



Appearance in the Mirror of Comparison: Social Comparison, Self-Esteem, and Appearance Anxiety Among Pakistani University Students

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Abstract

Appearance anxiety is a growing concern among university students, especially since being judged by peers, image-filled social media, and constant comparisons are part and parcel of everyday life. This study examined the extent to which social comparison tendencies and self-esteem levels predict appearance anxiety in Pakistani university students and further investigated whether self-esteem functions as a moderating variable in the social comparison–appearance anxiety link. The study adopted a cross-sectional correlational design, and 309 students (18-25 years old) were selected from public and private universities in South Punjab, Pakistan by using purposive sampling technique. Three instruments were completed by the participants; the Iowa-Netherlands Comparison Orientation Measure (INCOM), the Rosenberg Self-Esteem Scale (RSES) and the Appearance Anxiety Inventory (AAI), all of which are validated. The statistical analysis was done by Pearson correlation, Multiple linear regressions, and Moderation analysis (PROCESS Model 1). The results showed that there was a strong positive correlation between social comparison and appearance anxiety, as well as a strong negative correlation between self-esteem and appearance anxiety. Both variables were found to be significant predictors of the regression model. Importantly, self-esteem was a significant buffer in the relationship; the more positive the self-esteem, the weaker the relationship between comparison tendencies and distress with appearance. The overall results indicate that social comparison is a subconscious mental mechanism of appearance anxiety, and that self-esteem is a protective factor, which lessens the negative effects of social comparison. The study contributes to the literature on body image and youth mental health by placing the comparison orientation and self-esteem in the foreground in a South Asian university setting.

Keywords: Appearance Anxiety, Social Comparison, Self-Esteem, University Students, Youth, Pakistan, Moderation, Body Image

Introduction

Appearance is not a minor issue for youth during the time of transitioning from adolescence to young adults. Peer acceptance is a disproportionate psychological driver at this developmental stage because identities are still being formed, and self-presentation in social scenarios more like a high-stakes game with concerns about appearance being clinically significant anxiety. Appearance anxiety is not about vanity but a psychologically relevant phenomenon and is often experienced alongside body dissatisfaction, enhanced self-awareness, social isolation, and diminished psychological functioning (Hart et al., 2008; Veale et al., 2014). These concerns may be particularly salient in a university environment, where the assessment of social skills is deeply entrenched in the university culture, both in real-life and, more recently, online (Liao et al., 2023;

Shang & Bao, 2025). Recent research has highlighted the significant relationship between appearance anxiety and social anxiety, distorted body image, low self-esteem, and disordered eating behaviors (Gao et al., 2023; Liao et al., 2023; Tian et al., 2025).

In today's times of social media, which emphasizes images, the situation has become complicated. Instagram, TikTok, Snapchat and Facebook are not only about connecting people, but also about creating an idealized visual world, an idealized body, a curated lifestyle and a filtered self-invention (Fardouly & Vartanian, 2016; So & Kwon, 2023). This can be a fertile ground for negative self-comparison for young users whose worth is still partly dependent on peer validation. The pressure to —measure up to the image of perfection that can be achieved online becomes embedded in the platform, where —likes, followers and social visibility correspond directly to attractiveness (Cohen et al., 2017; de Valle et al., 2021). Indeed, a recent systematic review and meta-analysis of the evidence showed that online social comparison is strongly associated with increased body image dissatisfaction, higher eating disorder symptoms, and lower levels of positive body appreciation, which indicated that the distress that comes from these comparisons is not superficial or fleeting (Bonfanti et al., 2025). The dynamics can be explained by the theoretical perspective of social comparison theory, as initially proposed by Festinger (1954). Young people, in particular, are likely to assess their appearance in relation to others, influencers and media images (Myers & Crowther, 2009; Vogel et al., 2014) as there is no objective standard for beauty, attractiveness and desirability, meaning that these criteria are largely determined by social norms that change over time. Upward comparisons, or comparisons to those who are more physically attractive or are more socially desired, are particularly harmful because they trigger a sense of inadequacy and impair self-evaluation (Bonfanti et al., 2025). This is particularly true on social media, where users are exposed to a curated image that promotes an unrealistic view of beauty and serves as a misleading comparison group, in essence, non-representative of a user's peers (Fardouly et al., 2015; de Valle et al., 2021).

