

# The Relationships between Depression, Suicide Risk and Emotional Cognitive Coping

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**Abstract:** *Background and aim: Emotional cognitive coping strategies are closely correlated with depression and suicide risk. The aim of this study is to explore the particular features of cognitive-emotional coping and their impact on depression levels and suicidal ideation.*

*Methods: The study included a total number of 131 participants, 65 with a clinical diagnosis of depression and 66 controls. Instruments used were: Cognitive Emotion Regulation Questionnaire (CERQ), Columbia Suicide Severity Rating Scale (C-SSRS), Depression Anxiety Stress Scale (DASS21R), Montgomery-Asberg Depression Scale (MADRS), in order to assess the differences between depressive and non-depressive individuals in relation to coping strategies.*

*Results and conclusion: The findings, based on the statistical analysis of the scores obtained on the various psychometric scales, showed significant differences between depressive and non-depressive patients. Also, cognitive-emotional strategies could represent a good predictor to be used in the prevention of suicide risk in depressed patients.*

**Keywords:** *depression; suicide risk; emotional cognitive coping.*

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### **Coping and emotional cognitive coping**

Cohen and Lazarus (1979) define coping as “cognitive and behavioral efforts to control, tolerate and reduce the burden that encumber or overwhelm a person’s resources”. It represents an internal resource of emotional power that mediates a person’s reaction to perceived stress, regardless of its origin. There are several studies that examined the impact of the different coping styles on suicide risk. Botsis et al. (1994) and Kotler et al. (1993) compared patient groups and found that high suicide risk patients did not use coping strategies.

Coping strategies have recently been considered as a potential risk factor of depression. According to individual vulnerability–stress frame, acute stressful events in the life of an individual and a chronically stressful environment can cause depression (Hankin, 2006). However, not all individuals who face/cope with stressful events become depressive. Thus, there are defense mechanisms that prevent the onset of depression. Fundamental differences in personal defense mechanisms depend on the personal characteristic features of any individual in particular (Jin et al., 2009). One of these features are the coping strategies, defined as emotional, cognitive and behavioral efforts to minimize the effect of stressful events on individual physical, social and emotional wellbeing. According to Lazarus, coping strategies fall into two categories: based on problems and based on emotions (Lazarus, 1993). Jin et al. (2009) found that coping strategies are mediation variables influencing the interplay of the family environment of the individual and depression (Anderson et al., 1994).

A significant correlation was also found between the strategies of approaching depression based on problems and emotions in girls (Heinrich & Gullone, 2006). Jin et al. (2009) showed that the family atmosphere affected depression by problem-solving strategies. Some argue that an individual may adjust the inadequate or stressful family conditions, or s/he may exacerbate them and thus eventually develop depressive symptoms.

Faramarzi et al. (2013) reported that the use of problem based coping strategies combined with emotion-based ones depends on the regulation effects, the two having a mutual relationship. In this case, when a person is confronted with mental pressure, s/he finds comfort by applying a personal emotion-based strategy. Then, using a problem-based strategy, she tries to solve the problem suppressing the emotion by knowledge. When confronted with stressful interpersonal circumstances, a person may adjust the inadequate family and social conditions using emotion-oriented strategies and focusing on problems or she/he may exacerbate them and suffer from

depressive symptoms. These findings emphasize the necessity of teaching coping strategies to teenagers.

### **Coping and depression**

The assessment of coping strategies is an issue with multiple facets and has challenged researchers. Carver et al. (1989) have developed a multidimensional coping inventory based on five scales that “measure aspects of what might be viewed as emotion-focused coping” and the correlations amongst them. Garnefski et al. (2002) developed the Cognitive Emotion Regulation Questionnaire to describe nine coping strategies in relation to negative life events.

The relationship between depression and coping strategies is the main subject matter to many studies such as Garnefski et al. (2002) and Garnefski and Kraaij (2006). Garnefski and Kraaij (2006) pointed out the relationship between depressive symptoms and cognitive emotional regulation strategies. The relationship between coping strategies and depression is a main focus of a number of studies (Garnefski et al., 2002; Garnefski and Kraaij, 2006). In their study of 2006, the authors evidenced a relationship between cognitive emotional regulation strategies and depressive symptoms, which was similar in adolescents and elderly people. The role of developing coping, self-help strategies in the improvement of depressive symptoms was investigated in relation to physically debilitating diseases in general (Garnefski et al., 2011) and in relation to rheumatic diseases (Garnefski et al., 2013), both studies emphasizing that implementation of a self-help system would be beneficial for the healthcare system.

