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DOI: 10.4103/jehp.jehp_260_19

# Psychological factors of vulnerability to suicide ideation: Attachment styles, coping strategies, and dysfunctional attitudes

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## Abstract:

**BACKGROUND:** Suicide ideation is one of the common mental health problems among university students. This study aimed to explain suicide ideation susceptibility by examining the relationships between psychological factors.

**METHODOLOGY:** The population of the study included all female undergraduate students at the University of Isfahan in autumn 2018. A sample of 180 individuals were selected through multistage sampling from different faculties and majors. The scales used in this study included adults attachments inventory, Coping Inventory for Stressful Situation, Dysfunctional Attitudes Scale, and Suicide Ideation Scale. The statistical analyses included *t*-test, Pearson correlation, and path analysis.

**RESULTS:** Suicide ideation was reported in 25% of the participants. The *t*-test analysis indicated that the mean scores for dysfunctional attitudes ( $P < 0.01$ ) and problem-focused coping ( $P < 0.01$ ) were significantly different in with and without suicide ideation groups. Suicide ideation significantly correlated with problem-focused coping ( $r = -0.42$ ,  $P < 0.01$ ), emotion-focused coping ( $r = 0.25$ ,  $P < 0.05$ ), and dysfunctional attitudes ( $r = 0.23$ ,  $P < 0.05$ ). Path analysis showed that dysfunctional attitudes and emotion-focused coping significantly influenced suicide ideation. Moreover, the indirect effect of insecure (ambivalent and avoidant) attachment styles by mediating role of dysfunctional attitudes and emotion-focused coping was statistically significant ( $P < 0.01$ ) and the indirect effect of dysfunctional attitudes by mediating role of emotion-focused coping as well ( $P < 0.05$ ).

**CONCLUSION:** Insecure attachment styles and dysfunctional attitudes work as stress–diathesis model in predicting suicide ideation and increase suicide ideation susceptibility by affecting emotion-focused coping strategy. The hypothesized model in this study can help formulate, evaluate, and prevent suicide risk.

## Keywords:

Attachment styles, dysfunctional attitudes, stress coping strategies, suicide ideation

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Received: 06-05-2019  
Accepted: 10-11-2019  
Published: 28-02-2020

## Introduction

The World Health Organization has announced suicide as the second cause of death for people from 15 to 29 years old and has considered decreasing suicide rate as a priority in its mental health program.<sup>[1]</sup> In Iran, suicide is a serious concern and the fifth cause of death.<sup>[2]</sup> The metanalyses on suicide in Iranian context have shown that

committing suicide and complete suicide have been 5.26 and 4.6, respectively, per 10,000 people.<sup>[3]</sup> In addition, the mean age of suicide is 25 years, and 21% of suicides have been committed by university students.<sup>[3]</sup> Suicide ideation defines all types of thought and tendency for planning to end one's life, which is typically activated under life stress.<sup>[4]</sup> It seems that one of every four students has thought about committing suicide.<sup>[5]</sup>

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**How to cite this article:** Rohani F, Esmaeili M. Psychological factors of vulnerability to suicide ideation: Attachment styles, coping strategies, and dysfunctional attitudes. *J Edu Health Promot* 2020;9:50.

Previous research in Iran indicates that the suicide rate is significantly lower than that of western countries; however, thinking about suicide is not uncommon.<sup>[6]</sup> The youth, particularly university students, face several difficulties such as educational, occupational, and interpersonal challenges.<sup>[7]</sup> As such, taking serious action in such situations is a great importance in preventing mental health problems.<sup>[8]</sup> Numerous studies have shown the risk of committing suicide in stressful situations and inefficient coping.<sup>[9-11]</sup> In the Lazarus theory, two coping strategies, problem focused and emotion focused, are introduced. Problem-focused coping is used to resolve stress factor, and emotion-focused coping is used to control the emotional consequences of stress.<sup>[12]</sup> Previous research shows that adopting problem-focused coping strategies prevent suicide risk<sup>[13]</sup> and emotion-focused coping strategies are more useful to deal with suicide ideation.<sup>[14]</sup>

