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Examining the Relationship between Guilt and Self-Blame with the Mediating Role of Loneliness in Creating Self-Harming Behaviors in Adolescents

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Abstract

Introduction: Self-injurious behaviors in adolescents are common among different cultures, and adolescents are more prone to self-harm than other age groups. This study was conducted to investigate the relationship between guilt and self-blame and the mediating role of loneliness in creating self-harming behaviors in adolescents.

Method: This research employed a descriptive-correlational approach, utilizing a cross-sectional research method and Structural Equation Modeling (SEM). The statistical population of the research comprised all adolescent boys and girls living in Isfahan from July to October 2023. The sample size included 304 individuals. Clinics were selected using available sampling method and people were selected using simple random sampling method. The utilized tools for data collection included the Guilt Questionnaire, List of Behavioral problems BPI-01, Russell Loneliness Questionnaire (UCLA), and Self-Criticism Scale (FSCRS) scale. The research utilized SPSS version 27 for conducting descriptive statistics and SmartPLS version 3 for path analysis. Sobel's test was used to assess the significance of the mediator variable, with the significance level set at 0.05.

Results: The results of the study demonstrated that guilt affected self-harming behaviors directly and significantly (β =0.34, P<0.01). Self-blame had no significant effect on self-injurious behaviors (β =0.05, P=0.098); moreover, guilt positively and significantly affected loneliness (β =0.68, P<0.01). In addition, self-blame positively affected loneliness (β =0.24, P<0.01). Finally, the loneliness variable also had a positive, significant effect on the variable of self-harming behaviors (β =0.57, P<0.01). The results of the present research revealed that guilt and self-blame with the mediating role of loneliness had a significant effect on creating self-harming behaviors in adolescents.

Conclusion: The findings of the current research emphasize the importance of guilt and loneliness with the occurrence of self-harm behaviors and show that adolescents who have a high sense of guilt and blame increase the probability of self-harm behaviors when they are alone. The awareness of psychologists, counselors and specialists about this issue can be helpful to deal with and prevent self-harming behaviors in teenagers.

Keywords: Guilt, Self-Blame, Loneliness, Self-Harming Behaviors, Adolescents

Introduction

The transition from childhood to adolescence is associated with environmental pressures and psychological changes, and while most of the teenagers pass this stage without any problems, some others may engage in behaviors to get rid of situational and psychological

pressure [1]. Self-harm behaviors, also known as Non-Suicidal Self-Injuries (NSSIs), refer to any deliberate act of self-injury or self-harm without the intent to die. This can include cutting, burning, hitting oneself, or any other behavior that results in physical harm [2]. NSSI is associated with several psychological problems, which increase the risk of committing suicide [3]. Previous studies reported a prevalent rate of self-injury behaviors in adolescents, with an 18% lifetime prevalence for the samples across the world [4].The estimated lifetime prevalence rate of NSSI was 4.86%. Younger age, growing up without biological parents in the household, being unmarried, and impoverished backgrounds were associated with NSSI. The majority of respondents with lifetime NSSI (63.82%) had at least one current psychiatric disorder [5]. Research results showed that NSSIs is done with different motives; 80% to deal with anger, 72% to relieve stress and 78% to deal with uncomfortable emotions [6].

One of the unpleasant emotions that play a potential role in self-harm in adolescents is guilt, which is related to one's behavior and negative evaluation [7].Guilt is a painful, unavoidable and sometimes destructive emotion, and the way of dealing with and regulating this emotion undoubtedly plays an important role in the adaptation and mental and physical health of adolescents [8]. Guilt refers to the perception that negative experiences are attributed to internal, stable, and uncontrollable causes, which may prevent adolescents from seeking external help and support and lead them to self-harm [9]. Shame and guilt, as negative and uncompromising emotions, are associated with psychological problems in adolescents, including depression, suicide, social anxiety, bipolar disorder, and low levels of self-compassion [10]. Research suggests that generalized guilt may be uniquely associated with suicidal ideation and self-harm, and that this association may be exacerbated by shame [11].

Also, among teenagers, sometimes the comparison between the real self and the ideal self on one hand, and the comparison between themselves and other peers on the other hand, causes teenagers to self-blame by observing their inability to achieve what they want, and sometimes this blame becomes so intense that the teenager engages in risky behaviors to deal with it [12]. Self-blame is a form of rumination and negative repetitive thinking aimed at self-devaluation, and adolescents with high levels of self-blame have harsh punitive appraisals and a great deal of shame about aspects of their personality and behavior [13]. In a study, it was stated that low self-esteem, and self-blame coping styles, affect the risk of NSSI [14]. Studies have also shown that self-blame is associated with increased distress [15].