The gender facet of coping strategies and styles was investigated by Vingerhoets and Van Heck (1990) in relation to psychosomatic symptoms, emphasizing that demographic variables might be important predictors in the development of psychosomatic symptoms and even more severe diseases. The gender demographic variable is also the focus of the study by Nolen-Hoeksema and Jackson (2001), who investigated the relationship between gender and rumination and concluded that, despite preconceived theories, there was no significant difference between women and men in beliefs that one should ruminate.

### **Coping and suicidal behavior**

Suicide risk has been shown to be closely related to coping strategies, and even more, Botsis et al. (1994) showed that coping styles, or rather their

scarcity, could be predictors of suicide and violence risk, having significant implications for early interventions and prevention. This study confirms an earlier study by Kotler et al. (1993), based on inpatient psychiatric population, who also found that coping styles could be used as predictors of violent and suicidal behaviors.

Joseph and Plutchik (1994) investigated the relationship between interpersonal problems, coping styles and suicide risk. They showed that the coping style was significantly correlated with the suicide risk. At the same time, several coping styles proved to be significantly correlated with suicide risk.

## **Current study**

### ***Objectives, working hypothesis and study design***

The study is based on the data in literature regarding the cognitive-emotional coping strategies and aims at identifying the relations between cognitive-emotional coping styles, depression and suicide risk

#### ***Main objective***

The main objective of the study is the exploration of the particular features of cognitive-emotional coping in depressive patients with suicidal ideation.

#### ***Specific objectives***

O1. Identification of the differences between depressive and non-depressive patients regarding the cognitive-emotional coping strategies.

O2. The investigation of the relation between the level of depression, suicide risk and cognitive-emotional coping.

O3. Identification of the role of the clinical diagnosis of depression and cognitive-emotional coping strategies in the prediction of the severity of suicide risk.

#### ***Working hypothesis***

In view of the first objective, the following hypotheses were formulated:

#### ***Research hypothesis 1***

H1. There is expected to be statistically significant differences between depressive and non-depressive patients on the scores of cognitive-emotional copings as follows:

H1.1. Depressive patients will present statistically significant higher scores on the scales of self-blame, rumination, catastrophizing and blame than non-depressive individuals

H1.2. Depressive patients will present statistically significant lower score than non-depressive ones on the scales of acceptance, positive shifting, planning refocusing, positive reassessment, change of perspective.

In view of the second objective the following hypothesis was formulated:

### ***Research hypothesis 2***

H2. It is expected that suicide risk to be positively associated with clinically diagnosing depression (condition) as well as with cognitive-emotional strategies, such as: self-blame, catastrophizing, blaming someone else and rumination, and also negatively correlated with: planning shift, positive reassessment, change of perspective, acceptance, positive shift.

In view of the third objective the following hypothesis was used:

### ***Research hypothesis 3***

H3. It is expected that a clinical diagnosis of depression and cognitive-emotional coping strategies to predicts the severity of suicide risk.

## **Method**

### ***Study design***

This study has been approved by the Ethics Committee of Iuliu Hațieganu University of Medicine and Pharmacy and observes good clinical practice rules. It is a transversal, clinical trial, carried out on two groups: study group – patients with depression and control group.

### ***Participants***

The final number of patients included in the study was 131, age range 18 – 60 years (mean=37, SDS= 12.22), 65 in the clinical study group (49.6%) and 66 in the non-clinical group (50.4%), 47 men (35.9%) and 84 women (64.1%), 67 from the rural area (51.5%) and 64 urban area (48.9%). According to the level of education: 2 with primary schooling (1.5%), 7 mid school (5,3%), 48 with high-school level, (36.6%), 25 college level (19.1%) and 24 university graduates (18.3%), 17 postgraduate master level (13%), and 8 with doctoral studies (6.1%). Marital status: 453 unmarried (40.5%), 54 married (41.2%), 19 divorced (14.5%), 5 widowed (3.8%). Socio - economic

status: 10 students (7.6%), 78 employees (59.5%), 5 unemployed (3.8%), 21 without steady occupation (16%), 11 pensioners (12.2%). Personal history of disease: 66 without history (50.4%), 65 with a psychiatric history (49.6%), 65 with suicidal tendency (49.6%) and 66 without suicidal tendency (50.4%).

