

Defence Mechanisms versus Coping Mechanisms in Students

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Abstract

The present work aims to analyze the cognitive defense mechanisms of students and the coping mechanisms used by students and the correlation between them. The research of the paper includes: a proper investigative part using as main methods: a COPE questionnaire - elaborated by Carver, Scheier and Weintraub, and the evaluation scale of cognitive defense mechanisms-SEMCA (elaborated by Mircea Miclea, 1999). The conceptual bases of the work were the following psychological concepts: Theories related to coping mechanisms and cognitive defense mechanisms (Folkman, 1985) (Freud S., 2005) (Freud A., 2002), (Iosifescu, 2002); (Miclea, 1997).

Keywords: Defence mechanisms, coping mechanism.

How to cite: Constantin, V.E. (2025). Defence Mechanisms versus Coping Mechanisms in Students. *Anuarul Universității "Petre Andrei" din Iași Fascicula: Asistență Socială, Sociologie, Psihologie*, 31, 110-120. <https://doi.org/10.63331/upasw/31/10>

Introduction

Although the approach of this paper is a laborious one, we hope that the results obtained will add to the knowledge and especially to the universities that want to build a viable strategy in the field of counseling students for adaptation to the academic and professional environment. Because one of the main ways to define and measure quality is the satisfaction of the beneficiary, the student.

In the research, the cognitive defense mechanisms and coping mechanisms used by students and the correlation between them are investigated.

The practical part of this paper includes a research in which a COPE questionnaire was applied. The questionnaire integrates the stress model developed by Lazarus¹, but its authors consider the separation of coping forms into three types (problem-focused and emotion-focused - overly simplistic and dysfunctional) and the cognitive defense mechanisms assessment scale-SEMCA, developed and presented in the book *Stress and Psychic Defense*², published by Presa Universitară Clujeană. In this respect, the present study is based on a series of structural concepts, such as defense mechanisms and coping mechanisms.

The actual research aimed to conduct a diagnostic study on the cognitive defense mechanisms used by students and the coping mechanisms used by them.

The aim of the research is to highlight coping mechanisms and cognitive defense mechanisms and their correlation.

Research objectives:

1. To identify the scores of coping mechanisms used by female and male students.
2. To identify the cognitive defense mechanisms used by students in relation to coping mechanisms, looking for statistically significant correlations between them.

Research hypotheses (in relation to the stated objectives)

For objective 1, research hypothesis 1 was formulated: we assume that there are statistically significant differences between the scores obtained for the coping mechanisms used by male respondents and the scores obtained by female respondents (Mann Whitney U test).

Hypothesis 2 was formulated for research objective 2: we consider that there is a statistically significant correlation of varying intensities between cognitive defense strategies (SMECA) and coping strategies (COPE) (Pearson correlation coefficient).

The conceptual foundations of the paper were the theories of coping mechanisms and cognitive defense mechanisms.

Research variables

Independent variables: years of study I and II, the Faculty of Mathematics and Computer Science and the Faculty of Foreign Languages at the University of Bucharest, gender and age.

Dependent variables:

¹ S. Lazarus and S. Folkman, *Stress, Appraisal and Coping* (New York: Springer Publ. Co., 1984).

² Mihai Micla, *Stress and Psychic Defense* (Cluj-Napoca: Presa Universitară Clujeană, 1997).

1. Cognitive defense mechanisms (defensive denial, projection, rationalization, intellectualization/isolation);
2. Coping mechanisms (problem-centered strategies, problem-focused strategies emotion and dysfunctional strategies).

Presentation of the group of subjects

The research group consisted of 504 students, of which 252 students from the Faculty of Mathematics and Computer Science (University of Bucharest), in the second year of study, of which 126 students in the Mathematics specialization and 126 students in the Computer Science specialization, and 252 students from the Faculty of Foreign Languages (University of Bucharest), in the first year of study, of which 126 students in the English Translation and Interpreting specialization and 126 students in American Studies. Of the 504 students, 168 students are aged 18, 168 students are aged 19 and 168 students are aged 20. The research sample consists of 146 males and 358 females.

