




The Relationship Between Cyberbullying and Suicidal Ideation in Adolescent Girls The Mediating Role of Perceived Maternal Acceptance and Perceived Burdensomeness

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ABSTRACT

Objective: The present study aimed to investigate the relationship between cyberbullying and suicidal ideation among adolescent girls and to examine the mediating roles of perceived maternal acceptance and perceived burdensomeness in this relationship.

Methods and Materials: This study employed a descriptive-correlational design using structural equation modeling (SEM). The statistical population consisted of female high school students in Tehran, Iran, during the 2025–2026 academic year. Using a multistage cluster sampling method, 520 students were recruited, of whom 498 valid questionnaires were retained for analysis. Data were collected using the Cyberbullying Scale (CBS), the Beck Scale for Suicide Ideation (BSSI), the Perceived Burdensomeness subscale of the Interpersonal Needs Questionnaire (INQ), and the Perceived Maternal Acceptance Scale (PMAS). Descriptive statistics, Pearson correlation coefficients, and structural equation modeling were performed using SPSS version 28 and AMOS version 24. The significance of indirect effects was assessed through bootstrap analysis with 5,000 resamples and 95% confidence intervals.

Findings: The results revealed significant positive correlations between cyberbullying and suicidal ideation ($r = .48, p < .01$) and between cyberbullying and perceived burdensomeness ($r = .42, p < .01$). Cyberbullying was negatively associated with perceived maternal acceptance ($r = -.39, p < .01$). Structural equation modeling demonstrated satisfactory model fit ($\chi^2/df = 2.29, CFI = .95, TLI = .94, RMSEA = .051$). Cyberbullying had significant direct effects on perceived burdensomeness ($\beta = .45, p < .001$), perceived maternal acceptance ($\beta = -.41, p < .001$), and suicidal ideation ($\beta = .19, p < .001$). Perceived burdensomeness positively predicted suicidal ideation ($\beta = .47, p < .001$), whereas

perceived maternal acceptance negatively predicted suicidal ideation ($\beta = -.34, p < .001$). Bootstrap analyses confirmed significant indirect effects through perceived burdensomeness (Effect = .21, 95% CI [.14, .29]) and perceived maternal acceptance (Effect = .14, 95% CI [.08, .21]).

Conclusion: The findings indicate that cyberbullying is a significant predictor of suicidal ideation among adolescent girls. Perceived burdensomeness and perceived maternal acceptance partially mediate this relationship, suggesting that both interpersonal cognitive vulnerabilities and family-based protective factors play crucial roles in understanding adolescent suicide risk. Interventions aimed at reducing cyberbullying, strengthening maternal acceptance, and addressing maladaptive perceptions of burdensomeness may contribute to the prevention of suicidal ideation in adolescents.

Keywords: *Cyberbullying; Suicidal Ideation; Perceived Maternal Acceptance; Perceived Burdensomeness; Adolescent Girls; Structural Equation Modeling.*

1. Introduction

Adolescence is a critical developmental period characterized by profound biological, psychological, social, and emotional changes. During this stage, individuals become increasingly sensitive to interpersonal relationships, peer evaluations, social acceptance, and identity formation. Although these developmental transitions contribute to personal growth, they may also increase vulnerability to psychological distress and mental health problems. Among the most concerning issues affecting adolescents today is suicidal ideation, which has emerged as a major public health concern worldwide. Suicidal ideation refers to thoughts, considerations, or plans related to ending one's life and represents one of the strongest predictors of suicide attempts and completed suicide. Recent evidence indicates that suicidal thoughts among adolescents have increased considerably in parallel with the expansion of digital technologies and online social interactions (Jiménez et al., 2025; Rakoff et al., 2022; Tintori et al., 2023).

The emergence of social media platforms, online communication technologies, and digital networking environments has transformed the nature of adolescent interactions. While these technologies provide opportunities for communication, learning, and social connection, they have also created new contexts for aggressive and harmful behaviors. Cyberbullying has become one of the most prevalent forms of violence experienced by young people in digital environments. Unlike traditional bullying, cyberbullying can occur continuously, anonymously, and across multiple online platforms, allowing harmful content to spread rapidly and persist indefinitely. Consequently, victims may experience repeated exposure to humiliation, threats, harassment, and social exclusion without the temporal or spatial limitations associated with traditional

forms of bullying (António et al., 2023; Bansal et al., 2024; Ruan Víctor dos Santos et al., 2025).

A growing body of literature suggests that cyberbullying is associated with numerous adverse psychological outcomes among adolescents. These outcomes include anxiety, depression, loneliness, low self-esteem, social withdrawal, emotional dysregulation, psychological distress, self-harm behaviors, and suicidal thoughts. Systematic reviews have consistently identified cyberbullying as a significant risk factor for deteriorating mental health among young people, highlighting the urgent need to understand the mechanisms through which online victimization and aggression contribute to psychological maladjustment (Agustiniingsih et al., 2024; Hilty et al., 2023; Perwitasari & Wuryaningsih, 2022). Similarly, comprehensive reviews have emphasized that cyberbullying should not be viewed merely as an online behavioral problem but rather as a serious mental health issue with potentially life-threatening consequences (Bansal et al., 2024; Ruan Víctor dos Santos et al., 2025).

Research conducted across diverse cultural contexts has demonstrated a significant relationship between cyberbullying involvement and suicidal outcomes. Adolescents exposed to cyberbullying are more likely to report suicidal ideation, suicide attempts, and self-injurious behaviors compared with their non-exposed peers. These associations have been observed among middle school students, high school students, and university populations, suggesting that cyberbullying exerts a broad and persistent impact on mental health across developmental stages (Fekih-Romdhane et al., 2024; Mohamed et al., 2023; Peprah et al., 2023). Moreover, longitudinal evidence indicates that bullying experiences may contribute to the development of self-injurious thoughts and behaviors over time, reinforcing the importance of identifying psychological and

interpersonal pathways linking cyberbullying to suicidality (Wilson et al., 2022).

Several recent investigations have specifically examined the association between cyberbullying and suicidal ideation. For example, studies conducted among adolescents and young adults have found that cyberbullying victimization predicts increased suicidal thoughts through psychological distress, depressive symptoms, emotional difficulties, and cognitive vulnerabilities (Chu et al., 2022; Kee et al., 2024; Planellas & Calderón, 2024). Similarly, cyberbullying involvement has been associated with depression and reduced psychological well-being across different educational levels, highlighting the pervasive influence of online aggression on emotional functioning (Wright & Wachs, 2023). Other investigations have demonstrated that cyberbullying contributes not only to suicidal ideation but also to non-suicidal self-injury and self-harm behaviors, indicating that cyberbullying may represent a broader risk factor for self-destructive outcomes among adolescents (Chhabria & Khar, 2023; Farkas, 2025; Wiguna et al., 2021).