The following criteria were used to include patients in the research: age between 20 – 60 years, either men or women; voluntary patients / participants who expressed their informed consent; ability to understand written text at the level of the 6<sup>th</sup> grade or higher; patients admitted to the psychiatric unit; depressive disorder; recurrent depressive disorders; bipolar disorder, current depressive flare; suicide risk.

**Exclusion criteria:** age over 60 years; poor ability to understand written text; presence of other psychiatric conditions (mental retardation, cognitive impairment, schizophrenia, delirium, delusional disturbance); conditions related to abuse / dependence on psychoactive substances; neurological diseases (neurodegenerative diseases, stroke); chronic illness leading to disability (audio-visual disturbances); refusal to express informed consent for participation in the study; persons with depressive symptoms without suicide risk at the time of enrollment; persons undergoing long-term psychological or psychiatric treatment (over 10 days) at the time of enrollment.

## Measures

**Cognitive Emotion Regulation Questionnaire, CERQ** (Garnefski et al., 2002) is a multidimensional questionnaire developed to identify cognitive coping strategies used by individuals after experiencing negative events or situation. As opposed to other coping tests, which do not distinguish between a person's thoughts and her/his real activity, CERQ targets exclusively a person's thoughts after a negative experience. Cognitive coping strategies are defined as emotion regulation cognitive strategies.

CERQ is a self-report test that includes 36 items; it measures nine coping strategies: *nine coping strategies: Self-blame, Acceptance, Rumination, Positive refocusing, Refocus on planning, Positive reappraisal, Putting into perspective, Catastrophizing, and Blaming someone else.* It may be administered to healthy individuals or clinical patients, adults or adolescents over 12 years old. CERQ may be used to identify the general cognitive coping style as well as the cognitive coping strategies after having experiences a specific event.

**Self-blame** is a cognitive coping strategy by which a person develops thoughts that the responsibility of the experienced situation belongs to her/himself, that s/he is the one to blame, and also thoughts

related to the mistakes made. On the self-blame scale we obtained a Cronbach's alpha coefficient  $\alpha=.73$ , which validates the scale. Item example: I am guilty for what has happened.

**Acceptance** refers to the thoughts which make us resigned to what happened and accept the situation, which cannot be changed therefore life goes on. On the acceptance scale we obtained a Cronbach's alpha coefficient  $\alpha=.73$ , which is a good validation. Item example: I think that I should accept what happened.

**Rumination** is when we think over and over at one thing, being excessively preoccupied by the feelings and thoughts triggered by a negative event. On the rumination scale we obtained a Cronbach's alpha coefficient  $\alpha=.79$ , which shows a good validation. Item example: I think a lot about my feelings concerning this situation.

**Positive refocusing** appears when we think of more pleasant things, instead of the negative event experienced. On the positive refocusing scale we obtained Cronbach's alpha coefficient  $\alpha=.83$ , which shows that the scale grasps this concept very well. Item example: I think I may learn something from this experience.

**Refocus on planning** appears when we consider the steps toward coping with a negative event, or when we think of a plan to change the situation. On the refocus on planning scale Cronbach's alpha coefficient was  $\alpha=.77$ , which is a good validation of the scale. Item example: I am thinking of what would be the best for me to do.

**Positive reappraisal** appears when we associate in our mind a positive significance with a negative event in terms of personal development, thinking that the event would make us stronger, looking at its positive aspects. On the positive reappraisal scale Cronbach's alpha coefficient was  $\alpha=.83$ , showing a very good validation of the scale. Item example: I think that this situation may also have some good in it.

**Putting into perspective** refers to the thoughts that reduce the severity of the event, as compared to other events, emphasizing the fact that there are worse things in the world. On the putting into perspective scale Cronbach's alpha coefficient was  $\alpha=.77$ , which show a good validation. Item example: I think that it could have been a lot worse.

