



The Relationship Between Suicidal Ideation and Perfectionism in Iranian Students: The Mediating Role of Self-criticism

Yasaman Kiaei ¹ and Mohsen Kachooei ^{2,*}

¹Department of Clinical Psychology, Central Tehran Branch, Islamic Azad University, Tehran, Iran

²Department of Psychology, Faculty of Humanities, University of Science and Culture, Tehran, Iran

*Corresponding author: Department of Psychology, Faculty of Humanities, University of Science and Culture, Tehran, Iran. Email: kachooei.m@usc.ac.ir

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Abstract

Background: Suicidal ideation, as a risk factor for psychopathology, has diverse psychological and social impairments. Suicidal ideation and perfectionism are closely related to self-criticism.

Objectives: In the present study, we investigated how self-criticism mediated the relationship between suicidal ideation and perfectionism.

Methods: This descriptive study was performed on 300 students selected from the University of Science and Culture. The data collection tools were the Beck Scale for suicide ideation (BSS), the Multidimensional Perfectionism Scale (MPS), and the Self-criticism Scale (FSCRS). Data were analyzed using Pearson's correlation coefficient and path analysis.

Results: The results showed that suicidal ideation had a significant direct effect on self-oriented perfectionism ($\beta = 0.18$, $P < 0.01$) and socially prescribed perfectionism ($\beta = 0.23$, $P < 0.01$). Also, perfectionism had a significant indirect effect on suicidal ideation through mediating role of self-criticism.

Conclusions: According to the findings, both perfectionism and self-criticism play an important role in suicidal ideation. The inability to accept shortcomings or flaws and having rigid, unrealistic standards along with self-blame or self-criticism caused by a sense of incompleteness and deficiency feeling in various situations can provide ground for emerging suicidal thoughts and behaviors.

Keywords: College Students, Perfectionism, Self-criticism, Suicidal Ideation

1. Background

Suicide is one of the major health problems in the world today, playing an important role in people's well-being and mental health decline (1). Suicide refers to every act with the intention of killing oneself (2). The global incidence rate of suicide has increased. Consequently, the World Health Organization (WHO) has provided and developed action plans and programs to prevent and reduce suicidal thoughts and behaviors from 2013 to 2020 (3). The suicide rate is lower in Iran than in other countries (4). However, it has increased in the country in recent decades (5). Also, suicide is the third-leading cause of death among adolescents and youths (6). Regarding the upward trend of individual, family, and social consequences of suicide, it is necessary to identify underlying factors of the phenomenon. Suicidal thoughts can be caused by various factors, including demographic status, social circumstances, family components, and psychological factors (7).

Perfectionism is one of the psychological constructs

that has been extensively studied concerning suicide (8). In perfectionist people, the probability of suicidal ideation is increased. That is likely because they feel like a failure and tend to escape from such a distressing state (9). Perfectionism is a personality trait best defined as attempting to be perfect and flawless in all aspects of life (10). A new model proposed by Hewitt and Flett introduces three forms of perfectionism: Self-oriented, other-oriented, and socially prescribed. Self-oriented perfectionism includes all efforts to be a perfect person (or self), with unrealistically high performance expectations and black and white thinking, which leaves one with only two options: Total success or total failure. In this form, people are unable to accept their flaws or weaknesses. Another form is other-oriented perfectionism that makes no sense out of interpersonal relationships, expecting others to be perfect and have flawless, complete, and high standards. Finally, socially prescribed perfectionism believes that people have high standards for oneself and that confirmation from and acceptance by others depend on fulfilling these expecta-

tions, although complex and problematic (11). Both self-oriented and socially prescribed perfectionism have an element of criticism directed at oneself. However, other-oriented perfectionism has an element of criticism directed at others.

In recent years, many studies have been conducted to identify psychological consequences of perfectionism (12-14), such as suicide. Research has indicated that a high level of perfectionism is closely related to suicide among adolescents and adults. Indeed, perfectionism is considered a risk factor for suicidality (15). Researchers have found that perfectionist attitudes and sensitivity to criticism, as dysfunctional thoughts, have a strong relationship with suicidal ideation (16). It has also been revealed that individuals with suicidal intentions need essentially to be confirmed by other people and to act in a perfectionist manner (17).

Concerning the findings indicating a relationship between the two variables, it is necessary to investigate its mechanism. On the whole, studies show a mediating variable whose existence better explains the relationship between suicide and perfectionism (18). Empirical research has demonstrated that perfectionists tend to evaluate their behavior and performance critically and do so continually. Also, they express their concern about mistakes and negative evaluations in a self-critical manner (19).

