

Research Article**EFFECT OF ANXIETY-BASED DISORDERS ON ACADEMIC PERFORMANCE AMONG BANGLADESHI UNIVERSITY STUDENTS****Noor Muhammad***, Mahmudul Karim Munsu, Sayema Rahman Rathi and Bijon Baroi*Department of Psychology, Jagannath University, Dhaka 1100, Bangladesh**Received: 23 November 2021, Accepted: 22 May 2022***ABSTRACT**

A university student's future career mostly depends on a good academic performance that's why they always try to achieve it. But anxiety-based disorders display some symptoms like lack of interest, poor concentration, or excessive thinking which may have a negative effect that can obstruct the achievement of satisfactory performance in their academic life. Thus, the present researchers have planned to investigate the relationship between academic performance and anxiety-based disorders by following a cross-sectional survey design. A personal information form along with three adapted Bangla version questionnaires (i.e., Social Phobia Inventory, Anxiety Scale, and Panic Disorder Severity Scale) was applied to collect data from a sample of 100 undergraduate students from different universities in Dhaka city of Bangladesh. The obtained data were analyzed by applying both descriptive and inferential statistical techniques (i.e., Pearson correlation and multiple regression). Results of correlation coefficients showed that academic performance is negatively correlated with anxiety, social phobia, and panic disorder. Besides, the findings of multiple regression analysis indicated that anxiety, social phobia, and panic disorder could predict academic performance where panic disorder ($\beta = -.279, p < .05$) was found to be the strongest predictor of academic performance which singly explained 29.2% of variance in academic performance. Therefore, these findings of our current study would be beneficial to the parents, teachers, educators, policymakers, and mental health professionals for maintaining the psychological well-being of university students that are needed for a bright future.

Keywords: *Social phobia, anxiety, panic disorder, academic performance***Introduction**

University students typically belong to a group that is at a significantly stressful time of a human being where a transition is held from the period of adolescence to adulthood (Quince *et al.* 2012) that's why anxiety or anxiety-based disorders may develop among them. Anxiety-based disorder

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is stronger, has longer stability, and is harder to control than normal anxiety that can obstruct one's personal, social, and occupational life (APA, DSM-5 2013). In our study, anxiety-based disorders include only social phobia, generalized anxiety disorder, and panic disorder.

Social phobia is one of the most common anxiety disorders among adolescents and youths. If it is not well treated, it can cause difficulties for individuals to perform (Abdallah *et al.* 2016, Mustafa *et al.* 2014). It is defined as the fright of being subject to others' observations and the risk of acting in a humiliating or embarrassing manner that underlines apprehension for criticism and lower self-esteem (Strenna *et al.* 2009). Stein and Kean (2000) reported that social phobia was significantly linked with a higher probability of failing a grade among those who had suffered from social phobia. Al Naggar (2012) also noted that social phobia may develop among people of all ages, genders, geographical areas, ethnic groups, and even all other social groups. The age of onset in social phobia is usually in adolescence that is around 13 years (Kessler *et al.* 2005, Strauss and Last 1993). It was found to be a common problem among the uneducated people, the disengaged family parents, and also isolated or unemployed people. The females were found more susceptible to social phobia vis-a-vis males (Acarturk *et al.* 2008) and the ratio between females and males was 3:2 (Chapman *et al.* 1995). Besides, social phobia can badly affect the life of phobic people that can lead the other comorbid disorders (Tillfors 2001) like generalized anxiety disorder (GAD), obsessive-compulsive disorder (Turner *et al.* 1991), depression (Lecrubier and Weiller 1997), dysthymia, stress related disorders (Wittchen *et al.* 1999), and alcohol abuse (Dingemans *et al.* 2001) that can also hamper a student's academic performance. A pupil with social phobia might fail to accomplish group tasks or seek assistance without hesitation that can invoke or compound his/her academic anxiety. So, if they are taught about how to manage social phobia by themselves, it can lower their anxiety and enhance pedagogical output (Ader and Erkin 2010).

Djidonou *et al.* (2016) carried out another study on 363 students at the University of Parakou (UP) and found 57.14% of pupils having social phobia that decreased their academic performance. Russel and Shaw (2009) also noted that around 10% of the pupils studying in university have some forms of social phobia that faced obstructions to complete their graduation (Katzelnick and Greist 2001). Schneier (2006) also noted that people with social phobia may be unable to complete their crucial tasks. Brunello *et al.* (2000) found that social phobia can impede a person's career progression which might affect the quality of their life, abilities, and skills that obstruct them to get qualified jobs. Leigh *et al.* (2021) revealed that social phobia indirectly predicts educational achievement where it was explored that at first social anxiety associated symptoms were caused to poorer attention in the classroom which later was related to lower educational achievement after 9 to 12 months.

