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Impact of Academic Stress on Motivation and Academic Achievement of Undergraduates

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Abstract

The current study analyzes the impact of academic stress on motivation and academic achievement of undergraduates. The nature of the study is quantitative and survey research design was used. Students of University of Sargodha were selected as the population for this research. The sample was taken from four faculties and seven departments through multistage convenient sampling technique. Data was collected from 565 undergraduate students by using two adaptive questionnaires. Students' academic performance was measured through cumulative Grade Point Average (CGPA). Data was analyzed through SPSS version 22. The descriptive statistics (mean, media, mode, standard deviation and normality test) and inferential statistics (correlation, regression and t-test) were used for data analysis. The findings showed insignificant gender differences among academic stress, learning motivation, and the academic performance of the university students.

Keywords: academic stress, academic achievement, academic motivation, undergraduate students

Introduction

Academic stress is the factor to test anxiety due to which a person may have frustrating feelings, problem to pay attention, or bear in mind because of being in strain (Jain & Singhai, [2017](#)). Stress can alter people's behaviors like nail biting, fast respiratory, high heartbeat, tooth clenching, and hand shaking. During stress, people have cold feet and hands, pale and low blood pressure which result in the disturbing feelings. One more cause of stress is the trouble of achieving group confidence (Rana et al., [2019](#)). Fear of academic failure is a definite stressor for students (Kumarswamy et al., [2013](#)). It was examined in studies lately that more than half of the students had been tortured by despair and over two-third by tension and females always bear much strain in comparison to male opposite (Iqbal et al., [2015](#)). Depression, anxiety, behavioral problems, irritability, and many others are

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various symptoms that appear in students with high academic stress (Reddy, [2018](#)).

Learning motivation was recommended as a latent variable that would limit the impact of academic stress on academic achievement (Ergene, [2011](#)). Students with high learning motivation faces sensible challenges, gain internal delight from their achievements and are more worried about their work than different tasks (Ebenezer, [2016](#)). The perception of motivation remains the main point of the educational venture. Motivation has been linked to a strong desire to work diligently and energetically (Ergene, [2011](#)). Learning motivation continually steers toward objectives to acquire matchless quality in troublesome and exams and to have a feeling of achievement therefore (Moon et al., [2018](#)). On the other hand, low learning motivation is assumed to be linked to a lack of competence, low expectations, and a tendency to fail (Balogun et al., [2017](#)). According to Kori et al. ([2016](#)) high learning motivation brings about high academic performance in students. According to Akpan and Umobong ([2013](#)), learning motivation is from major characteristics which lead to academic achievement.

Academic performance is described as the anticipation of finding satisfaction in overcoming challenging and demanding performances. It has been suggested that learning motivation can directly affect the students' performance (Ergene, [2011](#)). A possibility that might minimize the impact of the academic stress is the learning motivation (LePine et al., [2016](#)). In light of the previous researches, the purpose of this study was to examine the impacts of motivation on the academic stress and the academic achievement at university level. The literature review showed that various factors of the academic stress and the learning motivation affect academic performance of students. The primary goal is to relieve students' academic stress and promote academic performance at university level. The association among academic stress, learning motivation, and academic performance was investigated in the current study. There were limited researches on these three factors, namely academic stress, motivation, and academic performance of undergraduates. Academic performance has recently been highlighted as the primary focus of nationwide education system because students' academic achievement is an appropriate indicator of whether or not education is following (Tus, [2020](#)).

Problem Statement

Stress is usually considered as student's psychological state of continuous physical, social, and behavioral stress in an academic environment that reduces the student's psychological assets. Academic stress creates academic difficulties that overpowers a student's ability to manage affairs. In students, learning motivation encourages the learning process which ensures that students are capable enough to fulfill the academic demands. Academic stress enables individual to perform well. It does not only provide students the ability but also develops motivation that in return proves helpful in learning and performance. Therefore, the current study intends to explore the effects of academic stress on learning motivation and academic performance of higher education students.

Objectives

Following are the objectives of this study.

1. To find out the relationship among academic stress, learning motivation, and academic performance of university students.
2. To find out the effect of academic stress and learning motivation on the academic performance of university students.

Methodology

The nature of the current study was quantitative and survey design was used. Students of University of Sargodha were population of the current study. Multistage convenient sampling technique was adopted to collect the data from 565 undergraduate students. At first stage, four faculties of University of Sargodha, that is Faculty of Engineering and Technology, Faculty of Social Sciences, Faculty of Sciences, and Faculty of Arts and Humanities were selected conveniently. At second stage, seven departments from University of Sargodha, namely Department of Civil and Electrical Engineering from faculty of Engineering and Technology, Department of Sociology and Department of Education from faculty of Social Sciences, Department of Computer Sciences, Department of Information Technology, Department of Mathematics from faculty of Sciences, Department of Islamic Studies, and Department of English from faculty of Arts and Humanities were conveniently selected. At third stage, all the students of BS program were selected conveniently to collect the required data. In this study, two adapted scales were used.

