

Structural Equation Modeling of Suicidal Ideation Based on Victimization and Cyberbullying: The Mediating Role of Coping Skills

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Abstract

Introduction: The present study aimed to investigate the mediating role of coping skills in the relationship between victimization, cyberbullying, and suicidal ideation in adolescents. This descriptive-correlation study employed structural equation modeling.

Method: The study method falls under descriptive and correlative research. The statistical population included all the teenagers living in Bandar Abbas, Iran in 2023-2024. 300 of them were selected via the convenience sampling method. We collected data using the Beck Suicidal Ideation Questionnaire (BSSI), the Lazarus and Folkman Coping Skills Scale (CSQ), and the Cyberbullying/Victim Scale (CBVEQ). The data was analyzed using SPSS 23 and AMOS software.

Results: Structural equation modeling showed that coping skills, victimization, and cyberbullying, directly and indirectly, affect suicidal ideation in adolescents. The evaluation of the hypothetical research model using fit indices revealed a good fit between the model and the measurement (CFI = 0.98, NFI = 0.99, RMSEA = 0.055). The results of this research align with the dual control model, demonstrating that coping skills influence suicidal thoughts.

Conclusion: These findings underscore the importance of both the victim and cyberbullying, in addition to an individual's coping skills for suicidal thoughts.

Keywords: Suicidal Ideation, Bullying, Victim, Cyberbullying, Coping skills

Introduction

Adolescence is a period between childhood and adulthood that lasts from 11 to 20 years old [1]. Adolescents gradually progress in this age period; their needs change compared to childhood, their need for independence increases, and they seek to build their self-concept and values [2]. This period of life is associated with biological, psychological, and behavioral changes, leading to serious emotional reactions [3]. Some of the emotional responses that develop at this age can cause problems and multiple risky behaviors, such as problematic cyber behaviors, violence, and substance abuse [4]. Adolescence is an important stage of development that may be associated with psychological disorders, including depression and suicide [5].

As information technology develops, life becomes more complicated in different aspects. The Internet is one of the most useful products technological advances have given us. Various studies have shown that about 49% of Internet users have been victims of harassment in the form of teasing and harassment on social media [6]. Internet use is associated with a wide range of high-risk online activities, which include cyber harassment and bullying, internet pornography, and internet fraud [7]. This cyberbullying can lead to all kinds of online harassment and intimidation through social media [8].

Online harassment includes a range of offensive behaviors, such as cyberbullying, which refers to aggressive behaviors that cannot happen face-to-face, such as hacking into social

media accounts and sending threatening messages to others. Cyberbullying is a type of intentional behavior that is applied to an individual or a group of people, regardless of their age [6]. Victimization has also been defined as behaviors experienced by a group of people due to being targeted by the bullying behavior of others [9]. Unlike conventional victimization, which mostly happens in schools, cyberbullying and victimization are relatively new phenomena that can happen to teenagers at any time of day or night [10]. Cyberbullying is defined as intentional, aggressive, angry, and repetitive behavior [11].

Today, suicidal ideation among teenagers has been raised as a global public health problem [12]. Suicidal ideation is a condition that implies the occurrence of self-destructive thoughts and includes a range of vague thoughts about ending life to complete suicide [13]. Despite the lack of global epidemiological information for adolescents, suicide is still considered one of the main causes of adolescent death worldwide, and the prevalence of suicide attempts is the highest among adolescents [14].

From the perspective of Folkman and Lazarus, coping is a dynamic phenomenon that reflects the individual's cognitive and emotional actions when facing stress-inducing elements or their consequences. It also refers to managing internal needs and specific external expectations, particularly when these demands exceed the individual's capabilities and challenge their skills. In other words, coping responses are efforts that a person uses to restore balance or eliminate disturbance, and their consequence is problem-solving and coping with the problem of not achieving a solution [14, 15]. Frydenberg and Lewis (1993) believe that problem-oriented and emotion-oriented coping styles are adaptive and help a person adapt to a stressful situation [15].

The prevalence of cyberbullying/victimization among teenagers is between 0.6% and 46.3% and 13.99% and 57.55%, respectively, and the consequences of this abuse include depression, substance abuse, post-traumatic stress disorder, and suicidal thoughts [16]. One of the basic ways to communicate today is using the Internet and social networks; however, the Internet has become one of the most dangerous methods, including cyber harassment, to harm people's feelings [17]. According to recent research, victims of cyberbullying are more exposed to psychological distress, suicidal thoughts, planning, and committing suicide compared to those who do not experience these threats [18].