Anxiety is a significant predictor of pedagogical output (McCraty 2007, McCraty *et al.* 2000). Previous researchers have consistently found a destructive impact of anxiety on childhood and adolescence across a wide range of psychosocial variables including pedagogical performance and social functioning (e.g., Davidson *et al.* 1993, Kessler *et al.* 1994, Last *et al.* 1992). Besides, some other studies also revealed that anxiety related symptoms can cause chronic school refusal among younger children that can create significant social and academic difficulties (Berg 1992, Last and Strauss 1990). Besides, it was found that anxiety is responsible for developing irrelevant

thoughts and obsession with reduced attention and concentration that creates difficulties in their academic performance (Eysenck 2001, Keogh *et al.* 2004). Robb (2005) and Ingugiro (1999) also noted that cognitive anxiety has a negative relationship with performance where physical anxiety has a curvilinear relationship with performance. But Fazey and Hardy (1988) found positive correlation with one's performance when their physical arousal is lower. Further, McCraty (2007) found a correlation between anxiety and academic achievement where explored that among high school students with higher levels of anxiety would have lower academic achievement. Other studies also revealed that a higher level of anxiety was related with lower pedagogical performance (Mazzone *et al.* 2007, Whitaker Sena *et al.* 2007).

In a study on 205 engineering students, Vitasari *et al.* (2010) found a significant negative correlation between high levels of anxiety and students' lower academic performance. So, when a student's academic performance has deteriorated, the anxiety level related to certain academic tasks was increased (Huberty 2012). Barrows *et al.* (2013) conducted another study on 110 university students (age ranged 18-23 years) in a rural area of Midwest which revealed a strong relationship between test anxiety and exam grades and that exam grade could be predicted by test anxiety.

Otherwise, panic disorder is defined as recurring thoughts of unexpected panic attacks and affected people spend a lot of time worrying about the next panic attack. Through a meta-analysis, Schwarzer (1990) and Seipp (1991) found a negative correlation ($r = -.21$) between worry and academic performance where students having higher levels of worry expect poorer academic scores.

In other countries, it has already explored that student's academic performance is associated with social phobia (e.g., Stein and Kean 2000, Schneier 2006, Djidonou *et al.* 2016), anxiety (e.g., Masson *et al.* 2004, McCraty 2007, Vitasari *et al.* 2010), and panic disorder (e.g., Norton *et al.* 1992) but having lack of studies where simultaneously individual and joint effects was identified among these anxiety-based disorders. Another issue motivates the current exploration. At any age among 4-7% of the population; up to 35% of students suffered from at least one anxiety-based disorder like panic attack in their previous years (Norton *et al.* 1992) which might obstruct not only their academic lives but also a country's future progress. Again, it also found that common anxiety-based disorders accounted for 32% of the economic costs of psychiatric disorders, which is more than schizophrenia and mood disorders in the USA (Taylor 2000; Rice and Miller 1993). So, anxiety-based disorders would be an alarming issue for our country if immediately, we can't identify its severity and accountability on academic achievement. This evidence would also be needed for developing appropriate preventive steps or treatments to remove or avoid problems which ultimately would be helpful for saving our student's bright future and also to avoid huge economic loss. Besides, having lack of studies in Bangladeshi context, the present investigators designed to explore the association between anxiety-based disorders and academic performance of university students in Bangladesh.

Objectives of the Study

The key objective of our current study was to explore the relationship between academic performance and anxiety-based disorders. The specific objectives were as follows:

1. To investigate whether there is any relationship between social phobia and academic performance.
2. To examine whether there is any relationship between generalized anxiety disorder (GAD) and academic performance.
3. To investigate whether there is any relationship between panic disorder and academic performance.
4. To examine whether social phobia, GAD, and panic disorder predict academic performance.

Materials and Methods

Participants

As sample, a total of 100 undergraduate students were purposively selected based on inclusion (i.e., only participants with anxiety based disorders willing to participate in this study were selected) and exclusion criteria (i.e., who had received any types of psychological support) from different universities in Dhaka city of Bangladesh. The respondents were second and third years' students.

