Emotion Regulation Difficulties, Personality Traits and Coping Styles in First-Time Suicide Attempters

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Abstract: This study examines personality traits, difficulties in emotion regulation and coping styles who presented after the first-time suicide attempt. This study included 54 patients who had attempted suicide and 36 healthy individuals. Suicidal Intent Scale, Beck Depression Inventory, Difficulties in Emotion Regulation Scale, Big Five Inventory and Coping Inventory for Stressful Situations-Short Form used. The suicide attempters had significantly lower scores for extroversion and higher scores for neurosis and higher scores in all the subscales of Difficulties in Emotion Regulation Scale than non-attempters. Emotion-oriented coping scores were significantly higher among suicide attempters while the task-oriented coping and avoidance-oriented scores were significantly higher among the controls. Interventions related to regulation of emotion and problem-solving training may be effective methods for preventing suicide.

Keywords: Emotion regulation, personality traits, coping, suicide.

INTRODUCTION

Suicide is defined as the act of intentionally terminating one's life [1]. Suicide is a means of escape from a problem or crisis that causes unchangeably strong distress. It is associated with thoughts of despair and helplessness, ambivalent conflicts between continuing and unbearable stress factors, and the narrowing of an individual's options. The most frequently used method of committing suicide is drug ingestion and the probability of committing suicide is higher in individuals who have family members committed suicide. Positive life events, good education, and good social support are the factors that prevent suicide attempts. However, it is difficult to attribute a suicide attempt to a single cause, and it may be the result of the complex interaction between various related factors. The risk factors for suicide attempts include psychiatric diseases, female sex, young age, severe physical diseases, previous suicide attempts, stressful life events, and lower socio-economic status [2,3].

Suicide attempters have less social support and use less adaptive coping strategies than healthy subjects. According to the results of studies that examine the personality traits of individuals who have attempted suicide, feeling lonely or the emotional burden of family, difficulties in solving daily problems and the presence of a psychiatric disease may be considered as factors that influence suicide attempts [4].

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The cognitive theory of suicide suggests that suicidal behavior may result from failure to satisfy expectations and self-association for this failure, often due to a long-standing tendency to have unrealistically high self-expectations. According to this theory, suicidal behavior is associated with emotion-related dimensions such as sadness, anxiety, guilt, self- consciousness, anger, impulsive aggression, and depressed mood [5]. Neuroticism, which is characterized by negative mood, has a strong relationship with negative health outcomes. In various clinical populations in which suicide attempters have been compared with non-attempters, the role of multiple dimensions or traits has been emphasized, such as neuroticism, psychoticism, introversion, anxiety, aggression, impulsivity, hopelessness, anger, suspiciousness, self-criticism, and irritability [6,7].

Emotion regulation involves the use of cognitive and behavioral strategies to change the duration and intensity of an emotion; it involves the individual assessing the personal meaning of an event or stimuli, either consciously or unconsciously, which results in a response tendency that unfolds over a short period of time [8,9]. Control of negative emotion was found to be negatively linked with psychological health [10,11]. A person with suicidal thoughts is understood to be emotionally dysregulated [12]. Adolescent suicide attempters reported more difficulties with the regulation of affect and impulses compared to ideates, in studies using clinical samples [13]. Methods that involve attending to, identifying, understanding, and assessing the experienced negative emotion; inhibiting inappropriate, ineffective impulsive behaviors; and acting appropriately according to goals are supposed to be effective in regulating emotions [14,15].

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Coping is defined as "behavioral or cognitive efforts directed to answer internal and/or external demands that strain the individual's subjective boundaries or go beyond self-resources." Stress coping is defined as the cognitive and behavioral efforts developed by an individual when stressful situations are encountered [16]. Inability to find solutions to problems and lack of coping strategies to manage stressors are some of the characteristics of suicide attempters [17]. The coping styles and the importance of coping skills has been extensively explored in understanding suicide attempts [1, 18-21].

In this study, we aimed to investigate several factors that are associated with the first attempt to suicide. For this purpose, we intended to research the personality traits, coping methods for dealing with stress, and difficulties in emotion regulation among individuals who presented to our center after the first suicide attempt.