Self-criticism is a self-critical reaction to a perceived mismatch between expected and real outcomes (inconsistency between expectation and reality). Following this mismatch, one cannot tolerate the failure to attain the standards they set for themselves (20). A self-critical person insists on achieving their goals without enjoying their achievements and judge themselves harshly. Hence, they usually feel worthless, guilty, and failure in life (21). The self-criticism process exists in all forms of perfectionism (22, 23). The relationship between perfectionism and some psychological disorders can be explained by self-criticism as a psychological construct (12). A self-critical person creates psychological conditions or states in which ruminating thoughts emerge and develop (24). It has been reported that perfectionists experience ruminating thoughts at higher levels compared to others (25). Self-criticism and its following ruminating thoughts play a role in finding solutions for interpersonal and social problems. In the sense that self-critical people, when facing interpersonal issues, feel that they are in trouble, and this feeling can increase suicide risk (26, 27). Researchers have shown that motivational and cognitive features of self-criticism result in increasing psychological distress (28). They have also claimed that self-critical people have feelings such as guilt, failure, and worthlessness and cannot enjoy their achievements (21). Accordingly, it is hypothesized that the

mentioned features of self-critical people may increase the probability of suicidal ideation among them. However, a review of the research background reveals that the question "to what extent do self-critical features in perfectionists increase suicidal ideation?" has not yet been investigated. Therefore, the present study was conducted to investigate the direct and indirect relationships between perfectionism and suicidal ideation through mediating role of self-criticism.

2. Objectives

This study aimed to investigate the relationship between perfectionism and suicidal ideation with mediating role of self-criticism in college students.

3. Methods

3.1. Subjects and Methods Sample

This descriptive correlational study was conducted on undergraduate and postgraduate students from the University of Science and Culture, Tehran, Iran, in 2018 - 2019. Given that the sample size above 200 (29) is recommended for modeling good structural equations, 300 participants were selected using the convenience sampling method. The inclusion criteria were willingness to participate in the study and 18 - 35 years of age. Also, all incomplete questionnaires were excluded from the study.

3.2. Data Collection Tools

3.2.1. Beck Scale for Suicide Ideation (BSS)

This 19-item scale is a self-report tool developed by Beck, Kovacs, and Weissman (1979) to examine the intensity of suicidal tendencies and thoughts. Each item is rated from 0 (low intensity) to 2 (high intensity), and the total score varies from 0 to 38. According to these items, the severity of opinions, thoughts, and tendencies for suicide is measured. The reliability and validity of this scale are confirmed in different studies. For example, Wasserman displayed high reliability (Cronbach's $\alpha = 0.89$) and validity (inter-rater = 0.83) for this scale (30). In Iran, Anisi et al. estimated the reliability of this scale using Cronbach's $\alpha (= 0.95)$ and the split-half method ($= 0.75$) (31).

3.2.2. Multidimensional Perfectionism Scale (MPS)

This scale is a self-report tool developed by Hewitt and Flett (23) and standardized and validated by Besharat in Iran (32). Multidimensional Perfectionism Scale (MPS) consists of three subscales: Self-oriented, other-oriented, and socially prescribed perfectionism. MPS is a 30-item questionnaire in which the first ten items examine self-oriented

perfectionism, the second ten items assess other-oriented perfectionism, and the last ten items evaluate socially prescribed perfectionism. The items are scored on a five-point Likert Scale from 0 to 5. Scores in each subscale range from 10 to 50. Hewitt and Flett found the internal consistency of the MPS Scale acceptable, being 0.88 for self-oriented perfectionism, 0.74 for other-oriented perfectionism, and 0.81 for socially prescribed perfectionism (33). In an Iranian sample, the Cronbach's α coefficient was estimated at 0.89 for self-oriented perfectionism, 0.83 for other-oriented perfectionism, and 0.74 for socially prescribed perfectionism, indicating high-scale homogeneity (34).

3.2.3. Self-criticism/attacking and Self-reassuring Scale (FSCRS)

The Self-criticism Scale is a 22-item questionnaire prepared from the forms of the Self-criticizing/attacking and Self-reassuring Scale (FSCRS) of Gilbert et al. (35). FSCRS consists of three subscales: Inadequate self, reassured self, and hated self (35). Response to each item is scored on a five-point Likert Scale (strongly disagree = 0 to strongly agree = 4), and acquired scores vary from 0 to 88. The Cronbach's α coefficient was computed at 0.90% for the scale (35). In an Iranian sample, the Cronbach's α coefficient was calculated to be 0.83 in total, 0.78 in men, and 0.85 in women. Also, divergent validity was examined by correlating the scale with the Rosenberg self-esteem Scale, which supported the validity of this Scale (36).

3.3. Research Procedure

Before completing the scales, the participants received a brief explanation of the purpose of the research. The scales were completed by students who met the required criteria. Concerning the ethical considerations, participation was voluntary. Also, the subjects were assured that all personal information would be anonymous, and the collected data would be analyzed in groups and kept confidential.

