

Chapter 1

Introduction

University life brings about many challenges and transitions for students, preparing them for the complexities of real-world experiences. Adjusting to the university environment, forming new friendships, navigating unfamiliar academic courses, adapting to diverse teaching methodologies, and getting acquainted with new faculty members are just a few examples of the adjustments students must make (Cotton, Dollard, & De Jonge, 2002). This adjustment can have emotional implications and potentially lead to stress which could influence the academic performance.

Stress occurs when an individual thinks that the demands imposed on them surpass their personal and social resources, according to Lazarus and Folkman (1984). According to research, failing to adapt to a new environment can result in both bodily and psychological problems (Cotton, Dollard, & De Jonge, 2002). Due to the responsibilities connected with schoolwork, tests, deadlines, and overall academic success, academic stress is especially frequent among university students. Academic stress is caused by factors such as the competitive nature of the educational environment, high expectations, fear of failure, and the need to manage many duties (Hudd et al., 2000). Though there could be many factors/issues which may cause stress, but there are several factors which may also help reduce it. Specifically, when considering academic stress different factors may be managed to reduce stress. Researchers have reported that effective time management, realistic goal settings, setting prioritizing things and positive mind set are among the few things which can reduce stress among university students. Focusing of the positive mind set we believe this is necessary for any student before they start their academic journey otherwise, they would not achieve their targets. Academic self-efficacy is similar to having a positive mind set and it

would be interesting to see if individuals who have better self-efficacy tend to be less academically stressed out.

Bandura, (1997) stated that students who have higher levels of self-efficacy, defined as confidence in their capacity to overcome academic obstacles, tend to cope better with stress. Self-efficacy is vital in task performance; academics handle academic stress better, which improves their academic outcomes. Individuals who mistrust their problem-solving ability and dread failure, on the other hand, may feel higher stress, resulting in decreased academic performance, elevated stress levels, poor academic standing, and potentially early exit from university (Clinciu, 2013). Belief in one's abilities imparts confidence in individuals, acting as a protective factor against stress. Stress, defined as mental or emotional strain resulting from demanding and adverse situations, can coexist with high self-efficacy, but it does not undermine the importance of self-belief and motivation. Striking a balance between self-efficacy and stress levels is crucial for overall well-being and academic performance. However, it is essential to acknowledge that the relationship between self-efficacy and stress can vary among individuals, influenced by contextual factors and personal circumstances. Therefore, it is valuable to investigate how this relationship holds within specific regions. The following section specifically elaborates on the relationship between self-efficacy and stress level.

Academic Self-Efficacy and Stress

The relationship between academic self-efficacy and stress level has been studied. Some research showed a positive link, while others found a negative one. Individuals with strong academic self-efficacy may suffer higher levels of stress, according to studies that propose a positive association (Skaalvik & Skaalvik, 2014). This could be attributable to the high standards and ambitious goals that these people set for themselves, resulting in

heightened pressure. Furthermore, people with high self-efficacy intentionally seek out difficult academic activities and situations, which can contribute to stress (Bandura, 1997).

Furthermore, perfectionistic inclinations in people with high self-efficacy can increase stress because they strive for perfection and are afraid of falling short of their lofty goals (Stoeber & Otto, 2006; Sara, 2023). Some studies, on the other hand, suggest that there is a negative relationship between academic self-efficacy and stress level, implying that individuals who have self-confidence and academically achieve their goals tend to be less stressed out than individuals who are less confident (Ye, Posada, & Liu, 2018).

However, it is essential to note that the association between academic self-efficacy and stress level is complex and can be influenced by various factors. While some individuals may experience elevated stress levels, others may effectively manage stress despite their low self-efficacy (Zimmerman, Bandura, & Martinez-Pons, 1992). Contextual factors, such as the specific academic environment and personal circumstances, can also impact this relationship.

So it is important to understanding the interplay between academic self-efficacy and stress levels which can help foster overall well-being which result in achieving academic success (Bandura, 1997). Studying the potential issues for implementing the support mechanisms, the universities can help the students with low level self-efficacy in effectively managing stress and this way they can keep a healthy balance. As discussed earlier academic Self-efficacy, as proposed by Bandura (1997), refers to an individual's belief in their capability to complete academic tasks and reach desired outcomes. Students with heightened self-efficacy are more likely to cope effectively with challenges and experience lower stress levels (Bandura, 1997).

Academic stress specifically pertains to the pressures associated with coursework, examinations, deadlines, and overall academic performance. The pursuit of demanding

academic tasks, high expectations, and perfectionistic tendencies can contribute to elevated stress levels among individuals with low self-efficacy (Lazarus & Folkman, 1984).

Nonetheless, the association between self-efficacy and stress is complex as it is influenced by contextual factors and personal circumstances.

Some commonly discussed contextual factor which may cause stress such as cost of study, the financial concerns become additional stressors for a student. Another factor could be developing social relationship where some find it difficult to adjust to new environment especially when they have not studied in a co-education setup. Again some students may face some biological, physical or psychological issues where by they are challenged by some health issues and poor quality of food may develop discomfort and feel overwhelmed leading to higher stress levels. It is important to note that the effect of these factors may vary individual to individual and for some it may be an ordeal for other just routine so universities administration can probe and offer to resolve these issues as per the need of that person. (Yousif, Arbab, & Yousef, 2022)

Moderating Role of Gender

Researchers are also interested in exploring potential gender differences in stress levels among Men and Women students. Clinciu (2013) suggests that stress levels may vary between genders. Examining these differences can help universities develop specific interventions and systems customized to address the specific stressors faced by Men and Women students. For example, research by Misra and McKean (2000) found that Women students experience higher stress levels as compared to Men counterparts. This could be attributed to various factors, including societal expectations, gender roles, and academic pressures.

By identifying and understanding these gender differences, universities can implement interventions that address the unique challenges faced by Men and Women

students, promoting their well-being and academic success. However, research examining the relationship between academic self-efficacy, stress levels, and gender in the context of Pakistan is limited. Conducting a study to assess the stress levels among students in this region, specifically considering gender differences, would provide valuable insights. Additionally, investigating the potential association between academic self-efficacy and stress would contribute to our understanding of how self-beliefs impact students' stress experiences.