MATERIAL AND METHODS

Participants and Study Design

This study was conducted on 54 individuals who presented at the emergency clinic of the Yüzüncü Yıl University School of Medicine, Dursun Odabas Medical Center after a first suicide attempt, between April 2015 and May 2016. To understand the nature of suicide, we aimed to assess their personality traits, coping strategies and difficulties in emotion regulation by performing detailed psychiatric evaluations.

The suicide attempt is self-harm behavior with non-lethal results that the person purposed to end one's own life. Suicide attempts were classified as violent (stabbing, hanging, shooting, jumping higher places, electricity, fire) or non-violent (unwarranted drugs, gas suffocation, drowning) according to the methods [22].

Individuals who were between 18 and 55 years of age and volunteered for this study were included. Further, only individuals who were not pregnant and did not have a history of head trauma, brain tumor or drug abuse were included. Moreover, 36 age matched individuals with no diseases who had not attempted suicide were included in the control group. All the participants were assessed using the Suicidal Intent Scale (SIS), Beck Depression Inventory (BDI), Difficulties in Emotion Regulation Scale (DERS), the Big Five Inventory (BFI) and Coping Inventory for Stressful Situations-Short Form (CISS-21). Their demographic information was also recorded. The score from the scales were statistically analyzed to identify the factors that may lead to suicide attempts and inter-factor relationships.

The 54 patients that comprised the study group were examined after their emergency medical treatment was completed within the first 24 or 48 h after the suicide attempt, once they were able to participate in an interview. After their psychological assessment, they were asked to fill in the scores for the assessment scales, after their consent to participate was obtained.

Suicide Intent Scale (SIS)

SIS is an interview-based scale that was developed by Beck in 1974; with this tool, the individual's information is filled in by the clinician [23]. It is used to determine suicidal intent, which is defined as the intensity of the patient's wish to terminate his or her life. The suicidal intent scale consists of 20 items. Among these, 15 are scored and 5 are not. The total score assigned is between 0 and 30, and each item is scored between 0 and 2. Dilbaz, Bayam, Bitlis *et al*., (1995) verified the validity of this scale in the Turkish population and found that it was reliable [24].

Beck Depression Inventory (BDI)

BDI is a self-reported inventory that measures the severity of depressive symptoms [25]. BDI includes 21 items that are each scored between 0 and 3. The maximum BDI score is 63 and the minimum score is 0. Total scores of 17 and above indicate possible depression. BDI was adapted to Turkish by Hisli (1989), and was demonstrated to be reliable and valid in the Turkish population (Cronbach's $\alpha = 0.80$) [26].

The Big Five Inventory (BFI)

This is a 44-item scale that examines personality in five large dimensions [27]. Theories and experimental studies about personality have shown that personality has five fundamental dimensions: extraversion, agreeableness, conscientiousness, neurosis, and openness. Extraversion is represented by the features *talkative*, *energetic* and *humanistic*. Agreeableness covers features such as *being adaptable*, *helpful*, and *loving* and *valuing others*. Conscientiousness is made up of the following dimensions: tendency to display self-discipline, acting in a responsible way, willingness to succeed, planning things beforehand and being careful. Neuroticism, which is also referred to as *emotional instability*, includes the tendency towards negative emotions such as anger, fear, and depression. Openness includes being adventurous and artistic, having extraordinary ideas, dreaming, and having curiosity and courage. The Turkish validity and

reliability study of BFI was performed [28]. The Cronbach alpha coefficient is 0.831 for this study.

Difficulties in Emotion Regulation Scale (DERS)

This is a 36-item scale developed by Gratz & Roemer (2004) that assesses difficulties experienced in emotional regulation, with an emphasis on negative emotions [29]. Each item is evaluated using a five-point likert-type scale (1 = almost never, 5 = almost always). The DERS includes six subscales: lack of emotional awareness (awareness), lack of clarity of emotional responses (clarity), nonacceptance of negative emotional responses (nonacceptance), limited access to effective strategies (strategicness), difficulties in controlling impulsive behavior when distressed (impulse control), and difficulties in engaging in goal-directed behavior when experiencing negative affect (goal-directed behavior). There is evidence in support of the reliability of the DERS scores. The Turkish psychometric evaluation of the scale for adults was performed by Rugancı and Gencöz (2010), and its original six-dimensional structure was proven to be reliable [30]. The Cronbach's α values for the six subdimensions of the scale ranged between 0.75 and 0.90, and the Cronbach's α coefficient is 0.862 for this study.