3.4. Data Analysis

In the descriptive section, statistical indexes were used to describe the research variables. In the inferential section, the obtained data were analyzed using the Pearson's correlation coefficient test and the path analysis using SPSS version 24 and AMOS version 21 software.

4. Results

The final analysis of the 300 students showed that 50.3% ($N = 151$) were female and 49.7% ($N = 149$) were male. Regarding marriage, 95.3% ($N = 286$) of the participants were single, and 4.7% ($N = 14$) of them were married. The

age range of male students was 18 - 29 years with a mean age of 21.73 ± 2.16 years, while the age range of female students was 19 - 28 years with a mean age of 21.23 ± 1.45 years.

As shown in Table 1, suicidal thoughts had a significant positive relationship with all the variables except perfectionism ($P < 0.01$). Also, there was a significant positive relationship between self-criticism with self-oriented perfectionism, socially prescribed perfectionism ($P < 0.01$), and other-oriented perfectionism ($P < 0.05$). Path analysis was applied to test the designed model.

As shown in Table 2, other-oriented perfectionism ($P < 0.05$, $\beta = -0.29$) had the highest significant effect on self-criticism, followed by self-oriented perfectionism ($P < 0.0001$, $\beta = 0.58$) and socially prescribed perfectionism ($P < 0.0001$, $\beta = 0.056$). According to the results in Table 2, the path coefficient of self-criticism had a significant effect on suicide ($P < 0.0001$, $\beta = 0.22$), while self-oriented, other-oriented, and socially prescribed perfectionism had no significant effect on suicide. The existence of mediating effect was tested under two conditions: (1) the significant general effect of the independent variable on the dependent variable and (2) the significant indirect effect or effect of the independent variable on the dependent variable through the mediating variable.

After determining the existence of mediating effect, the type of mediating effect must be examined. The results related to general, direct, and indirect effects of perfectionism components on suicide are presented in Table 3 and Figure 1.

According to the table above, general and indirect effects of socially prescribed perfectionism, but not its direct effect, were significant. Thus, there was a mediating effect with full mediation. Regarding self-oriented perfectionism, a mediating effect with full mediation was observed because its general and indirect effects, but not its direct effect, were relatively significant. Finally, other-oriented perfectionism had no mediating role. In summary, as shown in Figure 1, this model explained 30% of the suicide variance. Also, different dimensions of perfectionism predicted 21% of variations in self-criticism.

5. Discussion

The Pearson correlation coefficient results revealed a significant direct relationship between self-oriented and other-oriented perfectionism with suicidal ideation and a significant indirect relationship between the mentioned perfectionism components and suicidal ideation through mediating role of self-criticism. Moreover, a significant relationship was observed between self-criticism with perfectionism components and suicidal ideation separately.

Table 1. The Mean \pm SD, and Correlation Coefficients of the Research Variables

Variables	Suicidal Ideation	Self-criticism	Self-oriented Perfectionism	Other-oriented Perfectionism	Socially Prescribed Perfectionism
Suicidal ideation	-				
Self-criticism	0.55 ^a	-			
Self-oriented perfectionism	0.18 ^a	0.37 ^a	-		
Other-oriented perfectionism	0.10	0.15 ^b	0.48 ^a	-	
Socially prescribed perfectionism	0.23 ^a	0.38 ^a	0.35 ^a	0.38 ^a	-
Mean \pm SD	4.51 \pm 5.09	37.76 \pm 12.61	31.29 \pm 6.84	31.09 \pm 5.60	30.50 \pm 7.05

^a $P < 0.01$.^b $P < 0.05$.**Table 2.** Standard Path Coefficients Related to the Model

Variables	Regression Weights	Standard Error	P-Value
Other-oriented perfectionism \rightarrow Self-criticism	-0.29	0.136	0.036
Self-oriented perfectionism \rightarrow Self-criticism	0.58	0.110	0.0001
Socially prescribed perfectionism \rightarrow Self-criticism	0.56	0.101	0.0001
Self-criticism \rightarrow Suicidal ideation	0.22	0.022	0.0001
Self-oriented perfectionism \rightarrow Suicidal ideation	-0.4	0.044	0.404
Socially prescribed perfectionism \rightarrow Suicidal ideation	0.2	0.040	0.595
Other-oriented perfectionism \rightarrow Suicidal ideation	0.3	0.052	0.615

Table 3. The General, Direct, and Indirect Effects of the Perfectionism Components on Suicide

Effect	Standardized Rate	P-Value
Overall effect of socially prescribed perfectionism	0.203	0.05
Overall effect of self-oriented perfectionism	0.126	0.064
Overall effect of other-oriented perfectionism	- 0.041	0.576
Direct effect of socially prescribed perfectionism	0.030	0.485
Direct effect of self-oriented perfectionism	- 0.049	0.290
Direct effect of other-oriented perfectionism	0.029	0.687
Indirect effect of socially prescribed perfectionism	0.173	0.004
Indirect effect of self-oriented perfectionism	0.175	0.005
Indirect effect of other-oriented perfectionism	- 0.070	0.008

