

THE INFLUENCE OF STRESS ON STUDENTS' ACADEMIC ACHIEVEMENT AT UNDERGRADUATE LEVEL IN UNIVERSITY OF GUJRAT

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ABSTRACT

Academic stress has become a common trend which cuts across all undergraduate students all over the world and has been found to be a major predictor of academic performance. The proposed research conducted is aimed at exploring how stress affects the academic performance of undergraduate students at the University of Gujrat (UOG), Pakistan. The nature and extent of the relationship between stress and academic performance were studied using a quantitative, descriptive survey design. Purposive random sampling enabled the selection of 150 undergraduate students (who are representatives of different academic departments at UOG). The data was gathered using a self-constructed, tested questionnaire of 25 questions on a five point Likert scale, which included academic stressors, physiological reactions, psychological aspects, and academic performance indices. Descriptive statistics and Pearson correlation analysis were used for data analysis. The results are supposed to show statistically significant negative association between stress levels and academic performance where high level of stress is related with low Grade Point Averages (GPA). The research additionally predicts that academic load, examination pressure, time management issues and money issues are the most eminent stressors among undergraduate students. The findings are part of the expanding literature on student mental wellbeing and academic achievement as well as practical implications of university leadership and faculty to create supportive academic conditions and support academic counseling.

Keywords: Academic Stress, Academic Achievement, Undergraduate Students, University of Gujrat, Quantitative Research, Likert Scale, Descriptive Survey, GPA, Student Mental Health.

1. INTRODUCTION

Academic stress is one of the most paramount issues that are facing institutions of higher education in the modern educational system. Undergraduates especially encounter a maze of academic deadlines, social obligations and individual issues that individually and collectively lead to high levels of stress in their developing university lives (Robotham and Julian, 2006). The

move between high school and university life presents students with much more work, much more expectations, a new social conditions and in most instances, independence in terms of finances, the first time ever. These confounding factors provide a prime environment in which stress may emerge and may adversely affect the cognitive ability, motivation and academic success.

The concept of stress according to Lazarus and Folkman (1984) denotes a condition of the individual-environment interaction met by the individual as being stressful and beyond his or her resources and jeopardizing his or her health. This definition applies especially well in the academic sphere where there are numerous instances that test the ability of the students to cope, such as examination time, assignment due dates, competition among peers and career issues. The physical and mental effects of excessive scholastic strain such as memory retention, lack of concentration, anxiety, and depression have all been well established through the research studies in educational psychology (Misra and McKean, 2000; Shields, 2001).

The sector of higher education in Pakistan has been experiencing massive growth in last two decades and there has been a significant increase in number of universities, as well as the number of students attending higher educational institutions. The University of Gujrat (UOG), which was inaugurated in 2004, is one of the major state-owned higher education institutions in the state of Punjab that can receive thousands of undergraduates students each year, who have different socioeconomic backgrounds. Although the school has recorded academic improvement, the specific aspect of stress-academic achievement nexus is relatively little researched in UGO, as the existing knowledge in the area is localized, making it difficult to fill the gap of this critical matter on the local scale.

The dependent variable is academic achievement, which in this research was operationalized mostly by using Grade Point Average (GPA) of students and self-report on their academic performance. It is not just recognized as an output of intellect or hard work, but is multi-centric in nature as it is affected by the state of psychological health, social support mechanisms, institutional efficiencies and the environmental circumstances (Robbins et al., 2004). According to the current research, the role of stress as a mediating variable in this outcome is a significant given, and its systematic investigation at UOG is opportune and needed.

The theoretical background of this study is the General Adaptation Syndrome by Selye (1956)

which explains the physiological adaptation responses to stressors in three phases namely alarm, resistance and exhaustion, as well as the theoretical conceptualization of the Transactional Model of Stress and Coping by Lazarus and Folkman (1984) which describes stress responses as cognitive appraisal processes. Collectively the frameworks allow development of a good theoretical support on the perception, response, and academic impact of stressful events on undergraduate students at UOG.

