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# EXAMINING EFFECT OF EXAMS STRESS ON STUDENTS' PERSONALITY TRAITS. AZERBAIJAN CASE

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## ABSTRACT

The exam, and quiz assessment is one of the part of modern educational system. This assessment effect academic results of the students, and also their emotional state. These factors can be observed in their personality traits, too. This research devoted to study the students' personality traits before and after the exams. The present study examines the students' personality traits, and their emotional states. The methodology of the study was developed based on constructivist approach, and the main tool of the research - survey questions assess the personality traits. The study was realized at Faculty of Social science and psychology, Baku State University in 2025. The results, and relation between dependent and independent variables were analyzed using SPSS program.

The verification of the research questions reveals statistically significant positive results. These findings enable us to assume that the exam stress can decrease the students' effective communication skills, their interpersonal relationships, self-esteem, and self-regulation abilities. The obtained results can be taken into account in developing training programs to increase the coping strategies of the students at the university community.

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## KEYWORDS

Students' Personality Traits, Exam Stress, Educational Settings, Mental Health Issues, Self-Esteem, Self-Awareness

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## Introduction.

As the researchers and authors mentioned an academic stress is a complex phenomenon significantly affecting not only academic performance and also the university students' well-being and mental state (D.P.Jorge et.al, 2025). This pressure's effect can be manifested in their educational environment and personal relationship. Numerous studies have mentioned that students frequently exhibit psychological issues such as anxiety and depression, along with various psychological and physiological symptoms such as sleep disturbances, drowsiness, stress symptoms, isolation, chronic fatigue, and internet addiction (D.P.Jorge and others, 2025; Son et.al.,2020; Kocojevic et.al, 2020; Lee et.al, 2021; Gavurova, 2022). Conducted at the Faculty of Social Science and psychology at the Baku State University (BSU), this study aims to analyze the relation between exam stress and changing personality traits, and how they influence their daily lives, activities, and interpersonal relationship.

### **Literature Review.**

The impact of the exam stress and academic challenges on students' mental health has been studied by various authors, and educators. A descriptive study conducted in the Republic of Ecuador, by Perez –Jorge and his colleagues mentioned task overload as one of the main stressors for students (Pérez-Jorge et al., 2021; Moreno-Montero et al., 2022). Mareno-Escuderos and others also highlighted this type of stress, as a reason of future burnout, and other negative physiological consequences (Marengo-Escuderos et al., 2017).

F.Nechita and others examined other side of this problem, according to researchers the personality factors also influence the academic performance both directly, and indirectly (F.Nechita et.al, 2015). They explained this relations using Big Five Personality traits.

Son et al. (2020) identified that the modern educational systems' schedules, and rapid shift, combined with social isolation, significantly impacted students' mental health leading to increased stress, anxiety, and depression (Son et.al., 2020). Similarly, Kecojevic et al. (2020), Lee et al. (2021), Gavurova et al. (2022) examined relation between virtual learning problems, exams stress, academic pressure and well-being of students. Authors explained these problems with symptoms of internet addiction, stress, anxiety, and depression (Kecojevic et al. (2020), Lee et al. (2021), Gavurova et al. (2022).

This fact was mentioned in Broks and colleagues' studies, too. According to authors academic stress and anxiety related test, and other assessment can be related poor coping mechanisms, stress and anxiety, and this condition affect both mental health and academic performance of students (Broks et.al, 2024). Ruiz-Ruiz and others explained anxiety with different physiological symptoms such as muscle tension, restlessness, and worry (Ruiz et.al, 2021).

Ross et al. (2023), Martínez-Líbano et al., (2023), Kiltz et al., (2024) emphasized the need to psychological support programs for stress adaptation and improving coping skills within higher education institutions, specially for effective techniques for managing academic stress (Ross et al. (2023), Martínez-Líbano et al., (2023), Kiltz et al., (2024).

### **Research Questions.**

During the study, the following questions were addressed:

- How do the exam, and quiz factor influence the emotional and personal state of modern students?
- What personality traits are common for today's University students?
- How do the students explain the exam stress factor?

### **Methods.**

The personality traits of students were measured using “Panteleev Self-attitude questionnaire” (Тест-опросник самооотношения (В.В. Столин, С.Р. Пантелеев) and “Cattell Personality scale -16 factors” (Многофакторная личностная методика Р. Кеттелла). The self-attitude questionnaire is aimed at identifying the level of self-attitude of the person to himself. Developed by V.V. Stolin and S.R. Pantileev in 1985. The questionnaire allows identifying three levels of self-attitude, differing in the degree of generalization:

- 1) global self-attitude;
- 2) self-attitude, differentiated by self-respect, aut-sympathy, self-interest and expectations of attitude towards oneself;

- 3) the level of specific actions (readiness for them) in relation to one's "I".