Although substantial evidence supports a direct relationship between cyberbullying and suicidal ideation, contemporary theoretical frameworks suggest that this relationship is often mediated by cognitive and interpersonal processes. One of the most influential models for understanding suicidal behavior is the Interpersonal Theory of Suicide, which proposes that suicidal desire emerges primarily from two interpersonal experiences: perceived burdensomeness and thwarted belongingness. According to this theory, individuals are more likely to develop suicidal thoughts when they perceive themselves as a burden to others and believe that they do not meaningfully belong within their social environment. These experiences contribute to feelings of hopelessness, social disconnection, and emotional pain, which ultimately increase vulnerability to suicidality (Meng et al., 2022).

Among these interpersonal constructs, perceived burdensomeness has received considerable empirical support as a predictor of suicidal ideation. Perceived burdensomeness refers to the belief that one's existence creates difficulties, responsibilities, or hardships for significant others. Adolescents who perceive themselves as burdens often experience guilt, shame, self-devaluation, and hopelessness, all of which contribute to increased suicide risk. Previous studies have consistently demonstrated strong associations between perceived burdensomeness and suicidal thoughts across adolescent and young adult populations (Jiménez et al., 2025; Meng et al., 2022; Rakoff

et al., 2022). Furthermore, research examining cyberbullying and suicidality has suggested that interpersonal experiences such as burdensomeness may serve as important mediators linking adverse social experiences to self-destructive cognitions (Fekih-Romdhane et al., 2024; Kee et al., 2024).

Cyberbullying may contribute to perceived burdensomeness through multiple psychological mechanisms. Adolescents exposed to repeated online aggression may internalize negative evaluations from peers and develop beliefs that they are unwanted, problematic, or responsible for interpersonal difficulties. Persistent exposure to ridicule, rejection, and humiliation can gradually undermine self-worth and foster the perception that one imposes emotional or social burdens on others. These cognitive distortions may become particularly pronounced during adolescence, a developmental stage characterized by heightened sensitivity to social evaluation and peer acceptance (Lee et al., 2021; Sarhangi et al., 2023; Zhou et al., 2023).

In addition to cognitive factors, family relationships play a critical role in shaping adolescents' emotional adjustment and resilience. Family environments provide essential sources of emotional security, support, validation, and acceptance. Positive parent-child relationships have been consistently associated with lower levels of depression, anxiety, behavioral problems, and suicidal ideation. Conversely, perceptions of parental rejection, criticism, neglect, or emotional unavailability may increase vulnerability to psychological distress and maladaptive coping behaviors (Kingsbury et al., 2022; Rivers et al., 2021; Russon et al., 2022).

Among parental influences, maternal acceptance appears particularly important during adolescence. Maternal acceptance reflects adolescents' perceptions that their mothers provide warmth, affection, support, understanding, and unconditional regard. Such perceptions contribute to healthy emotional development, positive self-concept formation, and adaptive coping with stress. Adolescents who perceive high levels of maternal acceptance generally demonstrate greater psychological well-being, stronger self-esteem, and reduced vulnerability to emotional disorders. In contrast, lower levels of perceived maternal acceptance have been associated with loneliness, depressive symptoms, hopelessness, and suicidality (Rakoff et al., 2022; Rivers et al., 2021).

Recent research suggests that parental support may function as a protective factor against the harmful

consequences of cyberbullying. Adolescents who perceive greater support and acceptance from parents often exhibit lower levels of emotional distress following cyberbullying experiences. Supportive parenting may buffer the psychological effects of online victimization by promoting emotional regulation, self-worth, and adaptive coping strategies. Studies examining cyberbullying outcomes have found that parental social support reduces the negative impact of online aggression on mental health and behavioral outcomes (DeSmet et al., 2021; Wright & Wachs, 2021). Likewise, social support more broadly has been identified as a significant protective factor in the relationship between cyber victimization and suicidal behavior (Sarhangi et al., 2023; Wright & Wachs, 2023).

The importance of maternal acceptance may be particularly pronounced among adolescent girls. Compared with boys, girls often report greater emotional investment in interpersonal relationships and may be more strongly affected by perceived relationship quality within the family. Female adolescents also tend to exhibit higher rates of internalizing symptoms, including depression, anxiety, and suicidal ideation, making interpersonal protective factors especially relevant for understanding their psychological adjustment (Geng et al., 2021; Kingsbury et al., 2022). Consequently, examining maternal acceptance as a mediating mechanism may provide valuable insight into why some adolescent girls develop suicidal thoughts following experiences of cyberbullying whereas others remain resilient.

Although previous studies have documented associations between cyberbullying, suicidal ideation, social support, psychological distress, and interpersonal vulnerabilities, several limitations remain in the existing literature. First, many studies have focused primarily on victims of cyberbullying while paying less attention to broader interpersonal mechanisms that may explain suicidal risk. Second, relatively few investigations have simultaneously examined both protective family factors and risk-enhancing cognitive perceptions within a single theoretical model. Third, despite growing evidence supporting the Interpersonal Theory of Suicide, research integrating perceived burdensomeness with family acceptance variables remains limited, particularly among adolescent girls. Finally, cultural differences in family relationships and adolescent socialization underscore the need for further research within non-Western populations (Aledeh et al., 2024; Kee et al., 2024; Meng et al., 2022; Planellas & Calderón, 2024).

Understanding how cyberbullying contributes to suicidal ideation through both risk and protective mechanisms may help identify targets for prevention and intervention efforts. By examining perceived burdensomeness as a cognitive-interpersonal risk factor and perceived maternal acceptance as a family-based protective factor, a more comprehensive understanding of adolescent suicidality can be achieved. Such knowledge may inform school-based mental health programs, family interventions, suicide prevention initiatives, and cyberbullying reduction strategies aimed at promoting adolescent well-being (Doumas & Midgett, 2022; Dwangu, 2023; Fadhli et al., 2022; Jin et al., 2023).

Therefore, the present study aimed to investigate the relationship between cyberbullying and suicidal ideation among adolescent girls and to examine the mediating roles of perceived maternal acceptance and perceived burdensomeness in this relationship.