Van Geel et al. (2014), in a meta-analysis of 43 studies, found that cyberbullying was more strongly associated with suicidal thoughts in adolescents than traditional bullying. Research results show that there is a direct relationship between uncompromising strategies of emotion regulation and suicidal ideation [19]. The growing number of teenagers who commit suicide, become depressed, or resort to substance abuse is a sign of increased stress and the ineffectiveness of their coping strategies in dealing with these stresses [20]. According to studies, if teenagers are not equipped with effective coping strategies and have little ability to understand their own and others' emotions, they will be less able to deal with the stresses and crises of

adolescence and show more behavioral problems in the form of aggression, depression, and anxiety [21]. Due to the fact that various factors affect the longevity of Suicidal Ideation, According to past researches, none of them investigated the mediating role of coping skills in the relationship between victimization and cyberbullying with suicidal ideation in teenagers in the form of a model. Therefore, we are looking for an answer to the question that, do coping skills play a mediating role between the victim and cyberbullying with suicidal thoughts?

Method

This descriptive research employed a structural equation correlation method. The statistical population included male and female high school students in Bandar Abbas, Iran, in 2023-2024. Online questionnaires and convenience sampling methods were employed because it was impossible to administer paper-and-pencil questionnaires to the sample population. In this way, the questionnaires were shared through social networks in groups formed by students in each school with their classmates. After preliminary data refinement and removing distorted and incomplete samples, including missing data, 300 people were finally analyzed. The criteria for entering the study included studying at the secondary level and being willing to participate in the research. The criteria for leaving the study included not wanting to cooperate and completing the questionnaires incompletely or incorrectly. In this research, some ethical principles were observed, including the participants being assured that their information would be confidential and would be analyzed as a group. Before filling out the questionnaires, the subjects were explained about the confidentiality of the results and after obtaining informed consent, they were asked to fill in the questionnaire, if they desired. The response rate was close to 90%. Pearson's correlation coefficient and structural equation modeling (for model fitting) were used to investigate the relationships between variables. The data were analyzed using SPSS 23 and AMOS.

The tools used in this study were as follows:

Cyber Bullying-Victim Experience Questionnaire (CBVEQ):

This questionnaire was designed and created by Antiado et al. in 2016. It contains 24 items, including two subscales of cyberbullying (items 24, 23, 22, 21, 20, 19, 18, 17, 16, 15, 14, 13) and 12 items measuring cyber victimization (items 12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1). The questionnaire is scored on a 5-point scale (1 = never, 2 = once or twice, 3 = sometimes, 4 = most of the time, and 5 = every day). The lowest score is 24, and the highest is 120. Antiado et al. used Cronbach's alpha to determine the questionnaire's reliability. They calculated the coefficients for cyberbullying and cyber victimization to be 0.89 and 0.80, respectively. They assessed the questionnaire's factor validity and found a substantial root mean square estimation error of 0.03 [22]. In Iran, the reliability of the questionnaire was checked using Cronbach's alpha, revealing a coefficient of 0.75 for cyberbullying, 0.78 for cyber victimization, and a total of 0.79 for the questionnaire. The questionnaire's reliability was also checked using the retest method. The correlation

coefficient after a 1-week interval for cyberbullying was 0.63; for cyber victimization, it was 0.69, which is significant at a 0.01 level [23]. The present research has obtained Cronbach's alpha of cyberbullying at 0.87 and cyber victimization at 0.91.

Beck Suicidal Ideation Questionnaire (BSSI): This questionnaire was compiled by Aaron Beck in 1961 and contains 19 questions. The first five questions are screening items, and if active or passive suicide is diagnosed in a person, the next 14 questions must be answered. This questionnaire is scored on a 3-point scale from zero to two. Participants' scores are examined based on their total score, with no suicidal thoughts (score 0-3), low suicidal thoughts (score 4-11), and high-risk suicide thoughts (score 12 or more). This questionnaire consists of three factors: desire to die (the first five questions), readiness to commit suicide (questions 6 to 12), and actual desire to commit suicide (questions 13 to 17). Questions 18 and 19 are related to deterrents for suicide or suicide concealment and are not calculated for any of the three factors mentioned. The validity of this test has been reported as 0.87 to 0.97 using Cronbach's alpha method [24]. In Iran, Anisi et al. (2004), with a study on soldiers, reported the concurrent validity of the scale to be 0.76 and its validity using Cronbach's alpha method to be 0.95.