There is ever-increasing empirical evidence that links appearance-based comparison to anxiety. A key meta-analysis of 83 separate studies and over 55,000 subjects found comparison to be a strong predictor of appearance-related distress (Bonfanti et al., 2025). On a more fine-grained level, Tian et al. (2025) provided a mechanism by which upward social comparison on social media increased appearance anxiety via self-objectification, whereas Nguyen et al. (2025) described how passive consumption of social media (without active engagement) can still lead to body image comparisons and thus to body image dissatisfaction. What one finds in this literature is a portrait of appearance anxiety as less about one's actual physical qualities and more about the constant, and ultimately self-deceptive, act of measuring oneself against the beauty ideals of a society that are defined by social norms and standards that may be unattainable. Self-esteem also plays a similarly crucial role in psychological functioning of appearance related anxiety. Self-esteem is a general evaluation of one's own worth and competence (Rosenberg, 1965) and influences the extent to which people base their self on external approval, such as physical appearance. Individuals with high self-esteem are less likely to internalize comments from peers or comparisons to others as judgements about themselves (Orth & Robins, 2014; Rosenberg, 1965). In the other direction, if self-esteem is low, negative appearance comparisons may intensify existing self-doubt and negative self-perceptions, thus more readily leading to clinically relevant appearance anxiety (Göbel et al., 2023; Shang & Bao, 2025). For instance, Shang and Bao (2025) have shown that use of social media, comparing oneself to others, and self-esteem

are all interrelated and can be used together to predict increased appearance anxiety among Chinese university students.

In addition, self-esteem might act as a moderating factor, which means that it might change the strength of the association between social comparison and appearance anxiety. A vulnerability perspective would suggest that students with low self-esteem might be especially sensitive to the distressing impact of negative comparisons because they validate rather than threaten self-doubts (Brown, 2010; Pyszczynski et al., 2004). Students with higher self-esteem are not immune to appearance ideals but may have a more resilient sense of self which lessens the psychological impact of such comparisons (Orth & Robins, 2014; Shang & Bao, 2025). Although this moderating effect is theoretically plausible, there has been limited empirical research, especially in South Asian cultural contexts, directly examining this. Two theoretical frameworks further illuminate why comparison and self-esteem interact in this way. Based on Higgins' Self-Discrepancy Theory (1987), emotional distress arises when there is a discrepancy between self and ideal/ought self. This mismatch, in terms of appearance, can be triggered every time a student looks at their own image and sees the idealized versions of people that fill their feeds, resulting in shame, dissatisfaction, and anxiety (Tian et al., 2025). Objectification Theory (Fredrickson & Roberts, 1997) takes this a step further; there is a possibility that one could internalize the perspective of the observer and start to see their own body as an object that is being judged by others. This self-objectification, exacerbated by the 'measurability' and 'visibility' of appearance on social media has been empirically associated with appearance anxiety and disordered eating (Calogero et al., 2005; Fredrickson & Roberts, 1997).

