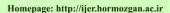


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# Predictive Role of Subjective Well-Being and Cognitive Function in Suicidal Thoughts Among Adolescent Girls

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Article Info	ABSTRACT
Article type:	Objective: The purpose of the present study was to investigate the predictive role of
Research Article	subjective well-being and cognitive function in girls' suicidal thoughts.
Article history:	Methods: The present research method was descriptive-correlation type. The study sample
·	of this research was determined based on the statistical population of high school students;
Received 04 Jan. 2024	Thus, a sample of 150 people was selected through targeted sampling. In this way, all the
Received in revised form 22	students who were diagnosed with psychological disorder in the education counseling center
Mar. 2024	were selected as a sample and studied. Data collection was done based on Molvi et al.'s active
Accepted 15 May. 2024	well-being questionnaire (2009) and Nejati's cognitive ability questionnaire (2009).
Published online 01 Dec. 2024	<b>Results</b> : The findings of the research indicated that vitality and determination exert a negative
	predictive influence, while neuroticism and stress-depression exert a positive and significant
Keywords:	predictive influence on the suicidal ideations of adolescent girls. Additionally, other findings
Subjective well-being,	demonstrated that cognitive performance negatively and significantly predicts the suicidal
Cognitive function,	thoughts of adolescent females referred to counseling centers.
Suicidal thoughts,	Conclusions: These findings may assist psychologists and counselors in the formulation and
Adolescent girls	execution of interventions aimed at suicide prevention.

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## Introduction

The research undertaken within the confines of the nation indicates that the most elevated incidence of suicide transpired within the demographic cohort of 15 to 25 years (Emad & Hadianfard, 2019). Furthermore, as elucidated by various studies, there has been a noteworthy escalation in the prevalence of suicidal behaviors, ideations, and attempts culminating in fatal outcomes across numerous developing nations over the preceding decade (Turecki et al., 2019). A multitude of factors may augment the risk of suicide among adolescents. These risk factors are stratified in a hierarchy from the lowest to the highest risk, categorized into personal, familial, demographic, social environmental factors, and daily stressors (Khaleghpour et al., 2023). Each of these risk determinants can be regarded as contributory to the escalation of suicide attempts and successful suicides. Among the factors associated with a minimal risk of suicide, one may observe a range beginning from minor familial and academic issues, extending to intermittent feelings of despondency devoid of a history of depression in the individual. Moreover, individuals classified as being at moderate risk for suicide often exhibit thoughts of self-harm alongside common manifestations of depression, anxiety, and difficulties in mood regulation (Maleki et al., 2022). Among the various matters deemed as fundamental contributors to suicide attempts, which the current study aims to investigate, is the cognitive performance or capability of adolescents grappling with suicidal thoughts. Cognitive ability encompasses the array of skills and competences related to perception, learning, memory, language, problem-solving, and reasoning (Schneider & Newman, 2015). Cognitive impairments are delineated by significant restrictions in adaptive behavioral functions, which are reflected in conceptual skills, social skills, and functional adaptive competencies (Tang et al., 2018). In an alternate perspective, one may assert that cognitive abilities, as a manifestation of general intellectual capacity, encompass reasoning, problem-solving, planning, critical thinking, comprehension of intricate ideas, and experiential learning, synonymous with the term intellectual reasoning (Peng & Kievit, 2020). Cognitive capacity facilitates the initiation, cessation, or monitoring of activities, adaptability in processing information, logical inference, abstract reasoning, responsiveness to novel conditions and perceptions, sequencing of information, appropriate behavior, acquisition, maintenance, and modification of cognitive cues to accommodate environmental demands, visualization, hypothesis testing, self-regulation, intentional action, and the mitigation of automatic responses, thereby influencing a broad spectrum of behaviors and life circumstances (Nedaee & Hosseinzadeh, 2022). Another significant concern that is regarded as one of the fundamental factors contributing to adolescent suicide is the matter of subjective well-being (De Souza et al., 2018). In a thorough and affirmative perspective, well-being may be articulated as a compilation of positive emotional and cognitive sensations and conditions regarding oneself and the surrounding environment (Cheraghi & NematTavousi, 2020). The concept of subjective well-being constitutes one of the focal points of positive psychology, which has been extensively examined in relation to its nature and methods for enhancement. Subjective well-being is characterized as the attainment of equilibrium between positive and negative emotions along with life satisfaction (Angner, 2010; De Souza et al., 2018; Kahneman & Krueger, 2006). Given that individuals' moods, motivations, and life fluctuations are influenced by emotions, it is imperative to acknowledge the emotional dimension in the lives of individuals grappling with depression. The constituents of subjective well-being encompass pleasant positive emotions (such as happiness, joy, passion, ecstasy, satisfaction, pride, and kindness), unpleasant negative emotions (including guilt and shame, fatigue, anxiety, anger, tension, depression, and hatred), life satisfaction (which includes the desire to alter life satisfaction concerning present life, satisfaction with the past, satisfaction with the future, and other significant perspectives of an individual's life), and satisfaction with the environment (comprising work, family, leisure, health, financial matters, oneself, and other groups) (Kapteyn et al., 2015). In a broad overview, it can be asserted that elevated levels of subjective well-being result in an individual experiencing a more positive emotional state and a greater pleasant effect than a negative emotional state and an unpleasant effect, alongside having positive cognitive evaluations regarding the quality of their life, which holds particular significance, especially among teenagers. In light of the aforementioned insights and the critical significance of secondary school age in shaping future employment and educational opportunities, coupled with the scarcity of research investigating the predictive influence of subjective well-being and cognitive functioning on suicidal ideation among adolescent girls who have sought assistance from counseling centers, the principal inquiry that this research endeavors to address has been formulated: do subjective wellbeing and cognitive function play a pivotal role in the suicidal thoughts of adolescent girls who have been referred to counseling centers?