Lazarus-Folkman Coping Strategies Questionnaire: This instrument was designed and implemented by Lazarus and Folkman (1986). It has 63 statements in two general formats: problem-oriented coping strategy with four subscales (seeking social support, planned problem-solving, positive reappraisal, and responsibility) and emotion-oriented coping with four subscales (confrontational coping, self-control, avoidance, and avoidance). This questionnaire has been used in many studies and different groups to measure coping strategies; therefore, it is considered a standard tool. Questionnaire scoring is done using two raw and relative methods. Raw scores describe coping effort for each of the eight coping types.

While the relative scores describe the proportion of effort made in each type of confrontation, in each scoring method, people respond to each item on a four-point Likert scale, which shows the frequency of each strategy in this way. Zero indicates "not used", one indicates "used

too little", two indicates "used a little", and three indicates "used a lot". This test contains 66 items and measures eight coping scales; each scale includes a set of questions: face-to-face coping, distance seeking, self-restraint and self-control, seeking social support, responsibility, avoidance selection, prudent problem solving, and positive reappraisal.

A person's score on each scale is obtained from his set of points from questions specific to that scale. Data was analyzed using SPSS 23 and AMOS software.

Results

This study's sample included 150 boys (50%) and 150 girls (50%). The participants' average age and standard deviation were 15.32 and 3.20, respectively.

Descriptive statistics indicators are given in Table 1.

Table 1 shows the descriptive indices of the current variables: mean and standard deviation. It also shows the skewness and kurtosis of the research variables. Among the components of suicidal thoughts, the highest averages were attributed to readiness, with a mean and standard deviation of 3.51 and 5.08; victimization, with a mean and standard deviation of 22.16 and 3.15; avoidance, with a mean and standard deviation of 10.11 and 7.78.

Table 2 shows the correlation matrix of research variables. As the table shows, all correlations include significant values ($0.91 \geq r \geq -0.16$). Meanwhile, suicide readiness and suicide intention showed the highest correlation ($r=0.91$), and avoidance and facing responsibility showed the lowest correlation ($r=0.16$).

Before evaluating the measurement and structural models, the important assumptions of structural equation modeling, including univariate and multivariate normality and the absence of multiple collinearity, were examined. Calculating the skewness and kurtosis of each visible variable is a common way to evaluate the normality of a single variable. In this study, the skewness of observable variables was in the range of -0.004 to 0.86, and their kurtosis was from -0.08 to 0.56. Chu and Bentler (1995) consider the cutoff point of ± 3 appropriate for the skewness value. Although there is little agreement about the kurtosis cut-off point, values greater than ± 10 are generally problematic for this index, and values greater than ± 20 make the obtained results invalid [25].

Table 1. Descriptive Indices of Research Variables

	Variables	Average	The standard deviation	crookedness	Elongation
Suicidal ideation	1. Thoughts	2.78	2.88	0.86	-0.46
	2. Preparation	3.51	5.08	0.03	0.52
	3. Intention	1.80	3.27	0.73	0.566
Cyberbullying victim	4. Bullying	18.53	3.51	0.6.8	0.290
	5. Victimization	22.16	3.15	-0.004	0.02
Solution-oriented strategies	6. Support	7.29	5.13	-0.47	-0.93
	7. Responsibility	6.38	3.72	-0.20	0.08
	8. Prudent	7.38	3.71	-0.11	0.13
Emotion-oriented strategies	9. Recalculation	7.71	4.11	-0.25	0.59
	10. Confrontation	7.37	3.73	0.76	0.34
	11. Avoidance	7.49	3.88	-0.07	-0.12
	12. Escape/avoidance	10.11	7.78	0.16	-0.5

