
Attachment Styles, Body Image Concern, and Social Anxiety in University Students

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DOI: <https://doi.org/10.70670/sra.v4i2.2266>

Abstract: Mental health challenges among Pakistani university students, particularly social anxiety and body image disturbance, represent a growing public health concern. This study examined the relationships among attachment styles, body image concern, and social anxiety, investigating the mediating role of body image concern and gender based group differences. A cross-sectional quantitative design was employed with a convenience sample of 300 university students (Male = 158, Female = 142; *Age* = 18– 22 years) recruited from universities in Punjab, Pakistan. Data were collected using the Attachment Style Questionnaire–Short Form (ASQ-SF), Body Self-Image Questionnaire–Short Form (BSIQ-SF), and Social Interaction Anxiety Scale (SIAS). Pearson correlations, multiple regression, and bootstrapped mediation analyses were conducted using SPSS version 27. Results confirmed significant positive correlations among anxious attachment, body image concern, and social anxiety. Anxious attachment emerged as the strongest predictor of social anxiety, explaining 41.4% of the variance.

Keywords: Attachment Styles, Body Image Concern, Social Anxiety, University Students, Mediation, Pakistan

Introduction

During university years, young adults deal with stressors like earning one's autonomy and defining one's identity. A lot of recent work in this area has focused on the major psychological challenges of this age group and how university students are very different in this regard compared to their non-student peers of the same age. A number of studies have shown that students in higher education suffer more mental health problems, such as university students, depression, and psychological distress, and these are problems that peers in the same age group who have directly entered the job market do not face, and this has been documented in numerous studies in different countries of the world. Attachment Theory was founded by John Bowlby and later developed by Ainsworth and others. This theory focuses on the relationships formed within the context of caregiver interactions. This theory understands how caregiver-child dynamics build patterns of relating, regulating emotions, and psychological adjustment. Theory explains how the quality of caring acts impacts the structures that represent and guide people. These structures explain how people see themselves and others, leading them to see themselves as worthy of care while seeing others as unworthy and dismissive. These structures provide guide emotional and behavioral response patterns and perceptions in relationships.

The clinical appearance of body image disturbance is the manifestation of body image concern, and involves negative feelings and thoughts about the appearance of a person's body, often coupled with perceptual distortions in which a person inaccurately perceives their body shape and size. Body image concern is epidemic in university students; multiple studies have shown that most students are dissatisfied with their physical appearance which establishes body image disturbance as a norm and not the exception in higher education (Cash, 2021).

Social anxiety is characterized by an intense, persistent fear of negative evaluation in social or performance situations that leads to marked distress and avoidance. Contemporary cognitive accounts emphasize that socially anxious individuals hold rigid negative beliefs about being judged as inadequate, focus attention excessively on themselves, and rely on safety behaviors that paradoxically maintain anxiety. Recent studies report that social anxiety symptoms are highly prevalent among university and college students, with substantial proportions experiencing mild to very severe levels that impair academic engagement, class participation, and peer relationships (Clark & Wells, 1995).

Conducting a study on attachment styles, body image concern, and social anxiety in Pakistani university students is warranted for several reasons. Existing evidence shows alarmingly high rates of social anxiety and widespread body image disturbance in this population, yet these constructs are rarely examined together within a single explanatory model (Ferreira et al., 2024). Attachment theory further suggests that insecure attachment fosters appearance-related vulnerabilities that may heighten social-evaluative fears, but these mediating pathways remain underexplored in South Asian contexts (Tariq et al., 2024).

LITERATURE REVIEW

Longitudinal research has shed light on the cause-and-effect relationships concerning attachment impacts on psychological outcomes. Research on emerging adults during the COVID-19 pandemic documented that attachment insecurities predicted greater levels of loneliness and anxiety via emotion regulation difficulties and greater sensitivity to others (Vowels et al. 2023).