**Catastrophizing** appears when we keep thinking of how terrible the event was, that it is the worst/horrific thing that could have happened, much more serious than what happened to others. On the catastrophizing scale Cronbach's alpha coefficient was  $\alpha=.82$ , showing a good validation of the scale. Item example: I keep thinking of how terrible it is what happened to me.

**Other-blame** appears when we blame others for what happened, making them responsible for the negative event, and/or when we think of the others' mistakes related to the situation. On the other-blame scale Cronbach's alpha coefficient was  $\alpha=.86$ , a very good validation of the scale. Item example: I think that other are in fact guilty for what happened.

**Columbia Suicide Severity Rating Scale, C-SSRS.** (Posner et al., 2011). This scale represents a complex, multidimensional tool, which was adapted to the Romanian population (Vrăști, 2015); it aims to assess:

**severity of suicidal ideation**, assessed on a 5-point Likert scale (1 = least severe to 5 = most severe). Item example: Did you ever wish to be dead or go to sleep and not wake up?

**Intensity of suicidal ideation**, assessed on a 5-point Likert scale (1 = least intense to 5 = most intense). Item example: How many times did you have these thoughts?

**Suicidal behavior**, involving: real suicide attempts, interrupted suicide attempts, self-interrupted suicide attempts, other actions or behaviors in preparation of self-harm, without suicide intention. Item example: Did you ever try to take your life?

**Lethality of suicide thoughts and planning**, assessed on a 3-point scale (0 = Behavior is not likely to result in self-harm, 1= Behavior will probably result in self-harm, but not death, 2 = Behavior probably leads to death, despite medical intervention).

The C-SSRS scale provides: 1) definitions of the ideation, suicide behavior and non-suicidal self-harm behavior, 2) it quantifies the entire range of the suicide ideation and behavior, 3) it distinguishes suicide behavior from self-harm behavior, and 4) it has an attractive format that allows the integration of data from several sources. There are several versions of the C-SSRS scale, for adults and adolescents, basic and screening versions, follow-up versions. In our study, the scale proved to be of good psychometric value (Cronbach's alpha  $\alpha=.80$ )

**Depression Anxiety Stress Scale, DASS21R** (Lovibond & Lovibond, 1995) was used to measure the state of mental health. The scale is a set of three subscales assessing depression, anxiety and stress. DASS has been translated into 27 languages and was adapted for the Romanian language.

Each of the DASS subscales contains 14 items, assessing from 0 (disagree) to 3 (strongly agree or most of the time). The score for each subscale is obtained by the sum of items scores. High scores indicate high

levels of anxiety, depression or stress. Examples of items and Cronbach alpha coefficients are shown in Table 4.

Lovibond and Lovibond (1995) maintain that: the Depression scale measures dysphoria, loss of hope, loss of life value, self-deprecation, loss of interest, anhedonia, associated with low levels of self-esteem and initiative to pursue personal goals. Item example: I felt that life had no meaning (item 20). Our Cronbach alpha coefficient was  $\alpha = .94$ .

The Stress scale contains items referring to the difficulty to relax, nervous excitement and the tendency to become agitated, irritable / hyper-reactive. Item example: I had the tendency to overreact to situations (item 3). Our Cronbach Alpha coefficient was  $\alpha = .93$ .

The present study this scale proved to have good psychometric value (for total DASS we obtained Cronbach alpha coefficient  $\alpha = .97$ ).

***Montgomery-Asberg Depression Scale, MADRS.*** the scale was developed by Montgomery and Åsberg (1979), derived from the Comprehensive Psychopathological Rating Scaled – CPRS (Åsberg et al., 1978), and in our study we used the version adapted for the Romanian population (Vrăști, 2015). It includes 10 items (see annex) that assess the main symptoms of depression. Nine of the ten items refer to the patient's self-appraisal, one item contains the evaluator's observation during the interview. MADRS items are based on a 7 points Likert scale (0=no abnormality to 6=severe), the overall score being the sum of the items. The test clearly defines scores 0, 2, 4 and 6, while 1, 3, 5 are intermediate steps. The sum of items scores gives the final score, which varies between 0 and 60. The test is relatively quick to administer, between 15-20 minutes, unlike the Hamilton Depression Scale - HAM-D (Hamilton, 1960). MADRS does not focus on the somatic symptoms of depression, but rather on the main mood states like sadness, tension, pessimism, fatigue and suicidal thoughts. The 9 items are: apparent sadness, assumed sadness, inner state of tension, sleep time disturbance, diminished appetite, concentration difficulties, fatigue, emotional numbness/instability, pessimistic thoughts, suicide thoughts. Snaith et al. (1986) presented the following score ranges for depression severity:

A limitation of MADRS is the absence of typical depressive symptoms of bipolar disorder such as anhedonia, motor retardation and absence of value (Berk et al., 2004).

**Psychometric quality.** There seems to be a relatively strong correlation between the MADRS and HAM-D scores. Inter-evaluators

fidelity is also good ( $r=0.89-0.97$ ) (Sajatovic et al., 2015). In the present study Cronbach alpha coefficient was:  $\alpha = .97$

*The questionnaire of the demographic* and health-related characteristics included questions on Gender, background (rural, urban), education level (primary, midschool, high school, college, university undergraduate and graduate), marital status (married, single, divorced, widowed), socio-economic status (student, employed, no occupation, pensioner), family history, personal history of disease (psychiatric or somatic diseases), suicide attempts (present or absent).

## **Procedure**

The study protocol is in accordance with the norms of Iuliu Hațieganu UMPH Ethics Committee and has been granted approval.

Patients were enrolled after their acceptance and signed written consent. Personal data are strictly confidential, identification being possible on the basis of a unique code. The study observes the provisions of Helsinki Declaration. The patient group was selected from the Cluj County Emergency Clinical Hospital. The tests were administered pen-on-paper. The participants were informed about the objectives of the research and also that they could withdraw at any time during the study; demographic data were then collected. Each test was preceded by specific instructions. The time duration was between 25-40 minutes for every participant. The order in which the test were administered was: Montgomery-Asberg (MDRS) depression scale, depression, anxiety, stress (DASS21R) and Cognitive Emotion Regulation Questionnaire (CERQ). Participants were informed that they would have access to their results after completion of the study.

## **Results**

The preliminary data analysis involved checking the normality of scores distribution. Skewness and Kurtosis were found within normal range (not exceeding 3 for skewness and 8 for kurtosis).

The mean scores of the variables measured are presented in Table 1.

**Table 1.** Descriptive statistics for the measured variables  
 Source: Author's own conception

Statistic	Minimum	Maximum	Std.		Skewness	Kurtosis	Std. Error	Std. Error
			Mean	Deviation				
C_SSRS_Severity of suicidal ideation	0	5	.94	1.28	1.12	.23	.69	.45
CERQ_Self blame	4.00	20.00	11.15	3.52	.506	.23	-.32	.45
CERQ_Acceptance	5.00	20.00	12.56	3.84	.129	.23	-.69	.45
CERQ_Rumination	4.00	20.00	12.68	3.98	-.094	.23	-.83	.45
CERQ_Positive refocusing	4.00	20.00	11.59	4.42	.081	.23	-.79	.45
CERQ_Refocus on planning	5.00	20.00	15.22	3.55	-.75	.23	-.029	.45
CERQ_Positive reappraisal	4.00	20.00	14.43	4.34	-.64	.23	-.51	.45
CERQ_Putting into_perspective	4.00	20.00	12.92	4.16	-.28	.23	-.95	.45
CERQ_Catastrophizing	4.00	20.00	9.95	4.52	.48	.23	-.81	.45
CERQ_Other blame	4.00	20.00	8.55	4.21	.98	.23	.20	.45
DASS_Depression	.00	21.00	6.95	6.85	.82	.23	-.68	.45
MADRS_total	.00	60.00	12.29	16.49	.92	.23	-.44	.45
Valid N (listwise)								

### Testing of hypotheses (inferential statistics)

To test the first hypothesis of the study (H1. There is expected to be statistically significant differences between depressive and non-depressive patients on the scores of cognitive-emotional copings) the Student T test for independent samples was used. Regarding the differences between present and absent depression (clinical and control group), the comparison of mean scores evidences the following:

- On CERQ Self-blame scale the clinical group scored higher (M=13.00, DS=4.01) than controls (M=9.95, DS=2.55). The difference is statistically significant,  $t(107) = 4.84$ ;  $p < .001$ ;
- On CERQ Acceptance both groups had similar mean values, clinical group (M=13.18, DS=4.28), control group clinic (M=12.16, DS=3.51). The difference is not statistically significant,  $t(107) = 1.35$ ;  $p = .17$ ;

- On CERQ Rumination both groups had similar mean values, clinical group ( $M=13.67$ ,  $DS=4.25$ ), control group ( $M=12.04$ ,  $DS=3.69$ ). The difference is not statistically significant,  $t(107) = 2.11$ ;  $p = .03$ ;
- On CERQ Positive refocusing the clinical group scored lower ( $M=10.32$ ,  $DS=4.78$ ) than controls ( $M=12.42$ ,  $DS=3.99$ ). The difference is statistically significant,  $t(107) = 2.47$ ;  $p = .001$ ;
- On CERQ Refocus on planning the clinical group scored lower ( $M=14.23$ ,  $DS=4.11$ ) than controls ( $M=15.86$ ,  $DS=3.01$ ). The difference is statistically significant,  $t(107) = 2.38$ ;  $p = .01$ ;
- On CERQ Positive reappraisal the clinical group scored lower ( $M=12.18$ ,  $DS=4.87$ ) than controls ( $M=15.89$ ,  $DS=3.24$ ). The difference is statistically significant,  $t(107) = 4.74$ ;  $p < .001$ ;
- On CERQ Putting into perspective the clinical group scored lower ( $M=11.53$ ,  $DS=4.53$ ) than controls ( $M=13.83$ ,  $DS=3.65$ ). The difference is statistically significant,  $t(107) = 2.91$ ;  $p < .004$ ;
- On CERQ Catastrophizing the clinical group scored higher ( $M=12.72$ ,  $DS=4.57$ ) than controls ( $M=8.15$ ,  $DS=3.48$ ). The difference is statistically significant,  $t(107) = 5.90$ ;  $p < .001$ ;
- On CERQ Other blame the clinical group scored higher ( $M=10.58$ ,  $DS=4.98$ ) than controls ( $M=7.24$ ,  $DS=3.00$ ). The difference is statistically significant,  $t(107) = 4.36$ ;  $p < .001$ ;
- On DASS Depression the clinical group scored higher ( $M=13.83$ ,  $DS=5.52$ ) than controls ( $M=2.46$ ,  $DS=2.57$ ). The difference is statistically significant,  $t(107) = 14.49$ ;  $p = .001$ ;
- On MADRS the clinical group scored higher ( $M=31.16$ ,  $DS=9.87$ ) than controls ( $M=.00$ ,  $DS=.00$ ). The difference is statistically significant,  $t(107) = 25.70$ ;  $p = .001$ ;
- On C\_SSRS\_Severity of suicidal ideation the clinical group scored higher ( $M=2.4$ ,  $DS=.82$ ) than controls ( $M=.00$ ,  $DS=.00$ ). The difference is statistically significant,  $t(107) = 23.77$ ;  $p < .001$ ;
- On C\_SSRS\_Suicidal behavior the clinical group scored higher ( $M=1.33$ ,  $DS=.60$ ) than controls ( $M=.00$ ,  $DS=.00$ ). The difference is statistically significant,  $t(107) = 17.80$ ;  $p < .001$ ;

To test the second hypothesis (H2). We expect suicide risk to be positively correlated with a clinical diagnosis of depression (condition) and with self-blame, catastrophizing, other blame and rumination, and negatively with coping strategies – refocus on planning, positive reappraisal, putting

into perspective, acceptance and positive refocusing). We used the Pearson correlation coefficient.