The academic stress tool, namely Stress Indicator Questionnaire (SIQ) by Moneva et al. (2020), based on 5-point Likert Scale ranging from 1 (*Almost Always*) to 5 (*Never*) with five indicators and learning motivation tool namely Motivational Strategy for Learning Questionnaire (MSLQ) were adapted. The instrument, Stress Indicator Questionnaire (SIQ) contained seventy-two (72) items and five factors (05). However, MSLQ measures both intrinsic and extrinsic motivation of students. Both instruments were based on a 7-point Likert Scale ranging from 1 (*Very untrue of me*) to 7 (*Very true of me*). Student's demographic information, such as their names, gender, departments, semester, and CGPA were also gathered with questionnaires. Both instruments were highly reliable (value of Cronbach's alpha for academic stress was .937 and for motivated strategies for learning (MSLQ) scale were .971). Normality test was applied to determine the distribution of data. By using Pearson correlation analysis, the relationship among the academic stress, learning motivation and the academic achievement were analyzed. Regression analysis was applied to find out the effects of academic stress and learning motivation on academic achievement.

Results

Table 1

Normality Analysis of Academic Stress, Learning Motivation, and Academic Achievement

Variable	Minimum	Maximum	Mean	SD	Skewness	Kurtosis
Academic stress	109.00	347.00	232.94	39.63	-.032	-.102
Motivation	75.00	313.00	184.76	41.45	.118	-.224

The results of Table 1 show the normality analysis of academic stress and academic performance. It was indicated with skewness of -0.032 and kurtosis of -0.102, the distribution of academic stress is very close to normal. The slight negative skewness indicates a minor skew to the left, while the slight negative kurtosis suggests slightly lighter tails than a normal distribution. These values are close to zero, indicating negligible deviations from normality.

It was indicated that the distribution is close to normal with skewness of 0.118 and kurtosis of -0.224 for learning motivation. The slight positive skewness indicates a minor skew to the right, while the slight negative

kurtosis suggests slightly lighter tails than a normal distribution. Therefore, the data can be considered approximately normally distributed.

Correlation Analysis

Table 2

Relationship of Academic Stress, Learning Motivation, and Academic Achievement

Variables	LM	AA
Academic stress	.289**	.119**
Learning Motivation		.187

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

The above table depicts the relationship between academic stress, learning motivation, and academic achievement. Pearson correlation coefficient displayed a statistically significant positive relationship between academic stress and learning motivation ($r = .289$, $p = .000$). Pearson correlation coefficient showed a statistically insignificant weak relationship between academic stress and academic achievement ($r = .119$, $p = .009$). Pearson correlation coefficient showed a statistically significant strong relationship between learning motivation and academic achievement ($r = .187$, $p = .000$). It was concluded that there is significant relationship between academic stress and learning motivation, and learning motivation and academic achievement. The relationship between academic stress and academic achievement was insignificant.

Linear Regression Analysis

Table 3

Linear Regression Analysis for the Effect of Academic Stress on Academic Achievement

	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>Sig</i>
Constant	2.955	.117		25.351	.000
Academic Stress	.001	.000	.110	2.618	.009
$F = 6.855$ $R = .110$ $R^2 = .012$					

Table 3 shows the linear regression analysis for the effect of academic stress on academic achievement. The analysis revealed a significant relationship, with an R-value of .110 and an R-squared value of .012, indicating that academic stress has a significant effect on academic

achievement of university students. The regression equation was also significant, with an F value=6.885 and p (0.000). The regression coefficient (Beta) for academic stress is .110 with a t value of 2.618 ($p < .009$) which also depicts a significant impact.

Table 4

Linear Regression Analysis for the Effect of Motivation on Academic Achievement

Model	B	Std. Error	Beta	t	Sig.
(Constant)	2.866	.088		32.434	.000
Motivation	.002	.000	.187	4.512	.000
$F = 20.354$ $R = .187$ $R^2 = .035$					

Table 3 shows the linear regression analysis for the effect of motivation on academic achievement. The analysis revealed a significant relationship, with an R -value of .187 and an R -squared value of 2.035, indicating that motivation has a significant effect on academic achievement of university students. The regression equation was also significant, with an F value = 20.354 and p (0.000). The regression coefficient ($Beta$) for motivation is .187 with a t value of 4.512 ($p < .009$) which also depicts a significant impact. Therefore, there is a statistically significant effect of motivation on the academic achievement of the university students.

Table 5

Multiple regression for the Effect of Academic Stress and Motivation on Academic Achievement

Model	B	Std. Error	Beta	t	Sig.
Constant	2.735	1.28		21.377	.000
Academic Stress	.001	.001	.061	1.415	.157
Motivation	.002	.000	.169	3.915	.000
$F=11.197$ $R = .196$ $R^2 = .038$					

Table 5 depicts the outcomes of multiple regression analysis aimed at effect of academic stress and motivation on academic achievement of university students. The analysis yields notable $R = 1.96$, which indicates a considerable relationship, while $R^2 = .038$ suggests that approximately 38% of the variation in academic stress can be explained by motivation of the students. The statistically significant regression equation ($F = 11.197$, $p = 0.000$) underscores the significant difference of academic stress on

academic achievement, while an insignificant difference of motivation and academic achievement.