Many empirical studies have supported the link between perfectionism and suicide (37, 38). Tendency to perfectionism causes people to pursue maladaptive thoughts and behaviors. For example, all-or-nothing thinking in perfectionists causes them to see themselves as complete failures in all life stages, leading to suicidal ideation (39). Empirical findings show that among perfectionism components, socially prescribed perfectionism is more associated with suicidal thoughts, perhaps because it leads to feelings of loneliness, isolation, and distress (17, 40, 41). Regarding

this form of perfectionism, people feel pressured by society's expectations they have no control over and cannot fulfill well; consequently, they are more likely to experience feelings of loneliness, isolation, and hopelessness (42). It seems that socially prescribed perfectionists find themselves more pressured by people's expectations and opinions and are more likely than others to feel a lack of control over various aspects of their life. Therefore, they may consider suicide to escape from such societal pressures.

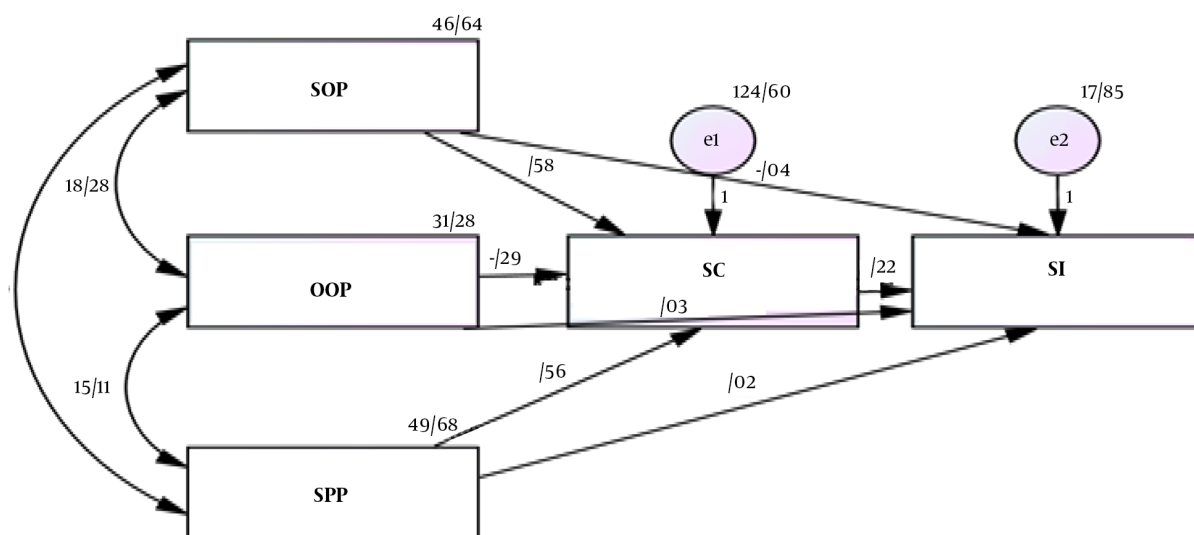


Figure 1. The path model showing mediating role of self-criticism in the relationship between perfectionism and suicidal ideation in university students. SOP, self-oriented perfectionism; OOP, other-oriented perfectionism; SPP, socially prescribed perfectionism; SC, self-criticism; SI, suicidal ideation.

On the other side, findings show a significant relationship between self-criticism and suicidal thoughts. Researchers recognize the importance of the self-criticism variable in suicidal ideation (43). Self-critical people view stressful situations as absolute failure due to over-criticizing, likely increasing the risk of suicide, as confirmed in similar studies (44). Overly harsh self-criticism and self-evaluation can create feelings of guilt and worthlessness, providing ground for psychological impairments and distress.

In addition, studies show a significant relationship between perfectionism and self-criticism (45), which is in line with the results of the present study. Rezaei and Jahan found that 33% of the self-criticism variable was determined by self-oriented and other-oriented perfectionism (38). Self-oriented perfectionists seek very high standards and have unrealistic, unreasonable expectations of themselves, and since it is impossible to meet such standards and expectations, they criticize themselves. Other-oriented perfectionists also have unrealistic expectations from people, and as these high standards are not fulfilled, and they are not satisfied, they criticize themselves. By contrast, socially prescribed perfectionists direct their focus on others' standards and expectations and have no considerable personal criteria for evaluation; consequently, they are less self-critical or do self-criticism internally (46).