The quality of interpersonal relationships is an important factor in evaluating the risks of suicide,<sup>[15]</sup> so that familial conflicts are among the most common causes of suicide commitment among Iranian young people.<sup>[16]</sup> Moreover, students with weak social relationships and unsuccessful intimate relationships are reported to be higher in terms of suicide ideation and suicide-related behaviors.<sup>[17,18]</sup> In general, belonging to the community, safety and trust in close relationships, especially family solidarity, decrease the risk of suicide commitment.<sup>[19]</sup> Secure attachment is identified with feeling safe and intimate in relations, insecure-avoidant attachment with isolation, and insecure ambivalent attachment style with turbulent relations.<sup>[20]</sup> Secure attachment modify tension and leads to social and psychological adjustment.<sup>[20]</sup> In other words, secure attachment style works as a source of emotion regulation and stress management.<sup>[21]</sup> Insecure attachment style is reported as a cause of self-harming and suicide-related behaviors<sup>[22]</sup> and is related to suicidal behavior history.<sup>[23]</sup> Evidence show that insecure attachment styles, particularly ambivalent, are related to dysfunctional attitudes, stress, and isolation.<sup>[24,25]</sup> In a study among the youth, weak attachments with parents provoke maladaptive cognitive schemas such as emotional deprivation which mount the suicide ideation susceptibility.<sup>[26]</sup> Previous research shows that difference in adopting coping strategies in stressful situations is related to interpretation and evaluation of the situation.<sup>[12]</sup> Recent researches indicate the importance of cognitive factors such as automatic thought<sup>[27]</sup> and ruminative thought<sup>[28,29]</sup> in suicide risk. Based on cognitive theories, dysfunctional attitudes are inflexible assumptions and lead to errors in cognitive processing of stress situations.<sup>[29]</sup>

This study aimed to investigate relations among psychological variables and present a model for

evaluation, prediction, and prevention of suicide among adult university students. According to the literature review, it seems that relations among coping strategies, attachment styles, and dysfunctional attitudes could be important in successful adaptation to stress and suicide ideation prevention.

## Methodology

### Population and sampling

The population of this study included all female undergraduate students at the University of Isfahan, Iran in fall, 2018. Multistage sampling was used to select the participants in three stages. At first, among 13 faculties, six were randomly selected and then 10 classes and finally 200 participants. The inclusion criteria were being female student at the undergraduate level and belonging to selected classes. The exclusion criteria had not consent to take part in the study and age above 25. This sampling resulted in 180 completed scales.

### Instruments

#### *Suicide ideation questionnaire*

Suicide ideation refers to thinking and planning suicide. The scale was developed by Sutherland (1989) and includes four items on discerning those who have or do not have suicide ideation. The scale is on a three-point Likert, including yes, to some extent, and no. The items are:

1. I have committed suicide in the past
2. In the past, I have seriously thought about committing suicide so that I had plans for it, but I did not do it
3. Suicide ideas have always been in my mind, but they have not been serious, and I had no plan for suicide
4. I have never thought about suicide.

Those who have said yes to the first and second items are those with suicide ideation.<sup>[30]</sup> Cronbach's alpha for the scale in this study was 0.95.

#### *Adults attachment inventory*

This scale developed by Hazen and Shaver (1987) and includes 15 items to identify the patterns of intimacy and interpersonal security. In this scale, three attachment styles of secure attachment, insecure-avoidant attachment, and insecure ambivalent attachment were recognized, and 5 items were allotted to each. The participants indicated their response on a 5-point Likert style ranging from 1 (never) to 5 (always). The psychometric information available for the scale in the Iranian context indicates that the scale acceptable in terms of internal consistency 0.89 and test-retest reliability 0.78.<sup>[31]</sup> Cronbach's alpha in the present study was 0.85.

#### *Dysfunctional attitudes scale*

Dysfunctional attitudes refer to maladaptive cognitive presuppositions and structures in adults vulnerable

to depression. This scale, developed by Weissman and Beck (1978), includes forty items that measure the foundational cognitive content of the symptoms of depression. To assess maladaptive beliefs, the participants indicated their answer using a 7-point Likert scale. The factor analysis of this scale revealed that there are five main factors in the scale: vulnerability, perfectionism, effectiveness, being influenced, and pleasing others. Internal consistency and test-retest reliability were 0.90 and 0.73, respectively, of the scale were acceptable.<sup>[32]</sup> The Cronbach's alpha for the scale in the present study was 0.85.