Presentation of the research methodology

1. To achieve the first objectives we used a quantitative methodology based on descriptive statistics and inferential statistics. Descriptive statistics are used to present, classify and sum the scores (values) of a variable. If we are interested in describing a single variable, then we will use descriptive statistics to arrange and process the 12 scores of that variable so that the relevant information can be quickly understood and evaluated. Inferential statistics are used to make generalizations about a population based on the study of a sample from that population or, in other words, to draw inferences about the characteristics of a population based on the corresponding characteristics of a sample from that population³.

2. Measures of central tendency (mean and median); dispersion (standard deviation); skewness and kurtosis were provided for each parametric variable investigated in the research. Frequency tables were provided for non-parametric variables.

3. When the variables satisfied the assumption of normality, the comparison between the two groups was based on the t-Student test for independent samples and the non-parametric Mann-Whitney U test (equivalent to the parametric independent t test)⁴.

Presentation of the results obtained from the statistical tests for each hypothesis, mentioning the validation of the hypotheses

Hypothesis 1. We assume that there are statistically significant differences between the scores on coping mechanisms used by males and females. The Mann-Whitney U test (equivalent to the parametric Student's t- test for independent samples) was applied.

³ Mihai Covaci, *Computerized Data Processing: Lecture Notes* (Vienna: Österreichisch-Rumänischer Akademischer Verein, 2020).

⁴ H. B. Mann and D. R. Whitney, "On a Test of Whether One of Two Random Variables Is Stochastically Larger than the Other," *Annals of Mathematical Statistics* 18, no. 1 (1947): 50-60.

Table no. 1 NPAR TEST/MANN-WHITNEY = Problem_focused_strategies_result_by_Gen (1,2)

Ranks				
	Gender	N	Mean Rank	Sum of Ranks
Result_problem_focused_strategies	Male	146	226,07	33006,00
	Female	358	263,28	94254,00
	Total	504		
Emotion_focused_strategies_result	Male	146	195,53	28547,50
	Female	358	275,73	98712,50
	Total	504		
Result_strategies_disfunctional	Male	146	228,32	33335,00
	Female	358	262,36	93925,00
	Total	504		

Table no. 2 NPAR TEST/MANN-WHITNEY= Result_problem_focused_strategies_by_Gender (1,2)

Test Statistics ^a			
	Result_strategies_c entred_on_problem	Result_strategies_c entred_on_emotion	Result_strategies_di sfunctional
Mann-Whitney U	22275,000	17816,500	22604,000
Wilcoxon W	33006,000	28547,500	33335,000
Z	-3,301	-6,166	-2,619
Asymp. Sig. (2-tailed)	,001	,000	,009

a. Grouping Variable: Gen

In table no. 1 NPAR TEST/MANN-WHITNEY Result_strategies Problem-Centered by Gender (1,2), the results of the Mann Whitney U-test analysis show that the Problem-Centered Strategies scores used by males are statistically significantly different from the scores of females (U = 22275.000; N₁ = 146; N₂ = 358; Z = -3.301; p = 0.001).

In Table no. 2 NPARTEST/MANN-WHITNEY = Result_Emotion_Centered_Strategies_by_Gender (1,2) we observe the results of the Mann Whitney U-test analysis which shows that the scores on Emotion Centered Strategies used by males are statistically significantly different from the scores of females (U = 17816.500; N₁ = 146; N₂ = 358; Z = -6.166; p = 0.000). In Table 2 NPAR TEST / MANN - WHITNEY =

Result_strategy_disfunction byGender (1,2) we observe the results of the U Mann Whitney test analysis, which reveal that the scores on the Dysfunctional Strategies used by male individuals are statistically significantly different from the scores of female individuals (U= 22604.00; N₁= 146; N₂ = 358; Z = -2.819; p = 0.009). As a result, hypothesis no. 1 is confirmed, i.e. the results of the Mann Whitney U test analysis show that the scores of Coping Strategies used by males are statistically significantly different from the scores of females. female gender. The most different scores obtained by males compared to females are Emotion Centered Strategies. From a psychological point of view, it is explained by the fact

that women are educated from an early age to express their emotions, while men are advised to repress them.

