Impact of Stress on the Academic Performance of University Students

Saira Taj¹, Rabia Tabassum*², Sumera Bibi³

¹Assistant Professor, Department of STEM Education, Lahore College for Women University, Lahore, Punjab, Pakistan.
²Lecturer, Department of STEM Education, Lahore College for Women University, Lahore, Punjab, Pakistan.
³MS Research Scholar, Department of STEM Education, Lahore College for Women University, Lahore, Punjab, Pakistan.

Corresponding author: rabia786@lcwu.edu.pk

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The study was made to explore the impact of stress on university students’ academic performance. The study was designed as a descriptive quantitative research paradigm. A self-designed Likert scale questionnaire was used for the study. The population of study comprised all university students of district Lahore. 300 students were selected by convenient sampling techniques. Data was analyzed using frequency distribution, t-test, and ANOVA. The findings of the study revealed that the personal-family lives of students were the most influencing factor that caused stress among them, followed by educational, and environmental factors respectively. Gender was found to have an insignificant association with stress. It was recommended that the parents, teachers, and university administrations should remain in good liaison for all-around personality development and to adopt stress observing and coping plans accordingly. Students need to adopt a healthy lifestyle and balance between working and relaxing hours.
1. Introduction

Unwanted life changes trigger the tension, and a sustained tension state is called stress. Stress, which is the cause of various physical and mental disorders, is very common nowadays. It is described as “an unknown situation as being a cognitive and physiological response” (Mofatteh, 2021). If it is sustained for a longer time, it turns into a state of anxiety, and depression which are connected to mental and health issues of serious concern (Busari, 2014). Therefore, it is very necessary to cope with stress and to adapt oneself to novel situations.

Before understanding how to cope with stress, it is necessary to make clear how it arises. Psychologists describe that life never goes smoothly. Rather it always undergoes emotional, or psychological fluctuations which include feelings of happiness, anger, or disappointment (Park et al., 2022). Happiness is called a positive state of emotion while anger or disappointment is called a negative state of emotion. Stress is a product of that negative state that arises when a man feels that his available resources for working are saddled. It impairs the human struggle to achieve life goals by inhibiting the ability to participate in constructive activities (Salari et al., 2020).

As students are learning how to adjust and tackle life issues, they are readily infested with stress and drastic situations. This leads to adverse conditions of behavioral issues such as the use of drugs, and other harmful behaviors – the states of depression and anxiety (Yang & Yang, 2022). The following figure describes different aspects of stress:

Figure No 1: Different Aspects of Stress (Khan et al., 2013)

All of these four aspects of stress are called psychological disorders which overlap but different terms in psychology. Out of them, fatigue is usually considered as a normal response to extra physical, or mental activities. But, if fatigue persists for a long time, it causes a lack of motivation (Berman, 2023). Depression is defined as a state of mood in which a person experiences a lack of interest or feelings of pleasure in performing different tasks for a long period (World Health Organization, 2024). Anxiety is defined as the persistent state of excessive fear and worries about life (World Health Organization, 2022). Dread on the other hand is also synonymously used as anxiety i.e., a state of fear or distress regarding unwanted anticipations of life (The Britannica Dictionary, 2024).

All these aspects of stress affect life relationships with the community. It may result from or lead to problems at school and work. Research data indicates that females are usually more inclined to stress than males. Moreover, about 3.8% of the world's population is experiencing depression. Numerically, it is considered that 280 million people around the world including 5% adults (4% young men, and 6% young women), 10% of pregnant women, and 7.5% adults of old age (60+). Statistical data also reveals that more than 700,000 people attempt suicide every year due to depression. Moreover,
the greater number of them is of adolescents of youngsters/ or students of 15-29 years of age.

There has been a long-running study of academic stress in students, and the study found that stress can lead to multiple jobs, competition with other students, indebtedness, tax deficits, and bad connections with other peers or professors. As a family and domestic issue. Student educational stress has long been studied, and their experiment recognizes many components that create stress as a program to take part with other students. Many stressors affect the intelligent thinking of students and their lives. Higher order and critical thinking skills have been focused on in many recent studies regarding science teachers’ perspectives, practices, and educational policy and curriculum documents (Jamil et al., 2024(a); Jamil et al., 2024(b); Jamil et al., 2024(c); Jamil et al., 2024(e); Jamil & Muhammad, 2019; Jamil et al., 2020). Pressure is an obstacle to growing knowledge. Defeat and poor relationships with other teachers or peers are the strongest facets of stress. Test anxiety includes teaching students about false facts and lack of room for learning (Khan & Shamama-Tus-Sabah, 2020).