## **Material and Methods**

The methodology employed in the present research was of a descriptive nature, utilizing the correlation technique, which facilitated the identification of the relationship among the variables of subjective well-being, and cognitive function as predictor variables, alongside suicidal thoughts as criterion variables, through the application of the correlation coefficient. Furthermore, an endeavor was made to ascertain the predictive relationship of the criterion variables based on the predictor variables via regression analysis. The statistical population for this study comprised all female secondary school students enrolled in educational institutions within Qeshm city in 2022, who were referred to the educational counseling center due to psychological disorders. A sample of 150 individuals was selected utilizing purposive sampling. In this manner, all students diagnosed with psychological disorders at the educational counseling center were chosen as a sample for the study.

The inclusion criteria encompassed the following; enrollment of female high school students, as well as a willingness to partake in the research endeavor. Conversely, the exclusion criteria included: any disruption in the research process and a lack of desire to continue participating in the research proceedings.

The measurement instruments employed in the research consisted of the subjective well-being questionnaire developed by Moolavi et al., the cognitive ability questionnaire, and the suicidal thoughts questionnaire authored by Aaron Beck.

The subjective well-being questionnaire: This scale devised by Moolavi et al. (2010). It comprises 39 items with five response options (completely false = 1, somewhat false = 2, neutral = 3, somewhat true = 4, completely true = 5) that evaluates the degree of mental well-being. The instrument encompasses four subscales, which are: 1) Vitality subscale, 2) Willpower subscale (the summation of these two subscales constitutes positive emotions), 3) Neuroticism subscale, and 4) Stress-depression subscale (the summation of these two subscales represents negative emotions). This questionnaire encompasses two principal dimensions of positive emotions (inclusive of the vitality and will subscales) and negative emotions (comprising the neuroticism and stress-depression subscales), with the number of items associated with each dimension delineated as follows:

Vitality subscale: 13 items (items 2, 3, 10, 14, 18, 19, 20, 22, 23, 25, 26, 27, and 32)

Willpower subscale: 10 items (items 5, 6, 8, 29, 30, 31, 34, 36, 37, and 38)

Neuroticism subscale: 10 items (items 1, 7, 9, 11, 13, 15, 16, 17, 21, and 24)

Stress-depression subscale: 6 items (items 4, 12, 28, 33, 35, and 39)

In the process of scoring, the aggregate of the scores pertaining to items associated with a specific subscale is computed and subsequently divided by the total number of items within that subscale. Through this methodology, the scores for the four subscales of vitality, willpower, neuroticism, and stress-depression are derived on a five-point scale. The score reflecting positive emotions is calculated from the summation of the scores related to vitality and willpower, while the score indicative of negative emotions is derived from the combination of the scores pertaining to neuroticism and stress-depression, measured on a ten-point scale.