This study checked the multivariate normality assumption by calculating the relative multivariate elongation index, which was 1.378. Bentler (1995) believes that multivariate normality can be achieved if the value of this index is not more than 3. Therefore, the distribution of all combinations of variables is normal. The correlation matrix between the observed variables revealed a lack of multicollinearity between them. The correlation coefficients were in the range of $0.54 \geq r \geq 0.35$. The measurement model determines the relationship between visible variables and latent variables. The evaluation of this model is done using the confirmatory factor analysis method. The fit indices of the measurement model presented in Table 3 show the optimal fit of this model. Therefore, visible variables have the necessary ability to operationalize immanent variables. Also, the evaluation of the structural model using the structural equation modeling method showed that all the

fit indices of this hypothetical model are within the range of the desired fit. The fit index of this model is shown in Table 3. Figure 1 depicts the conceptual structural model along with standardized coefficients. As can be seen, cyber victimization/harassment is an exogenous variable, with the standard coefficients of -0.68 (T-values=5.02), 0.60 (T-values=4.56), and 0.27 (56.0), respectively, 3T-values=) affects solution-oriented coping skills, emotion-oriented coping skills, and suicidal thoughts. Solution-oriented coping skills also affect suicidal thinking, with a standard coefficient of 0.35 (T-values=-4.06). Emotion-oriented coping skills also affect suicidal ideation with a standard coefficient of 0.85 (T-values = 7.12), considering that in the structural model, the significance of the path coefficient using T-value) is determined. If the t value is greater than 1.96, the relationship between the two constructs is significant, indicating that all paths are significant.

Table 2. Correlation Matrix of Research Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Thoughts	1												
2. Preparation	0.91	1											
3. Intention	0.86	0.86	1										
4. Bullying	0.22	0.18	0.24	1									
5. Victimization	0.24	0.27	0.27	0.49	1								
6. Support	-0.53	-0.52	-0.53	-0.26	-0.49	1							
7. Responsibility	-0.21	-0.20	-0.23	-0.30	-0.42	0.65	1						
8. Pruden	-0.52	-0.48	-0.49	-0.27	-0.37	0.82	0.62	1					
9. Recalculation	-0.52	-0.49	-0.54	-0.29	-0.39	0.81	0.74	0.62	1				
10. Confrontation	0.27	0.25	0.30	0.46	0.53	-0.42	-0.16	-0.39	-0.32	1			
11. Avoidance	0.32	0.47	0.33	0.28	0.29	-0.56	-0.22	-0.56	-0.49	0.70	1		
12. Escape/avoidance	0.66	0.62	0.63	0.24	0.33	-0.42	-0.16	-0.39	-0.31	0.52	0.70	1	
13. Self-control	0.66	0.60	0.57	0.18	0.30	-0.32	-0.19	-0.31	-0.24	0.72	0.76	0.68	1

Table 3. The Fit Indices of the Measurement Model and the Structural Model of the Research

Models	Chi – Square	df	χ^2/df	RMSEA	SRMR	GFI	CFI	NFI
Measurement model	193.05	60	1.68	0.01	0.04	0.95	0.99	0.96
Structural model	193.05	60	1.68	0.01	0.04	0.95	0.99	0.96