People feel more depressed in the first trimester of academic achievement than in the higher quarter of educational outcomes. In the last area of science performance, a maximum of 63 percent of students feel uncomfortable with tests no matter how well arranged they are, while in the higher quarterly report, 46 percent of students report anxiety (OECD, 2015).

1.1 Objectives of the study
The objectives of the study were as follows:

- To find out the factors that cause stress in students
- To determine the impact of stress on academic performance of the students

1.2 Research Questions
The research questions of the study were:

- What are the factors that cause stress in students?
- What is the impact of stress on students’ academic achievement?

For students, study may become a useful asset that will provide guidelines for students to understand factors of stress; and overcome the issues of stress; especially by understanding the academic-related issues and tackling them.

For university administration, and teachers the study may help to formulate better policies that may help their students in better stress management.

2. Literature Review

Stress significantly impacts students' academic performance and overall well-being. Factors such as gender, age, family financial status, and living conditions contribute to stress levels (Rahiman et al., 2023). When stress surpasses an individual's coping capacity, cognitive performance declines, leading to increased risks of substance abuse and other hazardous behaviors. Stress triggers a hormonal response, initiating the fight or flight reaction, affecting both mental and physical health (Azad & Kaur, 2024).

Academic stress is particularly prevalent among university students, often resulting from exams, class rankings, and rigorous schedules (Agolla & Ongori, 2009). Studies show that academic success is influenced by social status, family income, and parental involvement
Previous academic performance and attendance are also significant predictors of future success (Ellis & Durden, 2002; Berry et al., 2011).

2.1 Physical and Emotional Impact of Stress on Students

Stress has significant physical and emotional effects on students, impacting their academic performance and overall well-being. Chronic stress can lead to conditions related to depression and various medical ailments. Breathing disorders form part of the varieties of health complications that may develop due to stress and these may be exacerbated in patients with other related ailments such as asthma or pneumonia. Also, stress influences hypertension, keen breathing, and even episodes of panic. Another common physical response to stress is increased muscular contraction and rigidity which can compromise fine motor control and lead to fidgeting. This can also result in chronic fatigue and affect the normal sleeping patterns of an individual. This creates fatigue impact on students as they are weary since they are left with little energy to carry out personal or studies.

First, stress affects emotions; it has potential negative effects on the individual subjected to the stress. According to PNI proponents, chronic stress worsens mental disorders such as anxiety and causes sleep disturbances; these changes lead to shifts in personality, behavioural disorders, and impaired thinking. Twitching, nail-biting, fidgeting, runny nostrils and tapping feet are some of the main symptoms of anxiety that pupils may show. These disturbing thoughts, feelings of nausea, and an abnormal heart rate mean that students are at high risk of developing depression if stressed by chronic stress hormones. Organized stress itself is closely related to easy temptation, easy anger, and readiness to explain one’s failures instead of taking responsibility for them among students. They also regularly get upset, irritable, and angry, and this is not good for other people trying to communicate with them or help them. Based on the effect that stress has on the body, it can be divided into two forms, namely positive stress usually known as eustress, and negative stress or distress. Positive stress can motivate the stressor to achieve enhanced results due to the stimulation of interest and enthusiasm to produce better outcomes. Negative stress on the other hand causes concern, and expectations and leads to a feeling of enhancement. However, there are some physical effects which may include raised heart rate and rise in blood pressure as well as difficulty in falling asleep or even getting a restful sleep. Stress in that, content stressors are forces outside the individual for instance family, work, and friends while process stressors are internal forces such as feelings, thoughts, and behaviors that are at different times sensitive to different individuals depending on their vulnerability to stressfulness of events. To sum up, it could be beneficial if students experience a moderate amount of stress as it enhances performance, yet if stress is beyond the permissible limit, it produces negative effects and impacts the students physically, mentally, and academically. Stress is a key area that is very important for the students so that they can be able to handle them to improve their health and academic performance.