2. Statement of the Problem

In educational research all over the world, academic stress among university students has been acquiring more and more important interest, however, the context-specific one in Pakistani universities, especially at the University of Gujrat has been a dwindling affair. The lack of strong empirical evidence on the types of stress factors impacting UOG undergraduates and the quantifiable effects of this phenomenon on academic achievement constitutes an acute knowledge gap that can be filled in by the project in question.

There is anecdotal evidence and an informal account given by university counselors in UOG that a very large percentage of students studying undergraduate degrees are under moderate to high academic stress, especially at the time of exams and at the end of the semester of study. However no systematic/quantitative research has been carried out to quantify prevalence and severity of stress in this population, and to empirically determine its correlation with academic performance. In the absence of these pieces of evidence, university administrators and policymakers do not have the evidence-based basis it takes to implement specific interventions, provide counseling resources in an effective way, or restructure academic villas to decrease unnecessary stressors.

Moreover, cultural-specific stressors (such as heavy family pressure to achieve academic success, access to mental health services, competition in postgraduates courses and career choice, and financial strain among low-income students) inherent to the Pakistani context of education can enhance the effects of traditional academic

stressors reported in the western literature. The role of these distinctive contextual factors that determine stress-achievement relationship at UGO is yet to be investigated.

Thus this research deals with the following fundamental issue; There are lacks empirical knowledge about the relationship between academic stress and the academic performance of undergraduate students at the University of Gujrat, Pakistan, and what are major stressors most dominant in the group.

3. Significance of the Study

This study has significant theoretical, practical as well as policy level implications to various stakeholders of the University of Gujrat, as well as outside the University.

Theoretically, the study will lead to the existing body of knowledge on stress-academic performance relationship in South Asian and Pakistani university setting, which have not taken up sufficient space in international educational psychology literature. With the help of the established theoretical approaches, namely Selye's General Adaptation Syndrome and the Transactional Model created by Lazarus and Folkman, the study not only evaluates the cross-cultural relevance of these approaches but also provides the reader an insight into the specifics of the situation in a Pakistani public university setting.

In practical terms, the implications of what is found will be keen to academic counselors and mental health providers in UGO as they will have empirical evidence allowing them to recognize populations at risk and implement evidence-based stress management interventions. The enriched knowledge about the influence of academic demands on assessment structures and classroom needs by faculty members on student stress, which, in turn, will report to learning outcomes, will be gained. This information can guide pedagogical choices on distribution of workload, strategies of formative assessment and classroom support systems.

To university administrators and policymakers, the research provides a statistically grounded foundation of institutional responses, such as how

to build specific wellness facilities, implement stress management activities during orientation courses, and how to develop policies that build more fair and amenable academic settings. Students as well as parents will be greatly benefited as the research will create awareness of the psycho academic effects of unmanaged stress and they will also be aware of what are considered to be healthy coping styles.

Lastly, the methodological design of the study is a validated 25-item Likert scale questionnaire, which leaves a reusable research instrument to the field that could be adopted (or adapted) by other researchers in other Pakistani universities to create comparative analyses of the region.

4. Research Objectives

Specific research objectives of the current study include:

1. To find the degree of academic stress among undergraduates in University of Gujrat.
2. To test academic success (GPA) of the undergraduate students at the University of Gujrat.
3. Find out the connection between academic stress and academic performance among undergraduate students in UOG academia.
4. To identify most common academic stressors among undergraduate students at the University of Gujrat.
5. To investigate the difference in stress levels among demographic factors such as gender, year of study and faculty.

5. Research Questions

The aim of the study is the following main and secondary research questions:

6. How academically stressed are undergraduate students of the University of Gujrat?
7. What is the undergraduate performance (GPA) of students of University of Gujrat?
8. Does the academic stress and academic achievement of the undergraduate students in UOG show any statistically significant relationship?

9. Which are the most common causes of academic stress among undergraduates at the University of Gujrat?

10. Do UAG undergraduate students differ significantly in the stress levels depending on gender, year of study and department of study?