Difference on Stress by Gender

As briefly discussed earlier that stress is a common phenomenon experienced by university students, posing significant challenges to their academic performance and overall well-being. Research has indicated that stress levels can differ between Men and Women students, suggesting the presence of gender-specific factors that contribute to stress experiences. Understanding these gender differences is crucial for educational institutions to develop customized specific interventions and support systems that address the stressors and address them for Men and Women students. (Mayor, 2015)

Studies have shown that Women University students tend to experience higher levels of stress compared to their Men counterparts. Hamidah Muhd Irpan et al. (2018) found that while stress, in general, may not significantly impact academic performance, as their specific stressors varied for Men and Women. In context of Pakistan we believe that for men students stress may stem from problems which are related to friends, financial difficulties and academic performance on the other hand the Women students may arise due to cultural norms, taboos and social interactions in a coeducation environment.

Michelle Calvarese's study (2015), reported that gender differences exists in the experience and response to stress among university students. Women report higher levels of

anxiety and depression when faced with stress compared to men. These findings indicate that considerations gender-specific factors in needed which can address the stress among university students according to their genders.

In conclusion, understanding the specific stressors and coping mechanisms associated with gender differences is essential. Through this we can develop effective interventions and support systems within the university environment. By recognizing and addressing the distinct stress experiences of Men and Women students, universities can develop a supportive campus culture that promotes student well-being and academic success.

Theoretical Framework:

The presented literature suggests that academic self-efficacy, stress level, and gender are important factors in understanding the experiences of university students. Building on this information, we can develop a theoretical framework and research model that integrates these variables.

The theoretical framework includes the relationships between the variables and helps in providing a conceptual research model. Academic self-efficacy refers to an individual's belief in their ability to successfully perform academic tasks and achieve desired outcomes. It is influenced by personal experiences, mastery of skills, and social support (Bandura, 1997). On the other hand according to Lazarus and Folkman (1984) stress level consists of the psychological and emotional strain experienced by students due to academic demands, expectations, and pressures. It may arise from various sources such as workload, time management, competition, and evaluation. And finally, Gender refers to the social roles, behaviours, and expectations associated with being Men or Women. Gender differences can influence the experience and perception of academic self-efficacy and stress level.

in conclusion of the above stated literature that this study highlights the intricate relationships among academic self-efficacy, stress level, and gender within the university context. Academic self-efficacy refers to individuals' beliefs in their abilities to excel academically, which are shaped by personal experiences, skill mastery, and social support systems. Conversely, stress level encompasses the psychological and emotional strain experienced by students due to academic demands, expectations, and pressures, originating from various sources such as workload, time management, competition, and evaluation.

Our research also emphasizes the role of gender and is part of our theoretical framework. Gender, as a societal construct, shapes the societal norms, actions, and anticipated responsibilities linked to being men or women. These gender differences can significantly impact individuals' experiences and perceptions of academic self-efficacy and stress level. We recognizing that there is an interplay between gender and this research provides valuable insights into the distinct challenges and coping mechanisms encountered by men and women students in a university setting.

Considering the above theoretical framework, of university level institutions researchers can develop targeted interventions and support systems that aim to enhance academic self-efficacy which can remove stress level, and foster overall well-being among university students. Creating inclusive and supportive environments that acknowledge the need for fascination in order to provide academic growth and well-being of all students

Chapter 2

Literature Review

This section covers literature which provides some insight into the association between academic self-efficacy and stress levels. Further we also report literature that specifically reports the difference between the stress level of Men and Women in academic environment.

The association between the variable academic self-efficacy and stress level among university students, and the moderating effects of gender, has been already explored in many studies. A negative association between academic stress levels and academic self-efficacy in high school students of China was found by Ye, Posada, and Liu (2018). Furthermore, this relationship was found to be moderated by gender, with the negative impact of academic stress on self-efficacy being stronger for women students.

The study by Kristensen, Larsen, Urke, and Danielsen (2023), reported an association between academic stress levels, academic self-efficacy, and psychological distress in Norway. The relationship can also be vice versa because in a study by Nihan Arslan (2017) of secondary school students explored association between emotional self-efficacy and educational stress. The findings reported a negative correlation between emotional self-efficacy and educational stress, indicating that higher levels of emotional self-efficacy were associated with lower levels of stress. Regardless of the direction of the association studies have indicated relationship between stress and academic self-efficacy.

Further, Khan (2013) explored the association between academic self-efficacy, stress management skills, and academic performance among undergraduate students, emphasising the necessity of understanding the dynamic relationship between these variables. Kamal, Fahd, Bhatti, and Bhukhari (2020), in their research explored the connection between self-

efficacy and academic stress in university students of Pakistan. Their findings indicated a negative correlation between self-efficacy and academic stress, implying that higher self-efficacy levels were related to lower levels of stress. Furthermore, the study found that men students experienced higher levels of academic stress than their women counterparts, indicating potential gender differences in the experience of academic stress. This emphasises the importance of understanding how these variables interact and influence one another, providing vital insights for developing effective stress-reduction measures for university students.

Furthermore, as study conducted in United Kingdom by McKay and colleagues(2014) reported that there are differences in self-efficacy and stress levels between genders. A study of medical students by Asif and colleagues (2020) found significant levels of mental distress, was mostly linked to academic pressure.

Yoon and Jung (2014), in their research explored the role of academic self-efficacy as a mediator between academic stress and academic burnout in Korean university students. Their findings revealed that academic self-efficacy had a negative influence on both academic stress and academic burnout. In addition, in their study it was noted that academic self-efficacy played a role in mediating the connection between academic stress and academic burnout. Which suggests that enhancing academic self-efficacy holds importance in mitigating academic stress and preventing burnout among teenagers. So by bolstering their confidence i.e. self-efficacy in their academic abilities, students can potentially decrease their stress levels and steer clear of the detrimental effects of burnout.

Akhtar and Perveen (2022) looked into how stress and academic self-efficacy related in female college students. Their research showed a link between academic self-efficacy and stress among female college students. But also they also reported that there is inequalities

between married and single college-bound women students in association for levels of stress and academic self-efficacy.

Some commonly discussed contextual factor which may influence the relationship between academic self-efficacy and stress are cost of study i.e. the financial concerns become additional stressors for a student. The student may feel confident that he/she would complete their student but due to the fear and concerns about arranging finances for the study. Another factor could be developing social relationship where some find it difficult to adjust to new environment especially when they have not studied in a co-education setup. The student may have the confidence in their ability to complete their studies but the social environment may disturb their focus and hence lose confidence. Again some students may face some biological issues where by they are challenged by some health issues and poor quality of food while living in dormitories. They may develop discomfort and health related issues and finding no family to take care of them which can lead higher stress levels. It is important to note that the effect of these factors may vary individual to individual and for some it may be an ordeal for other just routine so universities administration can probe and offer to resolve these issues as per the need of that person. (Travis, Kaszycki, Geden, & Bunde, 2020)

In a study by Dwyer and Cummings (2007) they examined the interplay between self-efficacy, social support, coping mechanisms, and stress levels among university students. The findings of the study revealed significant associations between stress and coping mechanisms, as well as the influence of social support on these coping strategies. Notably, women reported receiving greater levels of social support from friends compared to men, suggesting gender differences in social support availability. These findings shed light on the intricate relationships between self-efficacy, social support, coping mechanisms, and stress levels among university students, underscoring the importance of understanding these dynamics for effectively addressing and managing stress in both male and female students.

