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Performance Anxiety during Exams: Predictors of Students' Academic Failure

Zara Imran	Ph.D. Scholar/Lecturer, National University of Modern Languages, Lahore, Punjab, Pakistan.
Ahmad Mujtaba Malik	Ph.D. Scholar/Lecturer, National University of Modern Languages, Lahore, Punjab, Pakistan.
Irsa Mehboob	Independent Researcher, Ghoroob–Mirdiff, Dubai.
Shrafat Ali Sair	Assistant Professor, Hailey College of Commerce, University of the Punjab, Lahore, Punjab, Pakistan.

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Corresponding Author:

Shrafat Ali Sair

Email: drshrafatali@gmail.com

Abstract: While the concept of student's performance anxiety has received considerable attention in different branches of the social science literature, the factors of performance anxiety have been somewhat neglected, particularly with respect to the educational sector. Motivated by the need to further explore this concept, this paper empirically investigates the predictors of students' academic failure and the mediating role of performance anxiety during exams. In the current research, researchers examined the effect of students' fear of results, lack of preparation, past experiences of failure, and cognitive inattention on academic failure via mediating role of performance anxiety between independent and outcome variables. The sample size consists of 502 students from renowned public universities in Pakistan. Data is collected from respondents using a self-administered questionnaire by utilizing a stratified sampling technique. The outcome of this study revealed that predictors have a direct and significant impact on the academic failure of students. The results of this study imply that students' performance anxiety has a significant mediating role between predictors of students' academic failure on academic failure. All in all, this research makes a unique contribution to university instructors since it gives information on the prospects for exam anxiety and helps them understand and sort out the issues that students face by incorporating effective teaching methodological strategies.

Introduction

Education plays an important part in the development of any nation, and Pakistan is no exception to this rule. However, one of the most significant challenges that students encounter is academic failure (van Vemde et al., 2022). Academic performance is influenced by a variety of factors. According to the findings of several studies, having a depressive or anxious mood is associated with higher levels of academic failure (Fang et al., 2022). In addition, young people who suffer from depression and anxiety are more

likely to experience a number of comorbid conditions, such as behavioral issues and educational and professional underperformance. Studies have demonstrated that many of the symptoms of anxiety and depression, such as attention and concentration, a lack of interest and motivation, preoccupations, fatigability, and low attendance, may have a negative impact on academic performance (Kiang & Tsai, 2022).

The presence of performance anxiety during study time is a significant factor in determining educational excellence, and a number of research have shown that this factor has a positive impact on academic failure. There is only a limited number of studies to suggest that a high degree of poor anxiety and poor academic performance among students may be associated with one another. According to the findings of researchers, excessive levels of anxiety are linked to a decline in working memory, as well as distraction and reasoning abilities in students (Hou et al., 2022). It has been acknowledged by Papageorgi (2022) that performance anxiety plays a key influence on the learning and academic performance of students and that anxiety has both enabling and inhibiting impacts on academic accomplishment. Studies on the effects of anxiety on students' academic performance have shown that those with the highest levels of anxiety also had the lowest levels of academic performance (Patra et al., 2022).

According to the available research, the academic failure of students studying at the university level may be attributed to a variety of important contributing variables. Experience of fear of failure (E-FoF) is an important subject for psychologists and counsellors who work on college campuses. E-FoF refers to the anxiety that students experience when they anticipate that they will fail at something (Huang, 2021). As defined by psychologists, "fear of failure" (FoF) is "a dispositional propensity to avoid failing in accomplishment situations because the shame and embarrassment of failure are thought to be overpowering" (Choi, 2021). According to the findings of a study that was carried out by Henry et al. (2021) "to investigate the effect of cognitive anxiety on students' academic performance and found that cognitive anxiety exerts a significant stable and negative impact on academic performance measures," academic performance is negatively impacted by test anxiety. In addition, having previous experience with failure and not adequately preparing for an

academic endeavour are other significant factors that contribute to academic failure.

Students at higher education institutions have a duty to ensure that they are achieving their full academic potential. Students experience anxiety as a result of ineffective teaching methods or too rigorous course requirements. Students are pushed toward the surface approach as a coping mechanism as a result of this, and stress and anxiety caused by difficulties in their personal lives or in their families also contribute to feelings of worry in students (Henry et al., 2021). When students are under a lot of pressure with their assignments and when they have a high level of anxiety when they are studying, it is not uncommon for their performance to suffer as a result. According to Deneault et al. (2020), anxiety sources may be perceived differently depending on different age levels, socioeconomic classes, high activity levels, familiarity, gender, and cultural ecosystems (Awadalla et al., 2020).

