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THE IMPACT OF CHILD MALTREATMENT ON SELF-INJURY IN DEPRESSED ADOLESCENTS: THE MODERATING ROLE OF COPING STYLES

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ABSTRACT

Background: Child maltreatment is a significant risk factor for psychological issues such as depression and self-injurious behaviors (SIB), especially in adolescents. This study examines the relationship between child maltreatment, coping styles, and self-injury among depressed Pakistani adolescents, and explores the moderating role of coping styles in this relationship.

Methods: A cross-sectional study was conducted with 300 Pakistani adolescents aged 12 to 18 years, using self-reported measures. The Childhood Trauma Questionnaire (CTQ) assessed maltreatment, the Brief COPE Inventory measured coping styles, and the Deliberate Self-Harm Inventory (DSHI) evaluated self-injurious behaviors. Data were analyzed using logistic regression, independent t-tests, and moderation analysis to test the hypotheses.

Results: Adolescents with a history of child maltreatment were 3.5 times more likely to engage in self-injury compared to those without maltreatment ($p < .001$). Maladaptive coping styles were significantly associated with higher rates of self-injury (60%) compared to adaptive coping styles (25%, $p < .001$). Furthermore, coping styles moderated the relationship between maltreatment and self-injury; adolescents with a history of maltreatment who used adaptive coping strategies were significantly less likely to engage in self-injury (40%) compared to those who used maladaptive strategies (70%, $p < .001$).

Conclusion: The study highlights the critical role of coping styles in moderating the impact of child maltreatment on self-injurious behaviors. Adolescents with maltreatment histories who utilize adaptive coping mechanisms are at a lower risk of self-injury. These findings underscore the need for interventions that focus on developing adaptive coping skills and emotional regulation strategies, particularly for at-risk populations in cultural contexts like Pakistan, where mental health stigma prevails. Future research should consider longitudinal studies to further explore these relationships.

Keywords: maltreatment, adolescent, developing country, coping strategy

Introduction

Child maltreatment, which includes physical, emotional, and sexual abuse, as well as neglect, is a global issue with severe and long-lasting consequences for the psychological and emotional well-being of affected individuals (Mushtaque et al., 2021). Numerous studies have demonstrated that adolescents who experience maltreatment during childhood are at heightened risk for developing a range of mental health problems; including depression, anxiety, and post-traumatic stress disorder (PTSD). Among these psychological outcomes, non-suicidal self-injury (NSSI) is particularly alarming. NSSI is defined as the deliberate, self-inflicted harm to one's body without suicidal intent, often serving as a maladaptive coping mechanism for overwhelming emotional pain. The relationship between child maltreatment and self-injury has been well-documented, with research consistently showing that maltreated adolescents are more likely to engage in self-injurious behaviors (SIB) as a way to manage their emotional distress (Sawangchai et al., 2022). This is especially prevalent among adolescents who suffer from depression, as their capacity to process and regulate emotions is often compromised due to both their mental health condition and their history of trauma. Child maltreatment creates a lasting impact on emotional development, increasing vulnerability to maladaptive coping mechanisms like self-harm in adolescence (Hassan et al., 2022).

Understanding Self-Injury as a Coping Mechanism

Non-suicidal self-injury (NSSI) is often seen as a way for adolescents to cope with overwhelming emotional distress. It serves as a temporary relief or distraction from emotional pain, and in some cases, as a means of exerting control over one's body or punishing oneself. Adolescents with histories of child maltreatment are particularly prone to using self-injury as a maladaptive coping mechanism, as they often struggle with emotional regulation and feelings of self-blame (Fang & Mushtaque, 2024). In Pakistani adolescents, where cultural norms may discourage open discussion of emotional struggles, self-injury can become a hidden outlet for their pain. The stigma surrounding mental health issues in Pakistan may prevent many young people from seeking help, leading them to resort to self-harm as a coping mechanism.

