



Academic Anxiety Among High School Students: Effects of Self-Esteem and Gender

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ABSTRACT

The present study examined the effects of self-esteem and gender on academic anxiety among high school students. A 2×2 factorial design was employed, with self-esteem (high and low) and gender (boys and girls) as the independent variables and academic anxiety as the dependent variable. The initial sample consisted of 120 students from two government high schools in Jajpur district, Odisha. Following administration of the Self-Esteem Inventory, students whose scores fell within the first and fourth quartiles were selected for the final analysis, resulting in a sample of 60 students (32 boys and 28 girls) aged 14–16 years. The first quartile represented the low self-esteem group ($n=30$), whereas the fourth quartile represented the high self-esteem group ($n=30$). Data were collected using the Self-Esteem Inventory and the Academic Anxiety Scale for Children. A two-way analysis of variance revealed a significant main effect of self-esteem on academic anxiety, $F(1, 56) = 4.52$, $p = .03$, $\eta^2 = .08$, indicating that students with low self-esteem reported higher levels of academic anxiety than those with high self-esteem. Neither the main effect of gender nor the interaction effect between self-esteem and gender was statistically significant. The findings highlight the importance of self-esteem as a protective psychological factor in reducing academic anxiety among adolescents and suggest the need for educational interventions aimed at strengthening students' self-worth and emotional adjustment.

Keywords: academic anxiety, self-esteem, gender, high school students, adolescents.

INTRODUCTION

The rapidly changing educational landscape of the twenty-first century has significantly increased academic competition among students. In contemporary society, academic performance is often regarded as a crucial determinant of future educational and occupational opportunities. Consequently, students are exposed to increasing expectations from parents, teachers, and society regarding academic success. While such expectations may motivate students to achieve higher standards, they may also generate considerable psychological pressure, resulting in heightened levels of academic anxiety (Wigfield & Eccles, 1989). Academic anxiety has emerged as one of the most prevalent emotional problems among adolescents and has attracted substantial attention from educational psychologists because of its potential impact on learning, adjustment, and academic achievement (Hill, 1972; Sharma & Rao, 1984).

Academic anxiety refers to feelings of tension, apprehension, nervousness, and worry associated with academic situations such as examinations, classroom participation, interactions with teachers, and performance evaluations (Singh & Sen Gupta, 1971). It is a form of situation-specific anxiety that arises from perceived threats within educational settings. Although a moderate level of anxiety may enhance motivation and alertness, excessive anxiety can adversely affect concentration, memory, problem-solving ability, and overall academic performance (Chapell et al., 2005; Yousefi et al., 2008). Students experiencing high levels of academic anxiety often demonstrate reduced confidence, avoidance of academic tasks, procrastination, and poor scholastic achievement. Previous research has indicated that persistent academic anxiety may also contribute to emotional disturbances, low self-confidence, social withdrawal, and diminished psychological well-being (Hill, 1972; Wigfield & Eccles, 1989).

The phenomenon of academic anxiety is particularly relevant during adolescence, a developmental period characterized by rapid physical, cognitive, emotional, and social changes. Adolescents are often confronted with multiple challenges, including identity formation, peer influence, academic competition, and concerns regarding future careers. In countries such as India, the pressure associated with public examinations and parental expectations further intensifies students' academic concerns. Studies have shown that excessive parental expectations and societal pressure for academic achievement are among the major contributors to anxiety among secondary school students (Sharma & Rao, 1984; Wigfield & Eccles, 1989). Academic success is frequently perceived as a pathway to social mobility and economic security, making educational achievement a highly valued goal for both students and their families.

Among the various psychological factors influencing academic anxiety, self-esteem has been identified as one of the most significant. Self-esteem refers to an individual's overall evaluation of personal worth, competence, and capability (Mann et al., 2004). It encompasses feelings of self-respect, self-acceptance, and confidence in one's abilities. Individuals with high self-esteem generally perceive themselves as competent and capable of dealing effectively with life's challenges, whereas individuals with low self-esteem are more likely to experience self-doubt, insecurity, and vulnerability to emotional difficulties (Chiu, 1990; Mann et al., 2004). Self-esteem plays an important role in psychological adjustment and educational functioning, influencing students' motivation, persistence, emotional well-being, and perceptions of academic competence (Pullmann & Allik, 2008).

