

Exploring the Relationship between Perceived Stress and Academic Performance among University Students

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Abstract

Academic performance of students can be influenced by perceived stress in more stressing academic environment. This paper examined how perceived stress is associated with academic performance among the university students in Balochistan in Pakistan and the difference between the genders. Convenient sampling was used to pick a sample of 200 students (17-25 year olds). Data were collected using two research questionnaires that consisted of Perceived stress scale and Academic performance scale respectively. Analysis of data was done through Pearson correlation, linear regression analysis and independent sample t-tests. The outcomes were that there was significant negative and weak relationship between perceived stress and academic performance. Academic performance did not differ between genders, but females described their stress just a little bit higher. Regression analysis found that the contribution of perceived stress in explaining the variance in the academic performance was 6.3 percent that was a result of possible moderating role of stress. It is significant that the results enhance the relevance of stress management in education.

Keywords: Perceived Stress, Academic Performance, Gender Differences, University Students

Introduction

Due to several academic, social, and personal issues, university life involves a set of specific challenges that may induce a psychological burden in learners. Adaptation to new learning environments, high academic standards, financial aid, and development of new social relationships are the typical nature of transitioning to higher education (Misra & McKean, 2000). All these demands turn stress into such a common and practically unavoidable element of the everyday student life. There are various kinds of stress, but perceived stress has become significant among educational psychologists. Perceived stress can be explained as the subjective appraisal of stressful event and capacity to handle them by individuals (Cohen et al., 1983). In contrast to objective stressors as real-life external events, perceived stress is concerned with the way people perceive such stress-inducing events on an emotional level as well as in an intellectual way (Lazarus & Folkman, 1984). This perception is subjective and it is very important in determining the mental health and academic performance of students. Some studies in multiple countries have revealed that a high rate of perceived stress usually relates to negative academic performance, low motivation, and emotional problems (Pritchard & Wilson, 2003; Sohail, 2013; Beiter et al., 2015). Increased stress may worsen mental processes that require focus, recall, and decision-making, which are among the skills and abilities in academic success (Friedlander et al., 2007; Stowell et al., 2015). Although having moderate amount of stress can be seen as beneficial in learning and motivation (Kaplan & Sadock, 2000) extreme levels of stress are associated with anxiety, depression, and poor

performance of the individual at the school (Niemi & Vainiomaki, 1999; Kelly & Clanton, 2001). Academic Performance, usually measured by GPA or exam results in high school or college is widely recognized as a key factor in determining a student's success and future career prospects (Richardson et al., 2012). In addition to portraying intellectual capacity, academic outcomes reflect how students can cope with different stressors during the learning process (Saleh et al., 2017). The most frequently occurring stressors among the students in the university are academic stress, financial stress, time stress, and social stress (Ongori & Agolla, 2008; Stowell, 2003). Students are also exposed to even more pressures associated with financial instability, lack of education bases and social-political impacts in the countries like Pakistan, as well as in the under-resourced regions such as Balochistan (Ahmed et al., 2022; Rind & Ahmed, 2021). The students also develop perceptions and responses to stress based on their cultural backgrounds and family exposures (Fish & Nies, 1996; Rono, 2013). Nonetheless, despite all these realities, it is observed that there is a conspicuous lack of empirical studies that have been conducted in regard to the correlation between perceived stress and academic performance among university students within this region. Keeping this research gap in mind, this study will focus on investigating the influence of perceived stress on academic performance of university students in Balochistan, Pakistan. In Particular, the study aims to identify whether greater perceived stress is linked to a reduced academic performance. It is hoped that the findings would be helpful to educational institutions in devising approaches that could be used to handle stress among students in order to boost academic performance.

Theoretical Framework:

1. **Transactional Model (Lazarus & Folkman, 1984):** In the case of stress, one is said to be stressed when they are unable to change or cannot handle an event of some sort.
2. **Yerkes-Dodson Law (1908):** Intermediate stress to the task can benefit the task itself but extreme stress to a task is detrimental to it.
3. **Cognitive Load Theory (Sweller, 1988):** A student may not learn well during the times of high strain because it may exceed the human capacity.
4. **Self-Efficacy Theory (Bandura, 1977):** Believing in your capabilities will reduce stress level and increase performance academically.