According to the most up-to-date data that has been collected by researchers, there are relatively few studies that have been conducted, especially in the setting of Pakistan, that examine the factors that predict academic failure and also test the mediating function that performance anxiety plays (Rashid et al., 2022). For this reason, it is essential to carry out research of this kind in a Pakistani context in order to fill the existing gap in the relevant body of literature. This research is beneficial to instructors and colleges since it gives insight into the possibility of anxiety and assists them in resolving student issues. It makes a contribution in a number of different areas, including the following: a greater understanding of the factors that, when combined, might contribute to the amount of anxiety experienced by students. It will help the instructors improve their students' knowledge while also searching for a solution to the issue. Further, it will assist in improving both the students and the teacher's understanding of the study material in order to ensure the students' achievement and success in their studies.

This study has the following aims 1) To investigate the effect of fear of failure on academic failure, 2) to evaluate the effect of lack of preparation on academic failure, 3) to inspect the effect of past experiences of failure on academic failure, 4) to assess the effect of cognitive inattention on academic failure, 5) to check out the mediating role of performance anxiety between predictors of academic failure.

Literature Review

Academic Failure

Academic failure, or a general decline in students' academic performance, is one of the most significant challenges facing educational institutions today. Failure may be indicated by things like being placed on probation, receiving an undesirable grade, and being required to retake the class; longer education; expulsion or dropping out of school; and switching majors (Ajjawi et al., 2020). In addition, UNESCO has linked poor academic performance to both dropping out of school and a decline in the quality of education received by pupils. The phenomena of academic failure are associated with a wide range of unfavorable outcomes, including the loss of valuable time and resources, the inability to maintain motivation, and the development of students' moral, family, and psychological difficulties (Ahmady et al., 2019). According to the findings of one research, the lack of academic success may be attributed to a variety of variables, including those that are psychological, educational, developmental, family, economic, social, and organisational. Other researchers are also of the opinion that dropping out is influenced by a number of risk factors, including personal and familial issues, the company of friends and relatives, educational plans, and scientific levels (Ajjawi et al., 2019).

Catastrophe Model (1988)

The viewpoint of anxiety and academic failure was taken from the catastrophe theory, which

analyses the link between anxiety and performance in terms of performance. This theory was accepted and applied to the academic context (Carpinteri, 1990). It is essential to have a solid understanding of the theory as well as the impact that worry has on performance. Bierman et al. (2005) came up with the hypothesis that cognitive anxiety would have a negative association with performance, but physiological anxiety would have a curvilinear relationship with performance. Research has been done to determine whether or not there is a link between anxiety and the effect of academic success. According to the findings of this research, high school pupils who have high anxiety levels tend to have poorer academic accomplishments (Vitasari et al., 2010a). Others have voiced the notion that a high degree of worry will be linked to poor performance in academics (Mustafa et al., 2015). Similarity findings indicate a good number of earlier research have established a substantial association between academic success and anxiety (Caviola et al., 2022). These studies indicated a favourable relationship between high levels of academic accomplishment and low anxiety (Balogun et al., 2017).

Direct Relationships

Fear of Results and Performance Anxiety

The definition of fear of results is "*a dispositional tendency to avoid failure in achieving settings.*" It may have a negative impact on a student's capacity to perform successfully in educational activities (Alabduljabbar et al., 2022). There are some individuals who only study because they are afraid of what the outcomes will be. According to research, students who do well in their coursework have a reduced or nonexistent dread of the results of their examinations, in contrast to students who perform poorly, who will have a fear of results that leads to anxiety around their examinations (Zhang et al., 2018). *Anxiety over one's capacity to carry out a certain duty is known as "performance anxiety."* People who suffer from performance anxiety often have the fear that they

will be unsuccessful at a task even before they begin working on it. They might be under the impression that failing would lead to shame or rejection (Wiedemann et al., 2022). In light of the prior literature, we hypothesize the following:

Hypothesis 1: *Fear of results is positively related to students' students' academic failure*