Theoretical and empirical evidence suggests a strong relationship between self-esteem and academic functioning. Students with high self-esteem are more likely to demonstrate confidence in their academic abilities, persist in the face of difficulties, and maintain positive expectations regarding success (Grantham & Ford, 2003; Pullmann & Allik, 2008). Such students tend to perceive academic challenges as opportunities for growth rather than threats to their self-worth. Conversely, students with low self-esteem often interpret academic tasks as evaluations of personal value, making them more vulnerable to anxiety, stress, and fear of failure (Chiu, 1990; Dhal et al., 2007). Negative self-evaluations may result in avoidance behaviour, decreased motivation, and heightened academic anxiety. Research has consistently indicated that self-esteem serves as a protective psychological factor that promotes resilience and emotional adjustment in educational settings (Mann et al., 2004; Pullmann & Allik, 2008).

Gender is another important variable frequently examined in studies of academic anxiety and self-esteem. Traditional gender-role expectations often influence the experiences and perceptions of adolescent boys and girls. Some researchers have reported higher levels of academic anxiety among boys due to concerns regarding future occupational responsibilities and societal expectations (Pramod, 1996; Ojha, 2005), whereas others have found greater anxiety among girls because of increased sensitivity to evaluation and achievement-related pressures (Bhansali et al., 2007). Similarly, findings concerning gender differences in self-esteem have been inconsistent across cultures and populations. While some studies have reported no significant gender differences in self-esteem (Crain & Bracken, 1994; Marsh, 1993; Osborne & LeGette, 1982), others have found higher self-esteem among boys (Byrne & Shavelson, 1987; Keltikangas-Järvinen, 1990). These contradictory findings suggest the need for further investigation into the role of gender in academic anxiety within specific socio-cultural contexts.

In the context of Odisha, limited empirical research has examined the combined influence of self-esteem and gender on academic anxiety among high school students. Adolescents studying in government schools often encounter academic challenges associated with socio-economic conditions, educational resources, and competitive academic environments. Understanding the psychological factors that contribute to academic anxiety among these students is essential for developing effective educational interventions and counselling strategies.

Therefore, the present study seeks to examine the role of self-esteem and gender in academic anxiety among high school students. By exploring the relationship between these variables, the study aims to contribute to the existing body of knowledge in educational psychology and provide practical insights for educators, parents, school counsellors, and policymakers. The findings may help in designing interventions aimed at enhancing self-esteem and reducing academic anxiety, thereby promoting the psychological well-being and academic success of adolescent students.

REVIEW OF LITERATURE

Self-Esteem Among Adolescents

Self-esteem refers to an individual's evaluation of personal worth, competence, and overall sense of self-value. Researchers have identified self-esteem as an important psychological factor influencing

emotional well-being and mental health during adolescence. Students with high self-esteem generally exhibit greater confidence, resilience, and effective coping strategies, whereas those with low self-esteem often experience feelings of inadequacy, self-doubt, and emotional distress. Chiu (1990) reported that adolescents with low self-esteem experienced significantly higher levels of anxiety than adolescents with positive self-evaluations. Similarly, Mann et al. (2004) concluded that low self-esteem is associated with a range of psychological difficulties, whereas positive self-esteem contributes to emotional well-being and adaptive functioning. Grantham and Ford (2003) further observed that students with positive self-esteem display greater determination, persistence, and resilience in pursuing their goals.

Research examining gender differences in self-esteem has produced mixed findings. Crain and Bracken (1994), Marsh (1993), and Osborne and LeGette (1982) reported no significant gender differences in self-esteem, whereas Byrne and Shavelson (1987) and Keltikangas-Järvinen (1990) found higher self-esteem among boys in certain domains. These findings suggest that self-esteem may influence adolescents' emotional experiences differently across contexts. Since self-esteem reflects an individual's perception of competence and personal worth, it is considered an important psychological factor associated with emotional well-being and anxiety during adolescence.

Academic Anxiety Among Adolescents

Academic anxiety refers to feelings of apprehension, tension, worry, and emotional discomfort associated with academic situations. It arises from perceived threats within the educational environment, including examinations, classroom participation, teacher expectations, and concerns about performance. Academic anxiety is considered a form of situation-specific anxiety that can influence students' cognitive, emotional, and behavioural functioning. While a moderate level of anxiety may facilitate motivation and alertness, excessive anxiety can interfere with concentration, memory, problem-solving ability, and academic performance.