In addition, loneliness, which is common in late adolescence and early adulthood (16 to 24 years old), is a negative and unpleasant emotional experience and occurs when a person has a disagreement between the quantity or quality of their real and desired relationships. It can increase the risk of serious mental health problems in adolescents [16]. Loneliness, defined as an emotional and unwanted feeling or loss of definition, is associated with the risk of self-harm and suicide in adolescents and is associated with risky health behaviors such as alcohol and drug use [17]. The results of a study showed that loneliness may be considered as a risk factor for self-harm [18]. In a study, it was also stated that severe loneliness is associated with an increased likelihood of self-harm among teenagers [19].

In general, self-harm is one of the problems of adolescence that leaves many psychological and social damages. In most cases, it is a hidden behavior that is difficult to identify, and as one of the methods of coping with life pressures, it may remain for a long time [1]. Therefore, addressing the issues that are effective in the emergence of self-harming behaviors in teenagers is of particular importance. According to the existing research gap in this field, the present study is one of the first studies conducted in this field with the aim of investigating the mediating role of loneliness and the relationship between guilt and self-blame in creating self-harming behaviors in adolescents. The illustration of the theoretical framework for this study can be seen in Figure 1.

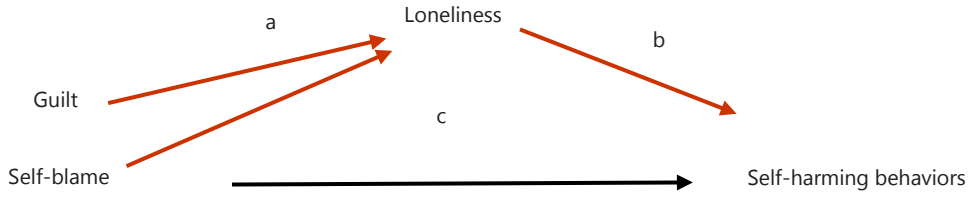

Figure. 1: Conceptual framework of the research.

Method

This research employed a descriptive-correlational approach, utilizing a cross-sectional research method and Structural Equation Modeling (SEM).

The statistical population of the research comprised all adolescent boys and girls living in Isfahan from July to October 2023. The statistical population of the study contained five psychology clinics (psychology clinics A, B, C, D, E) in Isfahan. The clinics remained anonymous for the sake of protecting their information.

Clinics were selected using available sampling method and individuals were selected using simple random sampling method. In the sampling procedure, first, a list of all adolescents ranging from 14 to 18 years of age who

filled a psychological file in the targeted clinics in this research was obtained. In the next step, a sample of the qualified individuals was selected randomly. A sample size of 350 attendees was determined based on Cohen's formula from 2013, taking into account the number of observed and latent variables, the expected effect size, and the desired probability and statistical power levels [20]. This calculation helped determine the appropriate sample size for the SEM analysis. Calculated values for the sample size include:

Anticipated effect size: 0.3
Desired statistical power level: 0.8
Number of latent variables: 4
Number of observed variables: 139
Probability level: 0.01

Based on the values mentioned above, the researcher determined 290 individuals for the study. To account for potential attrition in the sample group, the researcher increased the number to 350 to ensure sample size retention.

The criteria for entering the study were informed consent, answering all questions (in case of not answering more than four questions, people were excluded), sufficient literacy to understand the material, having a counseling and psychology file in the researched psychology clinics, and the age of the people between 14 and It was 18 years. The exclusion criteria included having any disorder that prevented answering, not completing all the questionnaires and unwillingness to continue participating in the research.

Four variables of guilt, self-blame, loneliness, and self-harming behaviors were assessed in each of the subjects in the sample population. After questionnaire data collection ended, 46 questionnaires were omitted from the analysis process due to not answering five or more questions. Hence, the number of studied samples reached 304 participants, and the data from 304 attendees were analyzed. Complying with the ethical principles, the researcher distributed a willingness-to-cooperate form before administering the questionnaires; it was clarified that there was no obligation to take part in the research study and continue it. The participants were reassured of the voluntary the participation and that they could refuse to continue the study at any time. They were also informed that no identity information would be obtained. Finally, the obtained data were analyzed using SPSS version 27 software along with Smart PLS 3 software through structural equation modeling. Statistical findings of the study were considered to be significant at the level of 0.05. The SPSS software was used to calculate the descriptive statistics in the present research. At the same time, the researcher adopted structural equation modeling to examine the path coefficients and mediating variables. Bootstrapping was also attended to check the significance of the model. The Sobel test was used to check the significance of the mediating variables.