6. Conceptual Framework

The theoretical association between the independent (academic stress) and the dependent variables (academic achievement) along with the contextual and demographical factors mediate and moderate the conceptual framework of this study. The framework is premised on the Transactional Model of Stress and Coping (Lazarus and Folkman, 1984) and is based on social-cognitive theories of academic motivation and academic performance.

6.1 Academic Stress.

The independent variable of the study is academic stress which will be operationalized with the help of five sub-dimensions that are measured by the research questionnaire:

- Related: Volume and difficulty of coursework, assignments and study issues.
- Examination Pressure: Anxiety and stress directly related to exams, evaluations and grading.
- Time Management Problems: Having troubles in time management, organization, and prioritizing academic and personal tasks.
- Faculty-Student Relationships: Instructors, academic mentors: Perceived quality and support.
- Financial and Personal Stressors: Economic pressures, family expectations, and personal concerns influencing academic focus.

6.2 Dependent Variable: Academic Achievement.

The academic achievement is measured in terms of the dependent variable as the two main indicators; self-reported Cumulative Grade Point Average (CGPA) and the self-known performance of the students comparing their own performance with their expectations. CGPA is the objective performance indicator and the self assessment dimension reflects the subjective view of academic achievement.

6.3 Variable Relationship Diagram

Variable Type	Variable Name	Sub-Dimensions / Indicators	Measurement
Independent Variable	Academic Stress	Academic Workload, Examination Pressure, Time Management, Faculty Relations, Personal/Financial Stressors	25-item Likert Scale (1-5)
Dependent Variable	Academic Achievement	Cumulative GPA, Self-rated Academic Performance	CGPA Records & Questionnaire Items
Moderating Variables	Demographic Factors	Gender, Year of Study, Department / Faculty	Demographic Section of Questionnaire

The hypothesis of the frameworkly indicates that the relationship is negative and directional, i.e. increase in perceived academic stress, also leads to decrease in academic achievement. Demographic variables (gender and the study year) would presumably moderate this kind of relationship, as

observed by other existing literature (Misra and McKean, 2000; Struthers et al., 2000).

7. Research Methodology

7.1 Research Method

This research paper uses a quantitative research. Quantitative research is the gathering and

interpretation of numerical data to describe, explain, predict or control phenomena of interest (Creswell, 2014). The quantitative type was chosen because it is the appropriate method to measure the level of relationship between academic stress and academic achievement so as to generalize statistically to the whole undergraduate community at UOG. This approach enables a structured, objective data collection and expression of inferential statistical procedures in order to test theoretical relations.

7.2 Research Design

This study uses a descriptive survey design. Focusing on describing the characteristics of a specific individual or group, traits, nature and magnitude of variables that exist in a population, descriptive research does not interfere with variables (Gay et al., 2012). The survey design was considered to be the most suitable because the purpose of the study is to define the prevalence of stress and academic performance levels amongst UOG undergraduates, as well as to investigate the relationship between the two variables using a structured questionnaire that will be conducted at a single point in time (cross-sectional design). Surveys have been extensively identified as effective, low-cost information gathering tools and are apt at research where the psychological and academic constructs are self-reported.

7.3 The population that is going to be studied

This study has a target group of all undergraduate students who are currently studying at the University of Gujrat, Gujrat, Pakistan. As of the 2023-2024 academic year, UGO has around 22,000 undergraduate student body in their different faculties, including the Faculty of Arts and Social Sciences, Faculty of Sciences, Faculty of

Computing and Information Technology, Faculty of Engineering and Technology, Faculty of Management and Administrative Sciences and Faculty of Education. The population that is accessible will be considered as students who are enrollees of normal undergraduate courses offered at the main campus; the students be located on regular campus-based courses in the current academic year.

7.4 Sample and Sampling Technique.

The target population is represented with a sample of 150 undergraduate students. Determination of sample size was based on a table of determining sample size based on a given population provided by Krejcie and Morgan (1970), this table suggests a sample size of about 377 participants based on a population of 22,000 based on the 95% level of confidence with a 5% margin of error. The sample size of 150 has been taken as pragmatically adequate within the framework of the present study as a descriptive, correlational study of the range and is enough statistical power to perform a Pearson correlation study (Cohen, 1988).