The content validity of this particular questionnaire has been substantiated through the endorsement of several esteemed psychology professors, in accordance with the utilization of validated questionnaires for the compilation of questions. In the investigation conducted by Moolavi et al. (2010), the reliability was assessed using the Cronbach's alpha coefficient, which served as an indicator of the internal consistency of all questions, yielding a value of 0.96. Furthermore, the respective Cronbach's alpha coefficients for the subscales of vitality, willpower, neuroticism, stress-depression, positive emotions, and negative emotions were determined to be 0.93, 0.88, 0.90, 0.84, 0.95, and 0.92. The internal consistency of this assessment instrument for adolescents was calculated to be 0.84. The diagnostic validity of the questionnaire was also affirmed based on the comparative analysis between two distinct cohorts: patients and healthy individuals.

Cognitive ability questionnaire: The instrument was developed by Nejati (2013) and comprises 30 items. This questionnaire encompasses seven subscales, which include the following dimensions: memory, selective attention and inhibitory control, decision making, planning, sustained attention, social cognition, and cognitive flexibility. The scoring system is delineated from (1) to almost always (5). Nejati (2013) executed this questionnaire through three independent cross-sectional studies involving a total of one thousand and ninety-five participants (444 males and 651 females). To finalize the preliminary version of the questionnaire for exploratory factor analysis, 50 individuals participated in a test-retest study with a time interval ranging from three

weeks to one month, aimed at determining the reliability of the questionnaire, alongside 181 elderly and 224 young individuals for the assessment of the construct validity of the instrument. For the analysis of data, various statistical tests were employed, including factor analysis, Smirnov's Kolmogorov test, and Pearson's correlation test. The Cronbach's alpha coefficient for the questionnaire was established at 0.83, and the correlation between the two tests was found to be significant at the 1% level. All scales, with the exception of social cognition, exhibited a correlation with GPA at the 1% level. The t-test revealed a statistically significant difference across all test indicators, excluding planning and social cognition. The validity and reliability of the questionnaire designed to assess cognitive functions is regarded as satisfactory.

Suicidal Thoughts Questionnaire: This questionnaire was developed by Beck et al. (1979). This measurement tool comprises 19 items. The inquiries contained within this scale assess elements such as a wish for death, an active and passive desire to end one's life, the duration and frequency of suicidal thoughts, the perception of self-control, factors that may inhibit suicidal actions, and an individual's level of preparedness to engage in suicide. The Beck's suicidal ideation assessment includes five queries referred to as screening questions. Should the responses suggest either an active or passive inclination toward suicide, the respondent is required to proceed to the subsequent 14 questions. Furthermore, the suicidal ideation questionnaire is structured around three components: the desire to die, the preparation for suicide, and the aspiration for actual suicide. Beck's suicidal ideation scale demonstrates high reliability. Utilizing the Cronbach's alpha methodology, the coefficients range from 0.87 to 0.97, and employing the test-retest approach, the reliability of the assessment is determined to be 0.54. Foroughan et al. (2021) conducted an evaluation of the reliability and validity of this scale in a study involving 100 male participants aged between 15 to 28 years. The findings indicated that the Beck scale exhibited a correlation of 0.76 with the Kohlberg depression scale, while the validity of the scale was established at 0.95 via Cronbach's test and 0.75 through the splitting method. Consequently, this scale possesses internal validity, test-retest validity, and concurrent validity.

### **Results**

Descriptive findings derived from the data are systematically presented in Tables 1 and 2. According to the information acquired from the table, the average memory score is 15.11, selective attention and inhibitory control score is 13.58, decision-making score is 17.15, planning score is 12.46, sustained attention score is 16.53, social cognition score is 11.28, cognitive flexibility score is 10.24, and the average cognitive performance score is 96.35. Furthermore, taking into account that the values of skewness and kurtosis of the data range between +2 and -2, it can be concluded that the data exhibit a normal distribution at the significance level of 0.05. According to the information obtained from Table 2, the average vitality score is 24.27, willpower score is 27.43, neuroticism score is 29.36, and the average stress-depression score is 16.60. Additionally, considering that the values of skewness and kurtosis of the data are between +2 and -2, it can be concluded that the data demonstrate a normal distribution at the significance level of 0.05. Based on the information derived from Table 3, the average score for suicidal thoughts is recorded as 47.64. Furthermore, taking into account that the values of skewness and kurtosis are within the range of +2 and -2, it can be asserted that the data exhibit a normal distribution at the significance level of 0.05.