The tools used in this study were as follows:

Russell Loneliness Questionnaire (UCLA): This questionnaire was developed by Russell, Pilova, and Cortona in 1980, and the underlying intention behind providing the questionnaire was to examine the feeling of loneliness in adolescents [21]. This Questionnaire (UCLA) has 20 questions all of which include 10 negative questions along with 10 positive questions. The questionnaire is rated on a Likert scale including four levels. Attendees' total scores range from a minimum of 20 to a maximum of 80, and that higher scores account for more loneliness. In general, in this questionnaire, it never has a score of (1), rarely has a score of (2), sometimes has a score of (3), and always has a score of (4). A score exceeding the average indicates intense loneliness. The reliability of this test has been tested through the internal consistency method and the retest method. The reliability value of the test by the retest method was reported by Russell, Pilova and Ferguson (1978) as 89%. Similarly, the reliability of the scale in a research in Iran by Hojat (1982) was obtained with Cronbach's alpha method of 0.88 and 0.89 [22]. Likewise, the obtained Cronbach's alpha value in this research was equal to 0.981. Similarly, to further investigate the reliability of this scale, the Composite Reliability index was also used and its value was 0.987. In order to check the validity of the scale, the value of Average Variance Extracted was also checked and its value was found to be 0.97.

Guilt Questionnaire: The guilt questionnaire is a self-assessment instrument provided concerning the field of guilt by Kugler and Jones (1992)[23]. The scale comprises 45 items rated on a five-point Likert scale (from completely agree to completely disagree). The obtained scores must be added up. It should be noted that a score between 45 and 75 indicates a low-guilt person, between 75 and 150 indicates an average person and a score above 225 represents a high-guilt person. The scores range between 45 (minimum) and 225 (maximum). The initial reliability and validity of the test have been reported by its developers, so Cronbach's alpha coefficient in the initial version was 0.88. Likewise, the reliability of the scale in a research in Iran by Daryani and Marashi (2021) was obtained with Cronbach's alpha method as 0.757 [24]. In the study at hand, the reliability of this scale was 0.917, resulting from Cronbach's alpha method. Similarly, to further investigate the reliability of this scale, the Composite Reliability index was also used and its value was found to be 0.928. In order to check the validity of the scale, the value of AVE was also checked and its value was found to be 0.97.

List of behavioral problems BPI-01: In the present research, Johannes Rohan's (2001) scale of behavioral problems was utilized to assess the amount of self-harming behaviors [25]. The questionnaire consists of 52 items rated on a four-point Likert scale. Participants' scores on this scale range from 52 (minimum) to 208 (maximum), and the higher the score of a person on this scale, the more self-harming behaviors a person exhibits. In general, in this questionnaire, 'never' has a score of (1), 'rarely' has a score of (2), 'sometimes' has a score of (3), and 'always' has a score of (4). Similarly, the reliability of the scale in a research in Iran by Kookalani (2020) was obtained with Cronbach's alpha method as 0.89 [26] .

Likewise, the Cronbach's alpha value in this study was equal to 0.893. In this scale, the Composite Reliability index was equal to 0.912. In order to check the validity of the scale, the AVE value was also equal to 0.96.

Self-Criticism Scale (FSCRS): This scale was developed by Gilbert et al. in 2004 [27]. It consists of 22 items rated on a five-point Likert scale (Strongly Disagree= 0, Strongly Agree= 4), which measures how people think and feel about themselves when things are not going well. The range of scores is between 0 (minimum) and 88 (maximum). Higher scores on the scale imply a more self-critical person. The Cronbach's alpha value reported by the developers was 0.86; also, its content validity was confirmed (Gilbert et al., 2004). In Iran, Sadati et al. (2019) confirmed the content validity of the scale at 0.74 and reported the reliability of the scale as 0.69 and 0.81, respectively, using Cronbach's alpha and retest methods (Sadati et al., 2019). Similarly, the reliability of the scale in a research in Iran by Ghahremani et al. (2020) was obtained by Cronbach's alpha method from 0.9 to 0.86 [28] . The researcher also re-examined the scale's Cronbach's alpha value, equal to 0.912. In this scale, the Composite Reliability index was equal to 0.938. In order to check the validity of the scale, the AVE value was also equal to 0.98.

Results

In the first stage, the researcher explored the descriptive statistics of the research variables. In terms of average age, the participants were divided into three age groups: 15-14, 16-17, and 17-18 years of age; on the other hand, the percentage of participants included in each of these groups was 38.5%, 43.1%, and 18.4%, respectively. Regarding gender, the participants were grouped into two main categories: male (48%) and female (52%). In terms of education, the participants were divided into four groups: ninth grade (29.6%), tenth grade (35.9%), eleventh grade (13.2%), and twelfth grade (21.4%).

Table 2 shows the average scores of guilt, self-blame, loneliness, and self-harming behaviors, respectively.