Discussion

The current research analyzed the impact of academic stress on motivation and academic achievement of undergraduates. The results of the current research described that both instruments were reliable as the calculated value of Cronbach's alpha for academic stress was .937 and .971 for motivated strategies for learning (MSLQ). The results described that there is a significant positive relationship between academic stress and learning motivation, as stress affects students mentally and psychologically. A previous research's results were not in the favor of the current research as academic stress was not significantly associated to the motivation of students, the decrease in academic stress can increase intrinsic motivation of students and reduce their negative results (Liu, [2015](#)). According to the findings of Tus ([2020](#)), insignificant relationship was found among academic stress, academic motivation, and academic performance in high school students. Another study also reported that there is no relationship between academic stress and motivation level of students (Amrai et al., [2011](#)).

The findings of Kumari et al. ([2016](#)) presented statistically insignificant weak relationship between academic stress and academic performance. Minimum level of stress is not harmful as it can cause learning and motivation but high-level stress can be dangerous for academic life. According to Rafidah et al. ([2009](#)), an insignificant relationship was found between stress and academic performance. In above-mentioned studies, the possible reason might be due to the use of different approaches and instruments for assessing academic stress, motivation, and academic achievements. According to Elias et al. ([2011](#)), the relationship between students' stress level and their academic achievement was weak and negative. The results showed that there was a statistically significant strong positive relationship between motivation and academic achievement. Motivation is crucial in every student's educational life. This study was supported by the results of Muza and Muhammad ([2020](#)), as significant positive relationship among student motivations is based on student's academic performance. Eymur and Geban ([2011](#)), reported significant and positive relationship between motivation and academic performance.

According to Becirovic (2017), other studies reported significant relationship between motivation and students' achievement (Bakar et al., 2010). There was a statistically insignificant effect of academic stress on academic performance. Stress is part of a student's life and affects a student's ability to cope with difficult situations. Some other studies reported contradictory results as compared to the current research (Khan et al., 2013; Muza & Muhammad, 2020). Unfavorable effect of the academic stress on students' academic performance was found (MacGeorge et al., 2005). The research claimed that academic stress can be positive to enhance academic performance. Major reason of academic stress is exam fear in every semester due to competition (Nandamuri & Gowthami, 2011). The findings revealed that there was a statistically significant impact of motivation on academic achievement. According to the finding of Tek et al. (2011), academic stress affects academic performance and also causes positive effects of learning motivation on academic performance, hence supported the findings of this research.

Buzdar et al. (2017) also supported the results of current study and stated that the motivation affects academic performance. The relationship between academic stress and academic performance was predicted to be evaluated by student's motivation. Findings confirmed that academic stress of students was inversely related to their academic performance. The results also confirmed that the relationship between university students' stress and academic performance is limited by their motivation. Academic stress is associated with performance of students. Struthers et al. (2000), indicated that performance and motivation are related processes and should be considered within the same standard. A cross-study between university students compared the effects on academic performance and showed a negative relationship (Samaha & Hawi, 2016). It was found that academic stress is the factor that affects the performance of students. It was predicted that high levels of academic stress would be linked to poor academic performance. Findings showed a considerable negative impact of academic stress on performance, which validated this study. This outcome is consistent with earlier studies' conclusions that stress and academic performance are inversely related. The research strongly suggested that learnt resourcefulness was a mediator of the detrimental effects of stress. Low inventive students' academic performance was negatively impacted by academic stress, whereas highly intelligent children were unaffected. This outcome is in line with earlier laboratory investigations that discovered a

relationship between learnt resourcefulness and performance under pressure. For instance, when faced with failures, highly resourceful participants performed better on anagram assignments than less creative subjects (Akgun & Ciarrochi, [2003](#)).

Conclusion

The results of study revealed that data was normally distributed. Moreover, the results indicated statistically significant positive relationship among academic stress and motivation. According to the outcomes, there was a statistically insignificant weak relationship among academic stress and academic achievement. The outcome of study displayed that there was a statistically significant positive relationship between learning motivation and academic achievement. It indicated that there was a statistically insignificant effect of academic stress on academic achievement.

Recommendations

The current study recommends that by improving learning motivation, students' academic performance can also be improved. It is proposed that universities should conduct seminars and workshops to increase students' enthusiasm and help them do better academically. It also suggests, in light of the findings, that teachers also play their part in carrying out certain activities in the classroom which reduce students' academic stress. By providing coping mechanisms to reduce stress levels through advice programs and discussion sessions, students may be empowered to manage their academic stress, which may assist in boosting their motivation and improving their academic performance.

Conflict of Interest

The authors of the manuscript have no financial or non-financial conflict of interest in the subject matter or materials discussed in this manuscript.

Data Availability Statement

The data associated with this study will be provided by the corresponding author upon request.

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