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Original Article

Body dysmorphic disorder, social anxiety and the role of rejection sensitivity in Karachi's adolescents

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Abstract

Objective The objective of this study was to determine the association between body dysmorphic disorder, role of rejection sensitivity and social anxiety disorder concerns among adolescence.

Methods Three questionnaires, namely the Body Dysmorphic Disorder Symptoms Scale (BDD-SS), Children Rejection Sensitivity Questionnaire (CRSQ), and Social Anxiety Disorder (SAD) Questionnaire, were utilized to measure the different variables. The data collection process involved non-probability convenience sampling, where participants were selected based on specific criteria, and face-to-face interviews were conducted after obtaining informed consent. The collected data were analyzed using SPSS version 23.0, employing bivariate correlation to assess the relationships between variables and an independent sample t-test to examine mean differences between two groups, namely males and females.

Results The sample consisted of 260 students, with 131 males and 129 females, selected from various schools. Their ages ranged from 11 to 17 years, with a mean age of 14.6±0.49. The findings indicate a weak positive correlation between the role of rejection sensitivity and body dysmorphic disorder concerns among adolescents. Additionally, a significant gender difference was observed in terms of body dysmorphic disorder concerns, Role of Rejection Sensitivity, and Social Anxiety Disorder among adolescents. Furthermore, no correlation was found between Body Dysmorphic Disorder concerns and Social Anxiety.

Conclusion In conclusion, the results of this research study suggest a weak and low association between Body Dysmorphic Disorder (BDD) concerns and of rejection sensitivity.

Key words
Social anxiety; Role of rejection sensitivity; Body dysmorphic disorder; Adolescence.

Introduction

The distressing psychological disorder known as Body Dysmorphic Disorder is characterized by an imagined flaw in a person's appearance. It can frequently involve repeating and delusional thoughts, performing the same tasks over and over again, such as receiving treatment or inspection, and making inappropriate comparisons to other conditions.[1] Due to worry about their physical appearance individuals continuously thought about getting cosmetic surgery and changing their body parts or reshape tem. It is overly sensitive thinking and pathologically it is dangerous. The root cause of body dysmorphic disorder is the obsessions of

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thought about physical appearance and repetitive behavior.[2] There are multiple stigmas of environmental, psychological, and biological factors that activate the individual's feelings of inferiority and bullying may also create these feelings of inadequacy, shame, fear, low self-esteem and isolation. According to researchers, individuals experience the symptoms of body dysmorphic disorder during adolescence and puberty and it results in checking mirror frequently, avoiding social situations, thinking about suicide, avoid social activities, thinking about plastic surgeries, constantly comparing their self with others, feeling anxious and depressed. Due to body dysmorphic disorder individuals experience rejection sensitivity and social withdrawal from society.[3]

Social Anxiety Disorder is defined as excessive worry because they are unsure of how others will judge them, which can lead to anxiety, cognitive and somatic symptoms in social situations, and preventative measures in the event of chronic distress.[4] Individual experiences persistent, intense fear about specific social situations (DSM-5) because he or she believe that they may be judged negatively, embarrassed or humiliated and as a result individual avoid social gatherings or events and withdraw from society. However, numerous studies suggest that body dysmorphic concerns and social anxiety are highly overlapping constructs.[5-7] This idea is closely related to the main similarities between body dysmorphic and social anxiety concerns, which include the fear of being judged negatively by others and the fear of embarrassment. However, fear of negative evaluation refers to a larger construct related to anxious apprehension of other people's evaluations rather than a specific concern about anticipating rejection, so sensitivity to rejection is distinct from fear of negative evaluation.[8]