Abnormal perfectionists' characteristics are as follows: Fear of making mistakes, excessive, unrealistic expectations from themselves and others, fear of failure, and

being hesitant. These characteristics are essentially associated with psychological disorders, such as obsessive-compulsive disorders, depression, and anxiety (47, 48). Perfectionists see their self-worth closely tied to their successes and achieving their goals. As perfectionists set high standards for themselves, they fail to achieve their goals and experience negative emotions (49). As discussed previously, self-criticism is a mental impairment related to self- and other-oriented perfectionism (23). It is associated with feelings of guilt, failure, worthlessness, and excessive self-blame, providing the basis for suicidal ideation. As a result, it can probably mediate the relationship between suicidal ideation and abnormal perfectionism.

Results of path analysis showed no significant relationship between other-oriented perfectionism and suicidal thoughts. Besides, the relationship was significant between self-oriented and socially prescribed perfectionism with suicidal ideation. These findings are consistent with the results of previous studies (50, 51). Perhaps, as a result, other-oriented perfectionists strictly focus on people's shortcomings and weaknesses and attribute their problems and failures to others and sources outside of themselves (23, 52, 53).

Characteristics of other-oriented perfectionists are as follows: Excessive expectations and demands from others, impatience, exploitation, and blaming others (54). Self- and other-oriented perfectionism are related to self-relevant feelings of guilt and shame (55, 56). Self-oriented perfectionists continuously set unrealistic, high standards

for themselves and focus on their weaknesses and deficiencies (57). Negative characteristics of self-oriented perfectionism include excessive self-criticism, precise and extreme programming, and over-responsibility leading to feelings of shame and guilt (58). In truth, focusing on personal losses and feelings of shame and guilt causing self-blame may lead one toward suicidal thoughts to escape from inner tensions. Socially prescribed perfectionism, compared to other perfectionism components (i.e., self-oriented and other-oriented), is more related to fear of inferiority. Indeed, observation of others' inferiority or others' experience of inferiority causes the fear of inferiority. Also, fear of failure in such people is due to fear of being judged (42, 56). Socially prescribed perfectionists are susceptible to interpret various situations in a way that leads them to feel the fear of inferiority; this can provoke a suicide crisis. Also, feeling a lack of control over behaviors and feeling trouble may lead to suicidal thoughts and behaviors (59).

Using student sampling is one of the limitations of this study. The present study was conducted on students from the University of Science and Culture in Tehran. Thus, generalizing results should be done cautiously. Accordingly, it is suggested to conduct future research randomly on other populations with different demographic characteristics. In addition, data were collected using self-report tools that increase the likelihood of error in the interpretation of results and evaluation of research. Thus, it is better to use other data collecting tools in future research, such as clinical interviews. It is also suggested to identify students at suicide risk and hold planned training courses for them to prevent suicidal attempts by modify their perfectionistic characteristics and gain knowledge about ruminations and self-critical thoughts.

5.1. Conclusions

Perfectionism is observed to have a significant association with suicidal ideation with the mediation of self-criticism. In addition to the indirect effect of the self-criticism variable, this variable directly correlates with perfectionism and suicidal ideation. Among the three components of perfectionism, self-oriented and especially socially prescribed perfectionism have a significant relationship with suicidal ideation. Perfectionism and self-criticism can predict suicidal thoughts and behavior.

Footnotes

Authors' Contribution: Mohsen Kachooei: Conceptualization, supervision, resources, methodology, software, formal analysis, reviewing, and editing. Yasaman Kiaei: Data gathering and writing of the original draft.

Conflict of Interests: There are no conflicts of interest.

Ethical Approval: The participants were informed about all ethical considerations, such as the study's purposes, confidentiality of their data, and their right to withdraw at any time during the study. The subjects signed written consent forms before participation.

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Informed Consent: The research plan was first introduced to the study population, and upon their consent to participate, they were provided with pre-prepared questionnaires.

