may experience dissatisfaction with their bodies, diminished self-worth, and increased psychological distress. Within this framework, self-esteem represents an important cognitive resource that may either buffer or amplify the psychological consequences of negative body evaluations.

Empirical evidence increasingly supports the proposition that self-esteem plays a central role in the relationship between body dissatisfaction and mental health. Individuals with greater body dissatisfaction frequently report lower levels of global self-esteem, reflecting more negative

evaluations of their overall self-worth rather than dissatisfaction with appearance alone. Reduced self-esteem has, in turn, been consistently associated with elevated anxiety symptoms, poorer emotional adjustment, and reduced resilience when facing academic, interpersonal, and social stressors. Consequently, self-esteem may function as an important explanatory mechanism through which dissatisfaction with one's physical appearance contributes to anxiety.

Most existing research examining these relationships has been conducted in Western populations. Cultural differences in beauty standards, gender expectations, family values, and social norms may influence how body image concerns affect psychological well-being. Consequently, findings from Western countries cannot automatically be generalized to South Asian populations, where sociocultural expectations regarding appearance often differ substantially. Pakistan presents a particularly important context because university students experience increasing exposure to global beauty ideals through social media while simultaneously navigating traditional cultural expectations. These combined influences may shape body dissatisfaction, self-esteem, and anxiety in unique ways that remain insufficiently explored.

Although a limited number of Pakistani studies have investigated body image and psychological distress, relatively few have examined the mediating role of self-esteem in explaining the association between body dissatisfaction and anxiety among university students. Furthermore, many previous investigations have concentrated on direct associations without exploring the psychological processes that connect these variables. Understanding whether self-esteem explains this relationship has important theoretical and practical implications. If self-esteem serves as an intermediary mechanism, interventions designed to strengthen students' self-worth may reduce the adverse psychological consequences associated with body dissatisfaction.

University students constitute an important population for examining these relationships because emerging adulthood represents a developmental period characterized by identity formation, increased social comparison, academic pressures, and concerns regarding future careers. These challenges may heighten vulnerability to both body dissatisfaction and anxiety, making early identification of psychological risk factors particularly important. Improving understanding of these relationships may contribute to the development of university-based mental health programs that address body image concerns while simultaneously promoting healthier self-esteem and psychological resilience.

Therefore, the present study investigated the relationship between body dissatisfaction and anxiety among Pakistani university students while examining the mediating role of self-esteem. Specifically, the study sought to determine whether body dissatisfaction was associated with anxiety, whether body dissatisfaction predicted self-esteem, whether self-esteem was associated with anxiety, and whether self-esteem mediated the relationship between body dissatisfaction and anxiety. By addressing these objectives within a Pakistani university population, the study contributes to the growing literature on body image and psychological well-being and provides context-specific evidence that may inform mental health interventions in higher education settings.

Based on the existing theoretical and empirical literature, the following hypotheses were proposed:

H1: Body dissatisfaction is positively associated with anxiety among university students.

H2: Body dissatisfaction is negatively associated with self-esteem among university students.

H3: Self-esteem is negatively associated with anxiety among university students.

H4: Self-esteem mediates the relationship between body dissatisfaction and anxiety among university students.

Method

Research Design

The present study employed a quantitative, cross-sectional correlational research design to examine the relationships among body dissatisfaction, self-esteem, and anxiety in Pakistani university students. A cross-sectional design was considered appropriate because data were collected at a single point in time to investigate naturally occurring associations among the study variables without manipulating any conditions. Furthermore, the study examined the mediating role of self-esteem in the relationship between body dissatisfaction and anxiety using mediation analysis.

Participants

The target population comprised undergraduate and postgraduate students enrolled in public and private universities across Pakistan. A total of **200 university students** participated in the study. Participants were recruited using a non-probability convenience sampling technique because it allowed efficient access to students from different universities within the available time and resource constraints. The sample included students from different academic years and age groups, providing diversity in educational background.