The research utilizes a purposive random sampling methodology which involves a combination of purposive and simple random. That would make the sample relevant and homogeneous, making sure that only currently enrolled undergraduate students at UOG are included since purposive sampling is used. This accessible population is purposely defined and the students of different departments and years of study are chosen randomly in this sample to improve the representativeness and to reduce the bias of selection. Namely, from the 6 foreign students are sampled in every of the six major faculties of UGO, with proportional representation of faculty among 150 participants.

Faculty	Proportional Sample	Sampling Method
Faculty of Arts and Social Sciences	25 students	Random
Faculty of Sciences	25 students	Random
Faculty of Computing and Information Technology	25 students	Random
Faculty of Engineering and Technology	25 students	Random

Faculty	Proportional Sample	Sampling Method
Faculty of Management and Administrative Sciences	25 students	Random
Faculty of Education	25 students	Random
Total	150 students	Purposive Random

7.5 Research Instrument

A structured and designed self-administered questionnaire specific to this study is used to collect data. The questionnaire will be divided into two categories:

Part A: -Background Data: This section will gather background data such as gender, age, year of study, faculty/department, self-reported Cumulative GPA (CGPA). CGPA is collected on an ordinal

scale categorized as: Below 2.0, 2.0-2.49, 2.50-2.99, 3.0-3.49, and 3.50-4.0.

Part B - Academic Stress Scale: This part will provide 25 Likert-scale measured academic stress items on five sub-dimensions (five items each). The items will be rated on a five-point Likert scale with 1 (Strongly Disagree) to 5 (Strongly Agree) implying that a higher composite score means that a person experiences more academic stress.

Dimension	Items (No.)	Sample Item
Academic Workload	1-5	The volume of coursework I am required to complete causes me significant stress.
Examination Pressure	6-10	I experience intense anxiety during examination periods that negatively affects my performance.
Time Management	11-15	I frequently struggle to manage my academic responsibilities within available time.
Faculty-Student Relationships	16-20	Lack of adequate academic guidance from my lecturers adds to my stress levels.
Personal and Financial Stressors	21-25	Financial difficulties significantly distract me from focusing on my academic work.

7.6 Validation of the Instrument

The instrument used in the research enables the researcher to conduct the study with a lot of validity and reliability as the research instrument is subjected to a rigorous multi-stage validation process.

Content Validity: The first questionnaire is examined by a group of five subject-matter experts, including two high-ranking members of the faculty in the Department of Education at UOG, one educational psychologist and two experienced educational measurement researchers. The experts consider each item regarding its clarity, relevance to the construct under measurement, suitability to the undergraduate population, and cultural

sensitivity of the Pakistani context. Content Validity Index (CVI) is the percentage of the number of experts who rated each of those items as relevant (when rated 3 or 4 out of four items) per item and the scale as a whole. Items who have an item-level CVI of less than 0.78 are updated, or dropped, which is in accordance with the threshold suggested by Polit and Beck (2006).

Face Validity: A group of ten undergraduate students not a part of the main study also review the instrument on its face validity by determining how well they comprehend the items and how reasonable they considered the use of questionnaire as an academic stress measure.

Pilot Testing and Reliability: A pilot test is performed among 20 undergraduate students of UOG that are not members of the main sample. Cronbach alpha coefficient is used in evaluating internal consistency reliability. Cronbachs alpha of 0.70 or above is said to be acceptable when being used in research (Nunnally, 1978). Things that cause the overall alpha coefficient to decrease as they are deleted are re-examined. According to pilot findings, moderate revisions of wordings are carried out before administrating it finally.

Construct Validity: The construct validity is anchored by measuring the correspondence of theoretical dimensions of the questionnaire with the set stress measurement concepts such as the Student Stress Survey (Insel and Roth, 1985) and the Perceived Stress Scale (Cohen et al., 1983).