2. Methods and Materials

2.1. Study Design and Participants

This study employed a descriptive-correlational design using structural equation modeling (SEM) to investigate the relationship between cyberbullying and suicidal ideation among adolescent girls, with perceived maternal acceptance and perceived burdensomeness serving as mediating variables. The target population consisted of all female high school students enrolled in public and private secondary schools in Tehran, Iran, during the 2025–2026 academic year. A multistage cluster sampling method was used to recruit participants. Initially, several educational districts of Tehran were randomly selected, followed by the random selection of schools and classes within each district. Students who met the inclusion criteria, including being between 14 and 18 years of age, currently enrolled in secondary education, possessing sufficient literacy to complete the questionnaires, and providing informed consent from both themselves and their parents, were invited to participate. Students with severe psychiatric disorders, cognitive impairments, or incomplete questionnaire responses were excluded from the study.

Based on recommendations for structural equation modeling and considering the complexity of the proposed mediation model, a sample of 520 adolescent girls was selected. After screening for missing data, response inconsistencies, and multivariate outliers, data from 498 participants were retained for final analysis. The participants ranged in age from 14 to 18 years, with a mean age of 16.21

years ($SD = 1.14$). Ethical considerations were observed throughout the study, including voluntary participation, confidentiality of responses, anonymity of data collection, and the right to withdraw from the study at any stage without penalty.

2.2. Instruments

Cyberbullying Scale (CBS). Cyberbullying behaviors were assessed using the Cyberbullying Scale developed by Menesini and colleagues (2011). The original instrument consists of two sections with a total of 20 items. In the present study, only the second section, comprising 10 items related to cyberbullying perpetration behaviors, was administered. Participants reported the frequency of engaging in each behavior using a five-point Likert scale ranging from 1 (never) to 5 (several times a week). Higher scores indicate greater involvement in cyberbullying behaviors. Previous psychometric evaluations conducted by Stewart et al. (2014) among 736 students supported a unidimensional factor structure, with the single factor explaining 56% of the total variance. The authors reported excellent internal consistency with a Cronbach's alpha coefficient of 0.94. In Iran, the scale was translated and validated by Golparvar (2016), who reported a Cronbach's alpha coefficient of 0.84 and a content validity agreement coefficient of 0.87 based on expert evaluations. In the current study, confirmatory factor analysis supported the one-factor structure of the instrument ($\chi^2/df = 2.41$, $CFI = 0.95$, $TLI = 0.94$, $RMSEA = 0.054$). Internal consistency was satisfactory, with a Cronbach's alpha coefficient of 0.89 and a composite reliability coefficient of 0.91.

Beck Scale for Suicide Ideation (BSSI). Suicidal ideation was measured using the Beck Scale for Suicide Ideation developed by Beck et al. (1979). This instrument contains 19 items designed to assess the severity of suicidal thoughts, wishes, and intentions. Items are scored on a three-point scale, with higher scores reflecting greater suicidal ideation. The total score ranges from 0 to 38. The first five items serve as screening questions assessing the individual's desire to live or die, while subsequent items evaluate the duration, frequency, planning, controllability, and intensity of suicidal thoughts and intentions. Scores of 0–3 indicate no suicidal ideation, scores of 4–11 indicate mild suicidal ideation, and scores of 12 or higher indicate high-risk suicidal ideation. Previous studies have reported favorable psychometric properties for the scale, including Cronbach's alpha coefficients of 0.86 in Iranian samples and 0.89 in

international samples. In the present study, confirmatory factor analysis demonstrated acceptable model fit ($\chi^2/df = 2.67$, $CFI = 0.93$, $TLI = 0.92$, $RMSEA = 0.059$). The instrument exhibited strong internal consistency, with a Cronbach's alpha coefficient of 0.91 and a composite reliability coefficient of 0.92.

Interpersonal Needs Questionnaire (INQ). Perceived burdensomeness was assessed using the Perceived Burdensomeness subscale of the Interpersonal Needs Questionnaire developed by Van Orden et al. (2012) within the framework of the Interpersonal Theory of Suicide. The original questionnaire has multiple versions, and the present study utilized the 15-item version. Specifically, the six items corresponding to the perceived burdensomeness dimension were employed. Responses were recorded on a five-point Likert scale, and higher scores reflected stronger perceptions of being a burden on others. Previous studies have demonstrated excellent psychometric properties for the instrument, including Cronbach's alpha coefficients of approximately 0.90 and confirmation of its two-factor structure through confirmatory factor analysis. In Iran, Kiani and colleagues (2019) reported satisfactory construct validity after modifying the instrument and removing several items with low factor loadings. In the current study, confirmatory factor analysis confirmed the adequacy of the measurement model for the perceived burdensomeness subscale ($\chi^2/df = 2.18$, $CFI = 0.96$, $TLI = 0.95$, $RMSEA = 0.049$). The subscale demonstrated high internal consistency, with Cronbach's alpha and composite reliability coefficients of 0.88 and 0.90, respectively.

Perceived Maternal Acceptance Scale (PMAS). Perceived maternal acceptance was measured using the Maternal Acceptance subscale of the Perceived Acceptance Scale developed by Brock et al. (1998). This subscale consists of 10 items assessing adolescents' perceptions of maternal warmth, support, attention, and acceptance. An example item is, "My mother is there for me whenever I need her." Responses are rated on a seven-point Likert scale ranging from 1 (not at all true about me) to 7 (very true about me). Four items are reverse scored, and higher average scores indicate greater perceived maternal acceptance. Brock et al. (1998) reported excellent internal consistency with a Cronbach's alpha coefficient of 0.94. More recently, Kuo et al. (2022) reported a Cronbach's alpha coefficient of 0.82, supporting the reliability of the instrument across diverse populations. In the present study, confirmatory factor analysis indicated satisfactory construct validity ($\chi^2/df = 2.36$, $CFI = 0.95$, $TLI = 0.94$, $RMSEA = 0.052$). Internal

consistency indices were also favorable, with a Cronbach’s alpha coefficient of 0.90 and a composite reliability coefficient of 0.92.

2.3. *Data analysis*

Data were analyzed using SPSS version 28 and AMOS version 24. Prior to hypothesis testing, descriptive statistics including means, standard deviations, skewness, and kurtosis values were calculated for all study variables. The assumptions of normality, linearity, multicollinearity, and absence of multivariate outliers were examined. Pearson correlation coefficients were computed to assess bivariate relationships among cyberbullying, suicidal ideation, perceived maternal acceptance, and perceived burdensomeness. Structural equation modeling was then employed to test the hypothesized mediation model. Model fit was evaluated using multiple goodness-of-fit indices, including the chi-square statistic divided by degrees of freedom (χ^2/df), Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), Standardized Root Mean Square Residual (SRMR), and Root Mean Square Error of

Approximation (RMSEA). To examine the significance of indirect effects, the bootstrap resampling method with 5,000 samples and 95% bias-corrected confidence intervals was utilized. Direct, indirect, and total effects were estimated, and statistical significance was determined at the 0.05 level.