Lack of Preparation and Performance Anxiety

Every student must undergo a period of preparation before the test or examination. The term "test preparation," which may sometimes be shortened to "test prep," refers to any instructional programme, tutoring service, educational resource, or educational instrument that is intended to improve pupils' performance on standardized examinations (Kilic, 2018). Qualifying examinations are also examples of these types of examinations. The majority of the experts emphasized the fact that a lack of preparation leads to performance anxiety, which in turn eventually causes academic failure for the students (Papageorgi, 2021). According to multiple researchers, lack of preparation leads to the de-motivation of employees towards achieving specific tasks, which ultimately increases the performance anxiety of students (Trifoni & Shahini, 2011). In light of the prior literature, we hypothesize the following:

Hypothesis 2: *Lack of preparation is positively related to student's academic failure*

Past Experience of Failure and Performance Anxiety

Previous experience with any paper or test has a significant impact on the level of exam anxiety. According to our study, it seems that students who have performed poorly in a previous paper will face the challenge that this will also impair their performance on the paper that is to come (Papageorgi, 2021). On the other hand, there were a few students who did not agree with it and considered that it was not accurate. In addition,

many students are of the opinion that their future cannot be predicted by a piece of paper. Nevertheless, we are in a position to assert that the prior experiences of the students have no significant influence. Several studies have pointed to the fact that a history of poor outcomes in the previous endeavour is a significant contributor to performance anxiety (Guyon et al., 2022). In light of the prior literature, we hypothesize the following:

Hypothesis 3: *Past experience of failure is positively related to student's academic failure*

Cognitive Inattention and Performance Anxiety

Cognitive inattention is connected to student's inability to pay attention to their education, which results in a decreased capacity for learning in their coursework. The term "cognitive inattention" refers to a general decline in a person's mental capabilities, including reasoning, problem-solving, planning, abstract thought, understanding complicated ideas, and learning from experience (Hossain et al., 2022). The vast majority of studies agree that cognitive inattention is a factor that contributes to performance anxiety as well as academic failure. Cognitive inattention, which encompasses the majority of the variance in individual-specific cognitive outcome measures, is highly linked to both academic failure and performance anxiety. It was shown that a combination of having a low working memory, poor visual-spatial abilities, and learning together was the greatest way to predict academic failure (Calabrese et al., 2008). In light of the prior literature, we hypothesize the following:

Hypothesis 4: *Cognitive inattention is positively related to students' students' academic failure*

Performance Anxiety and Academic Failure

People are exposed to the experience of anxiety on a regular basis throughout the course of their daily lives. One definition of *anxiety* is "the tense,

disturbing expectation of a potentially dangerous but ambiguous occurrence; a sensation of uneasy suspense" (Rachman, 2004). Researchers have presented a categorization of this phenomenon into a variety of sub-categories as a consequence of the nature of worry (e.g., language anxiety, speech anxiety, social anxiety). One of these subcategories, namely performance anxiety, was the primary focus of the researcher's attention. *Anxiety over one's capacity to carry out a certain duty is known as "performance anxiety."* People who suffer from performance anxiety often have the fear that they will be unsuccessful at a task even before they begin working on it. They might be under the impression that failing would lead to shame or rejection, despite the fact that performance anxiety may be caused by any endeavour (Patra et al., 2022). According to UNESCO, the idea of academic failure is linked to factors such as repeating a grade, quitting school at an early age, and a general reduction in the educational level of students (Mortimore, 1998). According to the findings of the researchers, having performance anxiety may contribute to academic failure since the researchers concluded that when students are concerned about how they are doing, there is a greater likelihood that they will fail (Miller et al., 2022; Patra et al., 2022). In light of the prior literature, we hypothesize the following:

Hypothesis 5: Cognitive inattention is positively related to student's academic failure.

Indirect Relationships

Fear of Results, Performance Anxiety and Academic Failure

According to Angelidis et al. (2019), fear of results in a particular task or endeavour is often accompanied by the concern associated with the unpleasant negative consequences that may be incurred. This finding was examined by Alkhazaleh and Mahasneh (2016) in their study, which also found that individuals who feared failure suffered from a general lack of confidence

in their ability to succeed in any domain. The person is subsequently driven to avoid expected failure in order to escape the embarrassment and shame that would accompany such a failure. Accordingly, Zhukov (2019) considers it as a schema or taught personality feature for FoF-oriented persons to feel dread and anxiety in accomplishment failure. Tamborrino (2001) reported that the consequences of such fear and anxiety induced a range of negative psychological and physical effects, including anxiety, worry, shame, depression, and eating disorders such as anorexia and bulimia. Individuals who are frequently required to perform high-achievement tasks are particularly susceptible to the effects of such fear and anxiety. Based on the above literature, we hypothesize the following:

Hypothesis 5: Performance anxiety has a significant mediating effect between Fear of results and academic failure

Lack of Preparation, Performance Anxiety and Academic Failure

Students who struggle with performance anxiety are more likely to get distracted during examinations and to have difficulties preparing for examinations. Hooda and Saini (2017) protracted duration of the study, higher dropout rates at the university, failures on exams, as well as physical and psychological problems are some of the effects of test anxiety. Anxiety over taking a test may be caused by a variety of things. Both the students' perceptions of their own knowledge and their incapacity to improve their own learning have been identified as elements that contribute to students' elevated levels of stress and lower levels of academic accomplishment (Trifoni & Shahini, 2011). As per the previous findings of prior literature, the following hypothesis is proposed:

Hypothesis 6: Performance anxiety has a significant mediating effect between lack of preparation and academic failure

Past Experience of Failure, Performance Anxiety and Academic Failure

One of the several antecedent factors that influence students' academic motivation and success is past experience of fear of failure, which has been identified as one of those variables (Pantziara & Philippou, 2015). According to the findings of several studies, students who are incapacitated by their anxiety around their potential for failure exhibit symptoms of sadness or panic. Fear of failing a test has been investigated in order to get a better understanding of the learning behaviours of students, and it was shown that this fear is related to the evaluations of potential risks to the individual's capacity to achieve their objectives (Hossain et al., 2022). Based on the above literature, we hypothesize the following:

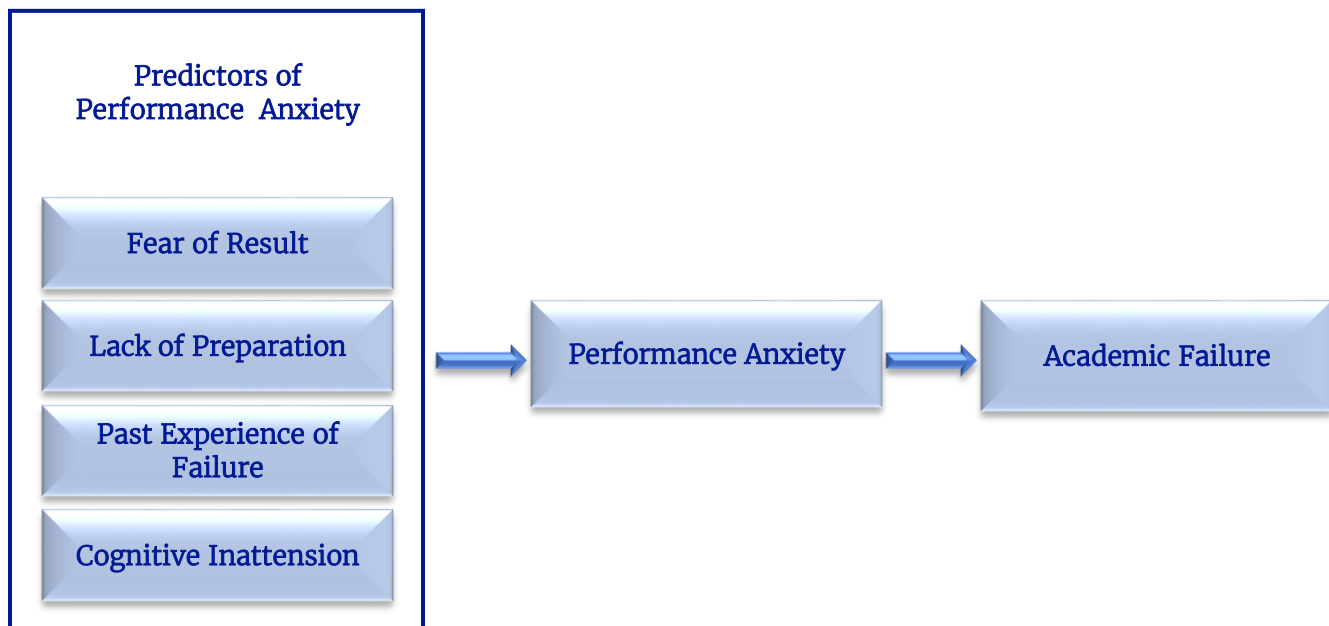
Hypothesis 7: Performance anxiety has a significant mediating effect between past experience of failure and academic failure