The Pakistani cultural context adds more dimensions to it making this research quite relevant at the present time. Pakistani youth are also faced with globalized digital beauty standards, which have largely been introduced through platforms like Instagram, TikTok, and others, but are also embedded in local cultural norms that emphasize modesty, fair complexion, gender-appropriate presentation, family honor, and marriageability (Malik et al., 2025; Yousafzai & Fatima, 2025). The combination of two cultures produces a very special appearance environment. Local evidence is emerging that suggests that the use of social media is linked to comparison, thin-ideal internalization, social physique anxiety, and reduced self-esteem (Akbar et al., 2025; Bibi et al., 2025; Malik et al., 2025). Malik et al. (2025) reported that appearance comparison and internalization of cultural beauty ideals mediated the relationship between low self-esteem and disordered eating in Pakistani adolescent girls, while Bibi et al. (2025) reported a significant negative correlation between social appearance anxiety and self-esteem among Pakistani TikTok users, and Butt and Khan (2025) reported that objectified body consciousness was negatively associated with social appearance anxiety and disordered eating among Pakistani young adults. However, a significant gap remains: the moderation role of self-esteem in the relationship between social comparison and appearance anxiety has not been studied directly among Pakistani university students who are experiencing this phenomenon. The aim of this study was to fill this void. In particular, it examined three interrelated questions: does social comparison and self-esteem independently predict appearance anxiety; do they both correlate with appearance anxiety in the expected direction; and does self-esteem moderate the strength of the association between social comparison and appearance anxiety such that the relationship is different at different levels of self-esteem.

Method

Research Design

The study adopted a quantitative, cross-sectional, correlational design. This framework was suitable for the purposes of this study, as the primary aims were to describe the associations of social comparison, self-esteem and appearance anxiety, and test the moderating role of self-esteem between social comparison and appearance anxiety. Since causal directionality was not being evaluated, a non-experimental design was adequate and all results are interpreted as statistically associated and/or predictive, as opposed to causal.

Participants and Sampling

The study was conducted on the university students of age group 18-25 years from various public and private universities of South Punjab, Pakistan. The total number of students recruited using purposive sampling was 309, who fulfilled the inclusion criteria: Undergraduate or post graduate students, aged 18-25 years, using at least one major social media platform (Instagram, Facebook, TikTok or Snapchat). The final sample comprised 191 women (61.8%) and 118 men (38.2%). All participation was on a voluntary basis. Informed consent was obtained from all participants before data collection and they were given the clear information of the purpose of the study, the fact that participation is voluntary, and that there are confidentiality procedures in place to protect their responses.

Measures

Three well-established self-report instruments, all administered in English, were used to operationalize the study's variables. Cronbach's alpha coefficients were computed for each scale within the current sample to verify internal consistency.

Appearance Anxiety Inventory

Appearance anxiety was assessed with the Appearance Anxiety Inventory (AAI; Veale et al., 2014), a 10-item self-report instrument originally designed for body dysmorphic disorder (BDD) research but later validated for general use to assess appearance-related anxiety. The instrument measures both the cognitive and behavioral aspects of appearance concern: preoccupation with perceived flaws, self-monitoring, checking and avoidance behaviors, and distress experienced as a result of the appearance concern. Responses are given on a five-point frequency scale (0 = not at all to 4 = all the time), and higher combined scores reflect greater levels of appearance anxiety. The current sample had an excellent internal consistency (Cronbach's $\alpha = .88$).

Iowa-Netherlands Comparison Orientation Measure

The Iowa-Netherlands Comparison Orientation Measure (INCOM; Gibbons & Buunk, 1999) was used to measure disposition toward social comparison. This is a 11-item instrument which was designed to measure stable individual differences in the tendency to compare oneself with others in domains of ability, opinion and self-evaluation. Answers to each item are given on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores reflecting a greater habitual tendency to engage in social comparison. The INCOM had acceptable internal consistency in this sample ($\alpha = .84$).

Rosenberg Self-Esteem Scale

Global self-esteem was measured with the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965), which is one of the most used measures of self-esteem in the psychological literature. Ten items on positive self-evaluations (e.g., "I feel competent," "I feel good about myself") and negative self-evaluations (e.g., "I feel like I am failing," "I feel inadequate") are measured on a 4-point scale ranging from 1 (strongly disagree) to 4 (strongly agree). For negatively worded items, the scores are reversed before totals are added up, and the higher the total is, the more positive the overall self-esteem is. In the current study, the coefficient alpha was found to be .81, which is considered acceptable reliability.