Coping Inventory for Stressful Situations-Short Form (CISS-21)

CISS is an instrument that measures relatively constant individual disposition towards stressful situations; it was developed by Endler and Parker (1999) [31]. CISS-21 distinguishes between three basic coping strategies: task-oriented, emotion-oriented, and avoidance-oriented coping. People who display task-oriented coping usually focus on solving the problem through cognitive transformation. That is, they focus on a task or strategy for solving the problem. Emotion-oriented coping refers to responses directed towards oneself rather than the problem at hand. Stressful situations may increase the level of stress and cause tension or depression. The final scale, avoidance-oriented coping, is representative of strategies that involve avoiding the stressful situation. Such attempts may be in the form of either distracting oneself with other situations, such as shopping, or interacting with other persons. The CISS-21 scale has demonstrated good reliability and factorial validity in a Turkish sample [32].

Ethics Statement

This study was conducted according to tenets of the Declaration of Helsinki and approved by the Clinical Ethics and Research Committee of Yüzüncü Yil University, Faculty of Medicine. All the participants signed a consent form declaring that they had been fully informed of the purposes and conduct of the study. They were not given any remuneration for their participation.

Statistical Analysis

The data are expressed as mean ± standard deviation. The suicide attempters were compared with the non-attempters using Student's *t*-test. The categorical variables were presented as counts and percentages. The results were considered to be statistically significant when the p-value was <0.05. For correlation evaluations, the Pearson correlation test (two-tailed) was used. The data were analyzed using SPSS® for Windows (version 18.0).

RESULTS

The demographic and clinical properties of the study population and characteristic of violent and non-violent suicide attempters are shown in Table **1**. The suicide attempters included 34 females and 20 males, with a mean age of 25.88 years (SD = 3.38). The healthy controls included 17 females and 19 males, with a mean age of 26.5 years (SD = 8.72). There was no significant difference between the groups with regard to gender and age.

Table **2** shows the results of BFI, BDI, DERS, SIS and CISS-21 scores. According to the table, in the BFI subscales, the neurosis score was significantly higher among suicide attempters than non-attempters. Further, the extraversion, conscientiousness and openness scores were significantly higher among the controls than suicide attempters. Suicide attempters showed significantly higher scores in almost all subscales of DERS, including lack of emotional awareness, clarity, impulse control, goal-directed behavior, strategicness and nonacceptance ($p < 0.001$). With regard to coping style, the emotion-oriented coping scores were significantly higher among suicide attempters, while task-oriented and avoidance-oriented scores were significantly higher among the controls ($p < 0.001$).

Correlation analyses in the suicide attempter group revealed a significant positive correlation of the SIS score with the emotion-oriented coping score ($r = 0,418$, $p \leq 0.01$) and neurosis score ($r = 0.304$, $p \leq 0.05$). Moreover, the SIS scores were also significantly correlated with the DERS subscale scores for

Table 1: Demographic Variables of the Suicide Attempters (n = 54) and Control Participants (n = 36)

		Suicide attempters		Controls			
		Mean	**SD**	**Mean**	**SD**	**t**	**P**
Age (y)		25.88	3.38	26.50	8.72	400	0.69
		N	%	N	%	χ^2	P
Sex	Male	20	51.3%	19	48.7%		
	Female	34	66.7%	17	33.3%	0.14	0.104
Marital status	Single	26	48.1%	32	55.2%		
	Married	24	44.4%	4	14.3%	0.00	0.00
	Divorced	4	7.4%	0	0.0%		
Family psychopathology		13	24.1%	5	13.9%	0.23	0.18
Current psychiatric diagnosis		24	44.4%	0	0.0%	0.00	
Suicide method	Drug overdose	39	46.4%				
	Hanging	4	4.8%				
	Jumping from a height	3	3.6%				
	Stabbing	8	9.5%				
Distress factors	Yes	34	63%				
	No	20	37%				

Table 2: Comparison of BFI, BDI, SIS, DERS and CISS-21 Scores between the Suicide Attempters (n=54) and Controls (n =36)