References

1. Chatripur F, Kaykhavani S, Sidkhani NA. [Comparison of suicidal ideation and depression in suicidal and healthy subjects in Ilam province]. *J Ilam Univ Med Sci*. 2013;21(1):48-52. Persian.
2. Rezayian M. [Public Health, Epidemiology and Suicide, Medical Sciences]. Rafsanjan, Iran: Rafsanjan University Press; 2006. Persian.
3. World Health Organization. *Mental health action plan 2013 - 2020*. Geneva, Switzerland: World Health Organization; 2013, [cited 2022]. Available from: <https://www.who.int/publications/i/item/9789241506021>.
4. Naghavi M, Akbari ME. [Epidemiology of injuries due to external causes in Iran]. Tehran, Iran: Fekrat Publication; 2002. Persian.
5. MohmadKhani P. [The Epidemiology of Suicide Thoughts and Suicide Attempt in Young Girls at High-Risk Provinces of Iran]. *Soc Welf*. 2004;4(14):146-62. Persian.
6. Smith AR, Witte TK, Teale NE, King SL, Bender TW, Joiner TE. Revisiting impulsivity in suicide: implications for civil liability of third parties. *Behav Sci Law*. 2008;26(6):779-97. doi: 10.1002/bsl.848. [PubMed: 19039790]. [PubMed Central: PMC2597102].
7. Rostami M, Hashemi T, Aliloo MM. [Comparison of personality traits, social support, and religious orientation in suicide attempter and control group]. *Stud Med Sci*. 2014;24(12):1016-26. Persian.
8. Hewitt PL, Flett GL, Sherry SB, Caelian C. Trait Perfectionism Dimensions and Suicidal Behavior. In: Ellis TE, editor. *Cognition and suicide: Theory, research, and therapy*. Washington, D.C. USA: American Psychological Association; 2006. p. 215-35.
9. Hunter EC, O'Connor RC. Hopelessness and future thinking in parasuicide: the role of perfectionism. *Br J Clin Psychol*. 2003;42(Pt 4):355-65. doi: 10.1348/01446650322528900. [PubMed: 14633412].
10. Hewitt PL, Flett GL. Perfectionism and stress processes in psychopathology. In: Flett GL, Hewitt PL, editors. *Perfectionism: Theory, research, and treatment*. Washington, D.C. USA: American Psychological Association; 2002. p. 255-84.
11. Hewitt PL, Flett GL. *Multidimensional perfectionism scale (MPS): technical manual*. Toronto, ON, Canada: Multi-Health Systems; 2004.
12. Dunkley DM, Blankstein KR, Masheb RM, Grilo CM. Personal standards and evaluative concerns dimensions of "clinical" perfectionism: a reply to Shafran et al. (2002, 2003) and Hewitt et al. (2003). *Behav Res Ther*. 2006;44(1):63-84. doi: 10.1016/j.brat.2004.12.004. [PubMed: 16301015].
13. Molnar DS, Sirois FM. Perfectionism, Health, and Well-Being: Epilogue and Future Directions. In: Sirois F, Molnar D, editors. *Perfectionism, Health, and Well-Being*. Cham: Springer; 2016. p. 285-302. doi: 10.1007/978-3-319-18582-8_13.
14. Stoeber J, Otto K. Positive conceptions of perfectionism: approaches, evidence, challenges. *Pers Soc Psychol Rev*. 2006;10(4):295-319. doi: 10.1207/s15327957pspr1004_2. [PubMed: 17201590].