It follows that working hypothesis 1 is confirmed.

Hypothesis 2. We hypothesize that there is a statistically significant correlation of different intensities between the cognitive defense strategies (SMECA) and coping strategies (COPE) used by the research respondents.

The Pearson correlation, which assesses the degree of association between two variables measured on the interval/report scale, was applied to observe the correlation.

In the results we have at a significance level $p = 0.000$ and $N = 504$ or $DF = 502$ (where DF stands for degree of freedom) and the following correlations:

Table 3. Correlational matrix between Problem-Centered Problem-Oriented Strategies (COPE I) and Defensive Denial (D-Denial of Defensive Strategies (D-DDMS I)

Correlations		
		Outcome_problem_focused_strategies
Result_defensive_negation	Pearson Correlation	,246**
	Sig. (2-tailed)	,000
	N	504

In Table no. 3, Correlation matrix between Problem Centered Strategies (COPE I) and Defensive Denial (SMECA I) we have a positive correlation of weak intensity between Defensive Denial (SEMCA I) and Problem Centered Strategies (COPE I); the correlation coefficient $r = 0.246$.

Table 4. Correlation matrix between Problem-Centered Strategies (COPE I) and Repression (COPE II)

Correlations		
		Outcome_problem_focused_strategies
Result_repression	Pearson Correlation	,130**
	Sig. (2-tailed)	,003
	N	504

In Table no. 4, Correlation matrix between Problem Centered Strategies (COPE I) and Repression (COPE II) we have a positive correlation of very weak intensity between Repression (SEMCA II) and Problem Centered Strategies (COPE I), the correlation coefficient $r = 0.130$.

Table no. 5. Correlation matrix between Problem-Centered Strategies (COPE II) and Projection (SMECA III)

Correlations		
		Outcome_problem_focused_strategies
Result_projection	Pearson Correlation	,165**
	Sig. (2-tailed)	,000
	N	504

In Table no. 5, Correlation Matrix between Problem-Centered Strategies (COPE II) and Projection (SMECA III) we observe that there is a positive correlation of very weak intensity between Repression (SEMCA IV) and Problem-Centered Strategies (COPE I), the correlation coefficient $r = 0.165$.

Table no. 6. Correlation matrix between Problem-Oriented Strategies (COPE I) and Rationality (COPE IV)

Correlations		
		Outcome_problem_focused_strategies
Result_rationality	Pearson Correlation	,372**
	Sig. (2-tailed)	,000
	N	504

In Table no. 6, Correlation matrix between Problem-Centered Strategies (COPE I) and Rationality (COPE IV) we have a positive correlation of weak intensity between Rationality (SEMCA IV) and Problem- Centered Strategies (COPE I); the correlation coefficient $r = 0.372$.

Table 7. Correlational matrix between Problem-Oriented Strategies (COPE I) and Rationality (DACS V)

Correlations		
		Outcome_problem_focused_strategies
Result_intellectualization_isolation	Pearson Correlation	,191**
	Sig. (2-tailed)	,000
	N	504

In Table no. 7, Correlation Matrix between Problem-Centered Strategies (COPE I) and Rationality (GECAMS V), we observe that there is a positive correlation of very high intensity

weak between Intellectualization/Isolation (SEMCA IV) and Problem Focused Strategies (COPE I); correlation coefficient $r = 0.191$.