In addition to the above, the core source of the difference is caused by gender differences, which is discussed in more detail in the following sections.

Stress is an actually a response that a body makes when exposed to an environment, whereby an individual reacts differently to different stresses. The difference in level of stress faced by individuals may vary based on their gender type and both may react and respond differently. For example women tend to be better at expressing as compared to men therefore stress may be registered differently with men and women. Further there could be biological, emotional differences which can also become the source of difference in registering stress. In context of social factors women usually get sympathy as they are frequent in expressing their feelings whereas men are usually are expected to be as reserve or strong, so they usually it appears that men manage their stress better while address their stressors on the other hand women tend to express their feeling better and more frequently gain reassurances and sympathy and reported to have greater stress levels. Other than that, biological factors also play a role which include hormonal changes etc (Chaplin, 2015).

In a university setting academic stress is a prevalent issue among students, and many studies have explored its relationship with gender differences. There could be a number of underlying factors which may be different for men and women but here we would like to establish that establish the basics of stress and if there is any difference in the stress level of men and women. And while understanding that stress level among men and women university student how can we help develop strategies for improving mental health and academic performances. The understanding the impact of stress on academic performance and overall well-being is a concern for COMSATS University, Lahore Campus and similar institutions and researchers. The following paragraphs now looks are different researches reporting the connection between stress levels and academic performance of university students.

A study by Irpan et al. (2018). (2018) examined stress and academic performance in university students, focusing on gender differences. The findings revealed that stress levels can vary between men and women. Though in this study it was found that stress, in general, did not significantly affect academic performance but stressors differed for men and women. Men reported that stress from social related problems impacted their academic performance, while women reported that stress caused by financial issues affected theirs. This study emphasizes the importance of recognizing gender-specific stressors to effectively address stress-related concerns among university students. For our study we recognize that the stress level in a university student differ on gender bases.

In another study conducted by Matud (2004), focusing gender differences in stress and coping styles reported that women generally experience higher levels of stress compared to men. Additionally, women tended to rate their life events as more negative and less controllable than men and this could be due to their being more sensitive and more being more expressive. So when it comes for coping mechanisms for managing stress in genders, different patterns emerge. In their research they reported that women outperformed men in emotional and avoidance coping techniques, demonstrating a proclivity to deal with stress by expressing feelings and avoiding the subject. Men exhibited stronger emotional inhibition tendencies, suggesting a preference for suppressing or concealing emotions as a coping mechanism. On the other hand, women showed higher levels of psychological distress, indicating greater weakness to stress therefore indicating that strategies must be in placed which address emotions. Hence these findings highlight gender differences in stress experiences and coping approaches, underscoring the importance of tailored interventions that address individual coping styles and needs.

Calvarese (2015) also did research on the effect of gender on stress factors among university students. When it comes to stress, women experience higher degrees of despair,

frustration, and anxiety than men, according to the findings. Men had psychological reactions that differed from those listed in the poll. These findings show that women may experience more emotional distress in response to stresses, whereas men may have unique stress reactions that are not reflected by standard assessments. Focusing on only women one study by Gadzella and Carvalho (2006) reported that stress differences among women university students. The study found significant variations in stress levels among women students who perceived their stress as mild, moderate, or severe. Various inventory category scores differed significantly between stress level groups. However, no differences were observed in terms of age and course grades. This study highlights the diverse experiences of stress among women university students and the importance of considering individual stress perceptions.

Finally, the research papers reviewed above provide insights on stress and gender differences among university students. It may be concluded that women are more likely to be stressed and to utilise emotion-focused coping mechanisms when confronted with pressures, they also demonstrate increased emotional distress. So while recognising the impact of gender in university student stress levels is critical for establishing targeted interventions and support systems. As a result, a university may employ personalised measures to aid both men and women students in managing academic stress, ensuring academic achievement, and overall well-being.

Rational of the Study

The relationship between academic self-efficacy and stress level among university students is a topic of interest and importance, as it directly impacts students' well-being and effect academic success. The discussion presented above highlights the existing research in this area and identifies the need for further investigation, particularly within specific university, COMSATS University Islamabad, Lahore Campus. By conducting a study that

explores the dynamics between self-efficacy and stress levels, researchers can provide valuable insights into the experiences of students and contribute to the existing body of knowledge.

Understanding the relationship between academic self-efficacy and stress within a university allows the researchers examine cultural or environmental factors that may influence these dynamics. As Pakistan is collectivist society where cultural values and society norms are rated high, and masculinity dominated environment (Hofstede, 2001). The pressures would be different for men vs women. Further, the different educational systems, societal expectations, and support structures can significantly impact students' experiences and coping mechanisms. By focusing on a specific context, the study can provide context-specific findings that are relevant and applicable to that particular setting, enriching our understanding of how self-efficacy and stress interact among university students.

This study significance extends beyond academic research as it has practical implications for educational institutions, policymakers, and educators. The findings can gauge effective strategies to support student's mental well-being and academic success. By understanding the impact of self-efficacy on stress levels, universities management can implement targeted interventions and programs to promote students' well-being and enhance their ability to manage stress effectively. This may include providing resources for stress management, creating a supportive academic environment, and offering interventions to enhance students' self-efficacy beliefs. Further, this study can contribute to the development of strategies and intermediations that help students' academic success, well-being, and overall satisfaction with their university experience.

In conclusion, the association between the two variables of interest i.e. academic self-efficacy and stress level in university students is complex. While some studies have shown a

positive association between these two variables, which indicates that students with high self-efficacy may experience higher levels of stress due to their ambitious goals and perfectionistic tendencies, but on the other hand which might be the case in most individuals that higher Academic Self-efficacy leads to lessened stress levels. Further, factors such as contextual influences and personal circumstances play a significant role in shaping how academic self-efficacy and stress interact which also needs to be explored. Nevertheless, currently this research is limited to understanding this relationship is crucial for promoting well-being and academic success of students. The present study is an effort to explore the association between Academic self-efficacy and stress levels among COMSATS University Islamabad, Lahore Campus undergraduate students and further studies the relationship by bifurcating the relationship on gender and see if it moderates the relationship.