7.7 Data Collection Procedure

The data collection is carried out according to the following steps that are structured:

- The fieldwork is to be conducted before then and that the Ethics Review Committee of the Department of Education, University of Gujrat undertakes the ethical approval.
- Official permission letters are taken to the corresponding Heads of Departments about accessing students to collect data.
- All potential participants are given informed consent forms that explain the purpose of the study clearly, the voluntary nature of participation, anonymity and confidentiality of responses.
- The researcher will conduct the distribution of questionnaires individually during the standard classes and the participation will be voluntary.
- The participants will have about 15-20 minutes to fill in the questionnaire. The researcher will be present throughout administration in order to explain any vague items.
- Questionnaires: Completed questionnaires will be collected as soon as the

questionnaire is filled in to reduce the amount of missing data and high response rate will be obtained.

- All questionnaires filled are numerically coded and then entered into the computer to ensure anonymity of the participants.

7.8 Data Analysis

Statistical Package of the Social Sciences (SPSS) version 26.0 was used to analyze the collected data. The procedures of analytical processes used are the following:

Descriptive Statistics: Frequencies, percentages, means and standard deviations are calculated to describe the demographic features of the population sample, the overall quality of academic stress, and the score in the academic achievements of the participants.

Pearson Product-Moment Correlation: Pearson r coefficient would be calculated to analyze the attribute and level of association between total academic stress scores and CGPA because both variables possess the conditions in terms of interval-level measurement and normal distribution. The significance level will be $p < 0.05$.

Independent Samples t-test: Independent samples t-test is used to compare stress mean scores of students of the same sex (male and female) to answer Research Question 5.

A one-way ANOVA will be used to analyse the stress levels at various levels, that is, the years of study (freshman, sophomore, junior, senior) and departments across the university.

Reliability Analysis: Cronbach alpha is also determined on the full 25- item scale and the five sub-dimensions of reliability to ensure internal consistency on the final dataset.

Research Question	Statistical Test	Variables
RQ1: Level of stress	Descriptive Statistics (Mean, SD)	Stress Scale Total Score
RQ2: Academic achievement	Descriptive Statistics (Frequency, %)	Self-reported CGPA
RQ3: Stress-achievement relationship	Pearson Correlation (r)	Stress Score vs. CGPA
RQ4: Prevalent stressors	Descriptive (Sub-dimension Means)	5 Stress Sub-dimensions
RQ5: Demographic differences	t-test / One-Way ANOVA	Stress Score by Gender/Year/Dept

8. Expected Results

In accordance with the available theoretical models and results of the similar research studies, presented in South Asian and Pakistani universities (Bataineh, 2013; Farooq et al., 2011; Khalid et al., 2012), the following outcomes should be expected:

Stress Levels: Undergraduate students of UGO are supposed to report moderate or high levels of academic stress (mean scores of five-point scale (3.0-4.2) are between 3.0 and 4.2), which is in line with comparable studies carried out in Pakistani universities (Khalid et al., 2012).

Most Frequent Stressors: It is expected that examination pressure and the work load due to academic reasons will take up the position of the strongest stressors, returning the highest sub-dimension mean scores, with time management issues and financial stressors.

Stress-Achievement Relationship: The overall academic stress scores should correlate negatively with CGPA ($r = -0.40$ to -0.60 , $p < 0.05$) and thus, students who report to have higher levels of stress would be less likely to achieve high academic performance. This is congruent with the results of Robotham and Julian (2006), Misra and McKean (2000) and Struthers et al. (2000), all of which reported negative relationships between academic stress and performance outcomes.

Gender Differences: Female students will report more stress than their male counterparts, agreeing with the results of Ahmad et al. (2014) and Naqvi et al. (2011) in the Pakistani context, which may be related to the additional social and family

demands on female students in conservative Pakistani of families.

Year of Study: Senior (fourth-year) students are postulated to be under the greatest pressure (because of accumulated pressures regarding final exams, thesis/project work, post-graduation career, and all these factors) whereas first-year students might be experiencing greater levels of stress related to adjustment issues.