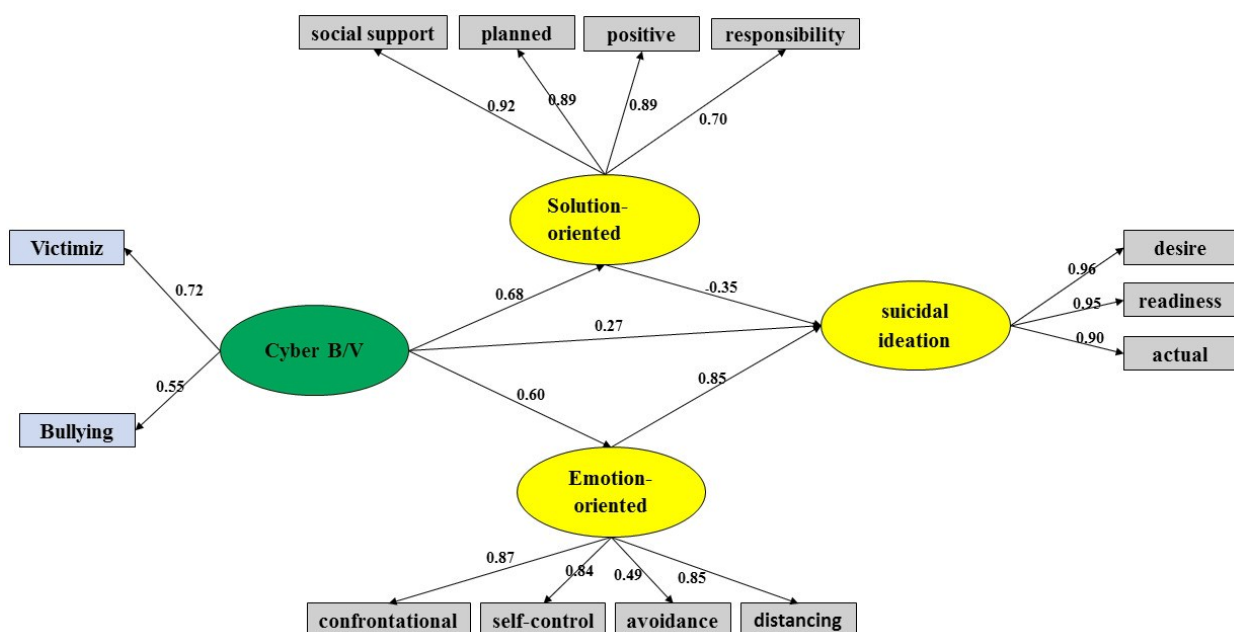


Figure 1. The structural model of the research.

Table 4. Bootstrap Test Results for Mediation Relationships

Independent variable	Mediating variable	Dependent variable	bootstrap limits		Estimation error	Effect size	P
			upper line	lower limit			
Cyberbullying/victimization	Emotion-oriented coping skills	Suicidal ideation	0.35	0.20	0.08	0.31	0.05
Cyberbullying/victimization	Solution-oriented coping skills	Suicidal ideation	0.33	0.19	0.07	0.28	0.05

The present study used the bootstrap test to evaluate mediating relationships. When the number of samples is not very large, the bootstrap provides the most powerful and logical method for obtaining indirect effects (Preacher and Hayes, 2008). In this method, if the upper and lower limits of this test are positive or negative and the zero value is not placed between these two limits, then the indirect causal path will be significant. Table 4 presents the results of this test. As the contents of Table 4 show, the path of victimization/cyberbullying to suicidal ideation is significant with the mediation of emotion-oriented coping skills with a standard coefficient of 0.31 at the $p < 0.05$ level. Also, the contents of Table 4 showed that the path of victimization/cyberbullying to suicidal ideation is significant with the mediation of solution-oriented coping skills with standard coefficients of 0.28 at the $p < 0.05$ level.

Discussion

The present study aimed to model suicidal ideation based on the experience of cyberbullying/victimization through the mediation of coping skills among teenagers. The results of the correlation coefficient and structural equation modeling showed that coping skills and victimization/cyberbullying both directly and indirectly affect suicidal thinking in teenagers.

In explaining the experience of cyberbullying/victimization and psychological vulnerability, it can be said that those who are prone to inconsistencies and mental disorders may suffer from disorders in the face of cyber harassment through common technology tools and other consequences related to these social network harassment. Traumatic experiences can disrupt an individual's position in socially important groups by creating negative emotions such as anger, mistrust, and pessimism and make him sensitive to the future of these relationships. According to the researchers' belief that physical health affects mental development and improving mental health is based on the prevention and treatment of emotional tensions; therefore, with a decrease in the level of mental health, people in other areas of quality of life are also at risk [26]. The results of the research showed that cyberbullying/victimization has a positive and significant relationship with suicidal thoughts and the sub-component of suicide readiness. This finding is consistent with the results of studies by Azizi and Zarei [13, 27] Williams et al. (2016), Lee et al. (2016), and Mitchell et al. (2016), who concluded in their research that exposure to various types of victimization is associated with an increase in high-risk health behaviors, low mental health,

and an increase in the risk of suicide. Therefore, it can be concluded that people who inflexibly keep dysfunctional thoughts in their minds and do not have effective coping strategies suffer more psychological pressure when faced with traumatic events and have a greater tendency to have suicidal thoughts and commit suicide. In comparison, people who use appropriate coping strategies can usually adapt to the environment and look for logical solutions when faced with problems [28].