One of the primary predictors of body dysmorphic issues in adolescent girls is social anxiety. However, being sensitive to rejection is crucial when social anxiety and body dysmorphic issues are linked. Interestingly, both variables are linked to negative egotistical thoughts like inadequacy and worthlessness as well as fear of negative evaluation). People with social anxiety and physical dysmorphia appear to be included prefer to view ambiguous social circumstances negatively, even if there are positive or neutral explanations. A person's perception of how they look is linked to social anxiety; people who don't think they look good but don't have BDD tend to be more anxious about society. Negative portrayals of the person are also linked to greater self-awareness of the public and social introversion. Studies have shown that girls who say they have body dysmorphism also have high levels of social anxiety.[5] Fear of negative evaluation and self-centered negative thoughts, such as feeling inadequate or worthless, are related to both concepts. As per scientists, young ladies have high friendly nervousness than young men because of body dysmorphic confusion and young ladies with body dysmorphic concerns frequently stay away from social circumstances.[2]

Rejection sensitivity is defined as the individuals' being sensitive to what other people think about them and fear of rejection and fear of rejection, they seems anxious and frustrated all the time, they try to hurt themselves very easily, feel like failures and have low self-esteem. Downey and Feldman[9] described rejection sensitivity as anxious expectations of rejection and a tendency to realize and respond to them. It happened mostly in front of peers, parents, loved ones or teachers. The individual on the basis of their sensitivity overreacts to this situation which they have badly perceived. It has been suggested that rejection sensitivity may be associated with both social anxiety and body dysmorphic concerns.[6] The RS appearance may

be primarily important to study in early adolescence, as most individuals enter puberty during this period of development and, as a result, experience increased concerns about their body and the extent to which they are considered to be physically attractive by people of the same sex and others.[10] It is important to note that concerns and negative perceptions of one's physical appearance predict psychological distress.[11,12] In addition, many people first form romantic relationships in early adolescence; these relationships are often initially based on physical attractiveness.[13] Evidence therefore suggests that young adolescents may be particularly susceptible to rejection because of their physical appearance and that social rejection appearance may represent a significant risk factor for psychological maladjustment. There is little evidence of literature found in Pakistan. The objective of this study was to determine the association between Body Dysmorphic Disorder, Role of Rejection Sensitivity and Social Anxiety Disorder concerns among adolescence.

Material and methods

The present study utilized a cross sectional research design and employed a non-probability convenient sampling method. Data collection commenced on June 21, 2022, and was completed on November 18, 2022. The sample consisted of 260 students, with 131 males and 129 females, selected from various schools. Informed consent was obtained from all participants. Following the study introduction, participants were provided with a demographic form and subsequently asked to complete the questionnaires independently. Recruitment of participants occurred through both social media platforms and face-to-face interactions. Participation in the study was voluntary. Data analysis was conducted using IBM SPSS version 23, employing frequencies, percentages, mean, standard deviation (SD), independent t-tests, and Pearson correlation coefficients to analyze the data.

The data collection process consisted of two parts: the first part focused on gathering demographic characteristics, while the second part involved administering three questionnaire forms.

Rejection Sensitivity Questionnaire (C-RSQ -12 items) The Children's Rejection Sensitivity Questionnaire (CRSQ) assesses children's tendency to defensively (with anxiety or anger), to perceive easily and to overreact to social rejection. This is a 12 (twelve) item questionnaire.

Body Dysmorphic Disorder Symptom Scale Questionnaire (BDD-SS) This scale created Wilhelm (2006) and Wilhelm *et al*. (2012) who quantify the frequency, presence, and signs (behaviors and thoughts) of BDD-SS-related distress from the previous week. He divided the severity of the symptoms into seven groups. Based on a ten-point Likert with 54 items, each symptom item is scored as a binary variable (no or yes), and each symptom group produces its own severity level. Internal consistency of the BDD-SS is moderately high (=0.88).

Social Anxiety Disorder (SAD) The 10-item Social Anxiety Disorder (Social Phobia) Severity Measure - Child Ages 11-17 measures the severity of social anxiety (also known as social phobia) symptoms in children and adolescents. After receiving a diagnosis of social anxiety disorder (or clinically significant symptoms of social anxiety), the child is instructed to complete the questionnaire prior to any follow-up visits with the clinician. The child is asked to rate the severity of their social issues for each item.