The Role of Coping Styles: Adaptive vs. Maladaptive

Coping styles refer to the methods individuals use to manage stress and emotional challenges. They play a crucial role in determining how adolescents deal with the aftermath of maltreatment and depression. These styles can be broadly categorized as adaptive (positive) or maladaptive (negative) (Khalid et al,. 2021).

Adaptive coping strategies involve constructive methods of dealing with stress, such as problem-solving, seeking social support, and emotional expression. Adolescents who employ adaptive coping mechanisms are more likely to manage their emotional distress effectively, reducing the risk of self-injury (Hassan et al., 2024). For example, an adolescent in Pakistan who turns to trusted family members or practices religious or spiritual activities may find healthier outlets for their distress.

Maladaptive coping styles, on the other hand, involve behaviors that may provide short-term relief but ultimately worsen emotional distress. These include avoidance, denial, substance use, and self-blame. In Pakistani adolescents, where cultural norms may discourage emotional vulnerability, some may turn to avoidance or internalize their pain, leading to self-injury as a way to cope with their unresolved emotional issues (Sansakorn et al., 2024).

The Moderating Role of Coping Styles in the Relationship Between Maltreatment and Self-Injury

Coping styles serve as a critical moderating factor in the relationship between child maltreatment and self-injury in depressed adolescents. The presence of adaptive or maladaptive coping mechanisms can significantly influence whether an adolescent with a history of maltreatment will turn to self-harm. Adolescents who have experienced maltreatment but possess strong adaptive coping skills are less likely to engage in self-injury. In the context of Pakistan, where religious faith and community support often play a major role, these cultural coping mechanisms can serve as

protective factors. Adolescents who are able to seek emotional support from family or express their pain through creative or religious practices may find healthier ways to deal with their emotions (Sarfraz et al., 2023). Adolescents who rely on maladaptive coping strategies are more vulnerable to self-injury. In Pakistan, where mental health issues are often stigmatized and adolescents may feel pressure to hide their emotional pain, some may resort to self-injury as a means of managing their overwhelming emotions. Without healthy outlets or support systems, the emotional pain from maltreatment may become intolerable, leading to an increased risk of self-harm.

Purpose of Study

This study specifically aims to explore the relationship between child maltreatment and self-injury among Pakistani adolescents, a population that has been understudied in terms of mental health and coping strategies. The unique cultural context of Pakistan, with its emphasis on family, community, and religious values, may influence both the experience of maltreatment and how adolescents cope with their emotional distress. In many South Asian families, expressions of emotional vulnerability may be discouraged and mental health issues can be seen as taboo. This can limit the availability of healthy coping mechanisms for adolescents, who may turn to maladaptive strategies like self-injury to deal with their pain. Furthermore, societal pressures, including academic stress and gender expectations, may exacerbate the emotional distress experienced by maltreated adolescents in Pakistan.

Conceptual Framework

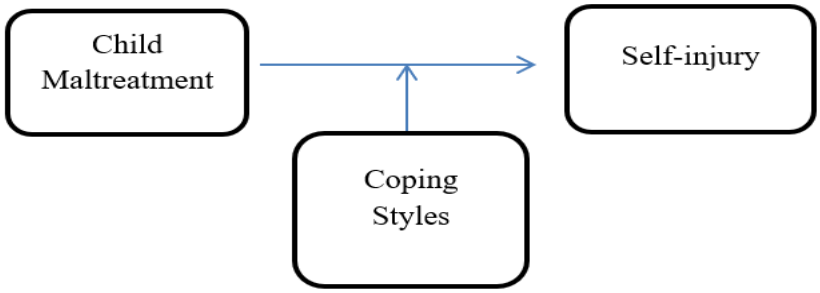

Figure 01 conceptual framework of the study

Hypotheses of the Study

The following hypotheses are proposed:

1. Hypothesis 1 (H1): Adolescents with a history of child maltreatment are more likely to engage in self-injurious behaviors compared to those without a history of maltreatment.

2. Hypothesis 2 (H2): Depressed adolescents with maladaptive coping styles are more likely to engage in self-injurious behaviors compared to those who use adaptive coping styles, regardless of their history of maltreatment.