Research Objectives

1. To examine the relationship between academic self-efficacy and stress level among university students in a Lahore Campus, COMSATS University Islamabad.
2. To explore how the relationship between academic self-efficacy and stress level may vary across different genders.
3. To provide evidence-based recommendations for universities and educators to develop effective interventions and support mechanisms to help students manage stress level and enhance their academic self-efficacy.
4. To contribute to the existing body of knowledge on the relationship between academic self-efficacy and stress level, particularly within a specific region or context, and expand the understanding of this relationship in the field of educational psychology.

Hypotheses

1. There is likely to be an association between Academic self-efficacy and stress level.
2. Gender moderates the association between academic self-efficacy and stress level. The association between academic self-efficacy and stress level will be stronger for Women students compared to Men students.

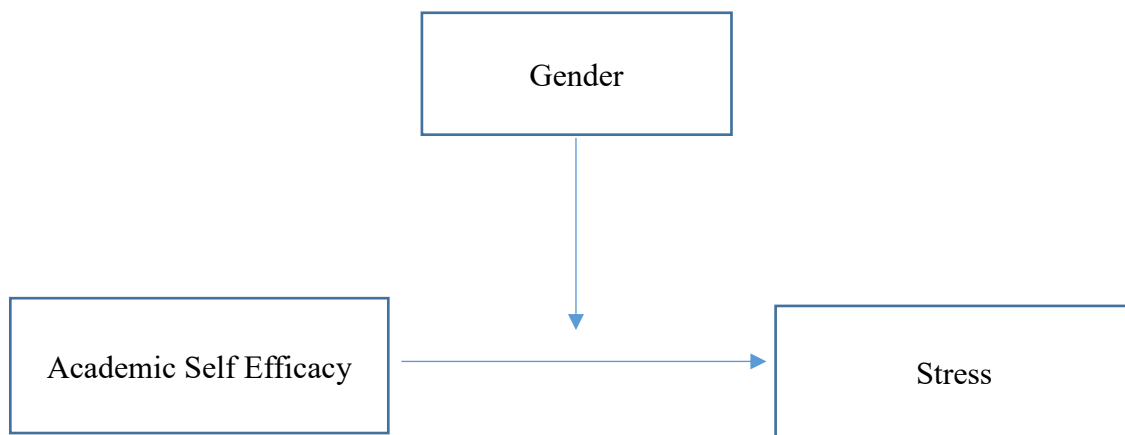


Figure 1: *Hypothesized model*

Chapter 3

Methodology

Research Design

The research design used in this study is a correlational research design. As the objective of the study was exploring the relationship between academic self-efficacy and stress level, and to explore how the relationship between academic self-efficacy and stress level may vary across different genders

Participants and sampling strategy

The study participants consisted of undergraduate students from Lahore Campus, COMSATS University Islamabad. A convenience sampling technique was employed to select participants who meet the inclusion criteria: being enrolled as full-time students at the university and voluntarily agreeing to participate in the study. Male and female students were included to examine potential gender differences in the relationship between academic self-efficacy and stress level. The total number of participants in the current research was 404. For this study the data was collected using a self-report questionnaire. The questionnaire consisted validated scales to measure academic self-efficacy and stress levels. The questionnaire were administered manually ensuring confidentiality and anonymity for participants. Before completing the questionnaire, participants were provided with information outlining the purpose of the study, their rights as participants, and the voluntary nature of their participation. The data for the study was gathered from undergraduate students enrolled at the Lahore Campus of COMSATS University Islamabad.

Inclusion/Exclusion Criteria

To filter out the participants, demographic variables based on the inclusion/exclusion criteria of the study were added to the questionnaire. The participants who can comprehend English were contacted as the questionnaire was in English.

Operational Definition of Study Variables

Academic self-efficacy

Academic self-efficacy refers to an individual's belief in their capability to complete academic tasks and reach desired outcomes (Bandura, 1997)

Stress

Stress occurs when an individual thinks that the demands imposed on them surpass their personal and social resources. (Lazarus&Folkman ,1984)

Gender

Gender refers to the attitudes, feelings, and behaviors that a given culture associates with a person's biological sex (APA, 2012)

Tools of Assessment

Demographic Questionnaire

Information regarding the respondents' demographic would also be collected, information such Gender, Age, Semester of study, student status including are you a day scholar or a hostelite and latest semester and relationship status were included.

Academic Self-Efficacy Scale (GASE: Nielsen et al 2018)

The academic self-efficacy of participants will be assessed using a validated scale developed by Nielsen et al. (2018) to measure academic self-efficacy. The general

academic self-efficacy (GASE) is a five-item self-report scale that assesses academic self-efficacy using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). An example item from the scale is: "I know I can pass the exam if I put in enough work during the semester." Akanni and Oduaran (2018) claimed satisfactory level of internal consistency for the GASE, having a Cronbach's alpha coefficient of 0.81. In this research the alpha coefficient of the composite scale is .70 which is acceptable and reliable (see Table 2)

Stress Scale (DAS21 Lovibond, S. H., and Lovibond, P. F 1995)

To measure stress level the Depression Anxiety Stress Scale (DAS) shorter version DAS21 sub-scale on stress was used for data collection, only questions assessing stress level would be used for our study. The Depression Anxiety Stress Scale (DAS) was developed by Lovibond, S. H., and Lovibond, P. F. in 1995. The original version of the scale, known as the DAS-42, consists of 42 items. However, a shorter version DAS-21, consisting 21 items, was subsequently developed for more efficient administration but still capturing the main dimensions of depression, anxiety, and stress. The three DAS-21 scores each have seven items that have subscales with accordance to the material like stress depression and anxiety. The stress subscale was used in the study. To calculate the scores for the relevant items are added to determine the depression, anxiety, and stress scores. Moya et al. (2022) provided the overall Cronbach's alpha for the DAS-21 scale which is 0.74. The DAS-21 subscales had Cronbach's alpha values of 0.66, 0.29 and 0.52 for depression (DAS-D), anxiety (DAS-A) and stress (DAS-S), respectively. The ordinal alpha for DAS-D, DAS-A and DAS-S subscales were 0.83, 0.74 and 0.87, respectively. In this research the alpha coefficient value of the scale is .70 which is acceptable (see Table 2)

Ethical Considerations

Thesis Committee approved the present study of the Department of Humanities, COMSATS University Islamabad, Lahore campus. All participants were ensured of their voluntary participation and the protection of their information. Confidentiality and anonymity was maintained by not requiring the respondents to provide their names or id numbers and the reporting is done using aggregated data for reporting purposes.