In the next step, the researcher investigated the assumptions of the test: Kolmogorov-Smirnov test was administered to check the normality of the data distribution of the research variables, and since this test indicated significance for the research variables as a result, the research variables did not confirm a normal distribution. When the significance level of Kolmogorov-Smirnov or Shapiro-Wilk test is less than 0.5, the research variables do not have a normal distribution. Since the path analysis between variables is based on regression and one of the most important presuppositions of the regression test is the normality of the distribution of the variables, it is important to confirm this assumption. However, instead of using the CB-SEM method, which is based on covariance analysis, the PLS-SEM method, which is based on variance and does not require the normal distribution of variables, can be used. Therefore, Smart PLS software was used to implement structural equation modeling.

Random Sample: Since the researcher adopted the random sampling method, this assumption was met. Enough Data: The sample size (or the size of the data set) is sufficient to implement the structural equation modeling by the use of the partial least squares method, and its value equals 304 attendees. In the next step, the correlation matrix of research variables was examined:

Table 1: Descriptive Statistics of Variables

Variables		Frequency	Percent	Total	Median
Age	14-15	117	38.5	304	2
	16-17	131	43.1		
	17-18	56	18.4		
Gender	Male	146	48.0	304	2
	Female	158	52.0		
Education	Ninth	90	29.6	304	2
	Tenth	109	35.9		
	Eleventh	40	13.2		
	Twelfth	65	21.4		

Table 2. Descriptive Statistics of Variables

Variables	N	Mean ± SD	Min	Max
Guilt	304	129.07± 66.48	50	220
Self-blame	304	58.86± 17.13	30	85
Loneliness	304	56.92± 17.25	30	79
Self-harming behaviors	304	141.94± 48.38	74	200

Table 3. Tests of Normality

Variables	Kolmogorov-Smirnov	Shapiro-Wilk
	P	P
Guilt	p < ۰.001	p < ۰.001
Self-blame	p < ۰.001	p < ۰.001
Loneliness	p < ۰.001	p < ۰.001
Self-harming behaviors	p < ۰.001	p < ۰.001

As demonstrated in Table 4, the research variables have a significant relationship with each other (P<0.01). Likewise, based on Pearson's correlation coefficient, it can be maintained that the correlation between research variables is strong. On the other hand, the relationship between the variables is positive directionally. This implies that an increase in one variable leads to a rise in another variable as well. After implementing the model, the researcher examined the path coefficients between the research variables, the significance level between the variables, and the T-value between the model variables:
In this research, the researcher set the bootstrap value to 500٠.

Table 4. Correlation Matrix between Research Variables

Row	Variables	1	2	3	4	P
1	Guilt	-	0.71**	0.85**	0.87**	p < ٠.001
2	Self-blame	-	-	0.72**	0.71**	p < ٠.001
3	Loneliness	-	-	-	0.91**	p < ٠.001
4	Self-harming behaviors	-	-	-	-	p < ٠.001

** P<0.01 *P<0.05

Table 5. Standard Research Coefficients in General

Relationship of variables	Path coefficient	P	T-value	Result
Guilt -> Self-harming behaviors	0.34	p < 0.001	5.17	confirmation
Self-blame -> Self-harming behaviors	0.05	P=0.098	1.65	rejection
Guilt -> Loneliness	0.68	p < 0.001	14.18	confirmation
Self-blame -> Loneliness	0.24	p < 0.001	5.36	confirmation
Loneliness -> Self-harming behaviors	0.57	p < 0.001	8.87	confirmation