3. **Findings and Results**

Data from 498 adolescent girls were included in the final analyses. Participants ranged in age from 14 to 18 years ($M = 16.21, SD = 1.14$). Of the participants, 28.9% were in the ninth grade, 34.7% were in the tenth grade, and 36.4% were in the eleventh grade. Regarding family structure, 87.3% lived with both parents, 8.4% lived with a single parent, and 4.3% reported other living arrangements. The majority of participants (71.5%) reported daily use of social media platforms for more than three hours, indicating substantial exposure to online environments where cyberbullying behaviors may occur. Prior to conducting the main analyses, the data were screened for missing values, normality, multicollinearity, and outliers. Skewness and kurtosis values for all variables were within acceptable ranges (± 2), indicating that the assumption of normality was met.

Table 1

Descriptive Statistics and Correlations Among Study Variables

Variable	Mean	SD	1	2	3	4
1. Cyberbullying	21.84	7.26	1			
2. Suicidal Ideation	8.97	6.13	.48**	1		
3. Perceived Burdensomeness	17.42	5.34	.42**	.61**	1	
4. Perceived Maternal Acceptance	49.87	9.21	-.39**	-.57**	-.53**	1

Table 1 presents the descriptive statistics and Pearson correlation coefficients among the study variables. The results indicated that cyberbullying was positively associated with suicidal ideation ($r = .48, p < .01$) and perceived burdensomeness ($r = .42, p < .01$), suggesting that adolescents who reported higher involvement in cyberbullying behaviors also tended to experience greater feelings of being a burden to others and stronger suicidal thoughts. Furthermore, cyberbullying demonstrated a significant negative relationship with perceived maternal acceptance ($r = -.39, p < .01$), indicating that greater

engagement in cyberbullying behaviors was associated with lower levels of perceived acceptance and support from mothers. Suicidal ideation showed a strong positive correlation with perceived burdensomeness ($r = .61, p < .01$) and a substantial negative correlation with perceived maternal acceptance ($r = -.57, p < .01$). Likewise, perceived burdensomeness was negatively associated with perceived maternal acceptance ($r = -.53, p < .01$). These findings provide preliminary support for the proposed mediation model and justify proceeding with structural equation modeling analyses.

Table 2

Measurement Model Fit Indices

Fit Index	Obtained Value	Recommended Value
χ^2	563.41	-

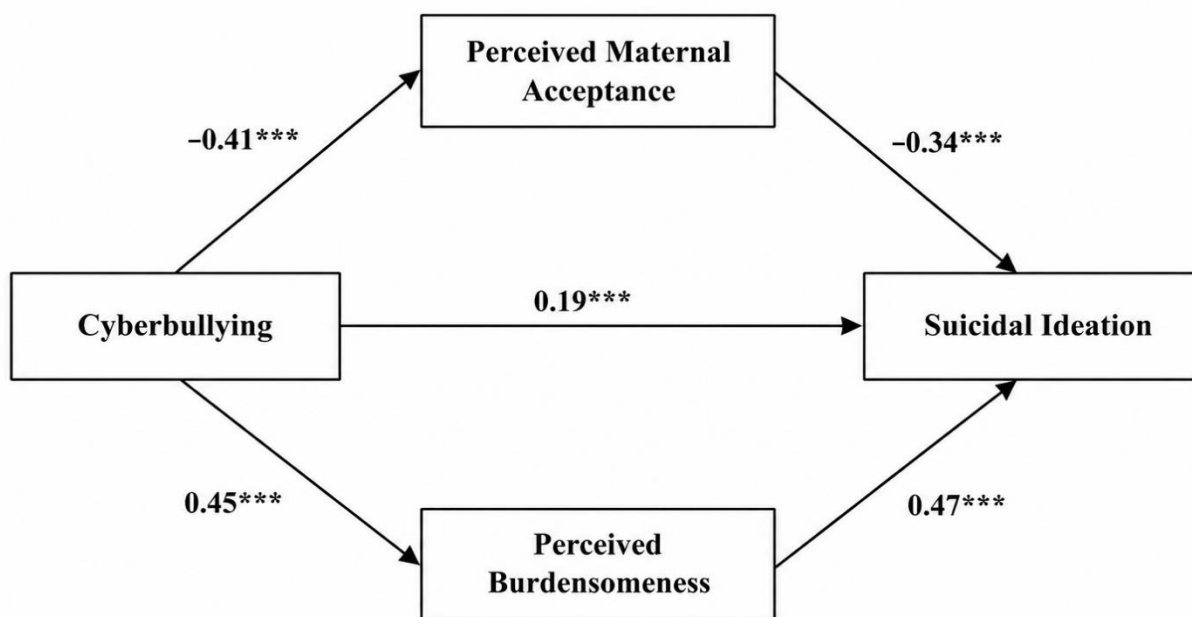
df	246	-
χ^2/df	2.29	< 3.00
GFI	.92	> .90
AGFI	.90	> .90
CFI	.95	> .90
TLI	.94	> .90
IFI	.95	> .90
SRMR	.047	< .08
RMSEA	.051	< .08

The adequacy of the measurement model was first examined before testing the structural relationships among the latent variables. As shown in Table 2, all goodness-of-fit indices indicated satisfactory model fit. The ratio of chi-square to degrees of freedom was 2.29, which is below the recommended threshold of 3.00. Incremental fit indices, including CFI (.95), TLI (.94), and IFI (.95), exceeded the acceptable criterion of .90. In addition, the RMSEA value of

.051 and SRMR value of .047 were below the recommended cutoffs, demonstrating acceptable residual fit. Collectively, these indices suggest that the latent constructs were adequately represented by their respective observed indicators and that the measurement model provided a sound basis for evaluating the hypothesized structural relationships.

Figure 1

Final Structural Model of the Relationship Between Cyberbullying and Suicidal Ideation Through Perceived Maternal Acceptance and Perceived Burdensomeness



*** $p < .001$

The structural model was subsequently tested to examine the direct and indirect pathways linking cyberbullying to suicidal ideation. The overall structural model demonstrated satisfactory fit to the observed data and supported the hypothesized relationships among variables. Standardized path coefficients indicated that cyberbullying significantly predicted higher perceived burdensomeness and lower perceived maternal acceptance. In turn, perceived

burdensomeness positively predicted suicidal ideation, whereas perceived maternal acceptance negatively predicted suicidal ideation. The magnitude and direction of these paths were consistent with theoretical expectations and previous empirical findings. The model accounted for a substantial proportion of variance in suicidal ideation, indicating that the combination of cyberbullying experiences, interpersonal perceptions, and maternal acceptance constituted an

important explanatory framework for understanding suicidal thoughts among adolescent girls.