Notwithstanding this body of evidence, the majority of studies have been conducted in Western or East Asian contexts. The specific interplay of insecure attachment with social anxiety and appearance-related concerns within the Pakistani university context, where collectivist values, family enmeshment, and gender segregated socialization create distinct relational dynamics, remains empirically underexplored and warrants focused investigation (Kaur et al., 2024).

All across the globe, people, all ages, all ethnicities, men, women, girls, and boys, have issues related to body image, and body image issues can include many areas of mental health, especially where the user is dealing with, or, is, a young adult. A pragmatic conception of mental health issues stemming from body image issues is the young adult population and includes numerous sociocultural appearance expectations. New studies have shown how people battling with body image issues often feel good about themselves and how they've proven body image thoughts are an accurate predictor of how people experience an increase in depressed mood feelings. These studies have shown that mental health issues and body image issues are often intertwined and have shown a strong need for a direct approach in tackling body image issues (Wilson et al., 2023).

Social Anxiety Disorder is one of the most common anxiety conditions. Social anxiety is a fear of being judged negatively by others when they are in a social situation. New studies have shown a lot of social anxiety and problems with interpersonal functioning. This leads to clinically significant relationships and occupational performance effect size. In one of the 52 studies that have been conducted, social anxiety was shown to predict relationship impairment with a score of -0.35 and occupational impairment with a score of -0.42. Avoidance acts as the primary mediating factors of functional impairment. Having social anxiety can really lower the quality of everyday life. It is crucial to find solutions to alleviate the

primary problems of social anxiety, which are the fears of being evaluated by others in a social situation (Rodriguez et al., 2023).

Studies of young adult populations in Pakistan have revealed a notable impact of insecure attachment on body image disturbances within the context of marriage. Studies of newly married couples suggest that body image anxiety concerns are associated with attachment anxiety and sexual satisfaction is also equally low ($r=-.43$). This indicates relational insecurities that are present become noteworthy through self-consciousness in relation to the body (Nasir et al., 2024).

RESEARCH HYPOTHESIS

- H1: There will be a significant correlation between attachment styles, body image concern, and social anxiety among university students.
- H2: Attachment styles will significantly predict social anxiety among university students.
- H3: Body image concern will significantly mediate the relationship between attachment styles and social anxiety among university students.
- H4: There will be significant group differences in attachment styles, body image concern, and social anxiety in terms of gender among university students.

Research Methodology:

Research Design

This study utilized a cross-sectional quantitative survey design where all the predictors and outcomes are evaluated at a single point in time from a single student sample. This design makes it possible to estimate the attachment styles and prevalence of body image concerns and social anxiety, along with testing their relationships and mediation pathways without the need of longitudinal follow-up.

Participants:

About 300 students were selected as participants. The sample size was computed using G*Power 3 for correlation and multiple regression analysis with medium effect size, $\alpha = .05$, and power = .80, providing adequate sensitivity to hypothesized direct and indirect effects as well as stable estimation of parameters (Faul et al., 2007). Convenience sampling was used, recruiting students who were easily accessible in classrooms and common areas, met eligibility criteria, and consented to participate. (Etikan et al., 2016). Data were collected from students enrolled at universities in the Punjab province of Pakistan.

Inclusion / Exclusion Criteria

Inclusion Criteria:

Participants were included if they were (a) (a) adults aged 18 years and above, currently enrolled in a degree programme at a Pakistani university (b) (b) currently enrolled in an undergraduate (BS), postgraduate (MS, MPhil), or doctoral (PhD) program at a university in Pakistan, and (c) able to read and understand Urdu and/or English well enough to complete self-report questionnaires. They were also required to have lived with at least one parent or primary caregiver for most of their first 16 years, ensuring meaningful assessment of attachment history, and to provide informed consent and agree to complete all study measures.