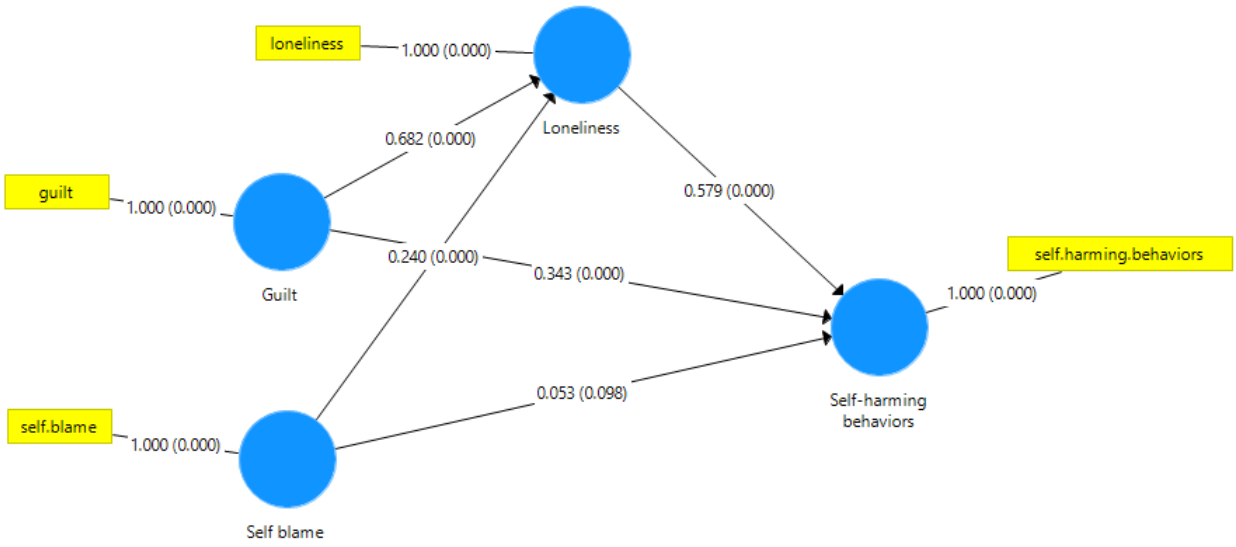

Figure 2. Path coefficients between variables and significance level.

As indicated by the results in Table 5, the path coefficients of the final model are exhibited. Based on the standardized coefficients in Table 5, the direct effect of guilt on self-harming behaviors is significant (β=0.343, P<0.01). The direct influence of self-blame on self-harming behaviors was insignificant (β=0.053, p= P=0.098). Guilt has a positive and significant effect on loneliness (β=0.682, P<0.01). In addition, self-blame has a positive effect on loneliness (β=0.240, P<0.01). In the end, the loneliness variable also had a positive and significant effect on the self-harming behaviors variable (β=0.579, P<0.01). As it is evident, the structural model of the study is confirmed. The standardized beta in regression, known as the path coefficient, is considered weak if it is less than 0.3, moderate if it falls between 0.3 and 0.6, and good if it is above 0.6. Based on this, the path coefficient between guilt with self-harming behaviors and loneliness self-harming behaviors had an average value, similarly, the strength of the path coefficient of self-blame with self-harming behaviors and the path coefficient of self-blame with loneliness had a weak value, but the path coefficient between guilt and loneliness, had a high value.
The researcher made use of the Sobel test to examine the significance of the mediating variable in the study. This test was calculated relying on the following formula. In the Sobel test, if the Z value exceeds 1.96, it can be confirmed that the mediating effect of a variable is significant at the 95% confidence level.

$$Z - value = \frac{a * b}{\sqrt{(b^2 * s_a^2) + (a^2 * s_b^2) + (s_a^2 * s_b^2)}}$$

The Z value for mediation of the loneliness variable for the guilt variable was equal to 7.547139. According to the resulting values in the Sobel test, it can be deduced that the mediating variable of the research is significant. The Z value for the self-blame variable was equal to 4.66047.

According to the values obtained in the Sobel test, it can be concluded that the mediating variable of the research is significant. In the next step, the researcher examined if the model fits:

Table 6. Reliability and Validity of the Model

Variable	Cronbach's Alpha	Composite Reliability	AVE
Guilt	0.91	0.92	0.97
Self-blame	0.91	0.93	0.98
Loneliness	0.98	0.98	0.97
Self-harming behaviors	0.89	0.91	0.96

As it is clear from Table 6, the reliability and validity of the model have been confirmed. Cronbach's alpha reliability of the variables exceeded 0.7. The CR of the mentioned variables also exceeded 0.7. Likewise, convergent validity was attended to using the AVE index. The minimum value of AVE should be 0.5, which means that the latent variable in question explains at least 50% of the variance of its observables. As its value is greater than 0.5 for research variables, it can be concluded that the validity of the model is confirmed.

In the same way, the researcher examined the fit of the model based on Table 7. As it is known, all the fit indices confirm the model fit. The Standardized Root Mean Square Residual (SRMR) index is the difference between the observed correlation and the correlation matrix of the structural model. If the value of this index is less than 0.8, it indicates a good fit for the model. Another fit criterion proposed in SEM is the normed fit index. It calculates the Chi^2 value of the proposed model, but since the Chi^2 value of the model itself does not provide enough information to judge the fit of the model, NFI uses the Chi^2 value of the model as a criterion. NFI is defined as 1 minus the Chi2 value of the proposed model divided by the Chi^2 value of the model. As a result, NFI obtains values between 0 and 1. The closer the NFI is to 1, the better the fit. NFI values above 0.9 usually indicate an acceptable fit.

Table 7. Model Fit

Fit indices	SRMR	NFI	Chi-squared
Research model	0.03	0.95	64.63

Likewise, the researcher adopted blindfolding to examine the model's capability of predicting the research variable. Q^2 or Goodness of Fit values above zero indicate that the observed values are well reconstructed and the model has predictive ability.