Table 3

Direct Effects of the Structural Model

Path	β	SE	CR	p
Cyberbullying → Perceived Burdensomeness	.45	.05	8.72	< .001
Cyberbullying → Perceived Maternal Acceptance	-.41	.06	-7.94	< .001
Perceived Burdensomeness → Suicidal Ideation	.47	.05	9.26	< .001
Perceived Maternal Acceptance → Suicidal Ideation	-.34	.05	-6.81	< .001
Cyberbullying → Suicidal Ideation	.19	.04	4.13	< .001

Table 3 presents the direct effects estimated in the structural model. Cyberbullying exerted a significant positive effect on perceived burdensomeness ($\beta = .45, p < .001$), indicating that adolescents who engaged more frequently in cyberbullying behaviors experienced stronger perceptions of being a burden to others. Cyberbullying also demonstrated a significant negative effect on perceived maternal acceptance ($\beta = -.41, p < .001$), suggesting that higher levels of cyberbullying were associated with lower

levels of perceived maternal warmth, support, and acceptance. Regarding the prediction of suicidal ideation, perceived burdensomeness emerged as the strongest positive predictor ($\beta = .47, p < .001$), while perceived maternal acceptance showed a significant protective effect ($\beta = -.34, p < .001$). Even after accounting for the mediating variables, cyberbullying maintained a significant direct effect on suicidal ideation ($\beta = .19, p < .001$), indicating the presence of partial mediation rather than complete mediation.

Table 4

Bootstrap Analysis of Indirect Effects

Indirect Path	Effect	Boot SE	95% LLCI	95% ULCI	Result
Cyberbullying → Perceived Burdensomeness → Suicidal Ideation	.21	.04	.14	.29	Significant
Cyberbullying → Perceived Maternal Acceptance → Suicidal Ideation	.14	.03	.08	.21	Significant
Total Indirect Effect	.35	.05	.26	.44	Significant

To evaluate the significance of the mediating mechanisms, bootstrap analyses with 5,000 resamples were conducted. As shown in Table 4, the indirect effect of cyberbullying on suicidal ideation through perceived burdensomeness was significant (Effect = .21, 95% CI [.14, .29]), indicating that increased cyberbullying was associated with stronger feelings of burdensomeness, which subsequently increased suicidal ideation. Similarly, the indirect effect through perceived maternal acceptance was significant (Effect = .14, 95% CI [.08, .21]), suggesting that cyberbullying contributed to lower perceived maternal acceptance, which in turn increased suicidal ideation. Because the confidence intervals for both indirect pathways did not include zero, the mediation effects were statistically significant. The total indirect effect was also significant (Effect = .35, 95% CI [.26, .44]), confirming the important mediating roles of both perceived burdensomeness and perceived maternal acceptance in explaining the association between cyberbullying and suicidal ideation. Overall, the

findings revealed that cyberbullying influenced suicidal ideation both directly and indirectly through adverse interpersonal perceptions and diminished feelings of maternal acceptance, thereby supporting the proposed conceptual model.

4. Discussion

The present study aimed to investigate the relationship between cyberbullying and suicidal ideation among adolescent girls and to examine the mediating roles of perceived maternal acceptance and perceived burdensomeness in this relationship. The findings revealed that cyberbullying was positively associated with suicidal ideation, perceived burdensomeness, and negatively associated with perceived maternal acceptance. Furthermore, perceived burdensomeness and perceived maternal acceptance significantly mediated the relationship between cyberbullying and suicidal ideation. The structural model demonstrated that cyberbullying exerted both direct

and indirect effects on suicidal ideation, indicating that experiences related to cyberbullying influence suicidal thoughts not only through their immediate psychological consequences but also through their impact on adolescents' interpersonal perceptions and family relationships.

One of the primary findings of this study was the significant positive association between cyberbullying and suicidal ideation among adolescent girls. This finding is consistent with a substantial body of international research demonstrating that cyberbullying constitutes a major risk factor for suicidal thoughts and behaviors among adolescents. Previous investigations have consistently reported that adolescents exposed to cyberbullying experience elevated levels of hopelessness, emotional distress, depression, and suicidality (Fekih-Romdhane et al., 2024; Kee et al., 2024; Peprah et al., 2023). Similarly, systematic reviews have identified cyberbullying as one of the strongest contemporary predictors of mental health problems and suicide-related outcomes among young people (Agustiningsih et al., 2024; Bansal et al., 2024; Perwitasari & Wuryaningsih, 2022). The current findings further support the argument that cyberbullying is not merely a technological or educational concern but represents a significant public health issue with profound psychological consequences.

The observed relationship between cyberbullying and suicidal ideation can be understood from several theoretical perspectives. Unlike traditional bullying, cyberbullying occurs within digital environments characterized by anonymity, permanence, and broad audience exposure. Harmful content may be repeatedly shared, viewed, and revisited, thereby prolonging emotional distress. Victims often experience feelings of humiliation, social rejection, helplessness, and isolation. Over time, these experiences may erode self-esteem, reduce perceived social value, and contribute to hopelessness regarding future interpersonal relationships. Such psychological conditions create fertile ground for the emergence of suicidal thoughts, particularly during adolescence when peer relationships play a central role in identity formation and emotional well-being (António et al., 2023; Hilty et al., 2023; Ruan Víctor dos Santos et al., 2025).

The present findings also align with studies showing that cyberbullying contributes to a wide spectrum of self-destructive outcomes, including self-harm, non-suicidal self-injury, and suicidal behaviors. Previous investigations have reported that exposure to online aggression significantly increases vulnerability to emotional dysregulation and

maladaptive coping strategies, which in turn elevate the risk of suicidal ideation (Chhabria & Khar, 2023; Farkas, 2025; Wiguna et al., 2021). Furthermore, longitudinal research has suggested that bullying experiences may exert lasting psychological effects that persist beyond the immediate period of victimization and continue to influence suicide risk over time (Wilson et al., 2022).

Another important finding of this study was the significant positive relationship between cyberbullying and perceived burdensomeness. Adolescents who reported greater involvement in cyberbullying behaviors also experienced stronger perceptions that they were burdens to others. This finding is consistent with the assumptions of the Interpersonal Theory of Suicide and supports previous studies highlighting the importance of interpersonal cognitions in the development of suicidal thoughts (Meng et al., 2022). Research examining cyber-victimization has demonstrated that negative online experiences often undermine self-worth and increase self-critical beliefs, leading adolescents to perceive themselves as problematic, unwanted, or responsible for interpersonal difficulties (Chu et al., 2022; Kee et al., 2024).