Procedure

Data were collected over three weeks through online and in-person surveys. Participants provided informed consent before completing demographic items and study measures. After screening incomplete responses, 309 valid questionnaires were retained for analysis.

Procedure

Data collection unfolded over three consecutive weeks through two parallel channels. Online recruitment involved distributing a Google Forms link to eligible students; in-person recruitment entailed administering printed questionnaires directly to students who satisfied the inclusion criteria. In both formats, participants first received a written overview of the study explaining its purpose, voluntary nature, and the confidentiality protections in place; informed consent was then obtained. Completion time averaged 10 to 12 minutes. The survey instrument began with demographic questions before proceeding to the three study measures in sequence. Completed questionnaires were screened for missing or incomplete responses; a number of cases were excluded at this stage. The final analytic dataset comprised 309 fully valid responses.

Data Analysis

Data was analyzed using IBM SPSS Statistics (Version 26). The analytical sequence was carried out in four steps. Preliminary screening was done to check the data for missing values and coding errors, as well as for distributional assumptions required for planned analyses. Second, descriptive statistics, such as means, standard deviations, frequencies and percentages were calculated to describe the sample. Third, all the scales were tested for internal consistency, and the results were satisfactory in terms of Cronbach's alpha. Fourth, Pearson product-moment correlations were used to map the bivariate relationships between appearance anxiety, social comparison and self-esteem. Multiple linear regression was then used to test the unique predictive role of social comparison and self-esteem on appearance anxiety concurrently. At the end of the analysis, Hayes's (2018) PROCESS macro (Model 1) was used to conduct moderation analysis, using appearance anxiety as the outcome variable, social comparison as the predictor, and self-esteem as the moderator. The interaction term of Social Comparison \times Self-Esteem was estimated by the model, with conditional effects at high, mean and low levels of self-esteem being examined to describe the nature of any significant interaction. Throughout a two-tailed significance value of $p < .05$ was used.

Results

Table 1 *Demographic Characteristics of Participants (n = 309)*

Demographic Variable	Category	N	%
Age	18–22 years	250	80.9
	23–25 years	59	19.1
Gender	Male	118	38.2
	Female	191	61.8
Perceived body image	Underweight	22	7.1
	Normal weight	200	64.7
	Overweight	81	26.2
	Obese	6	1.9
Social media usage	Daily	297	96.1
	Weekly	8	2.6
	Rarely	4	1.3

Marital status	Married	46	14.9
	Unmarried	263	85.1
Education level	Intermediate	21	6.8
	Undergraduate	216	69.9
	Postgraduate	70	22.7
	Other	2	0.6
Socioeconomic status	High	12	3.9
	Middle	293	94.8
	Low	4	1.3

The demographic profile of the sample is summarized in Table 1. The majority of participants ($n = 250$, 80.9%) fell within the 18–22 age bracket, with the remainder ($n = 59$, 19.1%) aged 23–25. Women comprised 61.8% of the sample ($n = 191$), and men 38.2% ($n = 118$). As to how they perceived their body size, most students ($n = 200$, 64.7%) perceived themselves as being normal weight, followed by overweight ($n = 81$, 26.2%), underweight ($n = 22$, 7.1%) and obese ($n = 6$, 1.9%). Nearly everyone used social media, with 96.1% ($n = 297$) using social media daily. Most students were unmarried ($n = 263$, 85.1%) and studying at the undergraduate level ($n = 216$, 69.9%). In terms of socioeconomic status, 94.8% of the participants reported that they were in the middle class ($n = 293$).

Table 2 *Correlation Matrix* ($N = 309$)

Variable	1	2	3
1. Appearance Anxiety	—		
2. Social Comparison	.62**	—	
3. Self-Esteem	-.60**	-.45**	—

Note. ** $p < .01$, two-tailed.