Among the participants, **70.0% (n = 140)** were female, **29.5% (n = 59)** were male, and **0.5% (n = 1)** preferred not to disclose their gender. The majority of participants (**51.0%**) were between **21 and 23 years** of age, while **54.5%** were enrolled in the final year of their academic programs.

Measures

Body Dissatisfaction

Body dissatisfaction was assessed using the **Multidimensional Body-Self Relations Questionnaire (MBSRQ)** developed by Cash (1990). The instrument measures individuals' attitudes and evaluations regarding their physical appearance and body image. Responses were recorded on a five-point Likert scale, with higher scores reflecting greater body dissatisfaction. In the present study, the scale demonstrated acceptable internal consistency (Cronbach's $\alpha = .743$).

Self-Esteem

Self-esteem was measured using the **Rosenberg Self-Esteem Scale (RSES)** (Rosenberg, 1965), a widely used 10-item measure of global self-worth. Participants rated each statement on a four-point Likert scale, with higher scores indicating higher levels of self-esteem. The scale demonstrated satisfactory reliability in the present sample (Cronbach's $\alpha = .770$).

Anxiety

Anxiety symptoms were assessed using the **Generalized Anxiety Disorder-7 (GAD-7)** developed by Spitzer et al. (2006). The instrument consists of seven items assessing anxiety symptoms experienced during the previous two weeks. Responses were recorded on a four-point Likert scale, with higher scores indicating greater anxiety severity. In the current study, the scale demonstrated excellent internal consistency (Cronbach's $\alpha = .899$).

Procedure

Data were collected through an online questionnaire distributed to university students using various social media platforms and student groups. Before completing the questionnaire, participants were informed about the purpose of the study and provided informed consent electronically. Participation was voluntary, and respondents were assured that their responses would remain anonymous and confidential. No personally identifying information was collected, and participants were free to withdraw from the study at any stage without penalty.

Statistical Analysis

Data were analyzed using **IBM SPSS Statistics Version 27**. Descriptive statistics were computed to summarize participants' demographic characteristics and study variables. Pearson product-moment correlation analysis was performed to examine the relationships among body dissatisfaction, self-esteem, and anxiety. To test the mediating role of self-esteem, mediation analysis was conducted following the **Baron and Kenny (1986)** procedure, and bootstrapped confidence intervals were used to evaluate the significance of indirect effects. Statistical significance was determined at the $p < .05$ level.

Results

Descriptive Statistics and Reliability Analysis

Descriptive statistics and reliability coefficients were computed for all study variables before conducting inferential analyses. The internal consistency of the study instruments was satisfactory. The Multidimensional Body-Self Relations Questionnaire (MBSRQ) demonstrated acceptable reliability (Cronbach's $\alpha = .743$), the Rosenberg Self-Esteem Scale (RSES) showed good internal consistency (Cronbach's $\alpha = .770$), and the Generalized Anxiety Disorder Scale (GAD-7) demonstrated excellent reliability (Cronbach's $\alpha = .899$). These findings indicate that all three instruments were sufficiently reliable for subsequent statistical analyses.

Correlation Analysis

Pearson product-moment correlation analysis was conducted to examine the relationships among body dissatisfaction, self-esteem, and anxiety. A statistically significant negative correlation was observed between self-esteem and anxiety ($r = -.380, p < .001$), indicating that students with higher self-esteem tended to report lower levels of anxiety. Body dissatisfaction showed a significant positive correlation with self-esteem ($r = .245, p < .001$). However, the correlation between body dissatisfaction and anxiety was weak and did not reach statistical significance ($r = .086, p = .232$). These findings suggest that the relationship between body dissatisfaction and anxiety may not be entirely direct and support further examination of self-esteem as a potential mediating variable.

Mediation Analysis

The mediating role of self-esteem in the relationship between body dissatisfaction and anxiety was examined using the Baron and Kenny (1986) mediation procedure.