In the same way, the researcher checked the goodness of fit of the model using an index called GOF relying on the following formula

$$GOF = \sqrt{\text{average}\,(AVE)} \times \text{average}\,(R^2)$$

The resulting number was equal to 0.86. Since the value exceeded 0.36, it can be concluded that the model has a good fit.

Table 8. Predictive Communication Q^2

Variables	SSO	SSE	Q^2 (=1-SSE/SSO)
Aggressive behavior	304.00	304.00	-
Cell phone addiction	304.00	76.06	0.75
Law breaking behavior	304.00	304.00	-
Self-control	304.00	43.80	0.85

Discussion

In the present research, the relationship between guilt and self-blame with the mediating role of loneliness in creating self-harming behaviors in adolescents was investigated. According to the findings of this research, guilt had directly affected self-harming behaviors in a positive way. This implies that an increase in guilt in adolescents leads to an increase in self-harm behaviors as well. This finding was in line with previous findings in this field. Guilt, as a negative and uncompromising emotion, is associated with self-injurious behaviors in adolescents, including depression and suicide, social anxiety, bipolar disorder, and low levels of self-compassion [10]. Additionally, a recent research suggests that generalized guilt may be uniquely associated with suicidal ideation and self-harm, and that this association may be exacerbated by shame [11]. Likewise, considering the findings of the present study, we can claim that self-blame had no significant effect on self-harming behaviors. This finding was incompatible with previous findings. In a study, it was stated that low self-esteem, and self-blame coping styles, affect the risk of NSSI [14].

The reason why this finding is inconsistent with previous research can be that, in previous studies, self-blame has been associated with several other influential variables such as rumination, catastrophizing and other negative emotions, which increases the amount of self-harm and risky behaviors. While the self-blame variable, although often associated with distressing feelings, alone cannot cause self-injurious behavior [29]. Also, in the explanation of the research, it should be stated that guilt, which is revealed in the form of humiliation and worthlessness, is the core of a person's resistance to recovery and change. The desire of people, including teenagers, to sacrifice and be victimized is the result of the guilt that lies in their hearts, which makes them run away from progress and happiness. The experience of guilt in adolescents is associated with negative physical and psychological

symptoms, which can cause feelings of helplessness and despair, and lead to self-blame and self-harm [30].

Likewise, loneliness was positively affected by guilt and self-blame. It implies that an increase in guilt and self-blame in adolescents leads to an increase in feelings of loneliness as well. This finding was consistent with previous findings. Based on previous research, guilt was positively correlated with self-blame, cognitive personality, blaming others, and self-deprecation. Findings demonstrate that people who are prone to the feeling of guilt are more likely to engage in self-deprecating thoughts, blame their behavior and personality as well as others, and perhaps turn intimacy into something fearful. Consequently, they feel an intense loneliness [31] . The results of a study showed that loneliness may be considered as a risk factor for self-harm [18]. In a study, it was also stated that severe loneliness is associated with an increased likelihood of self-harm among teenagers [19]. Finally, it became clear that the loneliness variable had a mediating role in the relationship between guilt and self-blame. This finding was consistent with previous studies in this field. Previous studies have clarified that loneliness might negatively affect the mental and physical health of adolescents. Adolescent loneliness is associated with a variety of health risk behaviors, including smoking, alcohol consumption, and drug use [17].

In explaining this finding, it should be stated that guilt is an unpleasant feeling that is accompanied by strong self-blame. Sometimes teenagers have negative and inconsistent feelings about themselves due to special circumstances in their family, school, etc., which leads to feelings of guilt and self-blame, and ultimately leads to a feeling of loneliness. This is due to the fact that the main core of loneliness is the subjective and quantitative perception of our relationship with others and the definition of our relationship with others. Therefore, since self-blame and guilt play a decisive role in how these perceptions are perceived, they can have different functions in the occurrence of loneliness [32]. Loneliness, in turn, is associated with more mental health risks and can cause higher stress and lower self-esteem, and with the intensity of loneliness, the ground is provided for high-risk behaviors such as self-harm [16].

Considering that every research has limitations, the current research is not an exception and has its own limitations. The present study was conducted on a sample population of adolescents with self-harming behaviors living in Isfahan. Cautions should be made in the generalization of the findings of this study to other groups and clinical samples. Therefore, it is recommended to use a larger sample size and more diverse age groups in future studies regarding this issue. Self-report and quantitative scales were utilized to gather data; since these instruments are prone to subjective bias and interpretations on behalf of the. The large number of questions in the questionnaire and the tendency of a number of participants to exaggerate the answers in some questionnaire items to build a favorable self-image are other limitations of this research. Therefore, it is recommended to adopt other data-gathering instrumentations such as observation and interview (structured and semi-structured) in future research. In addition, there may be other variables related to self-injurious behavior that have been ignored in this research, such as biological and genetic factors, advertisements and media, social skills, friends and school. It is suggested that researchers in future studies should conduct research by examining the effect of these factors on the occurrence of self-harm behaviors.