Pearson correlations (Table 2) revealed a substantial positive relationship between social comparison orientation and appearance anxiety ($r = .62$, $p < .01$), meaning that students who more habitually compare themselves to others reported correspondingly higher levels of appearance-related distress. Conversely, self-esteem was strongly and inversely correlated with appearance anxiety ($r = -.60$, $p < .01$) students with stronger self-esteem reported notably less appearance anxiety. A moderate negative correlation also emerged between social comparison and self-esteem ($r = -.45$, $p < .01$), suggesting a meaningful inverse relationship between these predictors and hinting at potential interactive effects.

Table 3 Multiple Regression Predicting Appearance Anxiety

Predictor	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>
Constant	12.81	2.14	—	5.99	< .001
Social Comparison	0.46	0.05	.44	9.20	< .001
Self-Esteem	-0.71	0.08	-.38	-8.83	< .001

Note. Outcome variable = appearance anxiety. $R^2 = .45$, $F(2, 306) = 126.75$, $p < .001$.

Multiple linear regression was used to simultaneously assess the predictive value of social comparison and self-esteem for appearance anxiety. This model was statistically significant, $F(2, 306) = 126.75$, $p < .001$, and accounted for about 45% of variance in scores for appearance anxiety ($R^2 = .45$). In the model, the social comparison orientation was a positive predictor of appearance anxiety ($B = 0.46$, $\beta = .44$, $p < .001$), and self-esteem was a negative predictor of appearance anxiety ($B = -0.71$, $\beta = -.38$, $p < .001$). Both variables therefore uniquely predicted appearance anxiety.

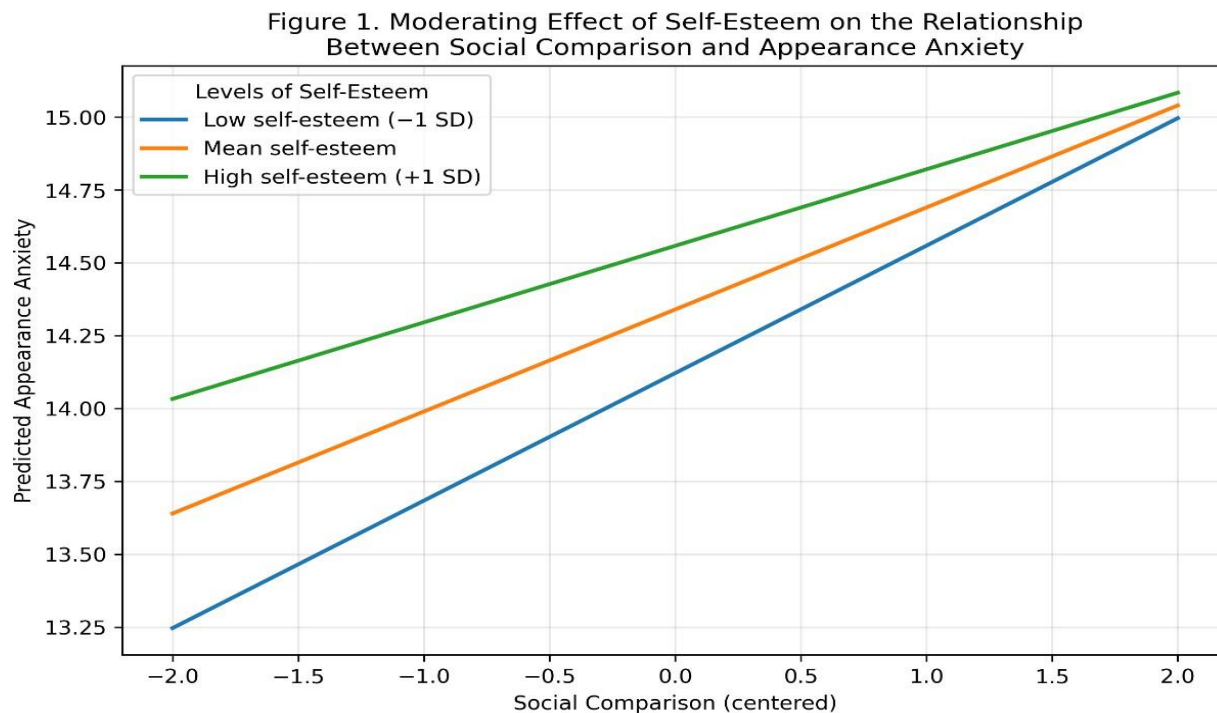
Table 4 Moderation Analysis of Self-Esteem in the Relationship Between Social Comparison and Appearance Anxiety