Research Design

For conducting our current research work, a cross-sectional survey design was followed that indicates all necessary information was taken from age groups of students at a single point in time.

Measures

For collecting information from the participants, the underneath mentioned measures were used.

Personal Information Form (PIF)

In our current study, some socio-demographic information about the participants such as age, gender, socio-economic status, studying year, department, university, residential areas etc. were collected.

Social Phobia Inventory- SPIN (adapted from Connor *et al.* 2000)

This self-rated 5-point Likert-type inventory consists of 17 items that were applied to detect the presence and severity of phobia among students. Score ranges from 0 to 4 where "0" indicates "not at all" and "4" indicates "extremely". Total scores less than 20 indicate no social phobia while scores between 20 and above were identified as socially phobic. The score may range from 0-68. The scale prevails a high internal consistency (full scale = .94 and subscale = .80 to .91), good test-retest reliability ($r = .78$) and also a satisfactory convergent (with Brief Social Phobia Scale, $r = .57$) and divergent validity within three measures that were ranged between $r = .01$ to $r = .34$. The SPIN has also sensitivity of 73-85% regarding the diagnosis of social phobia. In our study, the SPIN has a strong internal consistency ($\alpha = .85$).

Anxiety Measuring Scale (developed by Deeba and Begum 2004)

The Bangla version of the anxiety measuring scale consists of 36 items within 5 points of Likert response ranging from "0 = strongly disagree", "disagree = 1", "uncertain = 2", "agree = 3", and "strongly agree = 4" where the overall score was gained through adding the scores of 36-items.

On the scale, a higher score means higher anxiety and a lower score means poorer anxiety. The scale has good split-half reliability ($r = .92$), internal consistency ($\alpha = .95$), and test-retest reliability ($r = .69$). After ensuring content validity, construct validity of the scale also ensured by its discrimination ability on both non-clinical and clinical participants ($F = 60.28$; $\alpha = .01$) and significant item-total correlation was found that were ranged between $r = .40$ to $r = .75$, $p = .01$. In our study, the scale has a satisfactory internal consistency ($\alpha = .71$).

Panic disorder Severity Scale- PDSS (adapted from Shear *et al.* 1997)

The self-rated PDSS was developed to measure the overall severity and to monitor the treatment outcome of DSM-V panic disorder that was translated by Mamun and Muhammad (2017). It consists of 7 items containing a 5-point Likert-type response in each item. Among all items, 5 items measure the DSM-V symptoms of panic disorder and the remaining 2 items measure the impairments of social and occupational functioning. The overall score scores ranging between 0 to 28 was gained through adding the scores of 7-items where all responses are scored within 0-4. On the scale, a higher score means higher levels of panic and a lower score means poorer levels of panic. The scale had moderate internal consistency ($\alpha = .65$), a significant inter-rater reliability along with intra-class correlation coefficients that ranged between .87 and .88. In our study, the PDSS has a good internal consistency ($\alpha = .80$).

Academic Performance

In our current study, the Cumulative Grade Points Average (CGPA) score was considered a student's academic performance that was collected from the participants. The possible CGPA score ranges from 0 to 4 where higher score means better performance and lower score means poorer performance.

Procedures

At first, for collecting necessary information from participants, permission was taken from the concerned authority, and rapport was established with participants. After that, the researchers explained the purpose of the study and participants were informed about risks, benefits, and confidentiality issues. Then, the participants were asked to fill-up a booklet containing a personal data sheet and three Bangla version questionnaires after reading the instructions in the booklet above. They were also requested to complete it as soon as possible without wasting time. After filling-up the booklet, it was taken from the participants for further usages. Respondents were thanked for their cooperation in the study.

Ethical Issues

In this study, participants were saved from all forms of potential risks. They were informed that their attendance would be willful, and their information only would be used for research purposes and kept confidential. The informed consent was taken after necessary debriefing including research purpose, its significance, and also their right to refusal or withdrawal from participation.

Results and Discussion

Pearson product-moment correlation and multiple regression analysis were applied to analyze the data. The mean (M) and standard deviation (SD) with the correlation matrix of the variables are presented in Table 1.

Table 1. Mean, standard deviation, and correlations matrix of social phobia, GAD, panic disorder, and CGPA scores.