3. Hypothesis 3 (H3): Coping styles moderate the relationship between child maltreatment and self-injury, such that adolescents with a history of maltreatment who use adaptive coping strategies will report lower levels of self-injury compared to those who use maladaptive coping strategies.

Methodology

The methodology section outlines the research design, participant recruitment, data collection procedures, and analytical techniques used to test the three hypotheses. The study is designed as a quantitative, cross-sectional investigation that examines the relationships between child maltreatment, depression, coping styles, and self-injury among Pakistani adolescents.

1. Research Design

A cross-sectional correlational design was used to investigate the relationship between child maltreatment, self-injury, and coping styles in a sample of depressed adolescents. The study employed a survey method to gather self-reported data on the participants' history of maltreatment,

coping strategies, depression levels, and self-injurious behaviors. This approach allowed for the identification of patterns and associations between variables at a single point in time, which was appropriate for testing the proposed hypotheses.

2. Participants & Sample Size

A sample of 300 adolescents, aged 12 to 18 years, was recruited from public and private schools, as well as mental health clinics, in urban areas of Pakistan. This sample size was deemed appropriate based on power calculations and previous studies examining similar constructs.

Inclusion Criteria

- Adolescents between 12 and 18 years of age.
- Adolescents with clinically diagnosed depression, based on a validated screening tool.
- Adolescents with the ability to read and understand Urdu (for the purpose of completing questionnaires).

Exclusion Criteria

- Adolescents with a current diagnosis of psychosis, bipolar disorder, or any other severe mental health disorder.
- Adolescents receiving inpatient psychiatric care, as the study focused on community-based populations.

Recruitment Process

Participants were recruited through two main channels: schools and mental health clinics. Consent from school administrations and mental health institutions was sought to approach eligible adolescents and their parents. Parents or guardians provided written informed consent, and adolescents provided assent before participation. Ethical approval was obtained from the relevant institutional review board (IRB) prior to commencing the study.

3. Measures

Several validated self-report instruments were administered to assess child maltreatment, depression severity, coping styles, and self-injury.

1. Childhood Trauma Questionnaire (CTQ)

The CTQ is a widely used self-report instrument that measures experiences of physical, emotional, and sexual abuse, as well as neglect, during childhood. It consists of 28 items that generate a total maltreatment score and subscale scores for each type of maltreatment. This measure was used to identify adolescents with a history of maltreatment.

2. Beck Depression Inventory-II (BDI-II)

The BDI-II was used to measure the severity of depressive symptoms among participants. This 21-item scale assesses cognitive, affective, and somatic symptoms of depression, providing a total score that indicates the level of depression (mild, moderate, or severe).

3. Brief COPE Inventory

The Brief COPE is a 28-item self-report questionnaire that assesses various coping styles, including both adaptive (e.g., seeking support, problem-solving) and maladaptive (e.g., avoidance, denial, self-blame) strategies. Participants' responses were used to classify them into adaptive or maladaptive coping categories.

4. Deliberate Self-Harm Inventory (DSHI)

The DSHI is a reliable and valid instrument designed to assess the frequency and nature of self-injurious behaviors. It includes questions about the frequency, types, and functions of self-injury.

This allowed the researchers to identify adolescents who engaged in self-injury and gather information about the severity and types of behaviors.

4. Procedure

Participants were given the study questionnaires in a secure, private setting (school counseling offices or clinical settings). They completed the surveys individually, with researchers or trained assistants present to offer clarification if needed. The survey process took approximately 45 minutes per participant. Data collection was anonymous, with each participant being assigned a unique code to ensure confidentiality. Upon completion, participants were debriefed and provided with information on how to seek psychological help if needed.