The cry of pain model of suicidality states that when the stressful factors of life cause a feeling of failure, and a person does not find a way to save himself and get rid of the pressure of mood and negative emotions, he considers suicide as a solution [29].

The results showed that there is a significant relationship between suicidal thoughts and cyberbullying sub-components between two groups of girls and boys. This finding is consistent with the results of Williams et al [26]. In their research, they concluded that boys who were victims of physical bullying were more likely to experience symptoms of depression. However, girls who are victims of cyberbullying were more likely to show symptoms of depression, suicidal thoughts, and attempted suicide. The relationship between cyberbullying and suicide in Iran is similar to that of other countries. In this explanation, it can be said that Iran is also faced with the advancement of technology and the use of smartphones, with most boys and girls joining social networks. The psychological and emotional consequences of bullying and cyberbullying are more severe than those of bullying in real life. Cyberharassment is not limited to a specific time and place; it can continue at any time of the day or night until the person feels unsafe in any environment. This process causes feelings of helplessness and loneliness and, ultimately, suicide.

Nowadays, most communication is formed through cyberspace. Since culture also influences suicide, most communication through cyberspace conflicts with the traditional values of a society like Iran, especially when the bully threatens the victim of cyberbullying. In this case, the fear of humiliation and social stigmas in traditional culture exposes a person to suicide [30].

The results showed that the path of victimization/cyberbullying to suicidal ideation is mediated by emotion-oriented coping skills with a standard coefficient of 0.31, and the path of victimization/cyberbullying to suicidal ideation is mediated by solution-oriented coping skills with a standard coefficient of 0.281, which is significant at the $p < 0.05$ level.

Regarding the explanation of these results, it can be said

that according to Lazarus and Folkman (1984), emotion-oriented coping is aimed at controlling emotional disturbance and deals with the emotional factors related to that situation, not the situation itself. Instead of focusing on the problem and solving it, people who use this coping style seek to control the consequences of the negative emotions of the stressor [31]. Emotion-oriented coping strategies can effectively reduce tension in the short term but have negative effects in the long term [32, 33].

Therefore, ineffective coping with stressful factors leads to consequences such as depression, anxiety, aggression, and self-harm [21]. Also, adolescence is a period that is characterized by rapid changes in all aspects of life, which lead to stress. Because a teenager, unlike an adult, lacks the necessary experience to cope with stress-induced emotions, he may consider suicide in the face of life's disappointments and challenges. Adolescents who use emotion-oriented strategies are more likely to think about suicide when faced with problematic life events. On the other hand, problem-oriented strategies include logical evaluations and conscious efforts, which reduce mental, emotional, behavioral, and suicidal ideation problems [34]. This research faced some limitations like other research. One of these challenges was the availability of the sample, which limits the generalizability of research findings. It is recommended to use other types of sampling in the future studies. Other limitations of the research, it can be mentioned that the sample is limited to teenagers, which suggests that work should be done for young people and other age groups as well.

Conclusion

Overall, the results of this research show that cyberbullying may lead to suicidal thoughts and psychological vulnerability. Also, the extent to which adolescents have acquired skills related to coping strategies in dealing with life's problems affects their level of vulnerability and their inclination towards suicide. It is recommended that preventive strategies be based on providing mental health services, education about the harms of cyberspace, and acquiring knowledge regarding the importance of learning coping skills appropriately. One of this study's limitations was using a self-report tool and selecting subjects from middle school students, which can make it difficult to generalize the results to other groups. The need to pay attention to the psychological vulnerability and suicidal thoughts that exist in victims of cyberbullying is an important issue. It needs to be prioritized by planners to reduce suicidal thoughts and mental vulnerability and increase the mental health of adolescents.

Conflict of Interest

The authors declare no conflicts of interest.

Ethical Approval

The ethical principles in writing this article have been observed according to the instructions of the National Ethics Committee and the COPE regulations.

Declaration of Generative AI and AI-Assisted Technologies:

During the preparation of this work the authors did not use any AI tools.