Research has consistently demonstrated the negative consequences of excessive academic anxiety. Hill (1972) reported that students experiencing learning difficulties and adjustment problems tend to exhibit higher levels of anxiety than academically successful students. Wigfield and Eccles (1989) suggested that repeated experiences of failure and criticism contribute to increased anxiety and avoidance of achievement-related tasks. Academic anxiety often becomes more pronounced during adolescence because students become increasingly aware of evaluations and develop more stable perceptions of their abilities. As a result, adolescents are particularly vulnerable to anxiety associated with academic performance and future educational aspirations.

Several studies have explored the relationship between anxiety and academic outcomes. Sharma and Rao (1984) reported that academic performance is negatively affected by test anxiety. Mishra (1992) found that test anxiety, self-concept, and study habits collectively predict academic achievement. Similarly, Chapell, Blanding, and Silverstein (2005) observed that students with lower levels of test anxiety achieved significantly better academic results than those with moderate or high anxiety. Yousefi et al. (2008) further reported a significant negative correlation between test anxiety and academic achievement among adolescents. These findings indicate that excessive academic anxiety can adversely affect both educational progress and psychological well-being.

Gender and Academic Anxiety

Gender has frequently been examined as a factor influencing academic anxiety. However, the findings remain inconsistent. Some researchers have reported higher levels of academic anxiety among boys, arguing that traditional social expectations regarding occupational success and economic responsibility increase their concern about academic performance. Some studies have reported higher levels of academic anxiety among boys, suggesting that concerns regarding future educational and occupational success may contribute to increased anxiety in certain contexts (Ojha, 2005). Similarly, Ojha (2005) found that a higher proportion of boys reported extremely high academic anxiety compared to girls.

In contrast, other studies have reported higher anxiety among girls. Bhansali et al. (2007), in a comparative study of adolescents, found that girls experienced greater incidence and intensity of academic anxiety than boys. Researchers have suggested that girls may be more sensitive to evaluative situations and may experience greater emotional involvement in academic activities. However, findings across studies remain inconsistent, indicating that gender differences in academic anxiety may be influenced by cultural, social, and educational factors.

The contradictory nature of these findings indicates that gender differences in academic anxiety may vary across cultural, social, and educational contexts. Therefore, further empirical investigation is necessary to determine whether gender significantly influences academic anxiety among adolescents.

Relationship Between Self-Esteem and Academic Anxiety

The relationship between self-esteem and academic anxiety has received increasing attention in educational psychology. Theoretical perspectives suggest that self-esteem functions as a protective factor against anxiety by influencing how individuals perceive and respond to challenging situations. Students with positive self-evaluations generally perceive academic demands as manageable and are therefore less likely to experience excessive anxiety. High self-esteem fosters confidence, resilience, and effective coping strategies, enabling students to deal successfully with academic challenges and evaluation situations (Grantham & Ford, 2003). In contrast, students with low self-esteem often interpret academic tasks as threats to their self-worth and become more susceptible to anxiety, fear of failure, and emotional distress (Chiu, 1990).

Empirical research has provided evidence for a negative relationship between self-esteem and anxiety. Dhal et al. (2007) reported a significant negative correlation between self-esteem and anxiety, indicating that adolescents with higher self-esteem experienced lower levels of emotional distress. Similarly, Mann, Hosman, Schaalma, and de Vries (2004), in their review of self-esteem and mental health, concluded that low self-esteem is consistently associated with a wide range of psychological problems, including anxiety disorders, whereas high self-esteem contributes to emotional stability and psychological well-being. These findings suggest that self-esteem serves as an important protective factor against anxiety and related emotional difficulties.