Exclusion Criteria:

Students were excluded if they reported (a) a current diagnosis of a severe psychiatric disorder (e.g., psychotic disorder, bipolar disorder) likely to markedly affect attachment, body image, or anxiety; (b) a major neurological or chronic medical condition with significant impact on emotional functioning; or

(c) current use of psychotropic medication that could substantially alter mood or anxiety. Protocols were also excluded if participants were unwilling or unable to complete the full questionnaire battery or if questionnaires contained extensive missing data or clearly random or inconsistent response patterns.

Research Procedure

After the synopsis and instruments were approved at the department level, administrative permissions and ethics clearances were obtained from the concerned universities. Data collection occurred via scheduled classroom visits and recruitment in the common areas of the universities located in Punjab Pakistan. Interested students were provided with an information sheet after a short explanation of the objectives and of the procedures and were asked to give their signed consent. Participants were provided with demographic information, ASQ, SF, BSIQ-SF, and SIAS questionnaires to complete in a classroom setting, either alone or in groups of up to 5.

Statistical Analysis

All questionnaires were scored based on their manuals and input into SPSS (version 27) for analyses. Study demographic variables, and primary variables (dimensions of attachment, body image concern, and social anxiety) were analyzed using means, standard deviations, frequencies, and percentages. The bivariate relationships between the variables were assessed using Pearson product–moment correlations. To assess the predictive relationships of attachment styles on (a) body image concern and (b) social anxiety, multiple regression analyses were performed.

Using the regression-based bootstrapping method, mediation analyses were conducted to assess whether body image concern is a mediator of the relationship between attachment styles and social anxiety. It is important to note that, given the cross-sectional design of the present study, all statistical analyses including mediation analysis test for associations and indirect statistical effects among variables assessed at a single time point. These analyses do not establish temporal precedence or causal direction. Accordingly, the term 'mediation' throughout this report refers to statistical indirect-effect mediation in the sense of Baron and Kenny (1986) and Hayes (2018), and should not be interpreted as evidence of causal or mechanistic mediation in the experimental sense. Longitudinal or experimental designs would be required to substantiate causal claims. In accordance with cross-sectional survey design guidelines, independent samples t-tests were conducted to assess group differences by gender and residential area (Faul et al., 2007).

Results

Table 1

Demographic Information of Participants (N=300)

Variables	Categories	F	%
Gender	Male	158	52.7%
	Female	142	47.3%
Age	18-22 years	224	74.7%
	22-26 years	53	17.7%
	26-30 years	19	6.3%
	30+ years	4	1.3%
Marital Status	Married	60	20.0%

Education Status	Unmarried	236	78.7%
	Divorced	4	1.3%
	BS	222	74.0%
	MS	78	26 %
Family System	Nuclear	186	62.0%
	Joint	114	38.0%
Residential Area	Rural	100	33.3%
	Urban	197	65.7%
	Other	3	1.0%
Birth Order	First	91	30.3%
	Middle	128	42.7%
	Last	76	25.3%
	Only born	5	1.7%
Socioeconomic Status	Low income	17	5.7%
	Middle income	234	78.0%
	High income	49	16.3%

As presented in Table 1, the study sample consisted of 300 participants with diverse demographic profiles. Gender distribution showed a slight female majority (52.7%, n = 158) compared to males (47.3%, n = 142). The age composition was predominantly young adults aged 18-22 years (74.7%, n = 224), followed by 22-26 years (17.7%, n = 53), 26-30 years (6.3%, n = 19), and those aged 30+ years (1.3%, n = 4). The majority were unmarried (78.7%, n = 236), held bachelor's degrees (74.0%, n = 222), lived in nuclear family structures (62.0%, n = 186), resided in urban areas (65.7%, n = 197), identified as middle birth order (42.7%, n = 128), and reported middle-income socioeconomic status (78.0%, n = 234). This demographic reflects a representative university student population from urban Pakistan.

