Original Research

The Relationship Between Cognitive Emotion Regulation Strategies And Psychotherapy And Academic Burnout In Students

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Abstract:

Background:

The aim of this study was to investigate the relationship between cognitive emotion regulation strategies and psychotherapy and academic burnout of students from the first grade to the second period of high school in Tehran city, region 2, in the academic year of 1400.

Method:

The research method is a descriptive survey, for data collection, GHQ general health questionnaires and NEO personality traits questionnaire (shortened form in relation to research), and Healthy-Aru academic burnout questionnaire were used.

Results:

There is a relationship between vulnerability to stress in girls and their psychotherapy, -There is a relationship between vulnerability to the stress of boys and their academic burnout, -Mental health of boys is higher than the mental health of girls, - boys' academic burnout is more than girls' academic burnout, -Academic burnout in math fields is more than other theoretical disciplines of education, between peopleism and warmth in girls and boys group, with academic and mental burnout. Their therapy did not have a significant relationship.

Conclusion:

The higher the level of vulnerability to their stress, the lower the mental health of girls. The higher the boys' vulnerability to stress, the higher their burnout.

Keywords: Cognitive Emotion Regulation Strategies, Psychotherapy, Burnout, Stress, Mental Health.

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Introduction

Students' academic achievement and success, along with ensuring their mental health as human resources, is one of the important goals of the educational and health system of any society (1). The growth and development of any society depend on the education system of that society, according to which, every year, countries spend significant amounts of their national income on education. Academic achievement and mental health in students are two interrelated factors. So that without mental health, people fail academically and academic failure is one of the underlying reasons for students suffer from mental problems (2 and 3). Behavioral maladaptation such as aggression, hyperactivity, conflict, inattention, and… are among the pests of good personality development and are effective factors in academic failure, so such behavioral problems among students with academic failure or lack of education Are considerably more than others (4). In many cases, by examining the educational status of students, we see that despite the financial and human resources needed for their academic success and preparing for the necessary educational conditions... And even having a large number of students with high learning ability and talent, many of them not only do not achieve the academic success and development that is the ultimate goal of education in any society) 5 and 6(, but also face the phenomenon of academic burnout can be both a cause and effect of mental illness so that if students are susceptible to disease due to certain causes, they can be both a cause and effect of mental illnesses. Mental illness, quickly with academic failure, mental illnesses, and vice versa makes them susceptible to academic burnout (7-9). Mental illnesses naturally weaken the individual's performance in terms of lessons by disrupting the cognitive organization of individuals and also providing conditions for academic burnout (10 and 11).

This fatigue and exhaustion lead to the development of a pessimistic feeling and attitude without sensitivity to the curriculum, a feeling of inadequacy, and weakness in academic affairs. On the other hand, academic burnout leads to mental helplessness such as anxiety, depression, repression, hostility, or fear (12). As can be seen: there is a vicious cycle of mental illness with academic burnout that guides and strengthens each other (13 and 14). Therefore, it seems necessary to find the factors that cause or are related to students' mental illness and academic burnout in this direction. One of the influential factors in burnout and psychotherapy that has been considered in this study is cognitive emotion regulation strategies that seem to be highly related to mental health and burnout (15, 16). Given the debilitating effects of mental illness and academic burnout on students, research in this area seems necessary, and the researcher of this study, to answer the question, why despite the same educational conditions and facilities for society Statistics of this research (Tehran public high school students), some of them suffer from mental illness or burnout?

The relationship between these two variables and cognitive emotion regulation strategies in students has been investigated and therefore, the results of this study can be useful for students, parents, teachers, and the educational system in general, so that by acquiring knowledge and understanding of the factors affecting mental health and improving students' academic performance and increasing their academic resilience and thus preventing academic burnout, Help them. Accordingly, the research objectives are considered as follows:

• Overall goal:

Determining the relationship between cognitive emotion regulation strategies with psychotherapy and academic burnout of third-grade male and female high school students,

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theoretical disciplines of public high schools in Tehran in the academic year of 2022.