Predictor	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% CI
Intercept	14.34	0.37	38.80	< .001	[13.61, 15.07]
Social Comparison	0.35	0.02	15.53	< .001	[0.30, 0.39]
Self-Esteem	0.13	0.23	0.59	.556	[-0.31, 0.58]
Social Comparison \times Self-Esteem	-0.052	0.013	-3.85	< .001	[-0.078, -0.025]

Note. Outcome variable = appearance anxiety. The overall model was significant, $R^2 = .478$, $F(3, 305) = 93.05$, $p < .001$. The interaction term was significant, confirming that self-esteem moderated the social comparison–appearance anxiety relationship.

PROCESS Macro Model 1 (Hayes, 2018) was used to test the moderation hypothesis in which appearance anxiety was the outcome, social comparison was the predictor, and self-esteem was the moderator. The complete model was statistically significant, $F(3, 305) = 93.05$, $p < .001$, explaining 47.8% of variance in appearance anxiety ($R^2 = .478$). The Social Comparison \times Self-Esteem interaction term was significant ($B = -0.052$, $SE = 0.013$, $t = -3.85$, $p < .001$, 95% CI [-0.078, -0.025]). This interaction coefficient is negative, meaning that the positive relationship between social comparison and appearance anxiety is moderated by self-esteem; that is, the higher one's self-esteem, the weaker the positive association between social comparison and appearance anxiety. Analysis of conditional slopes (shown in Figure 1) revealed that the conditional slope of social comparison to appearance anxiety was significant at all levels of self-esteem but was most steep for those with low self-esteem and most flat for those with high self-esteem. Self-esteem functioned as a significant buffering factor, particularly among students with higher self-esteem

Figure 1 *Moderating Effect of Self-Esteem on the Relationship Between Social Comparison and Appearance Anxiety*



Note. The regression slopes for low (-1 SD), mean and high ($+1$ SD) levels of self-esteem are shown separately. The slope for low self-esteem students is steeper than the slope for high self-esteem students, suggesting that social comparison is a more powerful source of appearance anxiety for low self-esteem students and that high self-esteem students are buffered.

Discussion

The present study set out to clarify how social comparison and self-esteem relate to appearance anxiety among Pakistani university students, and, critically, whether self-esteem alters the strength of that relationship. The findings present a consistent picture: the more often students compare themselves to others, the more they feel distressed about their appearance; the less they compare, the less distress they feel about their appearance; and when self-esteem is high, even frequent comparisons have less effect in raising appearance anxiety. The first aim was to investigate the association between social comparison and appearance anxiety. This relationship is not just empirically strong; it is a theoretically predicted relationship. University life places students in a double environment of comparison: the former is the peer environment, where assessment based on appearance is almost unavoidable; and the latter is the algorithmically designed social media environment, where idealized imagery is constantly fed to them. The comparison process of appearance anxious individuals, who compare themselves to their perceived —more attractive, more stylish, and more socially desired— peers, activates the self-monitoring, checking behaviors, and social anxiety that define the construct of appearance anxiety. The present results are consistent with the existing literature on social comparison as an important mechanism for body image distress. A recent meta-analysis by Bonfanti et al. (2025) showed that there is a medium but consistent link between online social comparison and body image concerns in 83 studies, and Tian et al. (2025) traced the link from upward social comparison to appearance anxiety through self-objectification. The present study builds upon