The first regression model demonstrated that body dissatisfaction significantly predicted self-esteem (Path *a*), $B = 0.094, \beta = .245, t = 3.492, p < .001$, indicating that body dissatisfaction was significantly associated with the proposed mediator. In the second regression model, self-esteem significantly predicted anxiety while controlling for body dissatisfaction (Path *b*), $B = -0.482, \beta = -.412, t = -6.032, p < .001$.

The total effect of body dissatisfaction on anxiety (Path *c*) was not statistically significant, $B = 0.039, \beta = .086, t = 1.198, p = .232$. However, after self-esteem was entered into the regression model, the direct effect of body dissatisfaction on anxiety (Path *c'*) became statistically significant, $B = 0.084, \beta = .187, t = 2.742, p = .007$. Furthermore, the indirect effect through self-esteem was statistically significant, supporting the presence of an indirect association between body dissatisfaction and anxiety.

The pattern of findings indicates that self-esteem played an important role in the relationship between body dissatisfaction and anxiety. Specifically, the non-significant total effect and the significant direct effect after inclusion of the mediator are consistent with an **inconsistent mediation (suppression) model**, suggesting that self-esteem influences how body dissatisfaction relates to anxiety among university students.

Table 1: *Demographic Profile of the Sample (N = 200)*

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Female	140	70
	Male	59	29.5

	Prefer not to say	1	0.5
Age Categories	18–20 years	35	17.5
	21–23 years	102	51
	24–40 years	63	31.5
Year of Study	1st Year	16	8
	2nd Year	42	21
	3rd Year	33	16.5
	4th Year / Final Year	109	54.5

Table 2: *Pearson Correlation Matrix and Cronbach's Alpha Coefficients Among Study Variables (N = 200)*

Variables	M	SD	1	2	3	Cronbach's Alpha
1. TBD	3.45	0.68	1	0.190**	0.87	0.743
2. TSE	3.72	0.61	0.190**	1	-0.380**	0.770
3. TA	2.98	0.79	0.87	-0.380**	1	0.899

Table 3: *Sequential Baron and Kenny Regression Models for Self-Esteem as a Mediator (N = 200)*

Step Path	Relationship	Unstandardized B	SE	Standardized Beta	t	p-value	95% LLCI	95% ULCI	Result
Step 1 (Path a)	Body Dissat. -> Self-Esteem	0.094	0.027	0.245	3.492	< 0.001	0.041	0.147	Significant
Step 2 (Path b)	Self-Esteem -> Anxiety	-0.482	0.080	-0.412	-6.032	< 0.001	-0.639	-0.325	Significant
Step 3 (Path c)	Body Dissat. -> Anxiety (Total)	0.039	0.032	0.086	1.198	0.232	-0.024	0.102	Non-Significant
Step 4 (Path c')	Body Dissat. -> Anxiety (Direct)	0.084	0.031	0.187	2.742	0.007	0.023	0.145	Significant

Discussion

The present study examined the relationship between body dissatisfaction and anxiety among Pakistani university students and investigated whether self-esteem mediated this relationship. Understanding these associations is important because university students experience multiple developmental, academic, and social challenges that may contribute to concerns about physical appearance and psychological well-being. Overall, the findings indicate that self-esteem plays a significant role in explaining the association between body dissatisfaction and anxiety, although the pattern of relationships observed differs from what has commonly been reported in previous literature.

The first hypothesis proposed that body dissatisfaction would be positively associated with anxiety. Contrary to expectations, the direct correlation between body dissatisfaction and anxiety was positive but not statistically significant. Although this finding differs from many previous studies reporting a significant positive association, it suggests that body dissatisfaction alone may not inevitably result in anxiety among Pakistani university students. Psychological responses to body image concerns are likely influenced by additional personal and contextual factors that either strengthen or weaken this relationship. Cultural values, family support, coping strategies, personality characteristics, and individual resilience may help explain why some students experience anxiety in response to body dissatisfaction whereas others do not.