Variables	<i>M</i>	<i>SD</i>	1	2	3	4
1. Social Phobia	24.10	12.34	-			
2. GAD	38.04	21.55	.529**	-		
3. Panic Disorder	7.15	6.17	.512**	.562**	-	
4. CGPA	3.29	.35	-.533**	-.516**	-.540**	-

Note: ** $p < .01$.

Results reported in Table 1 suggest that the mean and standard deviation of social phobia, GAD, panic, and CGPA are 24.10 and 12.34; 38.04 and 21.55; 7.15 and 6.17; and 3.29 and .35 respectively. The results also revealed that social phobia ($r = -.533, p < .01$), GAD ($r = -.516, p < .01$), and panic ($r = -.540, p < .01$) are negatively correlated to CGPA (academic performance). These findings are supported by some previous research evidence. For example, Djidonou *et al.* (2016) found the effects of social phobia on the academic performance of 57.14% of socio-phobic students, and their performance decreased. The reason behind this is that social phobic students show low self-esteem and consider themselves as less socially competent (Delgado *et al.* 2013). Also, Vitasari *et al.* (2010) found that GAD and students' academic performance was negatively correlated. The reason can be that those students who suffer from anxiety have difficulties in attention, thoughts, and retention which are responsible for their poor academic achievement. On the other hand, social phobia is positively correlated to GAD and panic disorder. Besides, GAD is positively correlated to panic disorder.

Table 2. Regression of CGPA on social phobia, GAD, and panic disorder.

Variables	β	<i>t</i>	<i>p</i>
Panic disorder	-.279	-2.793	.006
Social Phobia	-.277	-2.854	.005
GAD	-.212	-2.105	.038

Note: Dependent variable: CGPA.

Results revealed in Table 2 showed that the partial standardized betas (β s) suggested that in this model, only three variables were the predictors of academic performance. The value $\beta = -.279$ indicates that as panic disorder increases by one standard deviation, academic performance decreases by .279 standard deviations. The value of $\beta = -.277$ indicates that as social phobia increases by one standard deviation, academic performance decreases by .277 standard deviations. Lastly, the value of $\beta = -.212$ indicates that as GAD increases by one standard deviation, academic performance decreases by .212 standard deviations.

Table 3. Selected statistics from regression of CGPA among university students.

Variables	<i>R</i>	<i>R</i> ²	<i>R</i> ² change	<i>p</i>
Panic Disorder	.540	.292	.292	.001
Social Phobia	.617	.381	.089	.001
GAD	.639	.408	.027	.001

Note: Predictors: Social Phobia, GAD, Panic.

Results reported in Table 3 indicated that the strongest predictor of students' CGPA was panic disorder which alone explained 29.2% of variance. The second and third important predictors of academic performance were social phobia which alone explained 8.9% of variance and anxiety which alone explained 2.7% of variance. *R*² value indicated that three variables jointly explained 40.8% of variance in students' CGPA. This finding was partially consistent with previous studies which found that student's exam grade or academic achievement could be predicted either directly or indirectly by their GAD related symptoms (Barrows *et al.* 2013, Leigh *et al.* 2021).

Table 4. The overall F-test for regression of academic performance on anxiety-based disorders.

<i>SV</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Regression	4.947	3	1.649	22.05	.001
Residual	7.179	96	.075		
Total	12.126	99			

Note. Predictors: Social Phobia, GAD, Panic, Dependent Variable: CGPA.

Results in Table 4 showed the significant *F*-test [$F(3, 96) = 22.05, p < .001$] that further indicated that CGPA variation was accounted for by the combined linear influence of social phobia, GAD, and panic disorder.

The present study faced some drawbacks. Firstly, the magnitude of the sample was small so that for future researchers, it is recommended to use a bigger sample size to tighten the value of coefficient correlation. Secondly, the difficulty was to give full concentration to fill-up such types of large questionnaires. Thirdly, data was collected only from Dhaka city. So, future researchers should consider these issues.

Conclusion

Among university students who are suffering from anxiety disorder achieve poor academic performance whereas panic disorder is the strongest predictor of academic performance. So, the students who are failing in examinations should consider whether they are suffering from anxiety-based problems or not and during providing mental health support these issues have to be considered. Finally, it is recommended to conduct more research by overcoming these mentioned limitations and to find an appropriate intervention program to reduce student's anxiety-based problems as soon as possible.

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Conflict of Interests

The authors of this research work declared no conflict of interest.

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