Conclusion

The findings of the current research emphasize the importance of guilt and loneliness with the occurrence of self-harm behaviors and show that teenagers who have a high sense of guilt and self-blame, increase the probability of self-harm behaviors when they are alone. According to the results of this study, it is necessary to address the importance of guilt and loneliness and the factors affecting them in educational, social and communication media, so that the general public, especially teenagers involved in self-harm and their families, can make the necessary changes in themselves, create and get the desired vitality. It is also suggested that education counseling centers, by providing social activities for these students, provide conditions to make them feel less lonely. It is also necessary to pay attention to the role of adolescent relationships with others, especially the family and the feeling of loneliness in the sensitive period of adolescence, in psychological counseling for adolescents and their families.

Conflicts of Interest

The authors confirm that the research was carried out without any commercial or financial conflicts of interest

Ethical Approval

The study was approved by the Ethical Committee of Islamic Azad University, Amol Branch (IR.IAU.AMOL.REC. 1402. 205) .

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References

1. Sobhani, S., H. Falahzade, and H. Pourshahriar, Predicting the Tendency to Self-Harming Behaviors in Teenage Girls 13 to 15 Years Old based on Psychological Capital and Family Performance. Journal of Family Research, 2023. 18(4): 755-775. https://dx.doi.org/10.52547/JFR.18.4.755
2. Predescu, E. and R. Sipos, Self-harm behaviors, suicide attempts, and suicidal ideation in a clinical sample of children and adolescents with psychiatric disorders. Children, 2023. 10(4): 725. https://doi.org/10.3390/children10040725
3. Kiekens, G., et al., Non-suicidal self-injury among first-year college students and its association with mental disorders: results from the World Mental Health International College Student (WMH-ICS) initiative. Psychological medicine, 2023. 53(3): 875-886. doi:10.1017/S0033291721002245
4. Poudel, A., et al., Non suicidal self injury and suicidal behavior among adolescents: co-occurrence and associated risk factors.