**Table 2.** Relationship between depression, suicide risk and cognitive-emotional coping  
 Source: Author's own conception

	1	2	3	4	5	6	7	8	9	10	11	12	
1. C_SSRS_Severity of suicidal ideation	1												
2. DASS_Depression	<b>.78**</b>	1											
3. MADRS_total	<b>.90**</b>	<b>.78**</b>	1										
4. CERQ_Self blame	<b>.43**</b>	<b>.55**</b>	<b>.47**</b>	1									
5. CERQ_Acceptance	.13	.18	.17	.33**	1								
6. CERQ_Rumination	.18	<b>.20*</b>	<b>.25**</b>	.52**	.38**	1							
7. CERQ_Positive refocusing	-.18	<b>.26**</b>	-.13	-.06	.21*	.13	1						
8. CERQ_Refocus on planning	<b>-.23*</b>	<b>.33**</b>	<b>-.19*</b>	-.02	.18	.32**	.46**	1					
9. CERQ_Positive reappraisal	-	-	-	-.11	.23*	.27**	.63**	.70**	1				
10. CERQ_Putting into perspective	<b>-.23*</b>	<b>.28**</b>	<b>-.21*</b>	.02	.39**	.29**	.53**	.62**	.69**	1			
11. CERQ_Catastrophizing	<b>.48**</b>	<b>.60**</b>	<b>.51**</b>	.39**	.25**	.30**	-.05	-.11	-	.29**	.00	1	
12. CERQ_Other blame	<b>.45**</b>	<b>.48**</b>	<b>.45**</b>	.20*	.29**	.20*	.04	-.06	-.15	.08	.62**	.62**	1

The data obtained evidenced correlations statistically significant between the main descriptors of suicide risk severity and depression. There is a statistically significant negative correlation between the severity of suicidal ideation and refocus on planning ( $r=-.23$ ,  $p < .001$ ), positive refocusing ( $r=-.41$ ,  $p < .001$ ), putting into perspective ( $r=-.23$ ,  $p < .001$ ). At the same time, there is a statistically significant positive correlation between the severity of suicidal ideation and self-blame ( $r=.43$ ,  $p < .001$ ), catastrophizing ( $r=.48$ ,  $p < .001$ ) and other blame ( $r=.45$ ,  $p < .001$ ). There is also a statistically significant negative correlation between depression and positive refocusing ( $r = -.26$ ,  $p < .001$ ), refocus on planning ( $r = -.33$ ,  $p < .001$ ), positive reappraisal ( $r = -.49$ ,  $p < .001$ ) and putting into perspective ( $r = -.28$ ,  $p < .001$ ), and a significant negative correlation between depression and self-blame ( $r = .55$ ,  $p < .001$ ), rumination ( $r=.20$ ,  $p < .001$ ), catastrophizing ( $r = .60$ ,  $p < .001$ ) and other blame ( $r=.45$ ,  $p < .001$ ).

In order to the third hypothesis (H3. It is expected that a clinical diagnosis of depression and cognitive-emotional coping strategies to predicts the severity of suicide risk) was used multiple linear regression analysis,

having as dependent variable suicide risk, assessed by the C-SSRS (Columbia Suicide Severity Risk Scale) and as predictive variable the diagnosis of clinical depression (experimental condition) and the nine scales of cognitive-emotional coping strategies: Other blame, Positive refocusing, Self-blame, Acceptance, Refocus on planning, Rumination, Catastrophizing, Putting into perspective, Positive reappraisal.

In the first stage was introduced the predictive variables (control) age and gender (Model 1).

In the second stage, was introduced the predictive variable (Model 2): a diagnosis of clinical depression (experimental condition) and the 9 coping strategy scales: Other blame, Positive refocusing, Self-blame, Acceptance, refocus on planning, Rumination, Catastrophizing, Putting into perspective, Positive reappraisal.

In the second regression model (in which gender, age and the 9 coping strategies were introduced as predictive variables)  $R^2$  coefficient shows that predictors explain 81.5% of the variation of the dependent variable, namely suicide risk.

Table 3 presents the result of the variance analysis, with an F coefficient  $(12, 96) = 40.75, p < .001$  that is statistically significant in the regression model, which indicates that the whole regression is acceptable.