2.2 Stress and Its Impact on Students' Academic Performance

2.2.1 Quality of Sleep and Physical Health

Stress severely impacts sleep quality, with 68% of anxious individuals experiencing sleep difficulties. Teens need at least 8 hours of sleep for optimal performance, but only 15% achieve this. Poor sleep exacerbates stress, affecting focus, learning, memory, and logical thinking. While physical activity can improve physical health, overexertion can leave
students mentally fatigued, impacting their academic performance.

2.2.2 Behavioral Issues and Mental Health

Stress can lead to irritability and anger, increasing the likelihood of outbursts and social isolation. Stressed students often struggle to follow rules and engage positively with peers and educators. Long-term stress can cause mental health issues like anxiety and depression, manifesting as decreased confidence, social withdrawal, and lower control over personal and academic life.

2.2.3 Impact of COVID-19

The COVID-19 lockdown intensified stress among students. The sudden shift to online learning and uncertainty about exams heightened anxiety. Students preparing for critical exams, such as India's NEET, faced prolonged stress due to postponed exams. Schools need mental health support systems, including counselors and regular check-ins, to help students cope.

2.2.4 Academic Pressure

Students face continuous academic stress, including the pressure to achieve good grades. A survey by the OECD revealed that 66% of students worry about poor grades and 60% stress over exams. Increased academic demands can overwhelm students, leading to decreased focus and performance.

2.3 Factors Affecting Academic Performance

Various internal and external factors influence academic performance. Internal factors include classroom environment, teaching methods, and curriculum. External factors encompass extracurricular activities, personal issues, and family dynamics. Effective communication and parental involvement are crucial for student success.

Conduct and Welfare Impact: Stress changes how people behave, which can result in emotional instability, substance addiction, overeating, and social disengagement. Maintaining a balanced diet, getting enough sleep, and engaging in regular exercise are essential elements of a healthy lifestyle that also helps students manage stress.

By creating support networks, holding frequent sessions with psychologists, and keeping an eye on stress levels, educational institutions should place a high priority on mental health. Stress among students can be reduced by switching to online tests and making sure no academic year is lost. For students to succeed academically and maintain their mental health, ongoing help and counseling are essential.

2.4 Stressors in Academic Life

From the strict methods of teaching and the need to exhibit understanding, students have to pass through interventions in normal learning time characterized by standardized tests that are very stressful to the learners. Stress can be in the form of frustration due to the pressure placed on students to get good grades in classes they probably do not excel in. Bright and healthy students mean that they require enough sleep and adequate breaks for them to grow. The use of study breaks: Continuous study makes students discouraged and feel bored which would make them nervous than productive Students who sit and study for many hours without taking any breaks are likely to overstudy and get bored and therefore nervous.

2.5 Socioeconomic and Environmental Factors

In one way or the other, the activities of the students in the classroom are greatly
affected by these socioeconomic factors. They may feel uncomfortable while studying, therefore they might not be able to concentrate and study effectively due to the feeling of being uncomfortable in the new environment. The main causes of stress and anxiety in students include living conditions, especially if they are unsatisfactory, and Parental separation.

2.6 Nutrition and Technology Issues

This includes the taking of foods with high concentrations of calories, and sugars, which are ways through which stress levels are increased. In addition, the children who will not have the requisite resources might experience a lot of stress and dissatisfaction as they deal with technology input in class.

2.7 Managing Stress

i) **Mindfulness and meditation:** By remaining in the present moment, these practices help lower anxiety and increase focus. They are among the effective stress management strategies.

ii) **Body Scanning:** Focusing on different body parts to enhance awareness and relaxation.

iii) **Deep Breathing:** Breathing deeply from the diaphragm to increase oxygen intake and reduce tension.

iv) **Guided Imagery:** Visualizing a peaceful scene to relax and alleviate stress.

v) **Self-Massage:** Simple self-massage techniques can provide deep relaxation and relieve stress.

2.8 Tips for Reducing Anxiety and Stress

- **Take Breaks:** Engage in activities like yoga, listening to music, meditation, or getting a massage.
- **Eat Nutritious Foods:** Maintain a healthy diet and never skip meals.
- **Get Enough Sleep:** Ensure adequate rest to help the body cope with stress.
- **Breathe Deeply:** Practice slow, deep breathing to calm the mind.
- **Stay Positive:** Replace negative thoughts with positive ones and maintain a good attitude.
- **Get Involved:** Participate in community activities to build a support network and find relief from stress.