Table no. 8. Correlational matrix between Emotion Centered Strategies (COPE II) and Defensive Denial (D-DDMS I)

Correlations		
		Emotion_focused_strategies_result
Result_defensive_negation	Pearson Correlation	,305**
	Sig. (2-tailed)	,000
	N	504

In Table 8, Correlation matrix between Emotion Centered Strategies (COPE II) and Defensive Denial (SEMCA I), there is a weak positive correlation between Defensive Denial (SEMCA I) and Emotion Centered Strategies (COPE II); the correlation coefficient $r = 0.305$.

Table no. 9. Correlational matrix between Emotion Centered Strategies (DACS II) and Repression (COPE 1I)

Correlations		
		Emotion_focused_strategies_result
Result_repression	Pearson Correlation	,159**
	Sig. (2-tailed)	,000
	N	504

In Table no. 9, Correlational matrix between Emotion Centered Strategies (SEMCA II) and Depression (COPE 1I), we observe that we have a positive correlation of very weak intensity between Repression (SEMCA II) and Emotion Centered Strategies (COPE II); the correlation coefficient $r = 0.159$.

Table 10. Correlation matrix between Emotion Centered Strategies (DACS II) and Projection (COPE)

Correlations		
		Emotion_focused_strategies_result
Result_projection	Pearson Correlation	,300**
	Sig. (2-tailed)	,000
	N	504

In Table no. 10, Correlation matrix between Emotion Centered Strategies (SEMCA II) and Projection (COPE I1I), we observe a positive correlation of weak intensity between Projection (SEMCA III) and Emotion Centered Strategies (COPE II); the correlation coefficient $r = 0.300$.

Table no. 11. Correlational matrix between Emotion Centered Strategies (DACS II) and Rationality (COPE IV)

Correlations		
		Emotion_focused_strategies_result
Result_rationality	Pearson Correlation	,451**
	Sig. (2-tailed)	,000
	N	504

In Table no. 11, Correlation matrix between Emotion Centered Strategies (SEMECA II) and Rationality (COPE IV), we observe a positive correlation of reasonable intensity between Rationality (SEMECA IV) and Emotion Centered Strategies (COPE II); the correlation coefficient $r = 0.46$.

Table 12. Correlation matrix between COPE II and Inelectedualization/Isolation (SMECA V)

Correlations		
		Emotion_focused_strategies_result
Result_intellectualization_isolation	Pearson Correlation	,141**
	Sig. (2-tailed)	,001
	N	504

In Table no. 12, Correlational matrix between Emotionally Focused Strategies (COPE II) and Intellectualization/Isolation (SEMCA V), we have a positive correlation of very weak intensity between Intellectualization/Isolation (SEMCA V) and Emotionally Focused Strategies (COPE II), the correlation coefficient $r = 0.141$.

Table no. 13. Correlational matrix between Dysfunctional Strategies (COPE III) and Defensive Denial (DACS I)

Correlations		
		Result_strategy_disfunctional
Result_defensive_negation	Pearson Correlation	,123**
	Sig. (2-tailed)	,006
	N	504

In Table no. 13, Correlation matrix between Dysfunctional Strategies (COPE III) and Defensive Denial (SEMECA I), we have a positive correlation of very weak intensity between Defensive Denial (SEMECA I) and Dysfunctional Strategies (COPE III); the correlation coefficient $r = 0.123$.

Table 14. Correlation matrix between Dysfunctional Strategies (COPE III) and Repression (SEMECA II)

Correlations		
		Result_strategy_disfunctional
Result_repression	Pearson Correlation	,061
	Sig. (2-tailed)	,174
	N	504

In Table no. 14, Correlation matrix between Dysfunctional Strategies (COPE III) and Repression (SEMECA II), we observe a positive correlation of high intensity between Repression (SEMECA II) and Dysfunctional Strategies (COPE III); the correlation coefficient $r = 0.61$.

Table no. 15. Correlation matrix between the Dysfunctional Strategies (COPE III) and the Projection (DACS III)

Correlations		
		Result_strategy_disfunctional
Result_projection	Pearson Correlation	,044
	Sig. (2-tailed)	,325
	N	504

In Table no. 15, Correlation matrix between Dysfunctional Strategies (COPE III) and Projection (DACSME III), we have a positive correlation of reasonable intensity between Projection (DACSME III) and Dysfunctional Strategies (COPE III); the correlation coefficient $r = 0.44$.