Statistical Analysis

In the current study, the data was processed and analyzed using descriptive and inferential statistics. Descriptive statistics were analyzed by calculating the mean (M), standard deviation (SD), frequencies (f), percentage (%), graphs, Skewness, Kurtosis, and alpha coefficients. On the other hand, inferential statistics analysis will be conducted to examine the relationship between academic self-efficacy and stress level. This will include the correlation analysis in order to determine the direction and strength of the relationship. Additionally, a multiple regression analysis will be performed to explore the predictive strength of academic self-efficacy on stress levels while considering gender as a moderator. To test the relationship between Academic Self-Efficacy and Stress Level Pearson's correlations test to establish a relationship between these variables. Further to test the moderation role of Gender, we would be using Preacher Macro to establish the mediating role of Gender between Academic Self-efficacy and Stress level. To establish the difference between the stress level of Men and Women t-Test would be conducted using SPSS version

Chapter 4

Results

Analysis plan

This study section addresses preliminary analysis, descriptive analysis, and inferential analysis. The missing values, outliers, and random responses were identified and cleaned out in a preliminary analysis. Then, descriptive analysis was run to calculate the frequencies, percentages, mean, standard deviation, skewness, kurtosis, and alpha coefficients. Then, inferential analysis was performed, including Pearson Product Moment Correlation Analysis and Regression Analysis

Preliminary Analysis

The data was cleaned in the study's first phase, and the response rate was checked. The response rate of the participants was 100% because a google form was generated to collect the participants' responses, and it was made sure that the participants responded to each question on the questionnaire. The responses were directly downloaded from the google form in an excel sheet, and then they were exported to SPSS for further analysis.

Descriptive Analysis

Table 1 shows the descriptive analysis of the sample. In the current study, the participants were University students between the age of 18 to 24 years; ; the mean age ($n=404$) was 20.7 years, and the standard deviation was 1.40. The study's total sample comprised 404 students (male=180, female=224). The "Semester" variable represents the academic semester of the respondents. The data consists of first to the eighth semester undergraduate students, with an average semester reported Mean as 5.26. standard deviation

of 2.54. Day Hostle" variable assesses respondents' daytime residence in hostels with Mean of 1.36 and Standard deviation of 0.48. Examining relationship status, the "Relationship Status" variable consisted of mean of 2.03 and standard deviation .78

Table 1

Descriptive Characteristics of Study Participants

<i>Variables</i>	<i>Mean</i>	<i>SD</i>	<i>Min-Max</i>	<i>Frequency</i>	<i>Percentage</i>
Age	20.7	1.40	17-24		
Gender	1.55	.49			
Male				180	44.6%
Female				224	55.4%
Semester	5.26	2.54			
Hostl or day	1.36	.481			
Relationstats	2.03	.78			

Reliability

Table 2 presents information on the number of items and Cronbach's alpha coefficients for two scales. The DAS (Stress) scale consists of 7 items, and the reported Cronbach's alpha coefficient is 0.70. This indicates a moderate level of internal consistency reliability. In general, a Cronbach's alpha above .7 is considered acceptable for most research purposes, suggesting that the items in the DAS scale demonstrate some degree of reliability in measuring stress levels. However, it is important to note that as the Cronbach's alpha approaches 1, the internal

consistency reliability of the scale improves. This implies that the DAS scale could benefit from further refinement to enhance its reliability (Nunnally, J. C., & Bernstein, I. H., 1994).

GASE (Academic Self-Efficacy): The GASE scale includes 5 items, and the reported Cronbach's alpha coefficient is 0.705. Similar to the DAS (Stress) scale, this indicates a moderately level of internal consistency reliability. Again, a Cronbach's alpha above 0.7 is generally considered acceptable, suggesting that the items in the GASE scale are reasonably reliable in assessing academic self-efficacy

Table 2

Cronbach's Alpha Reliability of Study Variables

Variables	n	M	SD	α	Min-Max		S	K
					Actual	Observed		
DAS(STRESS)	7	18.63	3.82	.70	1-3	1-3	-.02	-.71
GENERAL ACADEMIC SELF EFFICACY	5	17.16	3.55	.70	1-5	1-5	-.02	-.82

Note: (n) = no. of items, (S) = skewness, (k) = kurtosis, (M) = Mean, (SD) = Standard Deviation, (a) = Alpha

Table 3

Relationship between demographic characteristics, stress, academic efficacy, Age, Gender, Day scholar hostelite. (N-404)

Variables	1	2	3	4	5	6
1. DAS STRESS	-	.323***	-.076	-1.79***	.095	.023
2. GASE	-	-	-.005	.040	.050	-.113**
3. Age	-	-	-	.789***	-.236**	.119*
4. Semester	-	-	-	-	-.254**	.034
5. Gender	-	-	-	-	-	-.082
6. Dayorhostle	-	-	-	-	-	-

Note: *= $p < .05$, **= $p < .01$, ***= $p < .001$; 1=DAS, 2=GASE, 3=Age, 4=Semeter, 5=Gender 6=Dayorhostel

Correlational Analysis

The Table 3 presents various correlations between DAS (Stress), GASE (Academic Self-Efficacy), AGE, Gender, Semester, Day Hostel. As the Hypothesis 1 is aimed to establish the association between DAS(Stress) and GASE (Academic Self-Efficacy) we see that the coefficient value is -0.323^{**} . The negative sign indicates an inverse association, suggesting that as stress levels DAS (Stress) scores increase, academic self-efficacy (GASE) scores tend to decrease. The correlation is significant at the 0.01 level. Overall, the correlation analysis suggests that higher levels of stress, as measured by the DAS (Stress) scale, are associated with lower levels of academic self-efficacy, as measured by the GASE scale. Hence our Hypothesis 1 is proven correct.

Regression Analysis

Moderation analyses were executed by running regression analysis through Model 1 Process Version 4.3.1 (2023) process on SPSS version 23. The moderating role of Academic Self Efficacy (CASE) associated with Academic Stress (DAS) and negative relationship was estimated. The results showed that Academic Self Efficacy was a significant predictor ($\beta = -.51^{***}$) of negative relation, and Gender were Significant moderator ($\beta = -.44^{**}$). The interaction term between Academic Self Efficacy and stress indicated that the moderator was a significant predictor ($\beta = .16^*$). The coefficient for the interaction term Academic Self Efficacy and Gender (Int_1) is 0.16^* this suggests that the interaction between Academic Self Efficacy (GASE) and Gender has a significant effect on Stress (DAS) , as indicated by the p-value of 0.0233 which is significant (see table 4). While considering Gender (Women) the effect on the relationship between Academic Self Efficacy on Stress is negative and more than the effect of Gender (Men). Further it also indicates that the effect of Self Efficacy on Stress is more negative for Women gender category compared to Men gender (see Figure 2). Hence our Hypothesis 2 is proven and is correct.