Research method

The research method in this research is descriptive-correlational. The statistical population includes all first grade male and female students from the second term of high school in theoretical fields in high schools of Tehran city, region 2 in the academic year of 1400, whose total number was 477 according to the report of the bachelor's secondary education (high schools), Tehran education department. The sampling method is a combined method that was the result of stratified (cluster) and cluster sampling. The final sample is based on the classification of high schools based on gender and the ratio of the number of students studying in each field of study, selected from a simple random method (classes proportional to volume). In order to determine the sample size of this study: Considering the total number of students, i.e. 477 people, using the Krejcie and Morgan sample size determination table, the sample size was 180 people, and finally, due to the lack of uniform distribution of students in terms of gender, In terms of field, the sample size was 83 boys and 97 girls. In the present study, the variable "Students' Cognitive Emotion Regulation Strategies" is considered as an independent variable or predictor variable, in order to examine the existence or non-existence of a relationship between this variable and the dependent variable or criterion, which is here. It is psychotherapy and students' burnout has been studied. In the present study, according to the research topic and its method, three questionnaires have been used:

1- Personality Questionnaire: NEO-PIR

The revised version of the Neo Personality Questionnaire (Costa and McCray, 1992) is a kind of personality traits self-assessment questionnaire based on a popular personality model called the Five Factor Model (17). According to the revised version of the NEO questionnaire, the five factors or areas are: neuroticism, extroversion, openness, agreement, and conscience. Each domain has six sub-scales. That is, specific personality traits that show different aspects of each domain. The revised version of the NEO Personality Questionnaire contains 240 items (8 items for each of the 30 aspects or 48 items for each of the five areas).

2- Academic burnout:

To measure this variable, the Salla-Arrow et al. (2009) school burnout questionnaire was used. The researchers obtained this questionnaire through factor analysis and from 9 items and three factors (the first factor was excessive fatigue from school activities and consisted of 4 items, the second factor was pessimism about the meaning of school and consisted of 3 items and the third factor was feeling of inadequacy in The school consists of 2 articles.

3- General Health Questionnaire (GHQ):

Goldberg (1972) introduced this questionnaire as a "serendipity questionnaire" based on the self-reporting method, which is used in clinical settings with the aim of tracking those with a mental disorder, the aim of this questionnaire is to differentiate between mental illness and mental health.

Data analysis of this research has been done on two levels of descriptive statistics and inferential statistics. At the descriptive statistics level, frequency, percentage, mean and standard deviation, and at the level of inferential statistics, correlation coefficient test, independent t-test, multivariate regression, one-way analysis of variance, and Friedman nonparametric test were used and SPSS software was used.

Research Results

Descriptive analysis of data is presented as follows. In Table 1, the frequency distribution of participants is shown in terms of gender.

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Table 1 shows that 46.1% of the students participating in the study are female and 53.9% are male students. Table 2 shows the frequency distribution of respondents by field of study.

Table 2 shows that 22.8% of students participating in research in the field of mathematical sciences, 41.1% in the field of experimental sciences, and 36.1% in the field of humanities are studying. Table 3 describes the mean distribution and standard deviation of the research variables.

Pearson correlation coefficient, independent t-test and one-way analysis of variance, multivariate regression, and non-parametric Friedman test were used to test the research hypotheses. The results are reported below.

Hypotheses:

Hypothesis 1: There is a relationship between cognitive emotion regulation strategies and psychotherapy of male students. Table 4 shows the correlation coefficient of cognitive emotion regulation and psychotherapy strategies of male students.

According to table 4 results, vulnerability to stress, warmth, and popularity of male students has no significant relationship with their mental health at p<0.05 level. Correlation observation shows that the vulnerability to stress, warmth, and popularity have no effect on mental health.

Second hypothesis: There is a relationship between cognitive emotion regulation leaders and psychotherapy in female students. In Table 5, we can see the correlation coefficient of cognitive emotion regulation strategies and psychotherapy in female students.

According to table 5 results<, vulnerability to stress in female students has a significant positive relationship with their mental health at the level of p Correlation observation shows that the more vulnerability to stress, the lower the mental health of students. However, the characteristics of warmth and popularity have no significant relationship with mental health at the level of 0.05p<. That is, the characteristics of warmth and populism have no effect on mental health.

Third hypothesis: There is a relationship between cognitive emotion regulation strategies and academic burnout of male students. Table 6 presents the correlation coefficient of cognitive emotion regulation strategies and academic burnout of male students.