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References

1. Sekowski M, Lengiewicz I, Lester D. The complex relationships between dependency and self-criticism and suicidal behavior and ideation in early adulthood. *Personality and Individual Differences*. 2022;198:111806. <https://doi.org/10.1016/j.paid.2022.111806>
2. Mastrotheodoros S, Canário C, Cristina Gugliandolo M, Merkas M, Keijsers L. Family functioning and adolescent internalizing and externalizing problems: Disentangling between-, and within-family associations. *Journal of youth and adolescence*. 2020;49:804-17. <https://doi.org/10.1007/s10964-019-01094-z>
3. Shader TM, Beauchaine TP. Emotion dysregulation and externalizing spectrum disorders. *The Oxford Handbook of Emotion Dysregulation*. 2020:0. <https://doi.org/10.1093/oxfordhob/9780190689285.013.17>
4. Sorgi KM, Ammerman BA, Cheung JC, Fahlgren MK, Puhalla AA, McCloskey MS. Relationships between non-suicidal self-injury and other maladaptive behaviors: beyond difficulties in emotion regulation. *Archives of suicide research*. 2021;25(3):530-51. <https://doi.org/10.1080/13811118.2020.1715906>
5. Mullarkey MC, Stein AT, Pearson R, Beevers CG. Network analyses reveal which symptoms improve (or not) following an Internet intervention (Deprexis) for depression. *Depression and anxiety*. 2020;37(2):115-24. <https://doi.org/10.1002/da.22972>
6. Watkins LE, Maldonado RC, DiLillo D. The cyber aggression in relationships scale: A new multidimensional measure of technology-based intimate partner aggression. *Assessment*. 2018;25(5):608-26. <https://doi.org/10.1177/1073191116665696>
7. Chao TN, Braslow BM, Martin ND, Chalian AA, Atkins J, Haas AR, et al. Tracheotomy in ventilated patients with COVID-19. *Annals of surgery*. 2020;272(1):e30-e2. DOI: [10.1097/SLA.0000000000000395](https://doi.org/10.1097/SLA.0000000000000395)
8. Akrim A. Student perception of cyberbullying in social media. *Aksaqila Jabfung*. 2022.
9. Wu X, Zhen R, Shen L, Tan R, Zhou X. Patterns of elementary school students' bullying victimization: roles of family and individual factors. *Journal of interpersonal violence*. 2023;38(3-4):2410-31. <https://doi.org/10.1177/08862605221101190>
10. Kowalski RM, Limber SP. Electronic bullying among middle school students. *Journal of adolescent health*. 2007;41(6):S22-S30. <https://doi.org/10.1016/j.jadohealth.2007.08.017>
11. Antoniadou N, Kokkinos CM, Markos A. Possible common correlates between bullying and cyber-bullying among adolescents. *Psicología Educativa*. 2016;22(1):27-38. <https://doi.org/10.1016/j.pse.2016.01.003>
12. Brereton A, McGlinchey E. Self-harm, emotion regulation, and experiential avoidance: A systematic review. *Archives of suicide research*. 2020;24(sup1):1-24. <https://doi.org/10.1080/13811118.2018.1563575>
13. Large M, Corderoy A, McHugh C. Is suicidal behaviour a stronger predictor of later suicide than suicidal ideation? A systematic review and meta-analysis. *Australian & New Zealand Journal of Psychiatry*. 2021;55(3):254-67. <https://doi.org/10.1177/0004867420931161>
14. azizi m, Tayyari Dehbarez E, Abdulpour G, Nouri M, Afshari A, Salari pak S. Investigate the Mediating Role of Coping Skills in the Relationship between Cognitive Schemas Activated in Sexual Context and Marital Satisfaction. *Psychological Achievements*. 2023;30(Special Issue):25-36. <https://doi.org/10.22055/psy.2023.43600.3018>
15. Faulkner AJ. *Stress and coping in adolescents*: University of Tasmania; 1996.
16. Dervis K, Klugman J. Measuring human progress: the contribution of the Human Development Index and related