Results

The study participants in **Table 1** consisted of 260 individuals, with a relatively equal distribution of genders, as 129 participants were female (49.6%) and 131 were male (50.4%). In terms of socioeconomic status, the majority of participants belonged to the middle class (80.0%), while a smaller proportion belonged to the upper class (11.9%) or lower class (8.1%). The family systems represented were primarily nuclear families (57.7%), although a significant portion of participants came from joint family systems (42.3%). The average age of the participants was 1.57 years with a standard deviation of 0.497, suggesting a relatively homogeneous age distribution. In terms of education, the sample included participants with varying levels of educational attainment, with the largest group having intermediate-level education (45.7%), followed by matriculation (28.5%) and secondary education (25.8%). Overall, the study provides insights into a diverse group of participants, with a balanced gender representation, predominantly middle-class backgrounds, and a mix of family systems, ages, and educational backgrounds.

Table 1 Demographic characteristics of study participants (n=260).

Variables	*Frequencies*	*Percentages*
Gender		
Female	129	49.6
Male	131	50.4
Socioeconomic Status		
Upper	31	11.9
Middle	208	80.0
Lower Class	21	8.1
Family System		
Nuclear	150	57.7
Joint	110	42.3
Age	1.57±497	
11-14 years	113	43.5
15-17 years	147	46.5
Education		
Secondary	67	25.8
Matric	74	28.5
Intermediate	119	45.7

The average score for BDDSS was found to be 3.55±2.87. This indicates the average level of BDDSS scores within the study population and the extent of variability around that average. Moving on to SAD, the mean score was calculated as 13.77±5.81. Lastly, for CRSQ, the mean score was 478.38±94.14.

Table 2 gives relationship coefficients between three factors: SAD, BDDSS, and CRSQ.

The BDDSS and SAD correlation coefficient is 0.032. This suggests that there is a positive correlation between BDDSS and SAD, suggesting that as BDDSS scores rise, SAD scores do so as well. However, the correlation is not statistically significant. The BDDSS and CRSQ have a correlation coefficient of 0.125. This indicates that BDDSS and CRSQ have a weak positive correlation. There is a slight tendency for CRSQ scores to rise along with BDDSS scores. Lastly, SAD and CRSQ have a correlation coefficient of 0.393. This demonstrates a moderate positive connection amongst SAD and CRSQ. As SAD scores increase, there is a tendency for CRSQ scores to increase as well.

In summary, the table suggests that there is a weak positive correlation between BDDSS and SAD, a weak positive correlation between BDDSS and CRSQ (which is statistically significant), and a moderate positive correlation between SAD and CRSQ (which is highly statistically significant).

Table 2 Correlation between Body Dysmorphic Disorder-Symptoms Scale (BDD-SS Total), Social Anxiety Disorder (SAD Total) and Children Rejection Sensitivity Questionnaire (CRSQ Total).

		BDDSS	*SAD*	*CRSQ*
BDDSS	Pearson Correlation		0.032	0.125*
SAD	Pearson Correlation	0.032		0.393**
CRSQ	Pearson Correlation	0.125*	0.393**	

* Correlation is significant at the 0.05 level (2-tailed).
** Correlation is significant at the 0.01 level (2-tailed).

Table 3 Mean comparison of gender male and female on BDD-SS total, CRSQ total and SAD total.