According to table 6 results, vulnerability to stress in male students has a significant positive relationship with their academic burnout at the level of p<0.05. Observing the correlation shows that the more vulnerability to stress, the higher the academic burnout of students. However, the characteristics of warmth and popularity with academic burnout had no significant relationship at the level of p<0.05. That is, the characteristics of warmness and populism have no effect on academic burnout.

Hypothesis 4: There is a relationship between cognitive emotion regulation strategies and academic burnout in female students. In Table 7, the correlation coefficient of cognitive emotion regulation strategies and academic burnout of female students is visible.

According to table 7 results, vulnerability to stress in female students with their academic burnout has no significant relationship at p<0.05 level. Correlation observation shows that vulnerability to stress, warmth, and popularity have no effect on the academic burnout of female students. Multivariate regression has been used to investigate the separate and simultaneous effect of cognitive emotion regulation strategies of female students on their psychotherapy, and the results are shown in the following tables. Table 8 summarizes the results of psychotherapy prediction regression analysis based on cognitive emotion regulation strategies of female students.

Table 8 shows that only vulnerability to stress explains 9% of mental health variances and other cognitive emotion regulation strategies

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such as warmth and nationalism are not significant predictors of students' academic performance. Table 9 shows the coefficients of regression analysis of psychotherapy prediction based on cognitive emotion regulation strategies in female students.

Table 10 presents the variables excluded from regression analysis and predicts psychotherapy in terms of cognitive emotion regulation strategies for female students.

Table 10 shows that cognitive regulation strategies of warm excitement and popularity are not a significant predictor of mental health in girls. Multivariate regression has been used to investigate the separate and simultaneous effect of cognitive emotion regulation strategies of male students on their academic burnout, and the results are listed in the following tables. Table 11 summarizes the results of the regression analysis test to predict academic burnout based on cognitive emotion regulation strategies in male students.

Table 11 shows that only the vulnerability of 5.8% explains the variance of academic burnout in students and other cognitive emotion regulation strategies such as warmth and anthropology are not significant predictors of students' academic burnout. In Table 12, regression analysis coefficients predict academic burnout prediction based on cognitive emotion regulation strategies of male students are reported.

Table 13 presents the variables excluded from regression analysis to predict academic burnout in terms of cognitive emotion regulation strategies of male students.

Table 13 shows that cognitive emotion regulation strategies such as warmth and people-oriented are not a significant predictor of students' academic burnout and have been excluded from the prediction model.

Analysis of sub-hypotheses:

Hypothesis 1: The research variables differ according to the gender of students. In Table 14, the summary of the results of the analysis of the variance of the research variables based on the gender of the students is shown.

According to the results of Table 14, mental health has a significant difference in the level of 0.01p< according to the gender of the students. Observing the mean shows that boys' mental health is higher than girls. Also, among cognitive emotion regulation strategies, only a people-oriented based on the gender of students had a significant difference in the level of 0.01p<. Observing the averages shows that the rate of popularity in girls is higher than in boys. However, the rate of warmth and vulnerability to stress and academic burnout based on students' gender did not differ significantly from p<0.05.

Hypothesis 2: Research variables differ based on students' fields of study. Table 15 shows the summary of the results of the analysis of the variance of the research variables based on the students' field of study.

According to the results of table 15, academic burnout based on students' field of study has a significant difference in the level of p<0.01, but mental health, cognitive emotion regulation strategies, vulnerability to stress, warmth, and people-oriented in terms of field of study are not significantly different. In Table 16, the results of the analysis of the variance of academic burnout in terms of field of study can be seen.

Based on the results of table 16, academic burnout based on students' field of study has a significant difference in the level of p<0.01. Mathematics students had more academic burnout than students in experimental and human disciplines.

Discussion

The aim of this study was to investigate the relationship between cognitive emotion regulation strategies with psychotherapy and academic burnout among third-grade male and female high school students in theoretical majors of tehran high schools in the academic

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year 1400-1401. Data analysis of questionnaires was performed on two levels of descriptive statistics and inferential statistics. At the descriptive statistics level, statistics such as frequency, percentage, mean and standard deviation have been used and at the level of inferential statistics, Pearson correlation tests, independent t-test and one-way variance analysis and multivariate regression analysis, and Friedman nonparametric test have been used.