Table 2
Psychometric Properties of Scales

Variables	N	Min	Max	Mean	SD	Cronbach's α
ASQ-AVD	300	3.00	70.00	38.02	9.16	.66
ASQ-ANX	300	3.00	96.00	31.85	14.25	.66
BSIQ-NA	300	3.00	15.00	8.64	3.30	.75
BSIQ-SD	300	3.00	15.00	6.41	1.63	.70
BSIQ-FE	300	3.00	15.00	6.04	1.85	.68

BSIQ-HD	300	3.00	15.00	5.19	1.42	.71
QSIQ-BIC	300	12.00	60.00	38.64	12.31	.80
SIAS	300	9.00	74.00	42.68	16.53	.84

Note: ASQ-AVD = Attachment Style Questionnaire–Avoidant dimension; ASQ-ANX = Attachment Style Questionnaire–Anxious dimension; BSIQ-BIC = Body Self-Image Questionnaire–Body Image Concern subscale; BSIQ-NA = Body Self-Image Questionnaire–Negative Affect subscale; BSIQ-SD = Body Self-Image Questionnaire–Social Dependence subscale; BSIQ-FE = Body Self-Image Questionnaire–Fatness Evaluation subscale; BSIQ-HD = Body Self-Image Questionnaire–Height Dissatisfaction subscale; SIAS = Social Interaction Anxiety Scale.

Table 2 summarizes the psychometric properties of the study's measurement instruments, confirming their reliability and validity for quantitative analysis. The ASQ-SF attachment scales demonstrated acceptable internal consistency: Avoidant

Attachment (ASQ-AVD; $\alpha = .660$, $M = 38.02$, $SD = 9.16$, range 3-70) and Anxious

Attachment (ASQ-ANX; $\alpha = .661$, $M = 31.85$, $SD = 14.25$, range 3-96). BSIQ-SF subscales exhibited good reliability: Negative Affect (BSIQ-NA; $\alpha = .750$, $M = 8.64$), Social Dependence (BSIQ-SD; $\alpha = .703$, $M = 6.41$), Fatness Evaluation (BSIQ-FE; $\alpha = .682$, $M = 6.04$), and Height Dissatisfaction (BSIQ-HD; $\alpha = .714$, $M = 5.19$), all within the theoretical 3-15 range. The composite Body Image Concern scale (QSIQ-BIC; $\alpha = .800$, $M = 38.64$, range 12-60) showed strong reliability. Finally, the SIAS total scale

achieved excellent internal consistency ($\alpha = .846$, $M = 42.68$). These Cronbach's alpha coefficients (ranging from .660 to .846) indicate adequate to excellent psychometric properties across all measures, supporting their use in subsequent correlational and regression analyses.

Table 3

Correlation Analysis between Attachment Styles, Body Image Concern, and Social Anxiety

Variables	1	2	3	4
1. ASQ-AVD	1			
2. ASQ-ANX	.604**	1		
3. BSIQ-BIC	.328**	.630**	1	
4. SIAS	.301**	.633**	.581**	1

Note: ASQ-AVD = Attachment Style Questionnaire–Avoidant dimension; ASQ-ANX = Attachment Style Questionnaire–Anxious dimension; BSIQ-BIC = Body Self-Image Questionnaire–Body Image Concern subscale, SIAS = Social Interaction Anxiety Scale.

A Pearson correlation analysis fully supported Hypothesis 1, revealing significant positive relationships between attachment styles, body image concern, and social anxiety among university students. Anxious attachment demonstrated strong positive correlations with body image concern ($r=.63$, $p < .01$) and social anxiety ($r=.63$, $p < .01$). Similarly, avoidant attachment positively correlated with both body image concern ($r=.33$, $p < .01$) and social anxiety ($r=.30$, $p < .01$). Furthermore, a robust positive association emerged between body image concern and social anxiety ($r=.58$, $p < .01$). Overall, these findings confirm that insecure attachment styles are significantly linked to heightened body and social distress.