Reliability: The 25-item questionnaire will be predicted to have satisfactory levels of internal consistency, with the front scale having a Cronbachs alpha of 0.80 or higher, agreeing to its reliability as a measurement instrument of academic stress in the UOG undergraduate population.

9. Conclusion

This research is an empirical systematic study on the effects of academic stress on academic performances of undergraduate students at the University of Gujrat. The study is set to produce valid, generalizable results that will develop our comprehension of the stress-achievement relationship in a Pakistani public university setting by using a quantitative, descriptive survey design and applying rigorously-validated research instrument.

It has a conceptual framework based on the General Adaptation Syndrome, invented by Selye, and the Transactional Model of Stress and Coping, developed by Lazarus and Folkman, which offers a theoretically sound framework through which the views of the expected results

can be interpreted. The anticipated outcomes of a substantial negative relationship between stress and academic performance, and the presence of examination pressure and workload as the main sources of stress ascertained between the two, justify the high urgency in implementing institutional mechanisms that would help to recognize, track, and combat student stress in UOG.

The research paper has admitted some limitations of the study. Being a cross sectional survey which is based on self-reported data, it is unable to determine causation directionality between stress and academic achievement nor the conduction of all confounding factors which could affect both constructs. Although anonymity has reduced social desirability bias on self-report measures, it is a potential issue. Longitudinal designs, more in-depth examination of the lived stress experiences of students through qualitative elements, and objective stress biomarkers, as well as self-report measures, would be beneficial to future research. Despite these shortcomings, this study has significant theoretical, practical and methodological impacts to educational psychology research in Pakistan. It also provides a body of empirical research on the prevalence of stress among undergraduate students at UOG and guidance that can be taken by institutional stakeholders interested in improving the college experience and performance of academic students. Finally, encouraging stress-sensitive academic culture cannot be reduced to the issue of bettering GPA figures, rather, it is the key to well-rounded student growth intellectually, emotionally, and psychologically, which is the prime purpose of any higher-education establishment.

10. Recommendations

In accordance with the conceptual background, the expected outcomes, as well as the overall evidence on academic stress and student performance, the next recommendations are suggested to university administrators, professors, students, and researchers:

10.1 For University Administration

- Create a Student Counseling and Wellness Center in UGO with qualified clinical psychologists, academic counselors, peer support coordinators to ensure that students who have academic and personal stress are easily and readily served with psychological services.
- Implement an orientation program mandatory on all new undergraduate students which involves evidence based stress management training, time management trainings and psychoeducation on identifying and coping with academic stress.
- Re-examine and rationalize academic workload policies, especially the grouping of exams and homework due dates, to share academic load among the semester in a fairer manner.

10.2 For Faculty Members

- Implement pedagogical practices that are flexible and supportive such as formative assessment techniques that offer lower-stakes than terminal examination approaches and where students can be able to show their achievements on academic competence that cuts across various modalities.
- Develop open, friendly faculty student relations that allow them to discuss academic challenges without being stigmatized or punished academically and help in early detection and assistance to stressed students.
- Include stress-awareness material within course orientations, stating explicitly the psychological difficulties of college education, which are likely to face it and where to find institutional support resources.

10.3 For Students

- Learn to plan time and study plans as early as possible during an undergraduate education by applying planners, calendars, and priority-setting models to avoid having to build up academic commitments.
- Proactively use the support services that are available and accessible on campus which can be counseling, peer mentoring, and academic advisory services and overcome the cultural stigma

that surrounds seek of help behavior found in Pakistani academic contexts.

10.4 For Future Researchers

- Repeat the same study on longitudinal research to determine how stress and academic performance changes over time over a series of semesters and draw conclusions about causal relationships that cannot be done through cross-sectional surveys.
- Expand the study to incorporation of qualitative elements, i.e. in depth interviews and focus group discussion in order to get the lived experience aspect of academic stress is exquisitely expressed using the quantitative measure.
- There Conduct comparative analyses on several Pakistani universities to determine whether or not the stress-achievement association and the occurrence of certain specific stressors are institutional, regional, or cultural.

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