Analysis of research findings

The results show that there is no significant relationship between cognitive emotion regulation strategies vulnerability to stress, warmth, and people-oriented in male students with their psychotherapy. It can be said that boys are less vulnerable to stress because of their rationality and the use of problem-oriented solutions, and as a result, these characteristics in this sample do not threaten the mental health of students. While most research conducted abroad and inside the country shows the opposite, i.e. having a significant relationship between vulnerability to stress and warmth and people-oriented mental health, the results (12) and (4) are consistent with the results of the study.

According to the results of the study, the vulnerability to the stress of female students has a significant positive relationship with their psychotherapy and the correlation observation shows that the more vulnerable to stress, the lower the mental health of students. Observations show that stress vulnerability determines 9% of the variance of girls' mental health and there is a significant positive relationship at the level of $p < 0.05$. But other strategic features, namely populism, and warmth, do not have a significant relationship with psychotherapy of female students at the level of $p < 0.05$. Due to the excitement of girls against stress and their vulnerability, the characteristic of vulnerability to stress threatens their mental health. From research that has a result that is similar to this research result, we can refer to the research (9). They noted that they found that people with high mood (whose vulnerability to stress is one of their characteristics) had difficulty controlling their impulses due to difficulty in coping, their autoimmune responses to The risk are lower and they have lower scores on physical and mental health.

According to the results, vulnerability to stress in male students has a significant positive relationship with their academic burnout at the level of $p < 0.05$, which means that the higher the vulnerability to stress, the greater their academic burnout. Reasons for achieving these results:

1. Boys are forced to take courses that in the current conditions of society there is no guarantee for their future career, labor market, and wealth.
2. By not being accepted in the national entrance exam, they are immediately forced to serve in the army.
3. Boys do not see any logical connection between the curriculum and the job market and their career future in theoretical disciplines.

The results show that the vulnerability to the stress of female students is not significantly related to their academic burnout. Also, the correlation between populism and warmth shows that these two characteristics have no effect on academic burnout. The results of this research hypothesis are very interesting because of the relationship between vulnerability and burnout in boys, given the fact that most studies have shown that women are more prepared than men for vulnerability to stress. As a result, the effect of this author on girls 'academic burnout is expected, but the exact result of the above hypothesis in this study is the opposite, that is, vulnerability to stress is related to boys' academic burnout. There is research on this subject that leads to the opposite result, including research (13) on

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the effect of interpersonal factors on burnout showed that negative mood predisposes students to burnout, While social support (which stems from warmth and populism) from friends is a very important shield against burnout (18).

Reasons for achieving these results:

1. Girls do not worry about their future careers and do not have stress for their labor market and entrepreneurship.
2. High evaluation in Tehran city culture on girls who have academic success, even as one of the factors of successful marriage (which creates a very high motivation and interest for academic success).
3. The spirituality and religion of the people of Tehran city and the meaningfulness of the students, especially the girls in times of stress and the stressful situations of exams and those educational programs that are stressful.
4. The social and family support that comes from the academic success of girls, if boys are not appreciated to such an extent.

Analysis of research sub-hypotheses:

Hypothesis one: Research variables differ according to students' gender.

A- Summary of the results of the analysis of variance test of research variables According to the gender of students, psychotherapy has a significant difference.

B- Observing the averages, shows the degree of populism of girls more than boys.

C- Observing the mean does not show a significant difference between the two sexes in the variables of vulnerability to stress, heat and burnout.

Hypothesis 2: Research variables vary according to students' field of study.

A. Summary of the results of analysis of variance test of research variables according to the field of study shows that students' academic burnout is significantly different so that students in mathematics have more academic burnout than both experimental and humanities.

B. Observing the mean of other variables shows that psychotherapy, vulnerability to stress, warmth, and populism are not significantly different according to the field of study.

Conclusion

1- Perhaps it can be said that the reason for the high mental health of boys in this example compared to girls is: that boys in this group of mental health skills, such as self-confidence, responsibility, balanced emotions, and… They have higher than girls, which of course needs to be investigated. In addition, this result is consistent with the results of the World Health Organization and other research in the world that women have a higher incidence of mental illness than men.