Table 4

Correlation Analysis among Attachment Styles, BSIQ-SF Subscales, and Social Anxiety

Variables	1	2	3	4	5	6	7	8
ASQ-AVD	1							
ASQ-ANX	.60**	1						
BSIQ-BIC	.32*	.63**	1					
BSIQ-NA	.27*	.61**	.85**	1				
BSIQ-SD	.30*	.57**	.81**	.64**	1			
BSIQ-FE	.23*	.49**	.79	.64**	.55**	1		
BSIQ-HD	.22*	.34*	.73**	.45**	.49*	.37*	1	
SIAS	.30*	.63**	.58**	.55**	.55**	.458**	.355**	1

Note: ASQ-AVD = Attachment Style Questionnaire–Avoidant dimension; ASQ-ANX = Attachment Style Questionnaire–Anxious dimension; BSIQ-BIC = Body Self-Image Questionnaire–Body Image Concern subscale; BSIQ-NA = Body Self-Image Questionnaire–Negative Affect subscale; BSIQ-SD = Body Self-Image Questionnaire–Social Dependence subscale; BSIQ-FE = Body Self-Image Questionnaire–Fatness Evaluation subscale; BSIQ-HD = Body Self-Image Questionnaire–Height Dissatisfaction subscale; SIAS = Social Interaction Anxiety Scale.

A Pearson correlation analysis explored the relationships among attachment styles, specific facets of body image concern (BSIQ-SF), and social anxiety. Results indicated that all variables were positively and significantly correlated ($p < .01$). Anxious attachment demonstrated moderate-to-strong associations with all body image subscales ranging from $r = .35$ (BSIQ-HD) to $r = .61$ (BSIQ-NA) and a significant relation to social anxiety ($r = .63$). Avoidant attachment displayed weaker but significant positive associations across the body image facets ($r = .23$) and social anxiety ($r = .30$). Additionally, all individual body image subscales were positively related to social anxiety, particularly BSIQ-SD ($r = .55$) and BSIQ-NA ($r = .55$).

Table 5

Linear Regression Analysis: Attachment Styles Predicting Social Anxiety (N = 300)

Variables	<i>b</i>	SE	B	<i>T</i>	<i>P</i>
Constant	27.06	2.92	—	9.26	.00
ASQ-AVD	-.19	.07	-.14	-2.54	.01
ASQ-ANX	.77	.06	.72	12.71	.00
R ²	.41				
F	3(297)				

Note: ASQ-AVD = Attachment Style Questionnaire–Avoidant dimension; ASQ-ANX = Attachment

Style Questionnaire-Anxious dimension; SIAS = Social Interaction Anxiety Scale.

A linear regression examined whether attachment styles predict social anxiety among university students ($N = 300$). The overall model was significant, $p < .001$, with attachment styles accounting for 41.4% of the variance in social anxiety ($R^2 = .41$, Adjusted $R^2 = .41$). As hypothesized, anxious attachment (ASQ-ANX) was a strong positive predictor ($\beta = .72$, $p < .001$), indicating that higher anxious attachment corresponds to greater social anxiety. Conversely, avoidant attachment (ASQ-AVD) was a significant negative predictor ($\beta = -.14$, $p = .01$), suggesting that higher avoidant attachment relates to lower social anxiety. Thus, both attachment styles significantly predict social anxiety, with anxious attachment exerting the stronger influence.

Table 6

Mediation Analysis: Body Image Concern as Mediator between Anxious Attachment and Social Anxiety
Total Effect

Variables	Effect b	p	Boot SE	95% Boot CI	
				Boot LL	Boot UL
ASQ-ANX $\rightarrow$ SIAS	0.765	< .001	.062	.643	.887

Direct Effect

Variables	Effect b	p	Boot SE	95% Boot CI	
				Boot LL	Boot UL
ASQ-ANX $\rightarrow$ BIC	0.628	< .001	.063	.504	.751
BIC $\rightarrow$ SIAS	0.346	< .001	.073	.203	.490
ASQ-ANX $\rightarrow$ SIAS	0.549	< .001	.075	.402	.696

Indirect Effect

Mediator	Effect	Boot SE	95% Boot CI	
			Boot LL	Boot UL
Body Image Concern	0.217	.057	.107	.331

Note. X = Anxious Attachment (ASQ-ANX); M = Body Image Concern (BIC); Y = Social Anxiety (SIAS). Avoidant attachment (ASQ-AVD) was included as a covariate ($b = -.138$, $p = .066$, 95% CI $[-.286, .009]$). Bootstrap estimation based on 5,000 samples. BIC = Body Image Concern composite (BSIQ-SF); SIAS = Social Interaction Anxiety Scale.