Research has consistently shown that adolescents with low self-esteem are more likely to experience heightened anxiety and emotional maladjustment (Chiu, 1990; Mann et al., 2004). Conversely, positive self-esteem contributes to healthy emotional development, social adjustment, and psychological well-being (Pullmann & Allik, 2008). Students with a strong sense of self-worth tend to approach academic challenges with greater confidence, resilience, and persistence, whereas those with negative self-perceptions often experience apprehension and self-doubt in evaluative situations (Grantham & Ford, 2003; Pullmann & Allik, 2008). Educational environments that place excessive emphasis on performance and evaluation may further increase anxiety, particularly among students who already possess low levels of self-esteem. Consequently, self-esteem appears to play a crucial role in determining how adolescents respond to academic challenges and evaluative situations.

Although previous studies have independently examined self-esteem, gender, and academic anxiety, relatively few investigations have explored their combined influence among high school students, particularly within the socio-cultural context of Odisha. Furthermore, findings regarding gender differences in academic anxiety have remained inconsistent across studies (Ojha, 2005; Bhansali et al., 2007). Rapid social, educational, and technological changes have intensified academic competition and performance expectations among adolescents, making the study of psychological factors associated with academic anxiety increasingly important. In the Indian context, gender-role expectations and socio-cultural influences may further affect adolescents' self-perceptions and emotional experiences, thereby influencing their levels of academic anxiety. Despite the educational significance of these factors, limited empirical evidence is available regarding their combined impact among school students in Odisha. Therefore, the present study seeks to examine the main effects of self-esteem and gender, as well as their interaction effect, on academic anxiety among high school students. The findings are expected to contribute to a better understanding of the psychological factors underlying academic anxiety and to provide useful implications for educational, counselling, and mental health interventions aimed at promoting adolescents' psychological well-being and academic adjustment.

Objectives of the Study

1. To examine the effect of self-esteem on academic anxiety among high school students.
2. To examine the effect of gender on academic anxiety among high school students.
3. To examine the interaction effect of self-esteem and gender on academic anxiety among high school students.

Hypotheses

- H1: There will be a significant effect of self-esteem on academic anxiety among high school students.
- H2: There will be a significant effect of gender on academic anxiety among high school students.
- H3: There will be a significant interaction effect of self-esteem and gender on academic anxiety among high school students.

METHOD OF STUDY

Design

A 2×2 factorial design was employed with self-esteem (high and low) and gender (boys and girls) as the independent variables and academic anxiety as the dependent variable.

Sample

The initial sample consisted of 120 students studying in Classes IX and X in two government high schools of Jajpur district, Odisha. Purposive sampling was employed to select participants who met the inclusion criteria for the study. Following the administration of the Self-Esteem Inventory, students whose scores fell within the first quartile and fourth quartile of the distribution were selected for the final analysis. The first quartile represented the low self-esteem group ($n=30$), whereas the fourth quartile represented the high self-esteem group ($n=30$). The final sample consisted of 60 students, including 32 boys and 28 girls aged between 14 and 16 years.

Instruments

Self-Esteem Inventory. Self-esteem was assessed using the Self-Esteem Inventory developed by Prasad and Thakur (1977) and published by the Agra Psychological Research Cell. The inventory consists of 30 items designed to measure an individual's overall perception of self-worth and competence. Responses are recorded on a seven-point rating scale, with higher scores indicating higher levels of self-esteem. Total scores range from 30 to 210, with higher scores reflecting greater self-esteem. For the present study, the inventory was translated into Odia and administered to the participants. The obtained scores were used to classify students into high and low self-esteem groups based on the upper and lower quartiles of the score distribution.

Academic Anxiety Scale for Children. Academic anxiety was measured using the Academic Anxiety Scale for Children developed by Singh and Sen Gupta (1971) and revised in 1986. The scale comprises 20 items that assess anxiety related to academic situations such as examinations, classroom performance, and achievement-related concerns. Responses are obtained in a dichotomous Yes/No format, with higher total scores indicating higher levels of academic anxiety. The scale was translated into Odia prior to administration to ensure comprehension among the participants. The obtained scores served as the dependent measure in the study.

Procedure

Permission was obtained from the headmasters of the participating schools before data collection. The researchers established rapport with the students and administered the Self-Esteem Inventory and Academic Anxiety Scale for Children collectively in classroom settings. Students were informed about the purpose of the study and assured of confidentiality. Responses were scored according to the respective manuals. Students falling within the first and fourth quartiles of self-esteem scores were classified into low and high self-esteem groups. The data were subsequently analysed using a two-way analysis of variance (ANOVA).