Literature review

Students at universities are frequent recipients of academic and personal stressors resulting in increased perceived stress- level of perceived stress in normal day-to-day life (Cohen, Kamarck, & Mermelstein, 1983). Stress is one of the issues identified in the province of Balochistan, where resources provided to students are already scarce. According to a study reported by Kakar and Khan (2022), in Quetta students who exhibited excessive stress possessed low-motivational levels, poor focus, and lesser GPA. One more study found that In Quetta, students became less involved due to stress set by money, long travels, and rigorous studies (Hassan & Gul, 2024). On the same note, Baloch and Shoukat (2020) indicated that insecurity about the future and exam pressure resulted in low academic performance. A recent study by Soomro et al. (2020) comparing students in Balochistan and Sindh revealed that classroom stress was higher among students in Balochistan because of significant political and educational barriers and it adversely affected the academic performance of children. According to a study conducted by, Khan and Rehman (2019), the financial problems and family pressure added further to the stress level reducing the level of academic performance. Conversely, another study conducted by Rind and Ahmed (2021) revealed that the strain of examination, mismanaging time, and a lack of direction affected the performance of the students adversely. Similarly, Zehri and Khalid (2020) paper relates academic stress due to workload and family demands to poor performance and mental fatigue. In the same way, a study by Mehmood and Kakar (2018) also indicated that stress resulted in inappropriate participation and lower grades

in postgraduate learners. In addition, students are also pressured by studies, resources shortages, politics, and money issues and end up with low grades (Ahmed et al., 2022). In another Study, it is found that stress decreases motivation and performance (Baloch & Yasir, 2021). In the same way, Medical students exhibited worse performance and experienced fatigue caused by stress (Khan et al., 2013).

Nevertheless, the report by Shahwani and Bibi (2020) reveals that female students were more exposed to stress caused by cultural and safety concerns and significantly low marks. In a different study by, Jan and Gul (2019), the respondents reported that a lot of stress reduced motivation and GPA, especially in women students. Likewise, Ahmed and Saeed (2021) also discovered that the overstress was associated with poor grades and most likely among female students because of culture. On the whole, these studies demonstrate that excessive stress has detrimental outcomes on the academic accomplishment of students in Balochistan both owing to external pressures and absence of psychological with help. All several studies conducted in Pakistan revealed the negative relationship between perceived stress and academic performance. The stress in Pakistan was related to poor performance (Sohail, 2013). As the study administered in universities in Punjab, Karachi, Hazara, Lahore, and Islamabad demonstrates, the stress caused by exams, family demands, financial problems, and academic load greatly reduces the grades and the engagement of students (Shah et al., 2018; Naseem & Munaf, 2017; Khan & Munir, 2020; Batool & Abbas, 2019; Saleem & Mahmood, 2013). Another study had it that, Anxiety, burnout, and dropout risk have also been linked to increase in stress levels (Jadoon et al., 2010). Nevertheless, the effects can be alleviated with such coping strategies as problem-solving and social support (Raza & Sarwar, 2019). According to laboratory and field retraining results of Lahore (Ali et al., 2018), Islamabad (Zafar and Umer, 2020), and higher education institutions as NUST (Yousaf and Ahmed, 2019), academic overload, time pressure, and fear of failure decrease the academic achievements of students. A study conducted on female students (Ashraf et al., 2021) and a study conducted on medical students (Iqbal & Zubair, 2019) points out the family pressure and high academic workload as the relevant stress factors. On the same note, postgraduates in Khyber Pakhtunkhwa (Habib & Arif, 2020) and students who pursue business degrees in Karachi (Nawaz & Qureshi, 2017) share similar experiences about stress resulting in low The research of Eastern countries also indicates that there is a high negative correlation between perceived stress and performance at school.