Table no. 16. Correlation matrix between Dysfunctional Strategies (COPE III) and Rationality (DACS IV)

Correlations		
		Result_strategies_disfunctional
Result_rationality	Pearson Correlation	,199**
	Sig. (2-tailed)	,000
	N	504

In Table no. 16, Correlation matrix between Dysfunctional Strategies (COPE III) and Rationality (SEMECA IV), there is a positive correlation of very weak intensity between Rationality (SEMECA IV) and Dysfunctional Strategies (COPE III); the correlation coefficient $r = 0.199$.

Table 17. Correlation matrix between Dysfunctional Strategies (COPE III) and Intellectualization/Isolation (DACS V)

Correlations		
		Result_strategy_disfunctional
Result_intellectualization_isolation	Pearson Correlation	,186**
	Sig. (2-tailed)	,000
	N	504

Positive correlation of very weak intensity between Intellectualization/Isolation (SEMCA V) and Dysfunctional Strategies (COPE III); correlation coefficient $r = 0.186$; at a significance level $p = 0.000$ and $N = 504$ or $DF = 502$ (where DF denotes degree of freedom).

Working hypothesis no. 2 is partially confirmed, i.e. there is a statistically significant correlation of different intensities between the cognitive defense strategies (SMECA) and coping strategies (COPE) used by the respondents, even if of low or very low intensity.

Research findings

Coping Mechanisms and Cognitive Defense Mechanisms are determined in childhood and have no implications for college major choice (nor vice versa). There is a statistically significant correlation of varying intensities between the Cognitive Defense Mechanisms (CBDMS) and Coping Strategies (COPE) used by research respondents when Cognitive Defense Mechanisms are used constructively and short-term; the respondents use Problem-Centered Cognitive Coping Strategies managing to be objective when using them; for a little longer than necessary, they use Emotion-Centered Coping Strategies (COPE); when they use them for a longer period of time they use Dysfunctional Coping Strategies (COPE). There are statistically significant differences between the scores obtained on Coping Strategies used by males and females. The most different scores obtained by males and females are Emotion Centered Coping Strategies. From a psychological point of view, this is explained by the fact that women are educated from an early age to express their emotions, while men are advised to repress them.

Research limitations

Since no research can be exhaustive, this research also has its limitations. These are: the study was not able to cover the whole spectrum related to the issues under study; the respondents who agreed to participate in this study by filling in the online questionnaires may be somewhat different from those who did not agree to do so: the group of students was not a nationally representative group, it was a nationally representative sample naturally constituted and requires re-investigation on a representative sample; the subjective opinion of the researcher on the research question.

Future research directions

The following future research implications were found to be necessary: 1. the involvement of specialists in Psychology and Psychoanalysis in teams for the realization of a guide of recommendations offered to parents and teachers in educating children, so that they can create Rational Beliefs and a positive perception of self-concept; 2. Extension of the present research on a nationally and internationally representative research sample (a comparative analysis of Irrational Beliefs, Self-Concept, as well as Coping Mechanisms and Cognitive Defense Mechanisms according to nationality).

References

- Covaci, Mihai. *Computerized Data Processing: Prelucrarea informatizată a datelor: Note de curs*. Vienna: Österreichisch-Rumänischer Akademischer Verein, 2020.
- Lazarus, R. S., and S. Folkman. *Stress, Appraisal and Coping*. New York: Springer Publ. Co., 1984.
- Mann, H. B., și D. R. Whitney. "On a Test of Whether One of Two Random Variables Is Stochastically Larger than the Other." *Annals of Mathematical Statistics* 18, nr. 1 (1947): 50–60.
- Miclea, Mihai. *Stres și apărare psihică*. Cluj-Napoca: Presa Universitară Clujeană, 1997.