RESULTS AND INTERPRETATIONS

The study examined the effects of self-esteem and gender on academic anxiety among high school students using a 2×2 factorial design. Descriptive statistics are presented in Table 1. The hypotheses were tested through a two-way analysis of variance (ANOVA), with self-esteem (high and low) and gender (boys and girls) as the independent variables and academic anxiety as the dependent variable. The results of the two-way ANOVA are presented in Table 2.

Table 1

Means and Standard Deviations of Academic Anxiety Scores as a Function of Self-Esteem and Gender

Self-Esteem	Gender				Combined	
	Boys		Girls			
	M	SD	M	SD	M	SD
High	8.00	2.00	9.31	2.41	8.78	2.29
Low	9.66	2.65	10.25	2.09	9.90	2.42
Combined	8.93	2.50	9.71	2.29	9.30	2.41

Note. M = Mean; SD = Standard Deviation.

Students with high self-esteem obtained a lower mean score on academic anxiety ($M = 8.78$, $SD = 2.29$) than students with low self-esteem ($M = 9.90$, $SD = 2.42$). With respect to gender, boys ($M = 8.93$, $SD = 2.50$) and girls ($M = 9.71$, $SD = 2.29$) showed only minor differences in academic anxiety. The pattern of means further supports the finding that self-esteem, rather than gender, was the more important factor associated with academic anxiety among the participants.

Table 2

Two-Way Analysis of Variance for Academic Anxiety Scores

Sources	df	Mean Square	F	p	η^2
Self-Esteem	1	24.85	4.52	.03*	.08
Gender	1	13.17	2.39	.12	.04
Self-Esteem x Gender	1	1.94	.35	.55	.01
Error	56	5.49			

*P is significant at .05.

A significant main effect of self-esteem on academic anxiety was observed, $F(1, 56) = 4.52$, $p = .03$, $\eta^2 = .08$. Therefore, Hypothesis 1 was supported. The findings indicate that academic anxiety differed significantly between students with high and low self-esteem.

However, the main effect of gender on academic anxiety was not significant, $F(1, 56) = 2.39$, $p = .12$, $\eta^2 = .04$. Therefore, Hypothesis 2 was not supported. The results suggest that boys and girls did not differ significantly in their levels of academic anxiety.

Similarly, the interaction effect between self-esteem and gender on academic anxiety was not significant, $F(1, 56) = 0.35$, $p = .55$, $\eta^2 = .01$. Therefore, Hypothesis 3 was not supported. The findings indicate that the effect of self-esteem on academic anxiety did not vary significantly across gender.

DISCUSSION AND CONCLUSION

The primary objective of the present study was to examine the role of self-esteem and gender in academic anxiety among high school students. Specifically, the study sought to determine whether self-esteem and gender exert significant main effects on academic anxiety and whether their interaction influences academic anxiety among adolescents. The findings provide partial support for the proposed hypotheses.

The first hypothesis stated that self-esteem would have a significant effect on academic anxiety among high school students. The results supported this hypothesis and revealed that students with low self-esteem experienced significantly higher levels of academic anxiety than students with high self-esteem. This finding is consistent with theoretical perspectives that regard self-esteem as a protective psychological resource influencing emotional adjustment and coping behaviour. Students who possess a positive sense of self-worth are more likely to perceive academic challenges as manageable and are better equipped to cope with evaluative situations. Conversely, students with low self-esteem often experience self-doubt, fear of failure, and negative self-evaluations, which may increase their vulnerability to academic anxiety.

The present finding is in agreement with previous studies reporting a negative association between self-esteem and anxiety. Dhal et al., (2007) found that adolescents with higher self-esteem reported lower levels of anxiety. Similarly, Mann, Hosman, Schaalma, and de Vries (2004) concluded that low self-esteem is consistently associated with a range of psychological difficulties, including anxiety, whereas positive self-esteem promotes emotional well-being. The findings also support the

observations of Chiu (1990) and Mann et al. (2004), who reported that individuals with low self-esteem are more susceptible to anxiety and other forms of psychological distress. Thus, the present study reinforces the view that self-esteem plays a crucial role in shaping adolescents' emotional responses to academic demands.