The works in China (Lu, 1994), India (Kaur & Sharma, 2019), and South Korea (Lee & Larson, 2000) indicate that the perception of stress leads to depressed grades, emotional overload, and decreased participation mostly as a result of cultural prospects and pressure due to a test. It was also found out that exam and parental pressure led Indian students to perform poorly (Sharma & Wavare, 2017). In Hong Kong, stress was also a predictor of worse GPA and avoided learning (Cheung et al., 2011). Research conducted in western nations has reiterated a direct relationship between the high-stress levels among the university students and low performance. Declined GPAs and personal health problems are reported among students who report higher levels of stress in the U.S (Pritchard & Wilson, 2003). In the U.S., revealed finding was that high academic workload and time pressure have proved to reduce GPA (Misra & McKean, 2000). Similarly, stress and anxiety in the UK are proven to affect the academic performance extremely, especially during examination time (Andrews & Wilding, 2004). What is more, American students are linked to the deterioration of academic performance and mental well-being to stress (Beiter et al., 2015). In the same way, Canadian and Australian researchers also conclude that exam stress negatively affects not only grades but also mood (Elias et al., 2011; Stallman, 2010). Last, Richardson et al. (2012) meta-analysis revealed that stress, anxiety, ineffective time management greatly forecasted lesser academic achievements.

Several regions have reported that there is an irresistible trend that women students at the universities have higher perceived stress than this perceived stress affects the people who are working at the universities and females are more significantly impacted in comparison to males. In Balochistan and Pakistan, it has been demonstrated by studies that females are increasingly subjected to cultural stress and family demands (Shahwani & Bibi, 2020; Saleem & Mahmood, 2013). According to another study, Female students tend to experience the domination of the stress compared to males (Naz & Saeed, 2020). The same trends occur in other Eastern societies such as India and South Korea where the negative effects of academic pressure are more severe among females (Sharma & Wavare, 2017; Lee & Larson, 2000). Females always record elevated stress levels and worse educational performance in Western research studies (Stallman, 2010; Beiter et al., 2015). On the whole, the factors of gender plays a great role in the affect that stress has on academic performance, and females are more affected by it than males. According to recent studies, mild levels of stress have the ability to improve scholastic achievements as they increase concentration, discipline and motivation. At Balochistan, Kakar and Khan (2022) identified that students who were in moderate amounts of stress had more excellent time management and focus on academics. Rind and Ahmed, (2021) conducted another study along with its results showing better performance in the exams of moderately stressed students. Another study published by, Farooqi et al. (2012) in Pakistan, observed a non-linear relation between stress and performance as moderate level of stress produced better outcomes as compared to extreme stress levels. Likewise, Ahmed and Saeed (2021) indicated that moderate stress among Pakistani students motivated effortfulness and completing tasks in time. Still, in another research conducted in Azad Jammu & Kashmir, their work concluded that stress occasionally increased student performance (Qureshi & Khan, 2020). Lu (1994) has reported the presence of better performance in Chinese students subjected to moderate amounts of stress in the Eastern perspectives. This trend was also observed in India (Sharma & Wavare, 2017) and in Hong Kong (Cheung et al., 2011) where moderate stress assisted in concentration and solving problems. Not only Western studies (Yerkes-Dodson law, 1908; Robotham & Julian, 2006) mention an optimal stress area where performance excels, it also applies to a peak-performance range in stress. In general, mild stress seems to increase academic performance through increased motivation and effectiveness. In a similar way, cognitive and academic advantages under stressful conditions that could be handled was also established (Rudland et al., 2020; LeBlanc, 2009). In general, stress of low level seems to improve academic performance due to the increase of motivation and productivity.

Rationale of the Study

Students in universities are likely to encounter several academic issues, social and personal challenges which may result in stress and consequently lead to poor performance (Misra & McKean, 2000; Cohen et al., 1983). International studies (Al-Dubai et al., 2011; Kumar & Bhukar, 2013; Beiter et al., 2015) and national ones of Pakistan (Shamaila, 2007; Khan et al., 2013) confirm that the best academic results are connected with the lower stress level. But there is less research on this problem in the area of Balochistan where the students have additional problems such as the scarcity of resources and social issues. The study will assist to see the impact of stress on academic performance of university students in the province of Balochistan and recommend the support circle to the students.

Research Question

- Does perceived stress and academic achievement among students in universities relate negatively with each other greatly?
- Do the female students feel that stress influences their academic output more than the male students do?