15. Bernert RA, Timpano KR, Peterson CB, Crow SJ, Bardone-Cone AM, le Grange D, et al. Eating disorder and obsessive-compulsive symptoms in a sample of bulimic women: Perfectionism as a mediating factor. *Pers Individ Differ*. 2013;**54**(2):231-5. doi: [10.1016/j.paid.2012.08.042](#).
16. Ranieri WF, Steer RA, Lavrence TI, Rissmiller DJ, Piper GE, Beck AT. Relationships of depression, hopelessness, and dysfunctional attitudes to suicide ideation in psychiatric patients. *Psychol Rep*. 1987;**61**(3):967-75. doi: [10.2466/pr0.1987.61.3.967](#). [PubMed: [3438422](#)].
17. Hewitt PL, Flett GL, Turnbull-Donovan W. Perfectionism and suicide potential. *Br J Clin Psychol*. 1992;**31**(2):181-90. doi: [10.1111/j.2044-8260.1992.tb00982.x](#). [PubMed: [1600402](#)].
18. Flett GL, Hewitt PL, Heisel MJ. The Destructiveness of Perfectionism Revisited: Implications for the Assessment of Suicide Risk and the Prevention of Suicide. *Rev Gen Psychol*. 2014;**18**(3):156-72. doi: [10.1037/gpr0000011](#).
19. Macedo A, Marques M, Pereira AT. Perfectionism and psychological distress: a review of the cognitive factors. *Int J Clin Neurosci Ment Health*. 2014;**1**(1):1-6. doi: [10.21035/ijcnmh.2014.1.6](#).
20. Carver CS, Ganellen RJ. Depression and components of self-punitiveness: high standards, self-criticism, and overgeneralization. *J Abnorm Psychol*. 1983;**92**(3):330-7. doi: [10.1037//0021-843x.92.3.330](#). [PubMed: [6619408](#)].
21. Blatt SJ, Zuroff DC. Interpersonal relatedness and self-definition: Two prototypes for depression. *Clin Psychol Rev*. 1992;**12**(5):527-62. doi: [10.1016/0272-7358\(92\)90070-o](#).
22. Blatt SJ. The destructiveness of perfectionism. Implications for the treatment of depression. *Am Psychol*. 1995;**50**(12):1003-20. doi: [10.1037//0003-066x.50.12.1003](#). [PubMed: [8561378](#)].
23. Hewitt PL, Flett GL. Perfectionism in the self and social contexts: conceptualization, assessment, and association with psychopathology. *J Pers Soc Psychol*. 1991;**60**(3):456-70. doi: [10.1037//0022-3514.60.3.456](#). [PubMed: [2027080](#)].
24. Nolen-Hoeksema S, McBride A, Larson J. Rumination and psychological distress among bereaved partners. *J Pers Soc Psychol*. 1997;**72**(4):855-62. doi: [10.1037//0022-3514.72.4.855](#). [PubMed: [9108698](#)].
25. O'Connor DB, O'Connor RC, Marshall R. Perfectionism and psychological distress: evidence of the mediating effects of rumination. *Eur J Pers*. 2020;**21**(4):429-52. doi: [10.1002/per.616](#).
26. Spirito A, Valeri S, Boergers J, Donaldson D. Predictors of continued suicidal behavior in adolescents following a suicide attempt. *J Clin Child Adolesc Psychol*. 2003;**32**(2):284-9. doi: [10.1207/S15374424JCCP3202_14](#). [PubMed: [12679287](#)].
27. James K, Verplanken B, Rimes KA. Self-criticism as a mediator in the relationship between unhealthy perfectionism and distress. *Pers Individ Differ*. 2015;**79**:123-8. doi: [10.1016/j.paid.2015.01.030](#).
28. Zuroff DC, Santor D, Mongrain M. Dependency, self-criticism, and maladjustment. In: Auerbach JS, Levy KJ, Schaffer CE, editors. *Relatedness, Self-Definition and Mental Representation: Essays in Honor of Sidney J. Blatt*. East Sussex, England: Routledge; 2005. p. 75-90.
29. Griffiths DA, Miller AJ. Hyperbolic Regression - A Model Based on Two-Phase Piecewise Linear Regression with a Smooth Transition Between Regimes. *Commun Stat*. 1973;**2**(6):561-9. doi: [10.1080/03610927308827098](#).
30. Wasserman D. *Suicide: An unnecessary death*. 4th ed. Oxford: Oxford University Press; 2001.
31. Anisi J, Fathi Ashtiani A, Salimi S, Ahmadi Noudeh K. [Evaluation of reliability and validity of Beck Depression Thoughts Scale in soldiers]. *J Mil Med*. 2005;**23**(1):37-43. Persian.
32. Besharat MA. Development and Validation of Tehran Multidimensional Perfectionism Scale. *Procedia Soc Behav Sci*. 2011;**30**:79-83. doi: [10.1016/j.sbspro.2011.10.016](#).
33. Donaldson D, Spirito A, Farnett E. The role of perfectionism and depressive cognitions in understanding the hopelessness experienced by adolescent suicide attempters. *Child Psychiatry Hum Dev*. 2000;**31**(2):99-111. doi: [10.1023/a:1001978625339](#). [PubMed: [11089299](#)].
34. Besharat MA. [The preliminary study of psychometrics characteristics of Cognitive Emotion Regulation Questionnaire, researching report]. *Tehran Univ*. 2007;**32**:63-76. Persian.
35. Gilbert P, Clarke M, Hempel S, Miles JN, Irons C. Criticizing and reassuring oneself: An exploration of forms, styles and reasons in female students. *Br J Clin Psychol*. 2004;**43**(Pt 1):31-50. doi: [10.1348/014466504772812959](#). [PubMed: [15005905](#)].
36. Rajabi GR, Abbasi G. [An investigation of relationship between self-criticism, social interaction anxiety, and fear of failure with internalized shame in students]. *Res Clin Psychol Couns*. 2011;**1**(2):171-82. Persian. doi: [10.22067/IJAP.V1I2.9837](#).
37. O'Connor RC. The relations between perfectionism and suicidality: a systematic review. *Suicide Life Threat Behav*. 2007;**37**(6):698-714. doi: [10.1521/suli.2007.37.6.698](#). [PubMed: [18275376](#)].
38. Rezaei AM, Jahan F. [Predicting Depression based on the Components of Perfectionism: The Mediating Role of Self-criticism]. *Clin Psychol Stud*. 2015;**5**(19):1-18. Persian.
39. Burns DD. The Perfectionist's Script for Self-defeat. *Psychol Today*. 1980:34-52.
40. Blankstein KR, Lumley CH, Crawford A. Perfectionism, Hopelessness, And Suicide Ideation: Revisions to Diathesis-Stress and Specific Vulnerability Models. *J Ration Emot Cogn Behav Ther*. 2007;**25**(4):279-319. doi: [10.1007/s10942-007-0053-6](#).
41. Chang EC, Sanna LJ, Chang R, Bodem MR. A preliminary look at loneliness as a moderator of the link between perfectionism and depressive and anxious symptoms in college students: does being lonely make perfectionistic strivings more distressing? *Behav Res Ther*. 2008;**46**(7):877-86. doi: [10.1016/j.brat.2008.03.012](#). [PubMed: [18462706](#)].
42. Torres WJ, Bergner RM. Humiliation: Its nature and consequences. *J Am Acad Psychiatry Law*. 2010;**38**(2):195-204.
43. Campos RC, Holden RR, Baleizao C, Cacador B, Fragata AS. Self-Criticism, Neediness, and Distress in the Prediction of Suicide Ideation: Results from Cross-Sectional and Longitudinal Studies. *J Psychol*. 2018;**152**(4):237-55. doi: [10.1080/00223980.2018.1446895](#). [PubMed: [29667539](#)].
44. Cohen J. A power primer. *Psychol Bull*. 1992;**112**(1):155-9. doi: [10.1037//0033-2909.112.1.155](#). [PubMed: [19565683](#)].
45. Gilbert P, Durrant R, McEwan K. Investigating relationships between perfectionism, forms and functions of self-criticism, and sensitivity to put-down. *Pers Individ Differ*. 2006;**41**(7):1299-308. doi: [10.1016/j.paid.2006.05.004](#).
46. Stoeber J, Hutchfield J, Wood KV. Perfectionism, self-efficacy, and aspiration level: differential effects of perfectionistic striving and self-criticism after success and failure. *Pers Individ Differ*. 2008;**45**(4):323-7. doi: [10.1016/j.paid.2008.04.021](#).
47. Brouwers M, Wiggum CD. Bulimia and perfectionism: Developing the courage to be imperfect. *J Ment Health Couns*. 1993;**15**(2):141-9.
48. Hewitt PL, Flett GL. Dimensions of perfectionism in unipolar depression. *J Abnorm Psychol*. 1991;**100**(1):98-101. doi: [10.1037//0021-843x.100.1.98](#). [PubMed: [2005279](#)].
49. Egan SJ, Wade TD, Shafran R, Antony MM. *Cognitive Behavioral Treatment of Perfectionism*. New York: Guilford Press; 2014.
50. Baumeister RF. Suicide as escape from self. *Psychol Rev*. 1990;**97**(1):90-113. doi: [10.1037/0033-295x.97.1.90](#). [PubMed: [2408091](#)].
51. Chen C. *Perfectionism and suicide ideation: An assessment of the specific vulnerability hypothesis and stress generation model [master's thesis]*. Vancouver: University of British Columbia; 2012.
52. Hewitt PL, Flett GL. Dimensions of perfectionism, daily stress, and depression: a test of the specific vulnerability hypothesis. *J Abnorm Psychol*. 1993;**102**(1):58-65. doi: [10.1037//0021-843x.102.1.58](#). [PubMed: [8436700](#)].
53. Dunkley DM, Blankstein KR, Flett GL. Specific cognitive-personality vulnerability styles in depression and the five-factor model of personality. *Pers Individ Differ*. 1997;**23**(6):1041-53. doi: [10.1016/S0191-](#)