2.9 Previous Studies about Stress and Academic Performance

Several studies have been conducted related to stress and academic performance in national and international contexts. For instance, like impact of university-level students’ stress on their performance (Ali et al., 2021); the impact of stress on secondary and higher education (Pascoe et al., 2020); university students’ stress regarding COVID-19 (von Keyserlingk et al., 2022); stress and burnout of school teachers (Naz et al., 2022); impact of
parent teacher meeting on student’s academic achievement (Arshad et al., 2021); academic achievement of elementary level students (Jamil & Raza, 2024); effect of teachers’ work family conflict on academic performance of the students (Sajid et al., 2022).

3. Research Methodology

Stress is one of the human natural attributes. Therefore, research on this topic has been made for years in changing contexts and scenarios. Research illustrates that the topic that has been sufficiently studied, and various tools are present over it, can be attributed quantitatively (Creswell, 2013). The research was therefore designed under a quantitative paradigm. The study adopted a descriptive quantitative approach to evaluate the research questions. The survey method was used for data collection through the questionnaire.

3.1 Population and Sample of the Study

The study population comprised all public and private university students of district Lahore. The sample comprised 300 university students, who were selected through a convenient sampling strategy.

3.2 Tool of Research

A self-developed Likert-scale questionnaire was used as a study tool. The opening section of the questionnaire encouraged respondent to give information about their gender. Afterward, the 25 statements regarding four stress factors i.e., educational, personal, environmental, and coping strategies of stress, were incorporated in the questionnaire.

At the start of the questionnaire, a brief introduction regarding the nature of the study and informed consent was added. All statements were set on a 5-point Likert scale. The tool was content validated by experts and in the light of their guidance, necessary modifications were made. The reliability of the tool found by Cronbach Alpha was .817 which was considered highly reliable as per criteria described by Hair et al. (2018).

4. Data Analysis

Statistical Package for Social Sciences (SPSS), version 25 was used for data mining and data analysis. Detailed analysis of data and results are discussed in the following sections.

4.1 Analysis to Determine Factors that Cause Stress among University Students

Table No 1: Responses of Sample Respondents about Factors (N = 300)

<table>
<thead>
<tr>
<th>Statements</th>
<th>Range</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational factor as a source of stress</td>
<td>13</td>
<td>24.01</td>
<td>2.897</td>
</tr>
<tr>
<td>Personal factor as a source of stress that affects students’ academic performance</td>
<td>9</td>
<td>31.35</td>
<td>4.846</td>
</tr>
<tr>
<td>Environmental factor as a source of stress that affects students’ academic performance</td>
<td>8</td>
<td>18.94</td>
<td>3.197</td>
</tr>
<tr>
<td>Strategies that reduce stress in students</td>
<td>9</td>
<td>19.19</td>
<td>2.908</td>
</tr>
</tbody>
</table>

Table no 1 shows the mean value for the Educational factor as a source of stress (m = 24.01, S.D = 2.897), Personal factor as a source of stress that affect student’s academic performance (m = 31.35, S.D = 4.846), Environmental factor as a source of stress
that affect student’s academic performance \((m = 18.94, \text{S.D} = 3.197)\) and Strategies that reduce stress in students \((m = 19.19, \text{S.D} = 2.908)\). It is concluded that the mean of Personal factors as a source of stress that affect student’s academic performance is higher than the other factors.

Table No 2: Comparison of Students’ Perception Regarding Different Stress Factors

<table>
<thead>
<tr>
<th>Stress Factors</th>
<th>Groups</th>
<th>N</th>
<th>Mean</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Factors</td>
<td>Male</td>
<td>127</td>
<td>24.01</td>
<td>-.028</td>
<td>.575</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>173</td>
<td>24.02</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal Factors</td>
<td>Male</td>
<td>127</td>
<td>30.43</td>
<td>-2.866</td>
<td>.410</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>173</td>
<td>32.03</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Factors</td>
<td>Male</td>
<td>127</td>
<td>18.72</td>
<td>-1.001</td>
<td>.947</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>173</td>
<td>19.10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results indicate that none of the selected stress factors had significant differences on a gender basis. It means that both male and female students were facing equal stresses in life.