- indices. *Revue d'économie politique*. 2011;121(1):73-92. <https://doi.org/10.3917/redp.211.0073>
17. Esparza D, Wagler AE, Olimpo JT. Characterization of instructor and student behaviors in CURE and non-CURE learning environments: Impacts on student motivation, science identity development, and perceptions of the laboratory experience. *CBE—Life Sciences Education*. 2020;19(1):ar10. <https://doi.org/10.1187/cbe.19-04-0082>
 18. McLoughlin AB, Gould MS, Malone KM. Global trends in teenage suicide: 2003–2014. *QJM: An International Journal of Medicine*. 2015;108(10):765-80. <https://doi.org/10.1093/qjmed/hcv026>
 19. Hasani J, Miraghaie AM. The relationship between strategies for cognitive regulation of emotions and suicidal ideation. *Contemporary Psychology, Biannual Journal of the Iranian Psychological Association*. 2012;7(1):61-72. <http://bjcp.ir/article-1-26-en.html>
 20. Anda RF, Croft JB, Felitti VJ, Nordenberg D, Giles WH, Williamson DF, et al. Adverse childhood experiences and smoking during adolescence and adulthood. *Jama*. 1999;282(17):1652-8. doi:10.1001/jama.282.17.1652
 21. Algar FJ, Alvarez A, Salvatierra A, Baamonde C, Aranda JL, López-Pujol FJ. Predicting pulmonary complications after pneumonectomy for lung cancer. *European journal of cardiothoracic surgery*. 2003;23(2):201-8. [https://doi.org/10.1016/S1010-7940\(02\)00719-4](https://doi.org/10.1016/S1010-7940(02)00719-4)
 22. Tawadrous M, Antiado D, Castillo F. Mobile platform in the workplace: The next generation practice in human resource. *Procedia-Social and Behavioral Sciences*. 2016;219:152-8. <https://doi.org/10.1016/j.sbspro.2016.04.058>
 23. Basharpour S, Zardi B. Psychometric properties of cyberbullying/victimization experiences questionnaire (CBVEQ) in students. *Journal of school psychology*. 2-43:(1)8;019.57 <https://doi.org/10.22098/JSP.2019.795>
 24. Ozcelik HS, Ozdel K, Bulut SD, Orsel S. The Reliability and Validity of the Turkish Version of the Beck Scale for Suicide Ideation (Turkish BSSI). *Klinik Psikofarmakoloji Bülteni-Bulletin of Clinical Psychopharmacology*. 2015;25(2):141-50- <https://doi.org/10.5455/bcp.20141214105009>
 25. Klein N. This changes everything: Capitalism vs. the climate: Simon and Schuster; 2015.
 26. Acharya MM, Green KN, Allen BD, Najafi AR, Syage A, Minasyan H, et al. Elimination of microglia improves cognitive function following cranial irradiation. *Scientific reports*. 2016;6(1):31545. <https://doi.org/10.1038/srep31545>
 27. Azizi M, Salari Pak S. Predicting quality of life based on personality traits (five major factors) in people with a history of self-harm. *Journal of psychology new ideas*. 2021;9(13):1-8. <http://jnip.ir/article-1-509-en.html>
 28. Modaresesabzevari S, NouriGhasemabadi R. The role of rumination subtypes, hopelessness and depression in the prediction of suicidal ideations in college students. *Journal of Research in Psychological Health*. 2016;9(4):62-73. <http://dx.doi.org/10.18869/acadpub.rph.9.4.62>
 29. Su X, Simons RL, Simons LG. Interparental aggression and antisocial behavior among African American youth: A simultaneous test of competing explanations. *Journal of youth and adolescence*. 2011;40:1489-502. <https://doi.org/10.1007/s10964-011-9673-3>
 30. Aliverdinia A, Rezaee A, Peyrou F. Sociological analysis of students' tendency to suicide. *Applied Sociology*. 2011;44(4):1-18. <https://dori.net/dor/20.1001.1.20085745.1390.22.4.1.3>
 31. Birami M, Farnam A, Gholizadeh H, Imani M. Comparison of familial functions of primary depressed patients with healthy individuals based on McMaster model. *Journal of Tabriz University of Medical Sciences*. 2010;32(2):2.9-5 <https://mj.tbzmed.ac.ir/Article/6662>
 32. Passage B. Rate Up. 2003.
 33. Anaya EM, Pisoni DB, Kronenberger WG. Visual-spatial sequence learning and memory in trained musicians. *Psychology of Music*. 2017;45(1):5-21. <https://doi.org/10.1177/0305735616638942>
 34. Azizi M, Kishi E. Structural Equation Modeling of Suicidal Ideation Based on Victimization and Cyberbullying: The Mediating Role of Psychological Distress. *International Journal of Epidemiology and Public Health Research*. 2024 Aug 10;5(2):2836-10. <https://aditum.org/journals/international-journal-of-epidemiology-and-public-health-research/archive/1110>