- 8869(97)00079-2.
54. Zhang Y, Gan Y, Cham H. Perfectionism, academic burnout and engagement among Chinese college students: A structural equation modeling analysis. *Pers Individ Differ*. 2007;**43**(6):1529-40. doi: [10.1016/j.paid.2007.04.010](https://doi.org/10.1016/j.paid.2007.04.010).
 55. Stoeber J, Kempe T, Keogh EJ. Facets of self-oriented and socially prescribed perfectionism and feelings of pride, shame, and guilt following success and failure. *Pers Individ Differ*. 2008;**44**(7):1506-16. doi: [10.1016/j.paid.2008.01.007](https://doi.org/10.1016/j.paid.2008.01.007).
 56. Conroy DE, Kaye MP, Fifer AM. Cognitive Links Between Fear of Failure and Perfectionism. *J Ration Emot Cogn Behav Ther*. 2007;**25**(4):237-53. doi: [10.1007/s10942-007-0052-7](https://doi.org/10.1007/s10942-007-0052-7).
 57. Hamachek DE. Psychodynamics of normal and neurotic perfectionism. *Psychol J Hum Behav*. 1978;**15**(1):27-33.
 58. Khakpoor Z. *[The comparison of impulsivity, perfectionism and hatred in patients with OCD, eating disorders and normal individuals [master's thesis]]*. Tabriz: University of Tabriz; 2011. Persian.
 59. Pia T, Galynker I, Schuck A, Sinclair C, Ying G, Calati R. Perfectionism and Prospective Near-Term Suicidal Thoughts and Behaviors: The Mediation of Fear of Humiliation and Suicide Crisis Syndrome. *Int J Environ Res Public Health*. 2020;**17**(4):1424. doi: [10.3390/ijerph17041424](https://doi.org/10.3390/ijerph17041424). [PubMed: [32098414](https://pubmed.ncbi.nlm.nih.gov/32098414/)]. [PubMed Central: [PMC7068323](https://pubmed.ncbi.nlm.nih.gov/PMC7068323/)].