Table 4*Standard regression weights of moderation Analysis*

Variables	Stress	
	B	SE
Measures		
Constant	4.22***	0.413
Academic Self Efficacy	-.51***	.118
Gender	-.44**	0.25
Academic Self Efficacy x Gender	0.16*	0.72
R ²	.12	
ΔR ²	.01	

Note: N=404, *-p<0.05, **=p<0.01, ***=P<.001

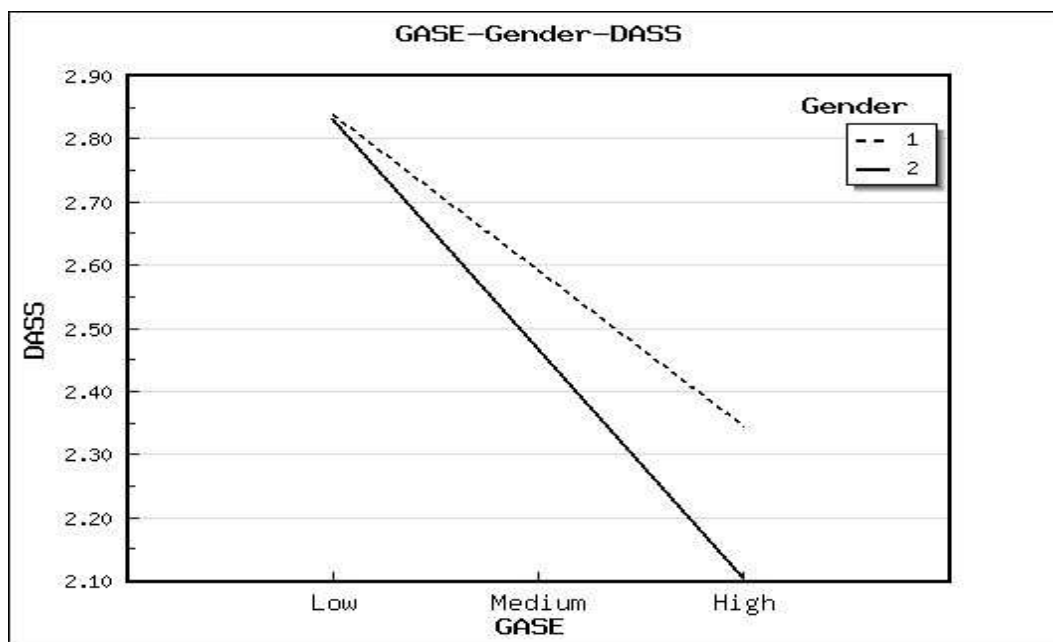


Figure 2 Moderating role of gender between academic self efficacy and stress

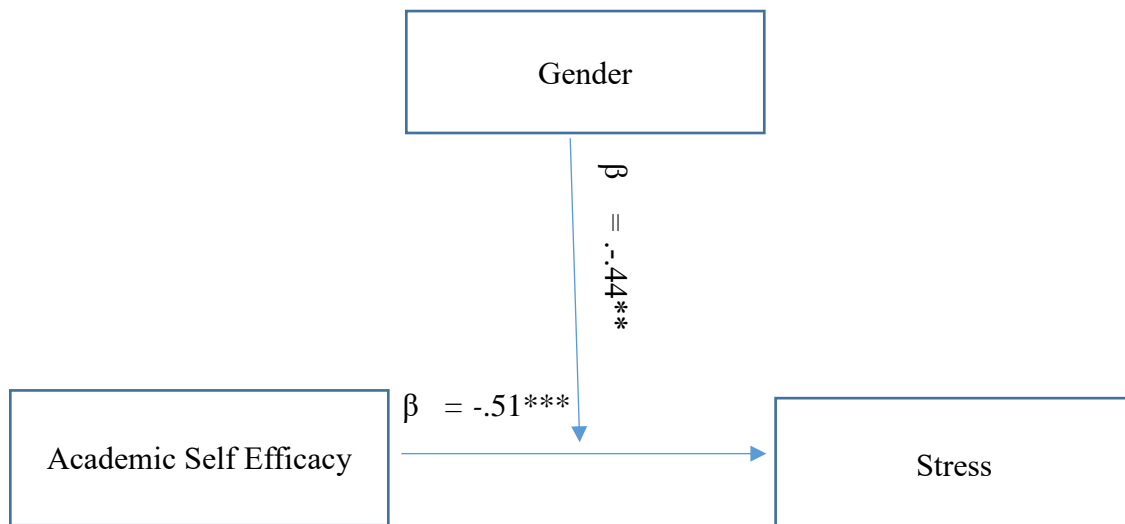


Figure 3 *Emergед moderation analysis*

Group Difference (Gender-Stress)

Based on the results of Tables 4 when comparing the mean DAS(Stress) scores of participants who were men and women using an independent samples t-test. DAS(Stress) scale means of the two groups (Men and Women) are compared for the t-test for equality of means. The table presents for males $M=2.60$ and for Women $M=2.70$ mean difference is $-.10378$, indicating that, on average, Men participants scored lower on the DAS(stress) scale compared to Women participants. However, since the p-value is greater than .05, this difference is not considered statistically significant. The 95% of confidence interval for difference ranged $-.21$,to $.003$

Table 5*Group t test statistics*

DAS		
	Male	Female
Sample size(n)	180	224
Mean	2.60	2.70
Standard deviation	.55	.53
t-value	-1.90	
Degree of freedom(df)	402	
p-value (2-tailed)	.81	
Mean Difference	-.10	
95% confidence interval	[-21 , .003]	

Note* $p < .05$, two tailed.

The results indicate a significant negative association between Academic Self Efficacy and Stress particularly in the case of Women. Furthermore, stress level in general are to be found to be the same for men or women. It shows that stress level may not vary much between men and women but the effect of academic self-efficacy is more on women compared to men meaning that the role of self-efficacy is more in women and an essential trait for women to manage and avoid stress.

Chapter 5

Discussion

The research study discussed in this chapter focuses on the association between academic self-efficacy and stress level among university students in a specific region, with a particular emphasis on gender differences. In addition to this the study also verifies, there is difference between the stress level of Men and Women. The study was conducted at Lahore Campus, COMSATS University Islamabad, and the results indicated a negative association between academic self-efficacy and stress level, with higher stress reported by Women participants. These findings align with previous research studies that have examined similar associations in various contexts.