	Suicide attempters (n = 54)		Controls (n = 36)				
	Mean	**SD**	**Mean**	**SD**	**df**	**t**	***P***
Big Five Inventory							
Extraversion	24.31	6.44	27.69	4.11	88	2.78	0.007
Agreeableness	32.98	5.98	35.16	4.35	88	1.88	0.063
Conscientiousness	29.01	6.49	32.16	4.69	88	2.501	0.014
Neurosis	28.59	5.78	21.44	6.37	88	-5.51	0.000
Openness	30.46	7.56	36.86	4.88	87.3	4.87	0.000
Beck Depression Inventory	27.05	13.2	5.94	5.53	88	-9.05	0.000
Suicidal Intent Scale	12,55	6.4					
Difficulties in Emotion Regulation Scale							
Awareness	17.22	4.97	14.16	2.84	88	-3.33	0.001
Nonacceptance	17.37	5.66	11.72	4.80	88	-4.917	0.000
Clarity	13.70	4.14	10.61	3.47	88	-3.692	0.000
Impulse control	18.94	5.58	13.25	3.85	88	-5.325	0.000
Goal-directed behavior	17.44	3.51	14.52	2.93	88	-4.112	0.000
Strategicness	25.62	7.61	15.36	5.50	88	-6.960	0.000
CISS-21							
Task-oriented	19.55	5.45	26.80	4.22	88	6.741	0.000
Emotion-oriented	22.92	6.74	18.16	3.95	88	-3.815	0.000
Avoidance-oriented	17.12	5.69	21.5	4.41	88	3.913	0.000

Significant P values are indicated using bold figures. CISS-21: Coping Inventory for Stressful Situations-Short Form.

Table 3: Correlation Analysis of the SIS Score with the BDI, BFI (Neurosis), Non-Acceptance, Goal-Directed Behavior, Impulse Control and Strategicness Scores

SIS	BDI	BFI (neurosis)	Emotion-oriented coping	Non-acceptance	Goal-directed behavior	Impulse control	Strategicness
Correlation coefficient	0.338*	0.304*	0.418**	0.361**	0.286*	0.281*	0.386**
P value	0.012	0.025	0.002	0.007	0.036	0.040	0.004

*Correlation is significant at the 0.05 level (two-tailed).
**Correlation is significant at the 0.01 level (two-tailed).

nonacceptance, goal-directed behavior, impulse control and strategicness. Table **3** presents the results of the correlation analyses.

DISCUSSION

The findings of the present study revealed that there was a significant difference between suicide attempters and non-attempters with regard to their personality traits, emotion regulation and coping style. Suicidal individuals seem to exhibit neuroticism, use emotion-focused coping styles, and have difficulties in emotion regulation, as demonstrated by their lack of emotional awareness, nonacceptance of negative emotional responses, limited access to effective strategies, difficulties in controlling impulsive behavior and difficulties in engaging in goal-directed behavior. They are also almost depressed. Our findings are consistent with other similar studies that compare suicidal and non-suicidal subjects [33, 34].

It is important to gain deeper insight into the personality traits, emotion regulation and coping styles that may be linked with suicidal ideation and suicide attempts. Neuroticism and extraversion were found to influence suicide attempts in studies on the personality traits of individuals who have committed suicide. Furthermore, individuals who are most capable of managing acute and long-standing stressors are those with low levels of neuroticism and high levels of agreeableness, extraversion, conscientiousness and openness to experience [35]. Our investigation shows that patients whose suicide attempt was recent have high levels of neurosis and low levels of conscientiousness, extraversion, and openness. Neuroticism is associated with unhealthy coping styles, which is very important influencing factor in suicide attempts [36]. Suicidal patients lack the ability to obtain information and fail to look for alternative solutions.

Negative adaptive strategies were the most important risk factor for suicide attempt. Chapman *et al*. reported that there was a significant correlation between suicide attempts and problem-focused coping strategies in female prisoners. Problem-focused coping strategies were adopted less by women who had a history of suicide attempts. Other studies have also confirmed the use of the emotion-focused coping style by individuals who attempt to commit suicide [34]. The findings of our study also support these results. Kumar *et al*. found that healthy coping behaviors such as ability to de-emphasize the burden of stressful events, ability to overcome stressful events by engaging in alternative behaviors, and ability to collect information for planning and to seek out alternative solutions to problems were higher in non-suicide attempters [37]. However, avoidance behaviors are controversial with regard to their influence on suicide attempters. Evans *et al*. concluded that students who had a history of self-injury exhibited higher use of avoidance behaviors and less focus on problem-focused ones [38, 39]. Further, avoidant coping styles have been associated with depressive symptoms [40]. In contrast, our study found that avoidance behaviors were more prevalent in non-suicidal individuals and may therefore prevent suicidal behaviors. However, it is difficult to determine conclusively whether avoidance behavior protects against suicide attempts based on the present findings alone. The results of this study show that suicide attempters use less adaptive coping strategies. It is possible that these individuals may not have learned adaptive and efficient coping styles, because problem-focused coping styles are cognitive behavioral skills that people learn through training and observing behavioral models.