The questionnaire contains 57 questions-judgments, which must be answered positively ("yes") or negatively ("no").

The technique includes the following scales:

Scale S - global self-attitude; measures the integral feeling "for" or "against" the subject's own "I".

Scale I - self-respect.

Scale II - auto-sympathy.

Scale III - expected attitude from others.

Scale IV – self-interest.

Seven scales are also identified to measure the severity of the attitude towards certain internal actions towards the respondent's "I".

Scale 1 - self-confidence;

Scale 2 - attitude of others;

Scale 3 - self-acceptance;

Scale 4 - self-management, self-consistency;

Scale 5 - self-blame;  
 Scale 6 - self-interest;  
 Scale 7 - self-understanding.

Theoretical foundations: The initial difference is taken between the content of the "I-image" (knowledge or idea of oneself, including in the form of assessing the severity of certain traits) and self-attitude. In the course of life, a person gets to know himself and accumulates knowledge about himself; this knowledge constitutes the substantive part of his ideas about himself. However, knowledge about himself is naturally not indifferent to him: what is revealed in it turns out to be the object of his emotions, assessments, and becomes the subject of his more or less stable self-attitude.

Instructions: You are asked to answer the following 57 statements. If you agree with the statement, put the sign "+", if you do not agree, put the sign "-".

Processing the results: The indicator for each factor is calculated by summing up the statements with which the subject agrees, if they are included in the factor with a positive sign; and the statements with which the subject does not agree, if they are included in the factor with a negative sign. The resulting "raw score" for each factor is converted according to the tables of conversion of the "raw score" into accumulated frequencies (%).

The Cattell 16PF (Sixteen Personality Factor Questionnaire, 16PF) is one of the most common methods for assessing individual psychological personality traits. The method was developed by Raymond Cattell, the author of one of the theories of personality, according to which people differ from each other in the set and degree of expression of individual independent traits. In the course of experimental studies, Cattell identified 16 bipolar personality traits (factors), the degree of development of which can be measured using the questionnaire. The standard 16PF questionnaire contains 187 items and is developed in two parallel forms A/B, differing only in the wording of the questions. The questionnaire is intended for examining adults (from 16 years old).

### Results.

150 students from Baku State University participated in the study and two methods (Panteleeva and Kettell) were used to evaluate two stages, 9 factors in the first method and 7 factors in the second method. The data (respondents' answers) were processed and analyzed using the SPSS (Statistical Package for the Social Sciences) program. Two analysis models were used in the analysis of the data: descriptive-statistical analysis (descriptive-statistics) and comparison or "T-test" analysis. Thus, in order to check whether the difference observed as a result of descriptive-statistical analysis between the results of the two stages is a serious and statistically significant difference, "T-test" analysis and comparison of the numerical averages across stages were used.

The respondents were informed about instruction, and consent form. After this stage, they answered the survey questions.

The Panteley test was administered in two stages - before and after the exam, and the numerical average of the obtained scores was calculated and compared with each other. For four traits (Closeness, Attachment, Internal Conflict, Self-Accusation), the scores in the second stage were higher than in the previous stage, and for other traits, they were lower than in the previous stage (these are presented in the form of a table below).

**Table 1.** Scores obtained in the two stages of the Panteley test (n=150)

Panteley test results ( $\bar{X}$ )		
Factors	Pre-exam	Post exam
Closeness	5,12	7,34
Self-confidence	6,88	5,18
Self-management	6,68	4,6
Reflected self-esteem	6,74	4,86
Self-esteem	7,86	4,96
Self-acceptance	6,28	4,44
Self-attachment	4,52	6,62
Internal conflict	2,88	6,42
Self-blame	2,06	6,04

To check whether the difference between the values obtained in the two stages is serious and statistically significant at the 0.05 level, the “paired samples test” of the “T-test” analysis was used. Based on the results obtained, since  $\text{Sig} \leq 0.01$  for all 9 factors, we can say that the values of the two stages were different for each of the 9 factors and the observed difference is statistically significant at the 0.01 level. This indicates that the difference between the two stages is serious and significant.

**Table 2.** Difference between the two stages for the 9 factors measured based on the Panteley test (n=150)

	Mean Dif. St.error Dif.		95% reability		t	df	Sig. (2-tailed)
			Low	High			
Closeness – pre and post exam	-1.96000	.29824	-2.55934	-1.36066	-6.572	149	.000
Self-confidence – pre and post exam	2.18000	.12352	1.93178	2.42822	17.649	149	.000
Self-management - pre and post exam	2.12000	.16071	1.79704	2.44296	13.191	149	.000
Reflected self-esteem - pre and post exam	2.20000	.18070	1.83687	2.56313	12.175	149	.000
Self-esteem - pre and post exam	2.90000	.25112	2.39536	3.40464	11.548	149	.000
Self-acceptance - pre and post exam	1.84000	.19662	1.44487	2.23513	9.358	149	.000
Self-attachment - pre and post exam	-1.82000	.25183	-2.32608	-1.31392	-7.227	149	.000
Internal conflict - pre and post exam	-3.26000	.25525	-3.77294	-2.74706	-12.772	149	.000
Self-blame - pre and post exam	-3.98000	.24988	-4.48216	-3.47784	-15.928	149	.000

$p < 0,001$

At the same time, 7 factors were measured in two stages (before and after) using the Cattella methodology and the obtained values are given in the table and diagram below by stage. As can be seen, the values of the first stage for each of the 7 factors were higher than those of the second stage.