Many research have looked at the relationship between university students' stress levels and their academic self-efficacy, identifying gender as a moderating factor in this interaction. In Chinese high school students, for example, Ye, Posada, and Liu (2018) discovered a negative correlation between academic stress level and academic self-efficacy, with a higher negative influence on self-efficacy for female students. According to this study, female students may be more vulnerable to the effects of high levels of academic stress on their self-efficacy views. Similar findings were made by Kristensen and colleagues(2023), who noted gender variations in the impact of academic stress on teenagers' self-efficacy and psychological discomfort. Boys had a bigger impact at the interpersonal level, but girls had a stronger impact within the individual (Kristensen et al., 2023).

For our study examining the relationship between academic self-efficacy and stress among university students at the Lahore Campus of COMSATS University Islamabad was established that there is a negative significant relationship and our research contributes to the body of knowledge on stress and academic self-efficacy. The results of the regression

analysis confirm earlier findings that there is moderating impact of gender in the relationship between stress levels and academic self-efficacy. Our study result are similar to the study on Chinese high school students by Ye, Posada, and Liu (2018) in which it is found that there is a negative correlation between academic stress level and academic self-efficacy, with a greater effect on self-efficacy for women. This result indicates that the association between academic self-efficacy and stress level is significantly shaped by gender disparities.

Additionally, McKay, Dempster, and Byrne (2014) reported that gender differed among adolescents in the UK in terms of self-esteem, stress levels, and self-efficacy views. They discovered that the role of self-efficacy on stress level for girls was considerably higher stress levels than boys, which is consistent with our own result that female university students have higher stress levels. Another study which explicitly looking at the connection between college-bound female students' stress levels and academic self-efficacy was undertaken by Akhtar and Perveen in 2022. Their results confirmed our findings that there is a strong correlation between academic self-efficacy and stress level amongst college-going women, which is consistent with their findings.

These above studies support our findings that gender moderates the relationship between academic self-efficacy and stress level, and that Women students tend to experience higher levels of stress level when academic self-efficacy is less. By incorporating these references, we strengthen the validity and reliability of our findings and contribute to the existing body of knowledge on the topic.

The theoretical framework developed for this study integrates the constructs of academic self-efficacy, stress level, and gender. Whereby academic self-efficacy refers to an individual's belief that they have the capacity to flourish academically and is influenced by personal experiences, mastery of skills, and social support. Academic stress level

encompasses the psychological and emotional strain experienced by students due to academic demand, expectations, and pressures. The socially constructed roles, actions, and expectations that come with being Men or Women are referred to as gender. Gender can affect how people feel about their academic self-efficacy and stress levels. The gender role is further explored categorically, and it is found that the stress level of Women students is not different from the Men at COMSATS University Islamabad, Lahore Campus though they might have different reasons for stress but leading to same level of stress. Another reason could be because both men and women may face similar academic demands, such as coursework, exams, and assignments, which can be sources of stress level for all students regardless of their gender. Additionally, coping mechanisms employed by both genders, such as seeking social support, utilizing relaxation techniques, and practicing effective time management, may contribute to a similar level of perceived stress level. External factors, including personal relationships, financial pressures, and family issues, can also impact stress levels for both men and women in comparable ways. Moreover, within the university context, where students are exposed to a varied range of academic and social experiences, the influence of gender roles and expectations on stress levels may be diminished. Furthermore, the specific characteristics of the sample, such as similar backgrounds, academic programs, or levels of motivation, could contribute to the observed similarity in stress levels between men and women. It is important to note that these explanations are hypothetical and need further research to gain a comprehensive understanding of the factors influencing stress levels among university students.

Here it also deliberates that that though our study found that academic self-efficacy is linked with stress and that gender moderates this association, but the separately stress levels of males and females do not show a significant difference. Here it is important to interpret and justify the findings carefully. We believe that the lack of a significant in the

difference between stress levels among Men and Women does not necessarily negate the role of gender as a moderator. Because while considering a more complex relationship in a research model it is possible that there are other underlying factors or variables that interact with gender to influence the association between academic self-efficacy and stress levels. Let say for example, there might be variables such as social support or cultural factors that contribute to the overall stress levels, making the gender differences more apparent. And in context of Lahore and specifically COMSATS University Islamabad, Lahore Campus the social support or cultural factors may affect the relationship differently for Men and Women. So, this indicates that there is much gaps and limitation of our research model and needs further study and the following sections discusses of these in more detail.

Limitations and suggestions

A limitation of this study is focused on a single university and region, which may restrict the generalizability of the outcomes to other universities or regions. The unique factors specific to the chosen university, such as cultural, social, or institutional factors, may have influenced the study's findings. Therefore, caution should be exercised when applying the results to different populations or settings.

The study relied on self-report measures to assess academic self-efficacy and stress level, which are subject to various biases, such as social desirability bias or recall bias. Participants' responses may be influenced by their perception of what is expected or may not accurately reflect their actual experiences. The use of multiple methods of data collection could enhance the validity of the findings.

Implications and benefits

The outcomes of this study have important implications for universities which can help the university administration develop focused interventions and support mechanisms to

help students to enhance their academic self-efficacy and manage their stress levels.

Strategies aimed at improving academic self-efficacy, such as providing mentoring programs, study skills training, or promoting a growth mind-set, can help students cope with academic demands more effectively and reduce stress levels. As far as gender differences are observed in the study, universities must consider gender-specific support strategies. Women students may require additional support and resources to address their higher stress levels. Providing gender-sensitive counselling services, creating supportive peer networks, or implementing stress management workshops tailored to the needs of Women students can contribute to their well-being and academic success. Arifin and colleagues (2022) two-prong approach may be taken by university (a) improve the self-confidence of the students (b) reduce the stress level. Following are few strategies:

- (a) **Promote a Positive Learning Environment:** Alt (2015) suggests that organizations need to create a supportive and inclusive atmosphere on campus by fostering positive relationships between faculty, staff, and students. As for the CUI, Lahore Campus administration they can promote an open culture so the students may feel comfortable in approaching the management when they face difficulty in learning and not achieving their goals.
- (b) **Provide Clear Expectations:** (Chemers et al .,2001) proposes that clearly communicate course objectives, grading criteria, and assignment deadlines can help students understand what is expected of them. This clarity reduces uncertainty and anxiety, increasing their academic self-efficacy. Keeping view of this the CUI, Lahore Campus has clear policy for grading and assessments of courses but also should pay attention to communicate clearly and ahead of time the deadline for submission of assignments and projects.