Cognitive Inattention, Performance Anxiety and Academic Failure

Cognitive inattention is the factor that has the most significant influence on academic failure. Cognitive inattention has been shown to have a favourable link with performance when physiological arousal levels are low, as stated by Hossain et al. (2022). Researchers found that students who had greater levels of anxiety scored worse on their end-of-semester exams on average (Vitasari et al., 2010b). According to the literature, students having cognitive inattention leads to performance anxiety which eventually increases the chance of academic failure. Based on the above literature, we hypothesize the following:

Hypothesis 8: Performance anxiety has a significant mediating effect between cognitive inattention and academic failure

Theoretical Model



Research Methodology

The research design we chose for our research is quantitative in nature. The researchers used a deductive approach to conduct this study. Further, positivist philosophy was used by researchers to conduct this research. The nature of the study is cross-sectional. The unit of the analysis for this research was students. In this investigation, probability sampling, more especially the method of stratified random sampling, was used. The study respondents were typically categorized in strata-based sampling on a natural basis by taking into account factors, i.e. age, education level, gender, and so on. Further careful selections were made for the gathering of data from a mix of students attending a variety of schools and institutions and participating in a variety of programs. In order to accomplish this goal, students were chosen based on their gender and the level of education they had achieved (bachelor's, master's, and doctoral degrees). The selection was made from among a range of Punjab University Departments.

The researchers used a survey mechanism is used to collect the data. First of all, an appropriate questionnaire was adopted from literature sources (Najafipour & Yektatalab, 2022; Whitaker Sena et al., 2007). The questionnaire consisted of two parts. In the first part researcher asked respondents about their demographic detail, and in the second part, the researcher asked questions regarding variables. We selected a population sample of 502 students. The results were gathered from the population sample by

giving them questionnaires and getting their answers. The sample questionnaire was designed at first to check its reliability for 50 respondents and whether the questionnaire was appropriate. After getting the reliability correct, the questionnaire was finalized and distributed to the 502 respondents. Researchers received 502 correct responses and used them for data analysis. After getting the results, the data was entered into SPSS, and the results were generated, which proved to be correct and suitable for the research study. The researchers used the structural equation model to test the hypothesis of the current research. While conducting this research, we came across a few difficulties regarding the understanding capability of people. Few people were unable to understand what was being asked in a particular question. So, they were answered and briefed about it. That problem was resolved anyhow.

Data Analysis

Measurement Model

The results of the analysis shown in table 1 demonstrated that the levels of both (Rho A) and C-A were beyond the permissible threshold of .70. The AVEs that were obtained for each construct fell between the range of .501 and .566, indicating that the reliability of the constructs was excellent and that the measurement models convergent. In the end, the discriminant validity of the measurement model was evaluated, as can be shown in Table 2.

Table 1.

Reliability Analysis

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Academic Failure	0.71	0.73	0.79	0.59
Cognitive Inattention	0.82	0.84	0.87	0.54
Fear of results	0.76	0.79	0.84	0.52
Lack of Preparation	0.81	0.81	0.87	0.57

Past Experience of Failure	0.73	0.75	0.82	0.58
Performance Anxiety	0.71	0.78	0.78	0.58

The HTMT test was used to measure the validity of the data. The results of the HTMT, which served as a measure of discriminant validity, are shown in Table 3. The findings show that the

values lie between 0.22 to 0.876, which indicates that the discriminant validity of the test was achieved (Farooq et al., 2018).

Table 2.

Discriminant Validity_ Fornell Larcker Criterion

	Academic Failure	Cognitive Inattention	Fear of results	Lack of Preparation	Past Experience of Failure	Performance Anxiety
Academic Failure	0.54					
Cognitive Inattention	0.37	0.73				
Fear of results	0.31	0.51	0.72			
Lack of Preparation	0.47	0.18	0.23	0.76		
Past Experience of Failure	0.33	0.33	0.32	0.19	0.69	
Performance Anxiety	0.76	0.74	0.54	0.64	0.49	0.61

Table 3.