these findings by using a sample of students from a Pakistani university where the digitally constructed image of beauty, along with locally enacted appearance expectations, may make the comparison pressure even more salient. There is a need to give special attention to the role of social media in this dynamic. Visual platforms like Instagram, TikTok and Snapchat are not just a reflection of social reality but engines of aspirational imagery. Pictures and videos shared on these sites are almost always carefully staged, manipulated and "cleaned up" to create a positive self-image. Students then are not comparing themselves against peers, but rather to performances of attractiveness that are carefully crafted. Importantly, the effects of comparison orientation were found to hold in the current data even without directly measuring social media use; this means that the tendency to compare is psychologically powerful, whether or not it is triggered by the use of social media. Similar relationships were found among Chinese college students by Shang and Bao (2025), who also found that appearance anxiety was predicted by self-esteem, social media, and upward comparison together, further supporting the interpretation that comparison orientation is a psychological mechanism that is at work, and the most common amplifier for this mechanism in the contemporary era is social media.

The inverse relationship between self-esteem and appearance anxiety is equally well-founded. Having a high self-esteem on a global level serves as a kind of anchor such that when someone's self-esteem is high, feedback from peers and negative comparisons are less likely to threaten his or her basic self-concept (Rosenberg, 1965). High self-esteem enables students to realise that others might be more 'traditionally' attractive and not feel distressed on this basis. But a comparison for a person with low self-esteem may not only be a judgment of beauty; it may be evidence of the self-esteem person's feelings of inadequacy (Pyszczynski et al., 2004). It is echoed by the social appearance anxiety of university students in Turkey (Göbel et al., 2023) and Pakistan (Bibi et al., 2025) that showed that social appearance anxiety has a relationship with low self-esteem. Some theoretical models can explain these trends. Social Comparison Theory (Festinger, 1954) states that when objective evaluative criteria are not available, most people resort to social ones, and this is certainly the case with physical attractiveness, which is a socially constructed phenomenon. If those standards are defined by the images of influencers that have been filtered or by presentations of peers that are digitally perfect, the comparison is only going to be upward, thus creating a sense of inadequacy. Self-Discrepancy Theory (Higgins, 1987) has provided the additional insight that distress will be felt specifically when one's actual self falls short of an idealized self (what Higgins called the ideal self). This difference in students' minds can be further exacerbated by repeated exposure to idealized appearance imagery, which can increase anxiety. Objectification Theory (Fredrickson & Roberts, 1997) adds a further layer – young people may self-evaluate by monitoring themselves through the imagined eyes of others, viewing their own bodies as objects to be evaluated. Specifically, this process has been supported by empirical evidence in Pakistan: Tian et al. (2025) found that self-objectification partially mediated the relationship between upward comparison and appearance anxiety, and Butt and Khan (2025) found a correlation between objectified body consciousness and social appearance anxiety as well as disordered eating patterns among young adults in Pakistan.

The moderation finding is arguably the study's most theoretically significant contribution. The significant Social Comparison \times Self-Esteem interaction indicates that it is not simply a linear additive effect of self-esteem on appearance anxiety, but rather that self-esteem alters the entire social comparison–appearance anxiety relationship. This has very real practical consequences. It

implies that two students who have similar tendencies to engage in social comparison may have very different appearance anxiety levels, depending on whether they have fragile or strong self-esteem: the latter is likely to be far less distressed by the comparison, whereas the former is likely to be rather more. Why might this be? High self-esteem students seem to be better prepared to make sense of negative comparisons; to acknowledge the idealized images as unrealistic; to feel confident despite seeing others as more attractive; and to not internalize appearance ideals as a personal reflection on their worth (Orth & Robins, 2014). For students who have low self-esteem, who do not have this evaluative scaffolding, comparison outcomes may be more likely to be taken as evidence of their own shortcomings, increasing the anxiety response. This interpretation is consistent with the results of Nguyen et al. (2025), who reported a similar moderating effect of sense of self on the relationship between passive social media use and body image concerns, and Shang and Bao (2025), who reported a similar moderating effect of self-esteem in a sample of Chinese college students.