**Table 3** ANOVA analysis of variance  
Source: Author's own conception

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30.936	2	15.468	8.908	.000
	Residual	184.055	106	1.736		
	Total	214.991	108			
2	Regression	179.715	12	14.976	40.757	.000
	Residual	35.275	96	.367		
	Total	214.991	108			

The regression analysis evidenced that suicidal ideation was statistically significantly influenced by: gender ( $\beta = .12, t = 2.30, p < .05$ ) age ( $\beta = .27, t = 3.10, p < .05$ ), the existence of a diagnosis of clinical depression (condition) ( $\beta = .79, t = 13.86, p < .001$ ), self-blame ( $\beta = .24, t = 2.58, p < .05$ ); other blame ( $\beta = .16, t = 3.03, p < .05$ ), catastrophizing ( $\beta = -.12, t = -1.96, p = .05$ );

## Discussion and conclusions

The first objective of the study was to analyze the differences in the cognitive-emotional coping strategies between patients with clinically diagnosed depression and persons without this diagnosis.

The results obtained for the first hypothesis showed that the patients with a clinical episode of depression had statistically significant lower scores on the following scales: CERQ Positive refocusing ( $p=.001$ ), CERQ Refocus on planning ( $p=.015$ ), CERQ Positive reappraisal ( $p<.001$ ), CERQ Putting into perspective ( $p<.004$ ); and statistically significant higher scores on: CERQ Self-blame ( $p<.001$ ), CERQ Catastrophizing ( $p<.001$ ), CERQ Other blame ( $p<.001$ ) compared to those without a diagnosis of depression. Regarding CERQ Acceptance and CERQ Rumination, both groups had close mean scores, the difference being not significant statistically. The results are similar to those reported by other recent studies by Bazrafshan et al. (2014) and Ooi et al. (2021).

Regarding the second hypothesis, we found that of the cognitive-emotional coping strategies only refocus on planning, positive reappraisal and putting into perspective had a statistically significant negative correlation with the severity of suicidal ideation, while self blame, catastrophizing and other blame was positively correlated with the severity of suicidal ideation.

The scale of positive reappraisal is defined by the mental attribution of a positive meaning to a negative event in terms of personal development, namely that the event would make us stronger, therefore having a positive side to it. The self-blame scale is defined as a strategy of cognitive coping based on thoughts that place the responsibility of the situation on the subject, the guilt belongs to the person involved, while other blame places guilt on the others for what happened. This means that the severity of suicidal ideation is influenced by the absence of a positive significance of the negative events experienced, associated with thoughts that the entire responsibility belongs to the subject and also to other.

Our results are similar to other studies that demonstrated that cognitive-emotional coping strategies may predict an important part of the variance of scores in case of depressions and suicide (Garnefski et al, 2001; Garnefski et al, 2002).

The third objective was the identification of the role of a positive diagnosis of depression and the strategies of cognitive-emotional coping in the prediction of suicide risk.

The assumption related to this objective was that a clinical diagnosis of depression and the cognitive-emotional coping strategies of depressive

patients would influence the severity of suicide risk. This hypothesis was partially supported by the results, namely that depression associated with a high score of catastrophizing, self-blame and other blame had an impact on the suicide risk.

Regarding the fact that coping strategies are a predictor explaining suicide risk severity, we may state that the third hypothesis of our research was only partially confirmed: the level of self-blame, catastrophizing and other blame are cognitive-emotional predictors of suicide risk. Our results are similar to those reported in other studies by Quintana-Orts et al. (2020).

### **Limitations of the study**

The limitations of study that caution against the generalization of the results are theoretical and methodological. A first limitation is represented by the instruments used: the self-assessment tests depend on the respondents' honesty and reflexive ability. Another limitation is the convenience selection of the study participants and the characteristics of the population studied: the size of the study group and only one geographical area.

### **Directions for future investigation:**

Though this study provides important information on the relation between suicide risk and the strategies of cognitive-emotional coping, we should emphasize that additional studies are needed on longer terms (e.g., 6, 12, or more months), on larger patient groups selected from diverse geographical areas of the country. Another future direction is the optimization of the regression model for the prediction of suicide risk severity by cognitive-emotional coping strategies. Under a theoretical aspect, this study is among the very few in Romania that analyze the correlation between suicide risk and depression. The associations between suicide risk, depression and cognitive-emotional coping have been investigated by a number of studies, such as by Giner et al. (2016); Quintana-Orts et al. (2020); Flores-Kanter et al. (2019) and Azadi et al. (2020).

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