BMC psychiatry, 2022. 22(1): 96. https://doi.org/10.1186/s12888-022-03763-z
5. Liu, R.T., The epidemiology of non-suicidal self-injury: lifetime prevalence, sociodemographic and clinical correlates, and treatment use in a nationally representative sample of adults in England. Psychological medicine, 2023. 53(1): 274-282. 10.1017/S003329172100146X
6. Abdou, E.A., et al., Methods and functions of non-suicidal self-injury in an adolescent and young adult clinical sample. Middle East Current Psychiatry, 2024. 31(1): 10. https://doi.org/10.1186/s43045-024-00398-6
7. Navya, N., V. Sharma, and M. Ola, The relationship between self harm, shame and guilt: A review. Indian Journal of Mental Health, 2020. 7(1).
8. Parsa, B., et al., The effectiveness of emotion regulation therapy on improvement of shame and guilt emotion and co-rumination in adolescents with self-harm. Rooyesh-e-Ravanshenasi Journal (RRJ), 2023. 12(5): 149-160. https://frooyesh.ir/article-1-4575-en.html
9. León-Moreno, C., et al., Is it my fault? The role of the feeling of guilt in adolescent peer victimization. Frontiers in psychology, 2023. 13: 1089689. https://doi.org/10.3389/fpsyg.2022.1089689
10. Lindgren, B.-M., et al., A necessary pain: A literature review of young people's experiences of self-harm. Issues in mental health nursing, 2022. 43(2): 154-163. https://doi.org/10.1080/01612840.2021.1948640
11. Kealy, D., M.S. Treeby, and S.M. Rice, Shame, guilt, and suicidal thoughts: The interaction matters. British Journal of Clinical Psychology, 2021. 60(3): 414-423. https://doi.org/10.1111/bjc.12291
12. Sajadi, S., et al., The effectiveness of mindfulness-based education on self-blame and working memory in adolescents. Cognitive Psychology Quarterly, 2023. 10(4): 0-0. https://jcp.khu.ac.ir/article-1-3538-fa.html
13. Keshavarz Z, B.N., Aghaee Khajelangi H, Effectiveness of Compassion Focused Therapy on Negative Affect and Self-Blame in Female Students with Failing in Love. . Journal of Research in Behavioural Sciences, 2021 Aug 10. 19(2): 293-303. 10.52547/rbs.19.2.293
14. Kruzan, K.P., J.J. Muehlenkamp, and L. Claes, Identity, self-blame, and body regard in NSSI: A test of moderated-mediation. Comprehensive psychiatry, 2022. 116: 152322. https://doi.org/10.1016/j.comppsych.2022.152322
15. Callebaut, L., P. Molyneux, and T. Alexander, The relationship between self- blame for the onset of a chronic physical health condition and emotional distress: A systematic literature review. Clinical psychology & psychotherapy, 2017. 24(4): 965-986. https://doi.org/10.1002/cpp.2061
16. Jefferson, R., et al., Adolescent loneliness across the world and its relation to school climate, national culture and academic performance. British Journal of Educational Psychology, 2023. 93(4): 997-1016. https://doi.org/10.1111/bjep.12616
17. Geulayov, G., et al., Loneliness and self-harm in adolescents during the first national COVID-19 lockdown: results from a survey of 10,000 secondary school pupils in England. Current psychology, 2024. 43(15): 14063-14074. https://doi.org/10.1007/s12144-022-03651-5
18. Shaw, R.J., et al., Living alone, loneliness and lack of emotional support as predictors of suicide and self-harm: A nine-year follow up of the UK Biobank cohort. Journal of Affective Disorders, 2021. 279: 316-323. https://doi.org/10.1016/j.jad.2020.10.026
19. John, A., et al., Loneliness, coping, suicidal thoughts and self-harm during the COVID-19 pandemic: a repeat cross-sectional UK population survey. BMJ open, 2021. 11(12): e048123. 10.1136/bmjopen-2020-048123
20. Cohen, J., Statistical power analysis for the behavioral sciences. 2013: Routledge.
21. Russell, D.W., UCLA Loneliness Scale (Version 3): Reliability, validity, and factor structure. Journal of personality assessment, 1996. 66(1): 20-40. https://doi.org/10.1207/s15327752jpa6601_2
22. Hojat, M., Psychometric characteristics of the UCLA Loneliness Scale: A study with Iranian college students. Educational and Psychological Measurement, 1982. 42(3): 917-925. https://doi.org/10.1177/001316448204200328
23. Kugler, K. and W.H. Jones, On conceptualizing and assessing guilt. Journal of personality and Social Psychology, 1992. 62(2): p. 318. https://psycnet.apa.org/doi/10.1037/0022-3514.62.2.318
24. Amirbagloie Daryani, M. and M.K. Marashi, Feeling guilty and anxiety in the elderly: the role of Existential Concerns. Aging Psychology, 2021. 7(1): 41-29. https://jap.razi.ac.ir/article_1728.html
25. Baraldi, G.d.S., et al., Translation, adaptation, and preliminary validation of the Brazilian version of the Behavior Problems Inventory (BPI-01). Trends in psychiatry and psychotherapy, 2013. 35: p. 198-211. https://doi.org/10.1590/S2237-60892013000300007
26. Kookalani, Z., M. Bahari, and A. Sanatkaran, The Effect of Eight Weeks of Aerobic Exercise on Self-Harm Symptoms in Adolescent Girls in Karaj. Journal of Applied Psychological Research, 2020. 11(2): 241-253. https://japr.ut.ac.ir/article_77289_9170.html
27. Gilbert, P., R. Durrant, and K. McEwan, Investigating relationships between perfectionism, forms and functions of self-criticism, and sensitivity to put-down. Personality and Individual Differences, 2006. 41(7): 1299-1308. https://doi.org/10.1016/j.paid.2006.05.004
28. Ghahremani Ochghaz, M., et al., Investigating the Psychometric Properties of Self-criticism and Self-reassurance Scale in Iranian Students. Practice in Clinical Psychology, 2020. 8(1): 65-72. URL: http://jpcp.uswr.ac.ir/article-1-689-en.html
29. Mehrabian, T., M. Payvastegar, and J. Sadeghifar, Prediction of suicidal thoughts based on cognitive emotion regulation strategies, perceived social support, self-efficacy, perfectionism, and spiritual health in students at Ilam universities. Journal of Ilam University of Medical Sciences, 2023. 31(3): 20-35. http://sjimu.medilam.ac.ir/article-1-7702-fa.html
30. Kashanaki, H. and M. Keshmiri, The Role of shame and guilt in mental health: Review Study. Rooyesh-e-Ravanshenasi Journal (RRJ), 2019. 8(5): 205-216.
31. Amirbagloie Daryani M, M.M., Feeling guilty and anxiety in the elderly: the role of Existential Concerns. Aging Psychology, 2021 Apr 21. 7(1): 29-41. 10.22126/jap.2021.5827.1480
32. Rostami, S. and B. Jowkar, The relationship between guilt and shame feelings with the dimensions of loneliness: The moderating effect of gender. International Journal of Behavioral Sciences, 2016. 10(1): 24-28. https://www.behavsci.ir/article_67937.html