- Does moderate level of perceived stress have positive influence on academic performance in university students?

Research Objectives

- To understand the relationship between perceived stress and academic performance among the university students.
- To investigate a perceived stress impact on academic performance of male and female student.
- To test the hypothesis that moderate form of perceived stress has a positive effect on academic achievement of university students.

Hypotheses

- There is a significant negative relationship between perceived stress and academic performance among university students
- Female university students perceive higher stress and lower academic performance compared to male university students
- Moderate levels of perceived stress have a positive impact on academic performance among university students

Methodology

The study relied on the quantitative correlational research design to determine the correlation between perceived stress and academic performance among university students in Balochistan, Pakistan. A convenience sampling was involved during the selection of the participants. Perceived stress was graded based on Perceived Stress Scale (PSS- 10) created by Cohen et al. (1983), and the academic performance gauged by Academic performance scale created by (Birchmeier et al.) The participants used in the sampling were 200 students male and female. Interpretations of data were done with the help of SPSS (Version 26). The means, standard deviation, were calculated and Pearson correlation coefficient was applied to determine the correlation of the variables. Professional ethics were also closely adhered to such as informed consent, confidentiality and the rights of participants to drop out of the study any time they see fit.

Results

Table 1 *Distribution of the scores for Perceived Stress Scale and Academic Performance Scale*

	Scales	Items	Mean	SD	α	Range		Skew(SE)		1	2
						Min	Max				
1	PSS	10	20.76	5.1069	.575	8	32	-.262	.172	-.251**	<.001
2	APS	8	30.30	4.1634	.620	18	40	-.090	.172		

(N=200)

Note. PSS= Perceived Stress Scale; APS= Academic Performance Scale

Table 1 presents Scores Distribution of such Scales as Mean, Median, Standard Deviation, Range (min/max) and Skewness. The lowest value of PSS was 8 and highest was 32 whereas the lowest value of APS is 18 and the highest 40. The skew of significance was not found. Alpha correlation coefficient of scales applied in the current research. Perceived Stress Scale has a Cronbach's alpha value of .575 ($p < .70$) that explains its mediocre reliability. Academic Performance Scale strength of Cronbach Alpha is .620 ($p < .70$) and this has a little bit more

reliability. Correlation coefficient value of Perceived Stress with Academic Performance scale. The outcome of the result revealed that there exists a significant weak negative relationship between the measured stress levels and academic performance measure ($r = -.255, p < .001$)

Table 2 Differences in Mean and Standard Deviation of Scores of Male & Female on Perceived Stress and Academic Performance Scale (N=200)

Serial #	Scale	Male(n=101)		Female(n=99)		T (198)	P	CI 95%		Cohen's
		M	SD	M	SD			LL	UL	
1	PSS	20.33	5.27	21.19	4.91	-1.18	.238	-2.27	.568	.168
2	APS	30.44	4.38	30.14	3.93	.516	.607	-.85	1.46	.072

Note. PSS= Perceived Stress Scale; APS= Academic Performance Scale

This table 2 showed that female strongly scored more than male students ($M = 21.19, SD = 4.91$) in perceived stress scale compared to the male students ($M = 20.33, SD = 5.27$). Although, female scored mean of 30.14 and standard deviation of 3.39 on academic performance as compared to male students 30.44 and 4.38 standard deviation again shows negligible differences. Therefore, the test result shows that there is no significant difference in the means on Perceived stress scale with $t(198) = -1.18, p > .05$. Cohen d is .168 (< 0.20) hence the size of effect is small. Besides this non-significance Mean difference $t(198) = 2.618, p < .05$ was also revealed in Academic performance scale. The size of effect is also shown by the value of Cohen d that is .072 (< 0.20).