Table 1. Statistical description of cognitive function variable scores

Variable	Skewness	Kurtosis	Mean	SD
Memory	0.212	0.226	15.11	3.193
Selective attention and inhibitory	-0.408	0.298	13.58	3.159
Decision-making	0.107	0.703	17.15	3.161
Planning	0.512	0.451	12.46	3.200
Sustained attention	-0.160	-0.655	16.53	3.333
Social cognition	-0.598	0.782	11.28	3.153
Cognitive flexibility	0.393	0.571	10.24	2.847
Cognitive performance	-0.796	1.127	96.35	11.729

Table 2. Statistical description of subjective well-being variable scores

Variable	Skewness	Kurtosis	Mean	SD
Vitality	0.052	0.115	34.27	5.438
Willpower	-0.391	0.327	27.43	3.318
Neuroticism	0.194	0.484	29.36	4.515
Stress-depression	-0.606	0.324	16.60	3.478

Table 3. Statistical description of variable scores associated with suicidal thoughts

Variable	Skewness	Kurtosis	Mean	SD
Suicidal thoughts	-0.629	1.118	47.64	4.814

To predict the suicidal thoughts of adolescent females based on their subjective well-being, a multiple regression analysis was employed. The outcomes of this analysis are duly presented in Tables 4 and 5.

Table 4. Summary of regression results to predict suicidal thoughts of teenage girls based on subjective well-being

Indices	SS	DF	MS	F	P	R	$R^2$	D-W test
Regression	7989.890	4	1997.472	30.246	0.001	0.674	0.455	1.737
Residual	9575.850	145	66.040	30.240	0.001	0.074	0.433	1./3/
Total	17565.740	149						

In accordance with the findings presented in Table 5, the multiple correlation coefficient between the independent variable and the dependent variable is determined to be 0.674. Furthermore, the coefficient of determination (R squared) is ascertained to be 0.455, which signifies the extent of explanation of variance and alterations in suicidal thoughts attributable to subjective well-being. The Durbin-Watson test was employed to assess the independence of the residuals. As per the results delineated in the table 4, the Durbin-Watson statistic is recorded at 1.737, and given that this value resides within the range of 1.5 to 2.5, it can be inferred that the premise of independence of the residuals has been satisfied. Based on the results enumerated in the table 4, the F value derived is equal to 246.30, which is deemed significant at an alpha level of less than 0.01, thereby indicating that subjective well-being possesses the capacity to elucidate the variations associated with suicidal thoughts and demonstrates the suitability of the presented regression model.

Table 5. Regression coefficients for predicting suicidal thoughts through subjective well-being

Indices	Unstandardi	zed coefficients	Standardized coefficients T value		D	Collinearity		
muices	В	Std.error	Beta	1 value	Г	Tolerance	VIF	
Constant	36.963	3.778		9.784	0.001	Tolerance	VIL	
Vitality	-0.787	0.259	-0.249	-3.040	0.003	0.528	1.893	
Willpower	-0.671	0.271	-0.217	-2.476	0.014	0.489	2.045	
Neuroticism	0.948	0.287	0.304	3.297	0.001	0.443	2.255	
Stress-depression	0.567	0.277	0.194	2.045	0.043	0.416	2.405	

In accordance with the findings displayed in Table 5, the tolerance statistic value exceeds the threshold of 0.1, and the variance inflation factor (VIF) statistic is below the critical value of 10, leading to the conclusion that there exists no breach of the assumption of collinearity. The standardized regression coefficient (Beta) for vitality is quantified at -0.249, for will it is recorded

at -0.217, for neuroticism it is noted at 0.304, and for stress-depression it is measured at 0.194. Based on the value of the t statistic obtained, which is significant at an alpha level of 0.05, it is concluded that vitality and will exert a negative influence, whereas neuroticism and stress-depression exert a positive and significant influence on the suicidal thoughts of teenage girls, indicating a need for referral to counseling centers.

In order to forecast the suicidal thoughts of teenage girls predicated upon their cognitive performance, a multiple regression analysis was conducted. The results are encapsulated in Tables 6 and 7.

According to the findings illustrated in the table 6, the multiple correlation coefficient between the independent variable and the dependent variable is established at 0.694. Additionally, the coefficient of determination (R-squared) is determined to be 0.482, which reflects the degree of explanation of variance and changes in suicidal thoughts attributed to cognitive function. The Durbin-Watson test was utilized to examine the independence of the residuals. According to the findings presented in the table 6, the Durbin-Watson statistic value is recorded at 1.890, and considering that this value lies within the spectrum of 1.5 to 2.5, it can be concluded that the assumption of independence of the residuals has been fulfilled.