From a psychological perspective, cyberbullying may foster perceived burdensomeness through repeated exposure to rejection and negative social evaluation. Adolescents who encounter ridicule, harassment, or humiliation in online environments may gradually internalize these experiences and conclude that they negatively affect those around them. Such beliefs are particularly damaging during adolescence because young people are highly sensitive to peer feedback and social acceptance. As these perceptions intensify, adolescents may begin to view themselves as liabilities rather than valued members of their social networks. This cognitive process reflects one of the central pathways proposed by the Interpersonal Theory of Suicide, whereby feelings of burdensomeness contribute directly to suicidal desire (Meng et al., 2022; Rakoff et al., 2022).

The findings further indicated that perceived burdensomeness significantly predicted suicidal ideation and mediated the relationship between cyberbullying and suicidal ideation. This result is highly consistent with previous theoretical and empirical evidence emphasizing the critical role of burdensomeness in suicidal processes. Meng and colleagues found that interpersonal theory variables, particularly perceived burdensomeness, significantly explained the relationship between cyber-victimization and suicidality among adolescents (Meng et al., 2022). Similarly, studies examining suicidal ideation among adolescents have

consistently identified perceptions of being a burden as one of the strongest psychological predictors of suicide risk (Jiménez et al., 2025; Rakoff et al., 2022). The present findings extend this literature by demonstrating that perceived burdensomeness operates as an important explanatory mechanism through which cyberbullying influences suicidal thoughts among adolescent girls.

The mediating role of perceived burdensomeness can be explained by considering how cyberbullying alters adolescents' cognitive interpretations of social experiences. Online victimization often generates feelings of inadequacy, shame, and self-blame. These emotional reactions may gradually transform into broader beliefs regarding personal worthlessness and social undesirability. Once adolescents perceive themselves as burdensome, they may conclude that others would be better off without them, thereby increasing the likelihood of suicidal ideation. This process illustrates how external social experiences become internalized as maladaptive self-beliefs that contribute to psychological vulnerability.

A further major finding of this study was the negative association between cyberbullying and perceived maternal acceptance. Adolescents who reported higher levels of cyberbullying involvement perceived lower levels of acceptance, support, and warmth from their mothers. This finding is consistent with previous research emphasizing the protective role of family relationships in adolescent adjustment. Supportive family environments provide emotional security and foster resilience in the face of stressful experiences. Conversely, when adolescents perceive low parental acceptance, they may become more vulnerable to the harmful psychological effects of peer victimization and online aggression (DeSmet et al., 2021; Wright & Wachs, 2021).

Several mechanisms may explain this relationship. Adolescents who experience cyberbullying may withdraw emotionally from family interactions due to feelings of shame, embarrassment, or fear of parental reactions. Such withdrawal can reduce opportunities for emotional support and increase perceptions of relational distance. Alternatively, adolescents who already perceive lower maternal acceptance may be less likely to seek support when confronted with cyberbullying experiences, thereby intensifying their psychological distress. These reciprocal processes may contribute to the observed negative association between cyberbullying and perceived maternal acceptance.

The results also demonstrated that perceived maternal acceptance negatively predicted suicidal ideation and significantly mediated the relationship between cyberbullying and suicidal ideation. This finding supports extensive literature highlighting the protective role of positive parent-child relationships against suicide risk. Previous studies have shown that parental warmth, support, and emotional availability reduce the likelihood of depression, hopelessness, and suicidal thoughts among adolescents (Kingsbury et al., 2022; Rivers et al., 2021; Russon et al., 2022). Research specifically examining cyberbullying outcomes has similarly indicated that parental support serves as a buffer against the negative psychological consequences of online victimization (DeSmet et al., 2021; Wright & Wachs, 2021).

The protective influence of maternal acceptance may operate through several pathways. First, maternal acceptance promotes emotional security and reinforces adolescents' perceptions of personal worth. Second, supportive maternal relationships provide opportunities for emotional expression and problem-solving when adolescents encounter stressful events. Third, maternal acceptance may strengthen coping resources and reduce feelings of isolation following cyberbullying experiences. Consequently, adolescents who perceive high levels of maternal acceptance may be better equipped to manage emotional distress and maintain psychological well-being despite exposure to online aggression.

The simultaneous examination of perceived burdensomeness and maternal acceptance represents an important contribution of the present study. The findings suggest that suicidal ideation among adolescent girls is shaped by both risk-enhancing and protective interpersonal processes. While perceived burdensomeness increases vulnerability to suicidal thoughts, maternal acceptance serves as a protective factor that reduces this vulnerability. These results are consistent with social-ecological approaches emphasizing that adolescent mental health is influenced by interactions among individual, interpersonal, family, and social factors (Lee et al., 2021). They also align with evidence indicating that social support plays a critical role in mitigating the psychological consequences of cyber-victimization (Sarhangi et al., 2023; Wright & Wachs, 2023).

Another noteworthy aspect of the findings is that cyberbullying retained a significant direct effect on suicidal ideation even after the mediators were included in the model. This suggests that although perceived burdensomeness and

maternal acceptance explain a substantial portion of the relationship, additional mechanisms may also contribute to the development of suicidal thoughts. Previous research has identified depression, anxiety, psychological distress, coping strategies, emotional regulation difficulties, social connectedness, and self-esteem as potential pathways linking cyberbullying to suicidality (Chu et al., 2022; Kee et al., 2024; Planellas & Calderón, 2024; Zhou et al., 2023). Therefore, future models should incorporate a broader range of psychological and social variables to achieve a more comprehensive understanding of adolescent suicide risk.

5. Conclusion

Overall, the findings support contemporary theories of suicide and reinforce the growing evidence linking cyberbullying with severe mental health consequences among adolescents. The study demonstrates that cyberbullying contributes to suicidal ideation both directly and indirectly through increased perceptions of burdensomeness and reduced perceptions of maternal acceptance. These results highlight the importance of addressing both cognitive vulnerabilities and family relationships in efforts to prevent adolescent suicidality and promote psychological well-being.

6. Limitations & Suggestions

Several limitations should be considered when interpreting the findings of this study. First, the cross-sectional design limits the ability to establish causal relationships among the study variables. Although the proposed model was theoretically supported, longitudinal research is needed to determine the temporal ordering of cyberbullying, perceived burdensomeness, maternal acceptance, and suicidal ideation. Second, all data were collected through self-report questionnaires, which may be influenced by social desirability bias, recall errors, or response tendencies. Third, the study focused exclusively on adolescent girls from Tehran, which may limit the generalizability of the findings to boys, other age groups, or adolescents from different cultural and geographical contexts. Finally, several potentially important variables, such as depression, anxiety, peer support, and coping strategies, were not included in the model and may account for additional variance in suicidal ideation.