### Coping Inventory for Stressful Situation

Coping strategies refer to the behavioral styles used to cope with stressful everyday life situations. This scale was developed by Endler and Parker (1990) and involves 48 items on a 5-point Likert scale. The scale measures different coping strategies in problem-focused, emotion-focused, and avoidance-focused situations. The psychometric information on the scale reveals that it is acceptable in terms of validity and reliability. Internal consistency estimates ranged from 0.70 to 0.85, and test-retest reliability indices varied from 0.64 to 0.55.<sup>[33]</sup> Cronbach's alpha in this study was 0.81.

### Research hypotheses

- H1: Coping strategies directly predict suicide ideation
- H2: Dysfunctional attitudes directly predict suicide ideation
- H3: Attachment styles directly predict suicide ideation
- H4: Dysfunctional attitudes indirectly predict suicide ideation through coping strategies
- H5: Attachment styles indirectly predict suicide ideation through dysfunctional attitudes
- H6: Attachment styles indirectly predict suicide ideation through coping strategies.

## Results

The *t*-test analysis was used to examine the difference between psychological variables in the two groups of with and without suicidal ideation. Moreover, suicide ideation was considered a dependent variable and other psychological variables as predictors, and Pearson correlation coefficient and path analysis were used. The participants age varied from 18 to 25 years ( $M = 22.36$  and standard deviation = 4.75). Furthermore, the frequency of suicide ideation in the population was 25%.

As shown in Table 1, the independent samples *t*-test indicated that the mean scores for attachment styles in the two groups with and without suicide ideation were not significantly different. However, the two groups were

**Table 1: Independent sample *t*-test for variables score of with and without suicide ideation groups**

Measures	Subscales	Mean±SD		P
		With suicide ideation	Without suicide ideation	
Attachment styles	S	10.75±3.37	10.46±3.28	0.90
	AX	8.93±4.49	8.64±4.36	0.80
	AV	7.06±3.43	7.95±3.89	0.75
Coping strategies	P	51.66±9.46	58.85±8.48	0.005
	E	53.46±11.26	50.68±9.5	0.33
DAs		3.9±0.77	3.34±0.83	0.01

DAs=Dysfunctional attitudes, SD=Standard deviation

different in terms of dysfunctional attitudes ( $P < 0.01$ ) and coping strategies ( $P < 0.01$ ).

As shown in Table 2, correlation analysis between suicide ideation and psychological variables indicated that suicide ideation was significantly related to problem-focused coping ( $-0.42$ ,  $P < 0.01$ ), emotion-focused coping ( $0.25$ ,  $P < 0.01$ ), and dysfunctional attitudes ( $0.23$ ,  $P < 0.05$ ). In addition, insecure attachment styles significantly correlated with emotion-focused coping ( $0.54$ ,  $0.31$ ,  $P < 0.01$ ) and dysfunctional attitudes ( $-0.26$ ,  $P < 0.01$ ). Finally, dysfunctional attitudes negatively correlated with problem-focused coping ( $-0.32$ ,  $P < 0.01$ ).

As shown, the path analysis in Table 3 was performed to check for H1, H2, and H4 to examine the relationship between coping strategies and suicide ideation by taking dysfunctional attitudes as the mediator. The path coefficient between dysfunctional attitudes and coping strategies (emotion-focused and problem-focused coping) is significant, and hence H1 is confirmed. In this table, the path coefficient between dysfunctional attitudes and suicide ideation was not significant, so H2 is rejected. Path analysis of dysfunctional attitudes and coping strategies (emotion-focused and problem-focused coping) was significant. The results of Table 3 indicate that dysfunctional attitudes indirectly and through coping strategies predicted suicide ideation; therefore, H4 is confirmed.