**Table 6**. Summary of regression results to predict suicidal thoughts of adolescent girls based on cognitive performance

performance										
Indices	SS	DF	MS	F	P	R	$\mathbb{R}^2$	D-W test		
Regression	2212.954	7	316.136	20.607	0.001	0.694	0.482	1.890		
Residual	2178.481	142	15.341							
Total	4391.435	149								

Based on the findings presented in Table 6, the derived F value is determined to be 20.607, which is markedly significant at an alpha level of less than 0.01. This indicates that cognitive function serves as a substantial explanatory variable for the variations associated with suicidal ideation, thereby affirming the validity of the proposed regression model.

Table 7. Regression coefficients for the prediction of suicidal ideation through cognitive function

Indices		ndardized ficients	Standardized coefficients	T	P	Collinearity	
	В	Std.error	Beta	value		Tolerance	VIF
Constant	38.063	6.030		6.312	0.0001	0.562	1 700
Memory	-0.161	0.072	-0.109	-2.249	0.025	0.562	1.780
Selective attention and inhibitory	-0.157	0.071	-0.105	-2.166	0.031	0.563	1.777
Decision-making	-0.366	0.078	-0.245	-4.773	0.001	0.501	1.996
Planning	-0.177	0.077	-0.120	-2.291	0.022	0.480	2.083
Sustained attention	-0.168	0.056	-0.118	-3.001	0.003	0.848	1.180
Social cognition	-0.251	0.083	-0.167	-3.007	0.003	0.428	2.337
Cognitive flexibility	0.194	0.068	-0.117	-2.860	0.004	0.795	1.258

In accordance with the findings delineated in Table 7, the value of the tolerance statistic exceeds the established cut-off threshold of 0.1, while the variance inflation factor (VIF) statistic is below the critical value of 10, leading to the conclusion that there is no infringement upon the assumption of collinearity. The standardized regression coefficients (Beta) for memory are recorded at -0.109, for selective attention and inhibitory control at -0.105, for decision-making at -0.245, for planning at -0.120, for sustained attention at -0.118, for social cognition at -0.167, and for cognitive flexibility at -0.117. Based on the t-statistic value obtained, which achieves significance at the alpha level of 0.05, it is deduced that cognitive function serves as a negative and significant predictor of suicidal thoughts among adolescent females seeking assistance at counseling centers.

#### **Discussion**

The results of the study indicated that vitality and willpower serve as negative predictors, whereas neuroticism and stress-depression function as positive and significant predictors of suicidal ideation among adolescent females referred to counseling centers. Previous research corroborates this finding, aligning with the studies conducted by <u>Juhl and Routledge (2015)</u>, <u>Zhang and Li (2013)</u>, <u>Hedström et al. (2021)</u> and <u>Bronisch (1996)</u>.

In elucidating the importance of forecasting self-harming ideations in teenage girls referred to counseling centers based on their subjective well-being, it can be articulated that psychological health and security, in conjunction with an optimal level of functional well-being across various cognitive, emotional, and social dimensions, can substantially enhance the functional stability of individuals across different life spheres.

When an adolescent lacks adequate emotional, cognitive, and communicative well-being, coupled with a belief that the prevailing stressful circumstances are insurmountable and beyond their management capabilities, the propensity for engagement in self-harming behaviors is significantly heightened. Indeed, remaining entrenched in emotional and psychological turmoil, while simultaneously lacking assurance in one's role in alleviating it, constitutes a factor that progressively engenders a sense of hopelessness and obstructs all avenues for ameliorating one's circumstances. Numerous individuals grappling with suicidal ideations often repudiate their responsibility for the predicaments they encounter and maintain the conviction that even if they were to take action, they would be incapable of alleviating the existing distress. It is such deleterious beliefs that compel individuals, particularly adolescents, to entertain suicidal thoughts—thoughts which, if perpetuated and exacerbated, may culminate in suicide, thereby entirely precluding the individual from the opportunity to experience life.