Variables	*Male*		*Female*		*t*	*p-value*
	M	*SD*	*M*	*SD*		
BDD-SS	3.14	2.935	4.96	2.762	-2.330	.021
C-RSQ	480.13	90.633	476.61	97.909	.301	.764
SAD	13.29	5.932	14.25	5.672	-1.331	1.75

Table 3 presents a mean comparison between males and females on three variables: BDD-SS (Body Dysmorphic Disorder Symptom Severity), C-RSQ (Cognitive-Relational Self-Rating Questionnaire) and SAD (Social Anxiety Disorder). For the BDD-SS variable, the mean score for females (4.96) is higher than that of males (3.14), indicating that females, on average, have a higher severity of body dysmorphic disorder symptoms compared to males. This difference is statistically significant, as indicated by the p-value of 0.021. Conversely, there is no significant distinction among guys and females with regards to the C-RSQ variable. The mean scores for males (480.13) and females (476.61) are relatively similar, with a small mean difference of 3.52. The p-value of 0.764 suggest that this difference is not statistically significant, meaning that the cognitive-relational self-ratings do not significantly differ between genders.

Similarly, for the SAD variable, the mean scores for males (13.29) and females (14.25) are relatively close, indicating similar levels of social anxiety disorder symptoms. The p-value of 1.75 suggest that this mean difference is not statistically significant, further supporting the finding of no significant gender differences in social anxiety disorder symptoms.

In conclusion, the table demonstrates that body dysmorphic disorder symptoms tend to be more severe in females than in males. However, the means, standard deviations, and statistical significance values for the C-RSQ and SAD variables show that there are no significant gender differences in social anxiety disorder symptoms or cognitive-relational self-ratings.

Discussion

Overall, the results of this study contribute to our understanding of the relationships between body dysmorphic disorder symptoms, social anxiety disorder, and cognitive-relational self-ratings. They also shed light on the gender differences in body dysmorphic disorder symptoms. However, it is important to note that this study is cross-sectional in nature, limiting our ability to establish causal relationships. Further research, including longitudinal and experimental designs, is needed to better understand the dynamics between these variables and the underlying mechanisms involved.

Levine *et al*;[14] highlights that adolescence is a critical period for body image development and that various factors, including societal influences, peer interactions, and individual characteristics, contribute to body image concerns during this stage. The McCabe and Ricciardelli study on young adolescent boys reveals that body image dissatisfaction is prevalent among this group, and they engage in various body change techniques (such as dieting, exercise, and use of supplements) to alter their appearance. Sociocultural factors, media influences, and peer pressure were identified as contributing factors.[15]

The body dysmorphic disorder (BDD) that the Neziroglu and Yaryura-Tobias study examines is a condition characterized by excessive concern for perceived flaws in one's appearance. The findings highlight the phenomenology of BDD, including the distressing symptoms experienced by individuals and the impact on their daily

functioning.[16] Rapaport *et al*; indicates that depressive and anxiety disorders are associated with significant impairment in quality of life. Individuals with these disorders experience limitations in various domains of functioning, including social relationships, work or school performance, and overall well-being.[17]

Wilhelm *et al*., suggests a higher prevalence of body dysmorphic disorder among individuals with anxiety disorders. It highlights the co-occurrence of BDD and anxiety disorders and emphasizes the need for clinicians to assess and address body image concerns in individuals with anxiety disorders.[18] Williams *et al*; meta-analysis examines the effectiveness of psychological and pharmacological treatments for body dysmorphic disorder. The findings indicate that both psychological interventions (such as cognitive-behavioral therapy) and pharmacological treatments (such as selective serotonin reuptake inhibitors) can be effective in reducing BDD symptoms.[19,20]

Limitations

In this study, the sample size is small. The obtained sample may not be representative of the specified school and the results were not generalizable.

Conclusion

In conclusion, the study reveals a weak, non-significant correlation between Body Dysmorphic Disorder symptoms and Social Anxiety Disorder. However, a weak but significant correlation is found between Body Dysmorphic Disorder symptoms and rejection sensitivity, while Social Anxiety Disorder shows a moderate and highly significant correlation with rejection sensitivity. In addition, gender differences in concerns about BDD, role sensitivity, and social anxiety disorder among adolescents were found to be significant.

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