As shown, the path analysis in Table 4 was performed to check for H2, H3, and H5 to examine the relationship between attachment styles and suicide ideation by taking dysfunctional attitudes as the mediator. The results of path analysis indicated that none of the paths from attachment styles to suicide ideation was significant, so H3 is rejected. In this table, the path coefficient between dysfunctional attitudes and suicide ideation was significant, so H2 is confirmed. The coefficient for each path from attachment styles of insecure avoidant and ambivalent with dysfunctional attitudes is significant. The results of Table 4 indicate that insecure attachment styles indirectly and with the mediation role of dysfunctional attitudes predicted suicide ideation; therefore, H5 is confirmed.

**Table 2: Pearson correlation coefficients**

Scales	1	2	3	4	5	6	7	8
Suicide ideation	1							
S	0.01	1						
AX	0.02	0.23*	1					
AV	-0.01	-0.26*	0.31**	1				
P	-0.42**	0.16	-0.15	-0.001	1			
E	0.25**	0.07	0.54**	0.31**	-0.26*	1		
Dysfunctional attitudes	0.23*	0.03	0.61**	0.38**	-0.32**	0.59**	0.16	1

DA=Dysfunctional attitudes

**Table 3: Path analysis of coping strategies and suicide ideation and dysfunctional attitude**

Subscales	Path coefficient	P
DA-suicide ideation	0.10	0.32
P-suicide ideation	-0.31**	0.006
E-suicide ideation	0.25*	0.05
DA-P	-0.31**	0.004
DA-E	0.56**	0.00

\*\*= $P < 0.01$ , DA=Dysfunctional attitude

**Table 4: Path analysis of attachment styles and suicide ideation and dysfunctional attitudes**

Subscales	Path coefficient	P
S-Suicide ideation	0.03	0.78
AX-suicide ideation	-0.1	0.47
AV-suicide ideation	-0.06	0.59
DA-suicide ideation	0.26*	0.03
S-DA	0.02	0.8
AX-DA	0.61**	0.00
AV-DA	0.36**	0.001
S-DA	0.02	0.8

\*\*= $P < 0.05$ , DA=Dysfunctional attitude

As shown, the path analysis in Table 4 was performed to check for H1, H3, and H6 to examine the relationship between attachment styles and suicide ideation by taking dysfunctional attitudes as the mediator. The results of path analysis showed that the path from emotion-focused coping and suicide ideation was significant, so H1 was confirmed. The paths for each of attachment styles to suicide ideation were not significant, so H3 is rejected. The paths from avoidant and ambivalent attachment styles to coping strategies were significant. The results of Table 5 indicate that insecure attachment styles predict suicide ideation indirectly and through the mediation role of emotion-focused coping. This implies that the sixth hypothesis is accepted.

Figure 1 presents the relationship between the four variables in the study based on the significant paths in Tables 3–5. In the right, arrows are used to show the significant paths and the relationships between the variables based on the result of path analysis.

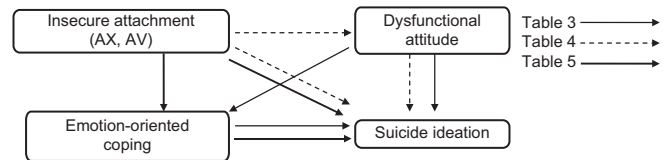


Figure 1: A model of relation between variables

## Discussion

The results of correlation analysis between the variables indicated that suicide ideation positively correlated with emotion-focused coping and dysfunctional attitudes and negatively correlated with problem-focused coping. However, suicide ideation was not related to attachment styles. Other correlations between variables showed that insecure attachment styles positively correlated with emotion-focused coping. Furthermore, dysfunctional attitudes positively correlated with emotion-focused coping and insecure attachment styles and negatively correlated with problem-focused coping. These findings confirmed the findings on the links between suicide ideation and coping strategies,<sup>[13,34]</sup> coping strategies and dysfunctional attitudes,<sup>[35,36]</sup> dysfunctional attitudes and attachment styles,<sup>[24]</sup> attachment styles and coping strategies.<sup>[37,38]</sup>