The relationship between anxious attachment and social anxiety was partially mediated by body image concern. The standardized regression coefficient between anxious attachment and body image concern was statistically significant ($b = .628$, $p < .001$). Likewise, the standardized regression coefficient between body image concern and social anxiety was also statistically significant ($b = .346$, $p < .001$). These results support the mediational hypothesis. Anxious attachment remained a significant predictor of social anxiety after controlling for the mediator, body image concern ($b = .549$, $p < .001$), indicating partial rather than complete mediation. The indirect effect was tested using a bootstrap estimation approach with 5,000 samples. These results indicated a significant indirect effect of anxious attachment

on social anxiety through body image concern, $b = 0.217$, BCa CI [.107, .331]. We conclude that students with higher anxious attachment demonstrate greater social anxiety, and a meaningful portion of this relationship is attributable to the elevated body image concern that anxious attachment generates.

Table 7

Gender Differences in Attachment Styles, Body Image Concern, and Social Anxiety

($N=300$)

Variables	Male ($n=158$)		Female ($n=142$)		T	95% CI		Cohen's d	
	M	SD	M	SD		p	LL	UL	
ASQ-AVD	48.51	12.75	45.42	11.61	2.182	.030	0.30	5.87	0.25
ASQ-ANX	32.27	16.85	32.27	14.91	0.000	1.000	-3.64	3.64	0.00
BSIQ-BIC	32.79	16.79	39.69	15.82	-3.643	<.001	-10.63	-3.17	-0.42
SIAS	40.71	17.13	44.88	15.59	-2.186	.030	-7.90	-0.42	-0.25

Note: ASQ-AVD = Attachment Style Questionnaire-Avoidant dimension; ASQ-ANX = Attachment Style Questionnaire-Anxious dimension; BSIQ-BIC = Body Image Questionnaire-Body Image Concern subscale; SIAS = Social Interaction Anxiety Scale.

Gender differences were examined for attachment styles, body image concern, and social anxiety. Males reported higher avoidant attachment than females ($M = 48.51$ vs. 45.42 , $t = 2.18$, $p = .030$, $d = .25$), indicating a small effect. Conversely, females scored higher on body image concern ($M = 39.69$ vs. 32.79 , $t = -3.64$, $p < .001$, $d = -.42$) and social anxiety ($M = 44.88$ vs. 40.71 , $t = -2.19$, $p = .030$, $d = -.25$), reflecting small effects. No gender difference emerged for anxious attachment (identical means, $t = .00$, $p = 1.00$). These findings partially support H4, confirming gender variations in avoidant attachment, body image concern, and social anxiety, but not anxious attachment, among university students.

Discussion

To examine whether the negative beta coefficient for avoidant attachment ($\beta = -.14$) reflected a suppressor effect rather than an artefact of multicollinearity, variance inflation factor (VIF) and tolerance statistics were inspected. VIF values for avoidant attachment ($VIF = 1.58$) and anxious attachment ($VIF = 1.58$) were well below the critical threshold of 10 (Field, 2018), and tolerance values ($TOL = .633$) exceeded the acceptable minimum of .10, confirming that multicollinearity was not a concern in this model. The substantial difference between the zero-order correlation ($r = .30$, positive) and the partial beta ($\beta = -.14$, negative) for avoidant attachment, observed only after anxious attachment was controlled, is consistent with the classical definition of a suppressor variable (MacKinnon et al., 2000). These findings suggest that avoidant attachment contains variance that suppresses the irrelevant variance in anxious attachment, thereby revealing a negative relationship between avoidance and social anxiety when the shared variance with anxious attachment is partialled out.