Discriminant Validity HTMT

	Academic Failure	Cognitive Inattention	Fear of results	Lack of Preparation	Past Experience of Failure	Performance Anxiety
Academic Failure						
Cognitive Inattention	0.52					
Fear of results	0.45	0.63				
Lack of Preparation	0.59	0.22	0.29			
Past Experience of Failure	0.45	0.40	0.42	0.24		
Performance Anxiety	0.43	0.42	0.71	0.76	0.62	

Structural Model

The researcher assessed the predicted structural relationships among variables. Fear of results has an effect on academic failure (Beta = 0.08, T = 3.34, P = .007), hence supporting the first hypothesis (H1). Our results validate H2's argument that lack of preparation contributes to academic failure (Beta= 0.41, T= 7.04, and P=.000). Past Experience of Failure also had a substantial influence on academic failure (β = 0.15, T= 3.67, P=.000). So H3 is supported. Furthermore, the findings support the fourth hypothesis (Beta= 0.67, T=10.89, P=.000), which claimed that Cognitive Inattention had a considerable effect on academic failure (Table 3). Researchers evaluated performance anxiety and

predicted mediating effects on academic failure. Table 3 and Figure 1 exhibit the structural mediating models' conclusions. It has a substantial influence on the suggested model CI $\rightarrow$ PA $\rightarrow$ AF (β = 0.88, t=19.31, p=0.000). So H5 is supported and has a mediation effect. The researchers also supported the connection of FR $\rightarrow$ PA $\rightarrow$ AF (β = 0.15 t=5.67, p=0.000). Further, the suggested model LP $\rightarrow$ PA $\rightarrow$ AF exhibits a significant impact (β = 0.80 t=12.99, p=0.000). So H7 is supported and has a mediation effect. Lastly, the suggested model PEF $\rightarrow$ PA $\rightarrow$ AF exhibits a significant impact (β = 0.31 t=14.6, p=0.000). So H8 is supported and has a mediation effect. Finally, researchers concluded that there is a partial mediating effect between the observed variables.

Table 4.
Testing of Hypothesis

Relationship	Beta -Value	T-Value	Decision
Direct Effect			
Fear of results $\rightarrow$ Academic Failure	0.08	3.34***	H1 Accepted
Lack of Preparation $\rightarrow$ Academic Failure	0.41	7.04***	H2 Accepted
Past Experience of Failure $\rightarrow$ Academic Failure	0.15	3.67***	H3 Accepted
Cognitive inattention $\rightarrow$ Academic Failure	0.67	10.89***	H4 Accepted
Mediation Analysis			
Direct effect (without mediator)			
Performance Anxiety $\rightarrow$ Academic Failure	1.63	18.63***	-
Mediating Effects			
CI $\rightarrow$ PA $\rightarrow$ AF	0.88	19.31***	H5 Accepted
FR $\rightarrow$ PA $\rightarrow$ AF	0.15	5.67***	H6 Accepted
LP $\rightarrow$ PA $\rightarrow$ AF	0.8	12.99***	H7 Accepted
PEF $\rightarrow$ PA $\rightarrow$ AF	0.31	14.6***	H8 Accepted