Adolescents exhibiting a high degree of active and functional well-being, who possess confidence in their ability to confront life's challenges and enhance their situations, are less susceptible to maladaptive coping strategies, such as self-harm, and are more inclined to employ effective strategies to navigate their adversities. It is anticipated that by augmenting the subjective well-being of adolescents affected by suicidal tendencies and elevating their confidence in problem-solving capabilities, the emergence of suicidal ideations and pessimistic outlooks can be effectively thwarted. Even in instances where such thoughts persist, it may contribute to their resolution.

Furthermore, the findings of the investigation revealed that cognitive functioning serves as a negative and significant predictor of suicidal ideation among adolescent females who have been referred to counseling facilities. Investigative studies indicate that this outcome aligns with the findings of the studies conducted by <u>Heisel et al. (2002)</u> and <u>Jahn et al. (2015)</u>.

In elucidating the importance of predicting suicidal thoughts among adolescent females referred to counseling centers based on their cognitive capabilities, it can be articulated that adolescents experiencing suicidal ideation exhibit suboptimal cognitive performance. This implies that their capacity for cognitive analysis concerning various issues is markedly diminished, rendering them unable to manage their thoughts effectively. The inability to govern one's mental beliefs and

thoughts precipitates the incessant emergence of negative thoughts within this demographic, enveloping their entire cognitive landscape.

The intrusion of negative thoughts into the psyche is a natural occurrence; however, becoming engulfed by them is an aberration that progressively leads an individual to endure a spectrum of psychological challenges and discomforts. Such discomforts, if left unmanaged and unregulated, may ultimately propel an individual toward the precipice of despair. Suicidal thoughts and considerations of life termination, when they infiltrate an individual's cognitive domain, can, in the absence of adequate control and management, become entrenched within their mental framework, thereby obstructing the attainment of cognitive security. Adolescents grappling with suicidal ideation not only lack the capacity to dictate the nature of thoughts inhabiting their mental sphere, but their cognitive aptitude to confront negative thoughts is also significantly compromised.

Consequently, rather than engaging with and constructively substituting these thoughts, they may find themselves increasingly overwhelmed and entangled within them, a condition that can exacerbate these thoughts and ultimately culminate in self-harm. It is imperative that the degree of control possessed by suicidal adolescents over their cognitive realm is substantially augmented. This should occur to the extent that they can ascertain the nature of their thoughts and effectively manage them upon encountering negative cognitions, thereby mitigating their persistence. With the implementation of such a procedural approach, one may anticipate a reduction in the frequency, intensity, and duration of suicidal thoughts within this demographic, fostering greater emotional and cognitive stability.

## **Research limitations**

- The execution of the aforementioned research within the city of Qeshm constrains the extrapolation of the results to alternative contexts and cultural settings.
- The exclusive focus of the research on high school students, while omitting individuals from other educational tiers, constitutes an additional limitation that somewhat impedes the generalizability of the findings.

## **Research Proposals**

It is recommended that the subsequent topics be duly considered in forthcoming research endeavors:

- Investigating the predictive significance of subjective well-being and cognitive functioning in relation to suicidal ideations among adolescent females in diverse contexts and cultural settings.
- Investigating the predictive significance of subjective well-being and cognitive functioning in relation to suicidal ideations among young females.
- Investigating the predictive significance of subjective well-being and cognitive functioning in relation to suicidal ideations among adolescent males.
- A comparative analysis of subjective well-being and cognitive functioning between teenagers exhibiting suicidal ideations and those who do not.

## **Practical Suggestions**

- It is proposed that counseling and psychotherapy centers operating at the educational level, when engaging with adolescents experiencing suicidal thoughts, should aim to diminish both the frequency and intensity of such thoughts by enhancing their subjective well-being and cognitive functioning, thereby improving their performance across various aspects of life, particularly in the realm of education.
- It is proposed that counseling and psychotherapy centers functioning at the community level, when addressing the needs of adolescents with suicidal ideations, should focus on augmenting their cognitive functioning through a range of educational and therapeutic initiatives. Such factors, in which disruption plays a substantial role in the escalation and persistence of suicidal thoughts, may be mitigated or diminished, consequently reducing the incidence of self-harm and its likelihood within this demographic.

## Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

#### **Ethics statement**

The studies involving human participants were reviewed and approved by the ethics committee of Islamic Azad University. The patients/participants provided their written informed consent to participate in this study.

#### **Author contributions**

All authors contributed to the study conception and design, material preparation, data collection, and analysis. All authors contributed to the article and approved the submitted version.

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#### **Conflict of interest**

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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