The second hypothesis examined the relationship between body dissatisfaction and self-esteem. The findings demonstrated a statistically significant association between these variables. Because the observed direction differs from what is commonly reported in the literature, the result should be interpreted cautiously. Differences in cultural context, sample characteristics, measurement procedures, or scoring may contribute to this pattern. Rather than assuming the finding reflects a universal relationship, it highlights the importance of examining body image processes within specific sociocultural settings. Future studies using more diverse samples and longitudinal designs may clarify whether this pattern is replicated in other Pakistani university populations.

The third hypothesis proposed that self-esteem would be negatively associated with anxiety. This hypothesis was supported, as higher self-esteem was associated with lower anxiety levels among university students. This finding is consistent with extensive psychological literature indicating that individuals with greater self-worth generally demonstrate better emotional adjustment, more adaptive coping strategies, and greater resilience when encountering stressful situations. Students with positive self-evaluations may interpret academic and social challenges as manageable rather than threatening, thereby reducing their vulnerability to anxiety.

The principal objective of the study was to determine whether self-esteem mediated the relationship between body dissatisfaction and anxiety. Mediation analysis indicated that self-esteem significantly influenced this relationship. Specifically, the direct effect of body dissatisfaction on anxiety became statistically significant after controlling for self-esteem, whereas the total effect was not statistically significant. This pattern is consistent with an **inconsistent mediation (suppression) model**, suggesting that self-esteem modifies how body dissatisfaction is associated with anxiety rather than simply transmitting the relationship. Consequently, self-esteem appears to function as an important psychological factor that shapes emotional responses to body image concerns among university students.

These findings have several practical implications for higher education institutions and mental health professionals. Universities should consider implementing preventive mental health programs that address body image concerns while simultaneously promoting healthy self-esteem. Psychoeducational workshops, counseling services, cognitive-behavioral interventions, self-compassion training, and media literacy programs may help students develop more balanced self-

evaluations and healthier coping strategies. Strengthening self-esteem may reduce psychological vulnerability and improve students' overall well-being, even when appearance-related concerns persist.

Despite its contributions, the present study has several limitations. First, the cross-sectional design limits causal interpretation of the observed relationships. Second, the use of convenience sampling restricts the generalizability of the findings to all Pakistani university students. Third, reliance on self-report measures may have introduced response bias, including social desirability and common method variance. Future research should employ longitudinal designs, probability sampling methods, and multi-method assessments to strengthen the evidence regarding the temporal and causal relationships among body dissatisfaction, self-esteem, and anxiety. Additionally, future studies should examine other potential mediators and moderators, such as social comparison, perceived social support, perfectionism, and social media use, to provide a more comprehensive understanding of the psychological processes involved.

Overall, the findings contribute to the growing literature on body image and mental health by demonstrating that the relationship between body dissatisfaction and anxiety is more complex than a simple direct association. Within this sample of Pakistani university students, self-esteem emerged as a significant psychological mechanism influencing this relationship. These findings underscore the importance of considering self-esteem in both future research and intervention programs designed to promote psychological well-being among young adults.

Conclusion

The present study investigated the relationship between body dissatisfaction and anxiety among Pakistani university students while examining the mediating role of self-esteem. The findings indicate that self-esteem plays a significant role in explaining the relationship between body dissatisfaction and anxiety. Although body dissatisfaction was not directly associated with anxiety in the correlation analysis, mediation analysis demonstrated that self-esteem significantly influenced this relationship, highlighting the importance of psychological self-evaluation in understanding students' emotional well-being. Furthermore, higher self-esteem was associated with lower levels of anxiety, emphasizing its protective role in promoting psychological adjustment among university students.

The findings contribute to the growing body of literature on body image and mental health by providing empirical evidence from a Pakistani university population. The study suggests that interventions designed to strengthen self-esteem may help reduce the psychological impact of body dissatisfaction and improve students' emotional well-being. Universities should consider integrating body image awareness, self-esteem enhancement, and mental health promotion into student counseling and wellness programs. Future research should employ longitudinal designs,

probability sampling, and additional psychological variables to further clarify the mechanisms underlying the relationship between body dissatisfaction and anxiety.

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