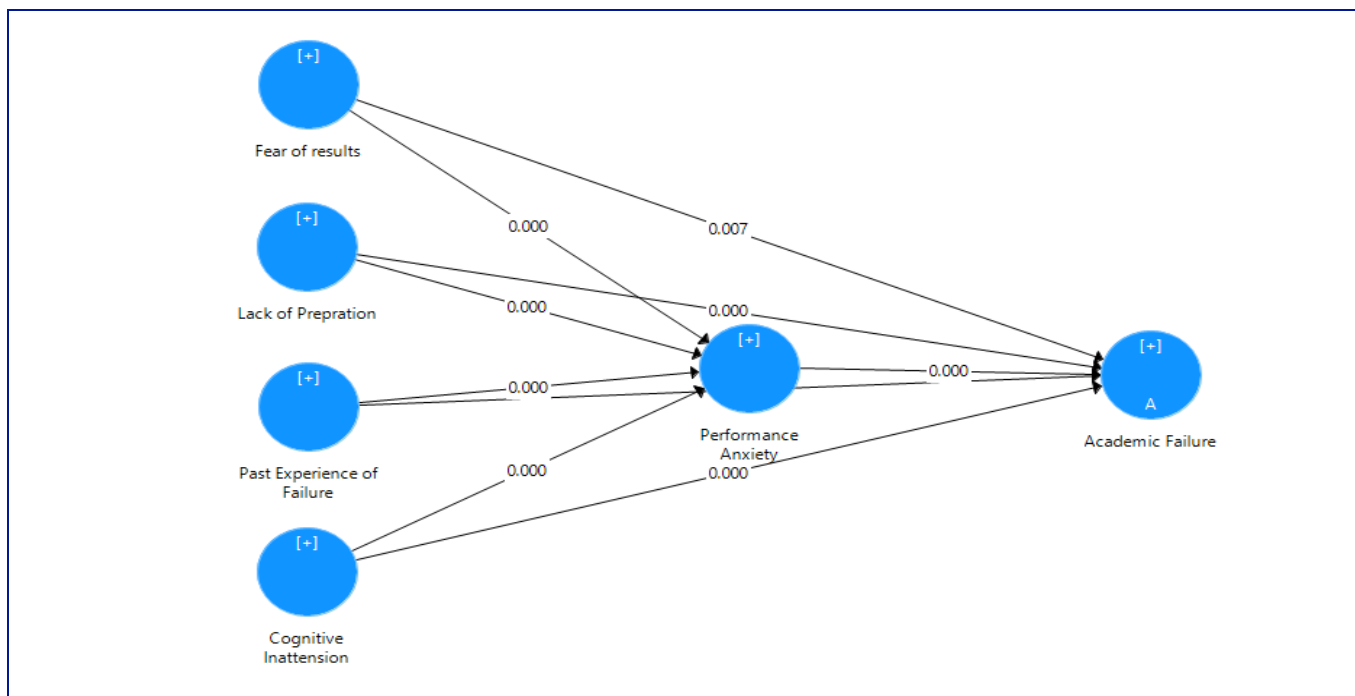


Figure 1: Structural Equational Model Results

Discussion

The findings of current research indicated that fear of results has a significant influence on academic failure. The findings of current research are in line with previous research as most of the authors suggested that fear of results has a significant and positive influence on academic failure (Talisman & Rohrbeck, 2022). Further, the findings confirm H2's claim that lack of preparation has a significant influence on academic failure. The findings of the current research are in line with previous research, as most of the researchers suggested that lack of preparation has a significant and positive influence on academic failure (Gadosey et al., 2021). Moreover, Past Experience of Failure has a significant influence on academic failure. The findings of the current research are in line with previous research as most of the authors suggested that past experience of failure has a significant and positive influence on academic failure (Lemos et al., 2014). Further, cognitive inattention has a significant influence on academic failure. The findings of the current research are in line with previous research, as

most of the authors suggested that cognitive inattention has a significant and positive influence on academic failure (Lemos et al., 2014). Lastly, the results revealed that performance anxiety has a significant mediating effect between independent variables and academic failure. The findings of current research are in line with previous research as most of the authors suggested that performance anxiety has a significant and positive influence on academic failure (Lemos et al., 2014).

Conclusion

The purpose of this research, which is conducted at the university level, is to investigate the factors that predict students' academic failure and the function that performance anxiety plays as a mediating factor during examinations. Academic failure is influenced by factors such as fear of outcomes, lack of preparation, prior experience with failure, and cognitive inattention. In addition, the researcher assessed the function of performance anxiety as a mediator between independent and outcome factors. Researchers adopted a questionnaire to extract their

inferences and information. The questionnaire was distributed around the university, and with a 502-sample population, we got the result that predicted variables of academic failure has a significant and positive impact on academic failure. Further, the results revealed that performance anxiety has a significant mediating role between Predictors of students' academic failure, i.e., fear of results, lack of preparation, past experience of failure and cognitive Inattention influence on academic failure. The researchers suggested that students should know about the issues discussed in current research in order to solve the problems of academic failure.

Implications

The findings of the current study are emphasized in stressing the Predictors of students' academic failure by highlighting factors such as fear of results, lack of preparation, previous experience of failure, and cognitive inattention's influence on students' academic performance. This study has the following academic implications; *first*, it is essential and vital for institutions to develop such policies which are aiding students in reducing the causes that impact academic failure. *Second*, this research demonstrates this relevance and importance. *Third*, the professors at universities should encourage their students to take part in healthy and active activities that will help them feel more confident and rid them of the performance anxiety that they experience. In addition, the results of the research have major implications for students in terms of learning about their problems and attempting to find solutions to those problems. Theoretically, this study improves the understanding of multiple concepts discussed in this study.

Limitations & Future Directions

Our research is a single-centre, cross-sectional investigation of students at Punjab University; hence, it may be challenging to generalize the results. Since our questionnaire is likewise a self-administered questionnaire and not based on

interviews, the findings' reliability might be questioned. Future studies will examine the connection between FoF and self-regulated learning.

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