Table 3 Regression Coefficient of Perceived Stress Scale and Academic Performance Scale (N=200)

Variable	B	SE	β	R ²
Constant	34.54	1.19		
Perceived Stress	-.205	.056	-.251	.063

Note. PSS= Perceived Stress Scale; APS= Academic Performance Scale; $p < .001$

The effect of Perceived Stress to scale of Academics Performance is indicated in table 3. The value of R² of 0.063 showed that the predictor variable was 6.3 per cent the variance of the outcome variable and $F(1, 198) = 13.3, p < .001$. These results indicated that perceived stress was a very minor predictor of academic performance ($\beta = -.251, p < .001$)

Discussion

The purpose of the current study was to explore the relationship between perceived stress and academic performance among university students. Some important findings were indicated by the outcomes. To begin with, descriptive statistics showed that students experienced moderate levels of perceived stress ($M = 20.76, SD = 5.11$) and performance ($M = 30.30, SD = 4.16$). The skewness values were within the acceptable ranges and this shows that there were no significant distributional problems. The analysis of reliability denoted moderate internal consistencies of both scales, with the Cronbach coefficients of internal consistency producing lower ratings of the Perceived Stress Scale (PSS) .575 and Academic Performance Scale (APS) .620, which was well below the generally accepted value of .70. The main assumption based on the study envisioned the need to reflect on the occurrence of higher level of perceived stress and lower academic performance. This hypothesis was confirmed in the findings, which created a weak negative correlation between perceived stress and academic performance, as being statistically significant ($r = -0.251, p < .001$). This fact implies that the perceived stress level of students is slightly lowering with any increase in their levels of perceived stress. The comparisons made based on gender revealed that there is no significant difference between the perceived stress and the performance of female and male students. Females students scored

a higher level of stress ($M = 21.19$) than males ($M = 20.33$) whereas males had a slightly higher result in regard to academic ($M = 30.44$) as compared to females ($M = 30.14$). These differences were, however non-significant as was indicated by the results of the t-test and also showed low effect sizes (Cohen $d < 0.20$). In addition, regression analysis revealed that the perceived stress significantly and negatively predicted the academic performance ($0.251, p < .001$), and explained 6.3 percent of the variance ($R^2 = 0.063$). The value implies that the effect is statistically significant although the predictive ability of the stress on academic performance was low. These findings aligns with the previous studies, which are all negative associations between stress and academic performance. As an example, it has already been proven that high academic stress leads to worse academic performance in the contexts of university students (Misra and McKean, 2000; Beiter et al., 2015). On the same note, Shah et al. (2010) observed that the students who are under more stress face difficulties in concentration, time management as well as motivation which hinders their academic performance. However, the weak correlation in the current study implies that as stressful as it can be, there are other variables that can exert even a stronger impact on the academic performance, including motivation, study habits, support systems, and mental health. The trivial gender variations are also found in relation to the other findings that indicate that there is no big difference among the male and female students concerning stress and academic problems (Kausar, 2010). The results of the study summarily confirm the holding that perceived stress had an adverse impact on academic performance, but it was small. Such results are part of the evolving body of literature that emphasizes the critical role of stress management in an educational context with a view to enhancing student performance.

Conclusion

The conclusion of this paper has demonstrated that low level of stress impairs the performance levels of the students, whereas moderate amount of stress can increase their level of focus and motivation. The female students reported a marginally higher stress and had comparable academic performances as male students. These results confirm previous studies and indicate that universities in Baluchistan should provide stress management and counseling options to improve the work of students.

Implications of the Research

The results of the study indicate that university students need to offer efficient networks to assist learners cope with stress including counseling medical practices and time administration training. The indication that the female students were allowed to sustain during academic activities in spite of the increased stress means that good coping skills are instrumental. To promote such strategies in all students can enhance academic performance. Further on, the minimum positive impact caused by moderate stress indicates that it may be used as a motivation force when being appropriately administered. Such variables as levels of confidence and emotional robustness of students and their behavioral patterns that might affect academic performances should also be taken into account in future research.

Limitations and Recommendations

There are a number of limitations of this study. To begin with its cross-sectional design that restricts the understanding of the relationship between stress and academic performance as causal. Second, this study only include self-reported measurements that tends to be susceptible to the response bias. Lastly, the sample itself was restricted in terms of its geographical areas, and the findings could be limited concerning the generalizability. Furthermore, to conduct further research, longitudinal designs should be used to measure the changes overtime. Qualitative approaches could be utilized to experiment with emotional and contextual factors by providing

them. Lastly, the external validity would be increased by increased sample size and sampling students in different regions.

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