The results have significant implications with regard to the Pakistani cultural context in particular. The appearance landscape in which Pakistan's youth are living is distinctly layered: global digital beauty ideals of thin bodies, fair skin, and certain facial features exist alongside local cultural values which value modesty, caste-specific skin color ideals, gender-appropriate presentation, and family honor. This double pressure can make Pakistani university students particularly susceptible to the distress of the discrepancy between these idealized expectations and their self-perception. The present study provides a practical and concrete contribution to this poorly understood context by showing that self-esteem is a meaningful psychological buffer and that low self-esteem students are of special interest in the field of campus mental health programming.

From the practical perspective, the findings indicate a number of specific intervention strategies. Counsellors would be better off considering appearance anxiety as a presenting concern and not a cosmetic one for students. Psychoeducational interventions that aim to increase media literacy (e.g., teach participants that the idealized images of social media are not real, teach them to identify what they are not comparing themselves to, and teach them to break the cycle of self-evaluation that is triggered by appearance comparison) could have a meaningful impact on reducing distress. Based on the moderation finding, self-esteem enhancement is a particularly promising intervention target, since self-esteem is known to buffer the social comparison-anxiety pathway, programming to increase self-acceptance, self-compassion, and non-appearance-based self-worth could have two benefits: it could decrease the amount of appearance anxiety, and it could decrease how much appearance anxiety is amplified by social comparison. In Pakistan, these interventions need to be culturally tailored to recognize local beauty standards, gender norms, family social pressure on appearance, and the most popular social media platforms (TikTok, Instagram) among university-age users.

Limitations and Future Directions

Some methodological limitations constrain the conclusions that can be drawn from the current results and indicate areas for future research. At the very least, the cross-sectional design does not allow for causal conclusions: the findings are compatible with the idea that appearance anxiety may be associated with higher social comparison and that the relationship between appearance anxiety and self-esteem is buffered by self-esteem, but the opposite causal pathways (or feedback loops) cannot be excluded. Longitudinal and experimental designs are required to provide more confidence of directionality. Second, all three study variables were self-report, which could have led to shared method variance inflating the observed associations; future studies could use behavioral or diary

measures of social media use, comparison behavior, and eating habits to enhance the validity of the results. Third, the purposive sampling from the university population in Punjab has restricted the generalizability to non-student populations, clinical groups, older age groups, younger age groups, and students from other provinces/countries in Pakistan. The fourth limitation has to do with gender: while there were males and females in the sample, gender was used as a demographic variable and not as a substantive moderator. Future research should be conducted to specifically determine if the social comparison–self-esteem–appearance anxiety pathway differs between men and women, given that gender differences in appearance anxiety and social comparison have been documented in the literature at large. Lastly, the current study did not measure potential mechanisms by which comparison leads to anxiety, such as beauty-ideal internalization, body surveillance, self-objectification, and passive versus active social media consumption, and such mechanisms should be explored in future research.

Conclusion

This study shows that social comparison is a significant psychological predictor of appearance anxiety in Pakistani university students. Those students who are more likely to engage in comparison report higher levels of appearance-related distress, while those who are more likely to report high self-esteem report lower levels of distress, and importantly, the level of self-esteem is a psychological buffer that weakens the association between comparison tendency and appearance-related distress. These patterns exist in a South Asian context, where global digital beauty ideals intersect with locally specific appearance ideals, underscoring the importance of culturally specific interventions. The psychological protective role of stable self-worth that is not contingent on appearance is more important as the visual social media world becomes more ubiquitous and comparison-fostering. Comparative studies can be seen as a promising approach in student mental health practice in Pakistan and across the globe, not just in terms of targeting maladaptive comparison tendencies, but also in targeting the self-esteem resources that can help cope with these tendencies.

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