The second hypothesis proposed that gender would significantly influence academic anxiety. However, the results did not support this hypothesis. Although girls obtained slightly higher mean scores on academic anxiety than boys, the difference was not statistically significant. This finding suggests that academic anxiety is experienced by both boys and girls to a similar extent. The absence of significant gender differences may reflect the changing educational and social environment in contemporary India, where academic achievement has become equally important for both genders. Increased educational opportunities, parental aspirations, and competitive academic expectations may expose boys and girls to comparable levels of academic pressure and anxiety.

The third hypothesis predicted a significant interaction effect of self-esteem and gender on academic anxiety. The findings did not support this hypothesis. The non-significant interaction effect indicates that the relationship between self-esteem and academic anxiety was similar for both boys and girls. In other words, the beneficial influence of high self-esteem and the adverse influence of low self-esteem on academic anxiety were observed irrespective of gender. This finding highlights the importance of self-esteem as a psychological variable whose influence on academic anxiety appears to operate similarly across male and female adolescents.

Taken together, the findings suggest that self-esteem is a more important determinant of academic anxiety than gender among high school students. The results underscore the significance of fostering positive self-esteem during adolescence, as students with a stronger sense of self-worth appear better able to cope with academic pressures and evaluation-related stress. Educational institutions may therefore play an important role in promoting students' self-esteem through supportive teacher-student relationships, constructive feedback, opportunities for achievement, and counselling services aimed at enhancing psychological well-being.

In conclusion, the present study examined the effects of self-esteem and gender on academic anxiety among high school students. The findings revealed that self-esteem significantly influences academic anxiety, with students possessing low self-esteem reporting higher levels of academic anxiety than those with high self-esteem. In contrast, neither gender nor the interaction between self-esteem and gender exerted a significant effect on academic anxiety. These findings contribute to the growing body of literature emphasizing the importance of self-esteem as a protective psychological factor in adolescent adjustment. The results underscore the need to foster positive self-esteem among adolescents as a means of promoting emotional well-being and reducing academic anxiety. Educational and counselling interventions aimed at strengthening students' self-worth may contribute to healthier academic adjustment, improved psychological functioning, and more positive educational outcomes.

Limitations of the Study

The findings of the present study should be interpreted in light of certain limitations.

First, the study was conducted on a relatively small sample of students drawn from only two government high schools in the Jajpur district of Odisha. Consequently, the generalizability of the findings to other populations and educational settings may be limited.

Second, the study employed purposive sampling, which may restrict the representativeness of the sample.

Third, the investigation focused exclusively on self-esteem and gender as determinants of academic anxiety. Other potentially relevant variables, such as socioeconomic status, parental education, family environment, academic achievement, and psychological adjustment, were not included in the study.

Finally, the data were collected using self-report measures, which may be influenced by social desirability and response biases.

Implications of the Study

The findings of the present study highlight the importance of self-esteem as a significant psychological factor associated with academic anxiety among high school students. Since students with low self-esteem were found to experience higher levels of academic anxiety, schools may consider implementing interventions aimed at fostering positive self-perceptions, self-confidence, and emotional resilience among adolescents.

The findings also underscore the role of educational institutions in promoting students' psychological well-being. Teachers and school counsellors can contribute to the development of healthy self-esteem by providing constructive feedback, encouraging student participation, recognizing individual strengths, and creating supportive learning environments. Opportunities for success in academic as well as extracurricular activities may further enhance students' confidence and reduce anxiety associated with academic performance.

Furthermore, the absence of significant gender differences in academic anxiety suggests that interventions designed to reduce academic anxiety may be implemented for all students irrespective of gender. Programmes focusing on stress management, coping skills, emotional regulation, and academic confidence may contribute to improved psychological adjustment and academic functioning among adolescents.

Suggestions for Future Research

Future research may be conducted using larger and more diverse samples drawn from different districts and educational settings to enhance the generalizability of the findings. Comparative studies involving students from rural and urban schools may provide a better understanding of contextual influences on academic anxiety.

Further investigations may also examine the role of additional psychological, social, and demographic variables, such as academic achievement, academic adjustment, family functioning, parental education, socioeconomic status, and peer relationships, in influencing academic anxiety among adolescents. Longitudinal studies may be particularly useful in understanding how self-esteem and academic anxiety develop and interact over time.

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