- (c) Offer Academic Support Services: Kiser (2008) suggests that universities need to establishing academic support centres or tutoring programs where students can seek assistance in various subjects. Providing resources such as writing centres, math labs, and peer tutoring can help students develop self-confidence in their capabilities and reduce stress level related to academic performance. In context of CUI, Lahore Campus this kind of support systems are lacking and needs to be introduced to develop self-confidence in the students of their university.
- (d) Develop Time Management and Study Skills Workshops: Newman & Dickinson (2017) suggests that universities should offer workshops or seminars focused on teaching effective time management and study skills to faculty members. In this regards the CUI does has a faculty development academy to train their young faculty members. Newman & Dickinson (2017) further suggest that different sessions can be provided to students with practical strategies for organizing their schedules, managing deadlines, and improving study habits, which can alleviate stress level and enhance self-efficacy. In this regards the CUI, Lahore campus does hold seminars from time to time but more of these activities need to be arranged.
- (e) Encourage Peer Mentorship Programs: Snowden & Hardy(2012) in their study proposed that implementing peer mentorship programs are needed where experienced students can guide and support their peers. Peer mentors can provide advice, share study techniques, and offer emotional support, which can boost self-efficacy and reduce stress level by fostering a sense of belonging. In this regards the CUI, Lahore campus does not have any formal such programs and can be introduce to improve the well-being of the students.
- (f) Incorporate Mindfulness and Stress Reduction Techniques: Mindfulness practices, meditation, deep breathing exercises, and other stress reduction techniques through

workshops or dedicated courses Vidic & Cherup (2019). These practices can assist students manage stress, improve focus, and enhance overall well-being, leading to increased self-efficacy. Well this is another domain which may be addressed by the CUI, Lahore campus as limited activities are conducted on campus.

- (g) Foster Faculty-Student Relationships: Encourage faculty members to establish meaningful connections with students through regular office hours, mentoring programs, or collaborative research opportunities. Positive relationships with professors can provide students with guidance, support, and a sense of belonging, ultimately increasing their academic self-efficacy Gnoleba(2015). The CUI, Lahore Campus does have many of these support related activities and tries to improve the self-efficacy of the students.
- (h) Offer Counselling and Mental Health Services: Ensure that counselling services are readily available to students, providing a safe space to discuss academic challenges, stress, and emotional well-being. Trained professionals can help students develop coping strategies, resilience, and self-efficacy by addressing underlying issues Kitzrow (2003). The CUI, does have a mental health counselling services which help the students to address their issues and improve their self-efficacy.

By implementing these strategies, universities can create a supportive environment that improves students' academic self-efficacy and reduces the stress levels, leading to improved student well-being and overall academic success.

The current research provides some valuable insights which helps us enhance our comprehension of the association between academic self-efficacy and stress levels among men and women university students at COMSATS University Islamabad (CUI), Lahore Campus. By focusing on this specific context, the study offers unique advantages and contributions to our understanding of how academic self-efficacy influences stress in a university setting. Firstly, it improved our understanding of this relationship by providing

valuable insights into the factors that influence students' experiences particularly at the COMSATS University Islamabad, Lahore Campus. By examining the complex interplay between academic self-efficacy, stress level, and gender, the study enhanced our comprehension of how these variables interact and impact students' well-being. This knowledge can guide universities and educators in developing targeted interventions and support mechanisms that address these contextual factors effectively.

Additionally, this research delved into gender differences and investigated how gender moderates the association between the two variables academic self-efficacy and stress levels. By examining these aspects, the study provided insights into the unique influence of gender on the association between academic self-efficacy and stress level among university students. We identified and analysed and highlight the importance gender differences in understanding and addressing the experiences of university students. This knowledge can inform the development of gender-sensitive strategies at the university which will cater for the unique needs of Men and Women students to enhance their academic self-efficacy and cope better with campus stress level, leading to improved academic performance and over all wellbeing.

Future Directions

Based on the outcomes and implications of the present research, several avenues for future studies can proposed in the field of academic self-efficacy, stress level, and gender among university students. One direction is that the future research is to conduct longitudinal studies and study students over time. Qualitative methodologies can be also employed to obtain better understanding of the academic self-efficacy and stress level.

Exploring the intersection of gender with other factors, such as locality, previous academic performance, and socioeconomic status, would provide insights into the unique experiences and challenges faced by individuals. Hence, it can help develop better strategies.

By pursuing these further directions, researchers can deepen our knowledge of the relationship between academic self-efficacy, stress level, and gender among university students. This will help us understand and develop more effective interventions and policies that help promote students' well-being and academic success.

Conclusions

In conclusion, the outcomes of this research contribute to the current body of knowledge on the association between academic self-efficacy and stress level among university students particularly at COMSATS University Islamabad, Lahore Campus. The study emphasizes the importance of considering gender differences and the specific context in which students operate. By understanding and addressing these factors, universities and administration can develop specific interventions and tools that help students manage stress level which can help enhance their academic self-efficacy. Future research should further explore the background factors that influence this relationship and evaluate the effectiveness of interventions in reducing stress level and improving academic outcomes for students.

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APPENDICES

APPENDICE A

Respected participants:

In this study, we examine University Adaptation, Stress, Academic Efficacy, and Relationship Satisfaction among university students. You are encouraged to participate if you are a student in semesters 1-8. You will only need 5-10 minutes to complete it. Your data will only be used for research purposes and your identity will remain anonymous.

Age: ___ **Semester:** _____ **Gender:** 1. Male 2. Female **Are you** 1. Day Scholar 2.

Hostilities **Relationship status:** 1-Married 2. Single 3. Engaged 4. Other

Instructions: Please read the instructions below and ✓ Tick Mark the answer carefully.

Academic Self-Efficacy

No	Contents	Did not apply to me at all	Applied to me to some degree, or some of the time	Applied to me to a considerable degree or a good part of time	Applied to me very much or most of the time
1.	I found it hard to wind down i.e., to de-stress				
2.	I tended to over-react to situations				
3.	I felt that I was using a lot of nervous energy				
4.	I found myself getting agitated				
5.	I found it difficult to relax.				
6.	I was intolerant of anything that kept me from getting on with what I was doing				
7.	I felt that I was rather touchy				

Stress

No	Contents	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
1.	I generally manage to solve difficult academic problems if I try hard enough					
2.	I know I can stick to my aims and accomplish my goals in my field of study					
3.	I will remain calm in my exam because I know I will have the knowledge to solve the problems					

4.	I know I can pass the exam if I put in enough work during the semester					
5.	The motto 'if other people can, I can too' applies to me when it comes to my field of study					