Future studies should employ longitudinal and prospective designs to examine causal pathways linking cyberbullying to suicidal ideation over time. Researchers are

encouraged to investigate additional mediating and moderating variables, including emotional regulation, self-esteem, resilience, depression, anxiety, school connectedness, and peer support. Comparative studies involving both male and female adolescents may help clarify potential gender differences in the mechanisms underlying cyberbullying and suicidality. Future investigations may also benefit from using multi-informant assessments, qualitative methodologies, and mixed-methods approaches to obtain a deeper understanding of adolescents' lived experiences of cyberbullying and suicide-related cognitions. Additionally, cross-cultural studies could explore how family relationships and interpersonal perceptions influence these associations across different social contexts.

The findings underscore the importance of implementing comprehensive school-based cyberbullying prevention programs that address both online behaviors and psychological well-being. Mental health professionals working with adolescents should routinely assess experiences of cyberbullying, perceptions of burdensomeness, and suicidal ideation during psychological evaluations. Educational interventions aimed at strengthening family communication and enhancing maternal support may help reduce vulnerability to suicide risk among adolescents. Schools should collaborate closely with parents to increase awareness of cyberbullying and its psychological consequences. Furthermore, preventive initiatives should focus on helping adolescents develop healthy self-perceptions, adaptive coping strategies, and supportive interpersonal relationships that can protect them from the harmful effects of online victimization.

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Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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All authors equally contributed in this article.

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References

- Agustiningsih, N., Yusuf, A., Ahsan, A., & Fanani, Q. (2024). The Impact of Bullying and Cyberbullying on Mental Health: A Systematic Review. *International Journal of Public Health Science (Ijphs)*, 13(2), 513. <https://doi.org/10.11591/ijphs.v13i2.23683>
- Aledeh, M., Sokan-Adeaga, A. A., Adam, H., Aledeh, S., & Kotera, Y. (2024). Suggesting Self-Compassion Training in Schools to Stop Cyberbullying: A Narrative Review. *Discover Psychology*, 4(1). <https://doi.org/10.1007/s44202-023-00110-5>
- António, R., Guerra, R., & Moleiro, C. (2023). Cyberbullying During COVID-19 Lockdowns: Prevalence, Predictors, and Outcomes for Youth. *Current Psychology*, 43(2), 1067-1083. <https://doi.org/10.1007/s12144-023-04394-7>
- Bansal, S., Garg, N., Singh, J., & Walt, F. v. d. (2024). Cyberbullying and Mental Health: Past, Present and Future. *Frontiers in psychology*, 14. <https://doi.org/10.3389/fpsyg.2023.1279234>
- Chhabria, A., & Khar, P. (2023). Aggression, Suicide, and Self-Harm in Children and Adolescents. *Journal of Indian Association for Child and Adolescent Mental Health*, 19(1), 53-59. <https://doi.org/10.1177/09731342231190715>
- Chu, X., Yang, S., Sun, Z., Jiang, M., & Xie, R. (2022). The Association Between Cyberbullying Victimization and Suicidal Ideation Among Chinese College Students: The Parallel Mediating Roles of Core Self-Evaluation and Depression. *Frontiers in Psychiatry*, 13. <https://doi.org/10.3389/fpsyg.2022.929679>
- DeSmet, A., Rodelli, M., Walrave, M., Portzky, G., Dumon, E., & Soenens, B. (2021). The Moderating Role of Parenting Dimensions in the Association Between Traditional or Cyberbullying Victimization and Mental Health Among Adolescents of Different Sexual Orientation. *International journal of environmental research and public health*, 18(6), 2867. <https://doi.org/10.3390/ijerph18062867>
- Doumas, D. M., & Midgett, A. (2022). Witnessing Cyberbullying and Suicidal Ideation Among Middle School Students. *Psychology in the Schools*, 60(4), 1149-1163. <https://doi.org/10.1002/pits.22823>
- Dwangu, A. M. (2023). Causes and Effects of Suicides Committed by Pupils in South African Schools. *International Journal of Research in Education Humanities and Commerce*, 04(03), 257-273. <https://doi.org/10.37602/ijrehc.2023.4321>
- Fadhli, S. A. M., Yan, J. L. S., Halim, A. S. A., Razak, A. A., & Rahman, A. A. (2022). Finding the Link Between Cyberbullying and Suicidal Behaviour Among Adolescents in Peninsular Malaysia. *Healthcare*, 10(5), 856. <https://doi.org/10.3390/healthcare10050856>
- Farkas, B. F. (2025). The Association Between Cyberbullying and Nonsuicidal Self-Injury: The Mediating Role of Depression and Anxiety. *Scandinavian journal of child and adolescent psychiatry and psychology*, 13(1), 139-150. <https://doi.org/10.2478/sjcapp-2025-0013>
- Fekih-Romdhane, F., Malaeb, D., Farah, N., Stambouli, M., Cheour, M., Obeid, S., & Hallit, S. (2024). The Relationship Between Cyberbullying Perpetration/Victimization and Suicidal Ideation in Healthy Young Adults: The Indirect Effects of Positive and Negative Psychotic Experiences. *BMC psychiatry*, 24(1). <https://doi.org/10.1186/s12888-024-05552-2>
- Geng, J., Wang, Y., Wang, P., Zeng, P., & Lei, L. (2021). Gender Differences Between Cyberbullying Victimization and Meaning in Life: Roles of Fatalism and Self-Concept Clarity. *Journal of interpersonal violence*, 37(19-20), NP17157-NP17181. <https://doi.org/10.1177/08862605211028285>
- Hilty, D. M., Stubbe, D., McKean, A. J., Hoffman, P., Zalpur, I., Myint, M. T., Joshi, S. V., Pakyurek, M., & Li, S. T. T. (2023). A Scoping Review of Social Media in Child, Adolescents and Young Adults: Research Findings in Depression, Anxiety and Other Clinical Challenges. *BJPpsych Open*, 9(5). <https://doi.org/10.1192/bjo.2023.523>
- Jiménez, T., Estévez, J. F., Ochoa, G. M., & Estévez, E. (2025). Suicidal Ideation and Suicidal Attempt in Spanish Adolescents: Risk Profiles Identified Through Decision Tree Analysis. *Psychosocial Intervention*, 34(3), 161-173. <https://doi.org/10.5093/pi2025a13>
- Jin, X., Zhang, K., Twayigira, M., Gao, X., Xu, H., Huang, C., Luo, X., & Shen, Y. (2023). Cyberbullying Among College Students in a Chinese Population: Prevalence and Associated Clinical Correlates. *Frontiers in Public Health*, 11. <https://doi.org/10.3389/fpubh.2023.1100069>
- Kee, D. M. H., Anwar, A., & Vranješ, I. (2024). Cyberbullying Victimization and Suicide Ideation: The Mediating Role of Psychological Distress Among Malaysian Youth. *Computers in human Behavior*, 150, 108000. <https://doi.org/10.1016/j.chb.2023.108000>
- Kingsbury, M., Hammond, N. G., Johnstone, F. C. W., & Colman, I. (2022). Suicidality Among Sexual Minority and Transgender Adolescents: A Nationally Representative Population-Based Study of Youth in Canada. *Canadian Medical Association Journal*, 194(22), E767-E774. <https://doi.org/10.1503/cmaj.212054>
- Lee, J., Chun, J., Kim, J., & Lee, S. (2021). A Social-Ecological Approach to Understanding the Relationship Between Cyberbullying Victimization and Suicidal Ideation in South Korean Adolescents: The Moderating Effect of School Connectedness. *International journal of environmental research and public health*, 18(20), 10623. <https://doi.org/10.3390/ijerph182010623>
- Meng, F., Zhu, X., Gao, Q., Li, X., Chen, J., & Sa, Q. (2022). Integrating the Interpersonal Theory of Suicide Into the Relations Between Cyber-Victimization and Suicidality Among Adolescents: A Short-Term Prospective Study.