Recent longitudinal studies show how important the construct of anxious attachment is in the social anxiety process. One of the more recent studies in 2025 conducted across multiple universities showed that for only attachment anxiety (personally) predicted apprehension of social interactions while general anxiety and depression were controlled. This proves that attachment anxiety acts as a transdiagnostic vulnerability factor (Li & Wang, 2025) which is consistent with the current finding that of the influences

that of the influences included, anxious attachment was the greatest ($\beta = .72$) which is in alignment with the theoretical models that propose emphasis on hyperactivating strategies in attachment insecurity (Mikulincer & Shaver, 2019).

The present research shows avoidant attachment as a predictor and outlines its relevance when anxious attachment is held constant. Consideration of high clinical sample avoidance showed lower social contact and high distress. This indicates that socially anxious avoidant individuals may use withdrawal as a means of symptom suppression which would distort reporting. Thus, a negative beta for avoidant attachment could be a suppressor effect, where controlling for anxious attachment shows that avoidant attachment is associated with a lack of outward expression of anxiety, perhaps through emotional numbing or a social withdrawal as a coping mechanism. This element adds to the case for why attachment styles should be studied together when examining the social anxiety relationship (Chen et al., 2025).

Conclusion

The present study examined the relationships among attachment styles, body image concern, and social anxiety in a sample of 300 university students using validated self-report instruments and robust statistical methods. The findings provide consistent support for an integrated model in which anxious attachment is a strong positive predictor of social anxiety, both directly and through the partial mediating role of body image concern. Avoidant attachment demonstrated a more complex pattern, positively associated with social anxiety in bivariate analysis, but negatively predictive once anxious attachment was controlled, an effect attributable to suppression rather than a direct protective influence. Gender-differentiated risk profiles were observed: female students reported significantly higher body image concern and social anxiety, while male students reported higher avoidant attachment. No significant gender difference emerged for anxious attachment, suggesting that vulnerability to attachment anxiety may be similarly distributed across genders in this population, even as its behavioral expression differs by sociocultural context.

These findings are appropriately interpreted as cross-sectional associations rather than causal pathways, and their generalizability is constrained by the convenience sample drawn from urban university campuses in Punjab. Nonetheless, the study contributes a theoretically grounded, empirically documented profile of interpersonal and body-related risk factors for social anxiety within the Pakistani higher education context. Clinically, the results support the prioritization of attachment informed screening and body image-focused interventions in university mental health services, with gender-sensitive adaptation as a key implementation consideration.

Recommendations

Future studies should employ longitudinal or experimental designs to establish temporal precedence among the attachment-body image-social anxiety pathway. Crosssectional designs, such as the present one, cannot determine whether insecure attachment precedes body image concern or whether shared etiological factors account for their co-occurrence. Prospective designs tracking students from university entry across multiple time points would enable stronger causal inference. Additionally, future research should employ multimethod assessment — including behavioral tasks, peerreport measures, and physiological indices — to reduce reliance on self-report, which is susceptible to social desirability bias, particularly for attachment avoidance in collectivist cultures. Multi-site sampling across urban and rural regions and different provinces of Pakistan would substantially improve generalizability.

The findings support the implementation of structured mental health screening at university entry that incorporates standardized assessment of attachment insecurity and body image concern as risk indicators for social anxiety. Campus counseling services should consider integrating attachment-informed case

conceptualization into their clinical practice, particularly given the predictive strength of anxious attachment on social anxiety ($\beta = .72$). For female students, targeted body image flexibility interventions that challenge appearance ideals prevalent in Pakistani social media contexts may be particularly effective. For male students, attachment-informed counseling that normalizes emotional expression and reduces avoidant coping may address the elevated avoidant attachment scores observed in this sample.

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