The results of path analysis indicated that dysfunctional attitudes, problem-focused coping, and emotion-focused coping directly predicted suicide ideation, so H1 and H2 were confirmed. The findings of this study are in line with previous studies in which problem-focused coping could prevent suicide ideation as an efficient coping strategy.<sup>[13]</sup> In addition, dysfunctional attitudes had an indirect effect on suicide ideation through emotion-focused coping, so H4 was confirmed. Based on the findings of this study, there was no significant effect of attachment styles (secure, avoidant, or ambivalent) on suicide ideation. Therefore, H3 was rejected. Nevertheless, insecure-avoidant and ambivalent attachment styles predicted suicide ideation indirectly through dysfunctional attitudes and emotion-focused coping. This indicated that H5 and H6 were confirmed.

**Table 5: Path analysis of attachment styles and suicide ideation with the mediating role of coping strategies**

Subscales	Path coefficient	P
S-suicide ideation	0.03	0.75
AX-suicide ideation	0.02	0.83
AV-suicide ideation	0.06	0.54
P-suicide ideation	-0.35**	0.001
E-suicide ideation	0.38**	0.006
S-P	0.15	0.16
AX-P	-0.17	0.11
AV-P	0.06	0.54
S-E	0.04	0.06
AX-E	0.52**	0.00
AV-E	0.32**	0.003

\*= $P < 0.05$ 

The findings of this study declared several relationships in predicting suicide ideation. Dysfunctional attitudes and emotion-focused coping strategy were not only directly affect suicide ideation but also mediate the effect of attachment styles on suicide ideation. Finally, dysfunctional attitudes influenced emotion-focused coping strategy in prediction of suicide ideation vulnerability.

## Conclusion

While none of attachment styles predicted suicide ideation, the findings of this study showed that individual who feel insecure in their attachment relationships would have more dysfunctional attitudes and those with dysfunctional attitudes would use emotion-focused coping strategies and would be vulnerable to suicide ideation. In accordance with previous studies, avoidant and ambivalent attachment styles provoke dysfunctional attitudes<sup>[39]</sup> and have a role in adopting emotion-focused coping and emotion dysregulation.<sup>[40]</sup> In fact, those with insecure attachment styles used coping strategies related to negative emotion so that they suppress emotional experiences and feel more stressful situations. It seems that attachment styles affect the attention process in response to stress and make one able to cope with it.<sup>[41]</sup> Based on the findings of this study, insecure-avoidant and ambivalent attachment styles as an effective factor predict suicide ideation through dysfunctional attitudes and emotion-focused coping. The results of this study confirm the adverse effect of insecure attachment styles and dysfunctional attitudes on coping strategies and suicide ideation. It seems that insecure attachment styles and dysfunctional attitudes which are both formed under childhood experiences act as stress–diathesis of suicide and they increase the possibility of emotion-focused coping and suicide ideation vulnerability.

In addition, previous research shows that dysfunctional attitudes led to increased suicide ideation. This study

confirmed that dysfunctional attitudes deviate cognitive evaluation of the situation.<sup>[41]</sup> The effect of dysfunctional attitudes on emotion-focused coping strategies is also confirmed by cognitive-behavioral model of suicide.<sup>[42]</sup> In fact, the findings of this study show that dysfunctional attitudes increase the possibility of adopting emotion-focused coping strategies and suicide ideation by defining the way to deal with a stressful situation and giving quality to the perceived stress. In justifying the role of dysfunctional attitudes in predicting suicide ideation, one can refer to their role in creating depression, which maladaptive coping and behavioral problems.<sup>[43]</sup>

The results of this study are in accordance with the notion of suicide resilience which claims individuals with high resilience overcome suicide ideation through positive beliefs about life and seeking help in relationships.<sup>[44]</sup>

## Implications

The results of this study can be used to formulate, evaluate, and prevent suicide and employ remedial interventions in clinics. Based on the theoretical frameworks of this study, teaching stress management, problem-solving skills, and cognitive-behavioral techniques are useful in preventing suicide.

## Acknowledgments

We would like to thank all education departments, professors, and students of Isfahan University which helped and cooperated in this study.

## Financial support and sponsorship

Nil.

## Conflicts of interest

There are no conflicts of interest.

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