2- Due to being sociable and enjoying talking and socializing with female friends in other societies, it is natural that in this example, girls are more popular than boys.

3- The absence of significant differences between the two sexes in this study in the variables of vulnerability to stress and heat and burnout indicates that these variables are not dependent on gender and each can be a variable. Many factors such as family, culture, school, and other factors are affected.

4- The existence of higher burnout in mathematics compared to experimental and humanities disciplines may be due to the fact that mathematics courses have a higher volume of mental work than other courses and cognitive processes, especially the problem-solving process and Challenges thinking in students. Of course, for students who are less successful in this field, it can be argued that it may not have been the right thing for them to enter this field and they are not able to take the courses in this field.

5- Observing the absence of significant differences between the means of

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psychotherapy variables, vulnerability to heat stress, and populism according to the field of study in this study, it may be concluded that (at least in this sample, In particular, none of these variables were related to the students 'field of study, or that the student's field of study was not a variable affecting these factors.

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Tables

Table 1: Frequency distribution of respondents by gender

Gender	frequency	percent
Boy	83	46.1
Girl	97	53.9
Total	180	100

Table 2. Frequency distribution of respondents by field of study

Field of Study	frequency	percent
Mathematical sciences	41	22.8
Experimental Sciences	74	41.1
human Sciences	65	36.1
Total	180	100

Table 3. Mean distribution and standard deviation of research variables

	number	minimum	maximum	Average	Standard deviation
Vulnerability	180	1	28	13.82	4.62
Being warm	180	7	38	18.70	4.57
Populism	180	1	31	17.66	5.09
Academic burnout	180	10	59	32.28	8.50
mental health	180	0	73	26.27	14.24

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Table 4. The correlation coefficient of cognitive emotion regulation strategies and psychotherapy of male students

Variables	Indexes	Mental health
Vulnerability	Pearson correlation coefficient	0.174
	Meaningful level	0.116
	Number	83
Being warm	Pearson correlation coefficient	-0.022
	Meaningful level	0.847
	Number	83
Populism	Pearson correlation coefficient	-0.104
	Meaningful level	0.350
	Number	83

Table 5. The correlation coefficient of cognitive emotion regulation strategies and psychotherapy in female students

Variables	Indexes	Mental health
Vulnerability	Pearson correlation coefficient	0.300
	Meaningful level	0.003
	Number	97
Being warm	Pearson correlation coefficient	0.038
	Meaningful level	0.637
	Number	97
Populism	Pearson correlation coefficient	-0.088
	Meaningful level	0.389
	Number	97

Table 6. The correlation coefficient of cognitive emotion regulation strategies and academic burnout in male students

Variables	*Indexes*	*Academic burnout*
Vulnerability	Pearson correlation coefficient	0.241
	Meaningful level	0.028
	Number	83
Being warm	Pearson correlation coefficient	0.135
	Meaningful level	0.223
	Number	83
Populism	Pearson correlation coefficient	-0.171
	Meaningful level	0.123
	Number	83

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Table 7. The correlation coefficient of cognitive emotion regulation strategies and academic burnout in female students

Variables	Indexes	Academic burnout
Vulnerability	Pearson correlation coefficient	0.192
	Meaningful level	0.060
	Number	97
Being warm	Pearson correlation coefficient	-0.064
	Meaningful level	0.532
	Number	97
Populism	Pearson correlation coefficient	0.099
	Meaningful level	0.334
	Number	97

Table 8. Summary of the results of psychotherapy prediction regression analysis based on cognitive emotion regulation strategies in female students

Model	R	R^2	Change statistics				
			R^2 change	F Change	df1	df2	Sig.
1	0.300	0.090	0.090	9.419	1	95	0.003

a Predictors: (Constant), **Vulnerability**
b gender= girl

Table 9. Regression coefficients of psychotherapy prediction based on cognitive emotion regulation strategies in female students

Model		Not standardized coefficients		Not standardized coefficients	t	Sig.
		B	Std. Error	Beta		
1	(constant)	17.250	4.345		3.970	0.0001
	Vulnerability	0.899	0.293	0.300	3.069	0.003

a Dependent Variable: mental health
b gender = girl

Table 9 shows the predictive coefficients of psychotherapy. Based on this, the forecast equation can be written as follows:

$Y=17/25 + 0/300X_1$

Y = Psychotherapy
a = slope of the regression line
b = prediction coefficient
X1 = Vulnerability

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Table 10. Variables excluded from regression analysis of psychotherapy prediction according to cognitive emotion regulation strategies of female students

Model		Beta In	t	Sig.
1	Being warm	0.061	0.621	0.536
	Populism	-0.041	-0.407	0.685

a Predictors in the Model: (Constant), Vulnerability
b Dependent Variable: mental health
c gender = girl

Table 11. Summary of the results of regression analysis test predicting academic burnout based on cognitive emotion regulation strategies in male students

	R	R^2	Change statistics				
			change R^2	F change	df1	df2	Sig.
1	0.241	0.058	0.058	4.993	1	81	0.028

a Predictors: (Constant), Vulnerability
b gender = boy

Table 12. Regression analysis coefficients predict academic burnout prediction based on cognitive emotion regulation strategies in male students

Model		Not standardized coefficients		Not standardized coefficients	t	Sig.
		B	Std. Error	Beta		
1	(constant)	26.01	2.793		9.313	0.0001
	Vulnerability	0.438	0.196	0.241	2.235	0.028

a Dependent Variable: academic burnout
b gender = boy

Table 12 shows the predictors of academic burnout. Based on this, the forecast equation can be written as follows:

$Y=26/01+0/241\ X_1$

Y = Academic burnout
a = slope of the regression line
b = prediction coefficient
X1 = Vulnerability

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Table 13. Variables excluded from regression analysis of predicting academic burnout in terms of cognitive emotion regulation strategies of male students

model		Beta In	t	Sig.
1	Being warm	0.204	1.866	0.066
	Populism	-0.156	-1.449	0.151

a Predictors in the Model: (Constant), Vulnerability

b Dependent Variable: academic burnout

c gender = boy

Table 14. Summary of the results of analysis of variance of research variables based on students' gender

The dependent variable	gender	number	Ave4rage	Standard deviation	t-test for Equality of Means		
					t	df	Sig.
Psychotherapy	boy	83	22.07	12.85	-3.794	178	.000
	girl	97	29.87	14.45			
Academic burnout	boy	83	31.95	7.97	-.475	178	.636
	girl	97	32.56	8.96			
Vulnerability	boy	83	13.57	4.38	-.671	178	.503
	girl	97	14.03	4.82			
Being warm	boy	83	18.06	4.72	-1.744	178	.083
	girl	97	19.25	4.40			
populism	boy	83	16.33	4.15	-3.334	178	.001
	girl	97	18.79	4.54			

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Table 15. Summary of the results of analysis of variance of research variables based on students' field of study

The dependent variable	Field of study	Number	Average	Standard deviation	F	sig
Psychotherapy	**Mathematical sciences**	41	25.98	12.69	0.138	0.871
	Experimental Sciences	74	26.93	15.67		
	human Sciences	65	25.71	13.63		
	Total	180	26.27	14.24		
Academic burnout	**Mathematical sciences**	41	36.63	6.66	8.604	0.0001
	Experimental Sciences	74	30.05	8.29		
	human Sciences	65	32.06	8.83		
	Total	180	32/28	8/50		
Vulnerability	**Mathematical sciences**	41	14.24	4.57	1/861	0/159
	Experimental Sciences	74	14.35	5.27		
	human Sciences	65	12.94	3.71		
	Total	180	13.82	4.62		
Being warm	**Mathematical sciences**	41	17.66	4.32	1.571	0.211
	Experimental Sciences	74	18.78	4.47		
	human Sciences	65	19.26	4.80		
	Total	180	18.70	4.57		
populism	**Mathematical sciences**	41	16.12	4.37	2.450	0.089
	Experimental Sciences	74	18.02	5.56		
	human Sciences	65	18.12	4.81		
	Total	180	12.66	5.09		

Table 16. The results of the analysis of the variance of academic burnout based on the field of study

The dependent variable	Field of study	Field of study	The average difference	Sig.
Academic burnout	**Mathematical sciences**	**Experimental Sciences**	6.580	0.0001
		human Sciences	4.573	0.006

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