**Table 3.** Scores obtained in two stages of the Cattella test (n=150)

	Cattell test results ( $\bar{X}$ )						
	Factor A	Factor C	Factor F	Factor I	Factor O	Factor Q3	Factor Q4
Pre-exam	5,04	5,32	4,72	5,6	6,5	5,86	5,8
Post exam	3,82	4,36	3,9	4,9	4,92	3,12	3,8

Factor A – warmth; the low level of this factor is described as impersonal, cool, detached, distant relationships;

Factor C – emotional stability; the low level was mentioned as being changeable, affected by feelings, emotionally less stable, easily upset emotional state;

Factor F – liveliness; the low level was observed as more serious, restrained, prudent, introspective, silent interpersonal relationships;

Factor I – sensitivity; after the exams, and quiz majority of the students mentioned their emotional state as utilitarian, objective, unsentimental, tough-minded, self-reliant, no-nonsense, rough emotional reactions;

Factor O – apprehension; low level is explained being as self-assured, unworried, complacent, secure, confident, self-satisfied;

Factor Q3 – perfectionism; low level is related to unexacting, flexible, undisciplined, self-conflict, impulsive, careless of social rules, uncontrolled emotional reactions;

Factor Q4 – tension; after the quiz and assessment students mentioned differences in this factor, too.

To check whether the difference between the values obtained in the two stages is serious and statistically significant at the 0.05 level, the “paired samples test” of the “T-test” analysis was used. Based on the results obtained, since  $Sig \leq 0.05$  for all 7 factors, we can say that the values of the two stages for the mentioned factors were different and the observed difference is statistically significant at the 0.05 level. This indicates that the difference between the two stages is serious and significant.

There was a positive correlation between the results based on Cattells’ personality traits assessment, and Panteleev Self-attitude questionnaire ( $r=0,392^{**}$ ;  $p=0.002$ ;  $n=150$ ). So it can be highlighted that the results were statistically significant according to the positive correlation.

### **Conclusions.**

The exams and different academic assessment procedures can not only present the students’ skills and knowledge, and also influence their mental health and emotional states. Closeness, self-attachment, internal conflicts and self-blame of the students increased after the exams, when their self-confidence, self-management, self-esteem, and self-acceptance decreased considerable. If the exam poses impact on the students’ self-esteem it will be observed in their interpersonal relationship, academic achievement, and motivation significantly. These findings were justified based on Cattell Personality traits survey. Emotional stability of the students was changed after the exams sharply.

### **Recommendation.**

The study can be helpful for University and faculty staff. During the exams, pre exams, and post exams periods students need to get psychological support related to anxiety, and exam stress.

Socio-economic pathways may also be implicated. High parental care and parenting characterized by a combination of high care and high behavioral control is associated with higher educational attainment, occupational position and income of the offspring in adulthood, independently of family socio-economic circumstances (Blondal & Adalbjarnardottir, 2009; Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Singh-Manoux, Fonagy, & Marmot, 2006). Education and adult socio-economic position are strongly related to elements of positive mental well-being of children (Diener, Ng, Harter, & Arora, 2010).

As the researchers justified the special psychological support programs for stress adaptation and improving coping skills can be implemented at the university, specially for effective techniques for managing academic stress (Ross et al. (2023), Martínez-Líbano et al., (2023), Kiltz et al., (2024). These programs and strategies improve students’ stress coping skills and provide them with techniques to handle academic challenges in the current educational systems. It would be effective for their interpersonal relationship, and well being in their daily lives.

Related to limitation of the study there were some lack of the statistics. The first limitation is related to other university students’ statistics, the participants were from Baku State University. So for the next studies it can be developed involving more number of the students from other universities, and compare their results. The other socio-demographic factors, as the independent variables, can be added to the survey, to do more detailed explanatory analyzing. For the future the study can be continued other universities to compare the results, and statistics.

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### **Institutional Review Board Statement.**

The study was conducted and approved by the Institutional Review Board, Department of Social work, Faculty of Psychology and social science, Baku State University, 2025.

### **Conflicts of Interest.**

The authors declares that there is no conflict of interests regarding the publication of this manuscript. In addition, the ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancies have been completely observed by the authors.

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