Emotion regulation problems have been implicated in several forms of developmental psychopathology [41, 42]. There is evidence to show that inability to regulate emotions is strongly associated with suicide attempts and suicidal thoughts [43, 44]. Weinberg & Klonsky (2009), found that each of the six dimensions of DERS, except for awareness, was associated with suicidal ideation, with strategicness showing the strongest association, followed by impulse control, nonacceptance, clarity, and goal-directed behavior [45].

In our study, suicide attempters showed greater difficulty in all emotion regulation areas, including emotional awareness, clarity of emotional responses, acceptance of negative emotional responses, controlling impulsive behavior, goal-directed behavior and effective strategies. These findings are consistent with previous research which showed that impulsivity was a predictor of future suicidal plans and was most consistently correlated with suicidal behavior and attempts [46, 47].However, in a study from the literature that examined the personality traits of people who attempted to commit suicide, it was found that negative disposition led to suicide more frequently than impulsivity [48]. Giegling *et al*., (2009) investigated anger, aggression and impulsivity in 111 consecutively admitted in-patients with a lifetime history of attempted suicide. They found that anger and self-directedness have some effect on suicide attempts, and angry temperament predicted the use of violent methods to attempt suicide [49].

Javdani, Sadeh & Verona (2011) showed that several personality traits (including impulsivity) were stronger predictors of suicide attempts than depressive symptoms [50]. This is an important outcome for clinicians when defining and evaluating suicide risk; moreover, in addition to depressive symptoms, personality traits should also be monitored. It is reported that suicidal ideation and behavior are related difficulties in regulating negative emotions and loneliness [51].

Joiner *et al*., (2001), studied the correlation between mood, suicidal symptoms and effectiveness of treatment among suicidal individuals. They found that in contrast to patients who have negative mood, people who reported positive mood had fewer suicidal symptoms and had a better response to treatment [52]. Dysregulation of emotions was a primary focus of suicide attempts. These distinctions among different aspects of suicidal behavior are important in weighing evidence pertaining to theories on suicidal behavior. Awareness of feelings, emotional clarity, controlling impulsive behaviors, engaging in goal-directed behavior and acceptance of negative emotional responses are very important areas in the prevention of suicidal behaviors and attempts.

In the literature, neurosis, low level of extroversion and emotion-oriented coping are the most prominent predictive factors that affect suicide intention and attempt. According to our study, in addition to these factors, nonacceptance of negative emotional responses, limited access to effective strategies and difficulties in engaging in goal-directed behavior when experiencing negative effect, and difficulties in controlling impulsive behavior are also very important factors related to suicide attempts.

Our results have possible implications for the study of suicide and attempts to influence the risk of suicidality, both in psychiatric patients and in the general population. Teaching effective coping strategies and correcting emotional regulation problems, especially to vulnerable groups, are of particular importance.

LIMITATIONS

The small sample size is the main limitation of our study. Future studies on larger samples would help generalizable the findings. In addition, there are many individuals who have suicidal ideas but do not seek professional help. Therefore, studies that target such individuals should also be conducted to identify their coping strategies, emotional regulation difficulties and personality traits. Contributing factors that alleviation of distressing emotions were not excluded. Finally, we did not compare individuals with single and multiple suicide attempts.

CONCLUSION

In conclusion, suicidal attempts are multi-dimensional complex phenomenon that still needs to be researched further. Emotion regulation difficulties may have causal effects on suicidal behavior. Moreover, coping styles and long-standing personality traits are also associated with the risk of attempted suicide. Healthy emotion regulation and interventions related to coping styles, along with problem solving training, effective personality traits and regulation of emotion can be effective in preventing suicide. Studies with a prospective design are needed to investigate the interactions between these traits and other factors associated with the development of suicide ideation and suicide attempts over time.

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