- Journal of interpersonal violence*, 38(1-2), 981-1006.
<https://doi.org/10.1177/08862605221086638>
- Mohamed, E., Hassan, E. E., Hassan, Z., Abouzeid, O. N., & Mohammed, M. (2023). Adolescents Cyberbullying and Its Consequences on Self-Esteem and Suicidal Thoughts at Minia Governorate, Egypt. *Minia Scientific Nursing Journal*, 013(3), 35-46. <https://doi.org/10.21608/msnj.2023.233705.1077>
- Peprah, P., Oduro, M. S., Okwei, R., Adu, C., Asiamah-Asare, B. Y., & Agyemang-Duah, W. (2023). Cyberbullying Victimization and Suicidal Ideation Among in-School Adolescents in Three Countries: Implications for Prevention and Intervention. *BMC psychiatry*, 23(1). <https://doi.org/10.1186/s12888-023-05268-9>
- Perwitasari, D. R., & Wuryaningsih, E. W. (2022). Why Did You Do That to Me?: A Systematic Review of Cyberbullying Impact on Mental Health and Suicide Among Adolescents. *NurseLine Journal*, 7(1), 35. <https://doi.org/10.19184/nlj.v7i1.27311>
- Planellas, I., & Calderón, C. (2024). Do Cybervictimizations Predict Suicide-Related Behaviors in Adolescents? Mediating Role of the “Escaping” Coping Strategy. *Journal of interpersonal violence*, 40(5-6), 1015-1036. <https://doi.org/10.1177/08862605241256384>
- Rakoff, J., Chavarria, J., Hamilton, H. A., & Elton-Marshall, T. (2022). Cross-Sectional Study of Factors Associated With Suicide Ideation in Ontario Adolescents. *The Canadian Journal of Psychiatry*, 68(5), 327-337. <https://doi.org/10.1177/07067437221111364>
- Rivers, A. S., Russon, J., Winston-Lindeboom, P., Ruan-Iu, L., & Diamond, G. (2021). Family and Peer Relationships in a Residential Youth Sample: Exploring Unique, Non-Linear, and Interactive Associations With Depressive Symptoms and Suicide Risk. *Journal of youth and adolescence*, 51(6), 1062-1073. <https://doi.org/10.1007/s10964-021-01524-x>
- Ruan Víctor dos Santos, S., Moura, H. S. D., Araujo, P. N. d., Santos, F. L. d., & Fortuna, C. M. (2025). Virtual Violence as a Contributing Factor to the Mental Health of Young People: A Scoping Review. *Canadian Journal of Nursing Research*. <https://doi.org/10.1177/08445621251364528>
- Russon, J., Washington, R., Machado, A. M., Smithee, L., & Dellinger, J. (2022). Suicide Among LGBTQIA+ Youth: A Review of the Treatment Literature. *Aggression and Violent Behavior*, 64, 101578. <https://doi.org/10.1016/j.avb.2021.101578>
- Sarhangi, N., Rostami, M., Abbasirad, R., Fasihi, M., & Ahmadboukani, S. (2023). Cyber Victimization and Suicidal Behavior in High School Students: The Mediating Role of Psychological Problems and Perceived Social Support. *Psychology in the Schools*, 60(7), 2395-2408. <https://doi.org/10.1002/pits.22868>
- Tintori, A., Pompili, M., Ciancimino, G., Corsetti, G., & Cerbara, L. (2023). The Developmental Process of Suicidal Ideation Among Adolescents: Social and Psychological Impact From a Nation-Wide Survey. *Scientific reports*, 13(1). <https://doi.org/10.1038/s41598-023-48201-6>
- Wiguna, T., Minayati, K., Kaligis, F., Ismail, R. I., Wijaya, E., Murtani, B. J., & Pradana, K. (2021). The Effect of Cyberbullying, Abuse, and Screen Time on Non-Suicidal Self-Injury Among Adolescents During the Pandemic: A Perspective From the Mediating Role of Stress. *Frontiers in Psychiatry*, 12. <https://doi.org/10.3389/fpsy.2021.743329>
- Wilson, E., Crudgington, H., Morgan, C., Hirsch, C. R., Prina, M., & Gayer-Anderson, C. (2022). The Longitudinal Course of Childhood Bullying Victimization and Associations With self-injurious Thoughts and Behaviors in Children and Young People: A Systematic Review of the Literature. *Journal of adolescence*, 95(1), 5-33. <https://doi.org/10.1002/jad.12097>
- Wright, M. F., & Wachs, S. (2021). The Buffering Effect of Perceived Parental Social Support in the Longitudinal Relationship Between Homophobic Cyberbullying and LGBTQIA Adolescents' Health Outcomes. *The Journal of Early Adolescence*, 42(9), 1152-1174. <https://doi.org/10.1177/02724316211036759>
- Wright, M. F., & Wachs, S. (2023). Cyberbullying Involvement and Depression Among Elementary School, Middle School, High School, and University Students: The Role of Social Support and Gender. *International journal of environmental research and public health*, 20(4), 2835. <https://doi.org/10.3390/ijerph20042835>
- Zhou, J., Zhao, H., & Zou, Y. (2023). Cyberbullying and Traditional Bullying Victimization, Depressive Symptoms, and Suicidal Ideation Among Chinese Early Adolescents: Cognitive Reappraisal and Emotion Invalidation as Moderators. *Social Science Computer Review*, 42(2), 512-534. <https://doi.org/10.1177/08944393231192237>