4.2 Analysis to Determine the Impact of Stress on Students’ Academic Achievement

Table No 3: Impact of Stress on Students’ Academic Performance

<table>
<thead>
<tr>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational Factor</td>
<td>Between Groups</td>
<td>.007</td>
<td>1</td>
<td>.007</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>2509.94</td>
<td>298</td>
<td>8.423</td>
</tr>
<tr>
<td>Personal Factor</td>
<td>Between Groups</td>
<td>188.36</td>
<td>1</td>
<td>188.355</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>6833.90</td>
<td>298</td>
<td>22.933</td>
</tr>
<tr>
<td>Environmental Factor</td>
<td>Between Groups</td>
<td>10.236</td>
<td>1</td>
<td>10.236</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>3046.684</td>
<td>298</td>
<td>10.224</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>3056.920</td>
<td>299</td>
<td></td>
</tr>
</tbody>
</table>

The above table shows the comparison of independent variables i.e., educational, personal, and environmental factors with the academic performance of university students. The results indicate that only personal factors exert a significant influence \((p = .004)\) over the academic performance of university students.

4.3 Discussion

The results of this study are coherent with other investigational works that have examined the effects of stress on the student’s performance. The most important sources of stress that impact academic performance as highlighted by our results were personal-family life stressors overshadowed by educational and environmental stresses to varying degrees. These results are in line with Wang et al. (2022b), as they pointed out the impact of the family social status and income on the students’ achievement. The importance of personal factors draws attention to the role of family context that curtails the stress level, thus has a positive effect on academic achievement.

In addition, this study also shows that the gender factor is non-important in the stress factor amongst students consistent with (Green et al., 2022) and the OECD (2017). These studies also found gender differences in stress levels to be minimal implying that stress management programs should not be congested with gender issues to succeed.
While the changes in how students perceive stress, as described in the current paper, are the result of COVID-19, they are still quite a recent phenomenon. The changes to the delivery of content through online means and the doubts concerning examinations have escalated students’ stress, thus in tandem with the observation made by the OECD survey. This new dimension of stress ‘also highlights the significance of strengthening the institutions’ preparatory ability to respond to the unprecedented mental health issues student populations are experiencing and will continue to experience in the future through check-ins and counseling services.

In line with our recommendation for the incorporation of stress management techniques to be incorporated into the established university curriculum, recommendations based on similar considerations have been made in the literature. For instance, both the articles by Agolla & Ongori (2009) and Berry et al. (2011) argued at length that it is important to engage academic stress through policy intervention and university counseling services. These measures are very important, especially in an educational institution where students need to be given a sense of complete well-being other than being academic achievers.

In sum, the current study’s findings’ conformity with previous research will allow for mapping out an overall picture of stress in academic settings and recognizing the necessity of developing multifaceted approaches to cope with it. Thus, by following stress management practices, educational institutions can also improve students’ achievements and health-related outcomes.

5. Conclusion

It can be concluded from the findings of the study that arousal of stress is natural. It also influences the academic performance of the students. When a student practices high stages of stress or chronic stress, irrespective of her grade or age, it can inhibit her aptitude to study, learn, and get respectable grades as well as lead to bad mental, impassive, and intellectual health. By learning about common stress, a blood relation can help to lessen bad or long-lasting stress in a child’s life. Extreme stress could lead to mental difficulties such as sadness and nervousness. Due to the poor impact of stress on learner’s life, such as failure in study, poor learning performance, and mutual health status, putting real measures in place is relevant to their learning success and life. This is done by the result of the main causes of anxiety which contain changes in way of life, increased load, new tasks, and social interactions, and realizing the correct medicine. This study could benefit us in finding the main purpose and helping the learners find a key to their problems and help them make their education stress-free and tension-free.

5.1 Recommendation

Based on the study findings, the following recommendations are made for the stakeholders and future researchers:

1. To minimize the anxiety among students some suggestions were made. The instructor must offer appropriate strategies for examinations and assessments to avoid the study pressure among students.
2. The administration of the university should make an area for stress-handling
techniques in the syllabus and arrange a stress management environment and campaign to maintain stress among pupils.
3. The organization should be prepared sports and social programs for school children.
4. Worthy eating habits must be important to pupils concerning stress organization.
5. Sufficient naps and workouts are a significant medicine to stress control.
6. There would be a worthy balance between working times and learning hours to evade stress.
7. For future researchers, it may be useful to expand the area and level of study to get a deeper probe into the topic.

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