5. Data Analysis

Data analysis was conducted using Statistical Package for Social Sciences (SPSS) version 26. The following statistical methods were employed to test the three hypotheses: Descriptive statistics (means, standard deviations, frequencies) were calculated to provide an overview of the sample's demographic characteristics and the key variables (child maltreatment, depression, coping styles, and self-injury). A binary logistic regression was used to measure the presence of self-injurious behaviors (yes/no). An independent samples t-test was conducted. Participants were grouped into adaptive and maladaptive coping categories based on their scores on the Brief COPE. The frequency of self-injury was compared between the two groups. To test the third hypothesis, that coping styles moderate the relationship between child maltreatment and self-injury, a moderation analysis was conducted using Hayes' PROCESS macro for SPSS.

Ethical Considerations

Both the adolescent and their parent or guardian was required to provide informed consent before participation. Assent was also obtained from the adolescents. All responses were anonymous, and personal data was stored securely and only accessible to the research team. After completing the study, participants were debriefed and given information about available psychological support services. Any participant who reported significant distress was referred to a mental health professional.

Results

Table 1: Demographic information of Participants (N=300)

Variables	Percentage	Mean	Standard Deviation
Gender			
Male	52%		
Female	48%		
Age		14.7	1.8
Depression Severity			
Mild	15%		
Moderate	45%		
Severe	40%		
Child Maltreatment History			
Yes	65%		
No	35%		
Coping Styles			
Adaptive	37%		
Maladaptive	63%		
Self-Injury			
Engaged in self-injury	45%		
No self-injury	55%		

Table 1 presents the demographic information of the participants (N = 300). The sample consisted of 52% male and 48% female adolescents, with a mean age of 14.7 years (SD = 1.8). Regarding depression severity, 15% of the participants reported mild symptoms, 45% moderate symptoms, and 40% severe symptoms according to the Beck Depression Inventory-II (BDI-II). Additionally, 65% of the adolescents had a history of child maltreatment, while 35% did not. In terms of coping styles, 37% of the participants used adaptive coping mechanisms, whereas 63% relied on maladaptive coping strategies. Furthermore, 45% of the adolescents reported engaging in self-injurious behaviors, while 55% did not.

Table 2: Logistic Regression

Variables	Self-injury	No-self injury	Odd Ration	p-value
Child maltreatment history (yes)	65%	35%	3.51	< .001
Child maltreatment history (no)	20%	80%		

Table 2 presents the results of a logistic regression analysis examining the relationship between child maltreatment history and self-injurious behavior. Adolescents with a history of child maltreatment were significantly more likely to engage in self-injury, with 65% reporting self-injurious behaviors compared to 35% who did not. In contrast, among adolescents without a history of maltreatment, only 20% reported engaging in self-injury, while 80% did not. The odds ratio for self-injury among those with a history of maltreatment was 3.51, indicating that they were 3.5 times more likely to engage in self-injurious behaviors compared to those without such a history (*p* < .001).

Table 3: Independent Sample t-test

Variables	Self-injury	No-self injury	t-value	p-value
Maladaptive coping	60%	40%	t(298) = 4.91	< .001
Adaptive coping	25%	75%		

Table 3 presents the results of an independent sample t-test examining the relationship between coping styles and self-injurious behavior in depressed adolescents. The findings reveal that 60% of adolescents with maladaptive coping styles engaged in self-injurious behavior, compared to 25% of those using adaptive coping strategies. Conversely, 75% of adolescents with adaptive coping did not engage in self-injury, while only 40% of those with maladaptive coping avoided self-injurious behaviors. The t-test result, $t(298) = 4.91$, $p < .001$, indicates a significant difference between the two groups, demonstrating that maladaptive coping is strongly associated with higher levels of self-injury.

Table 4: Process Analysis

Variables	Self-injury	No-self injury	Interaction effect	p-value
Maltreatment + Maladaptive coping	70%	30%	B=0.47, SE= 0.12	< .001
Maltreatment + Adaptive coping	40%	60%		

Table 4 presents the results for Hypothesis 3, examining the moderating effect of coping styles on the relationship between child maltreatment and self-injury. Adolescents with a history of maltreatment who used maladaptive coping strategies had a significantly higher likelihood of engaging in self-injury (70%) compared to those who used adaptive coping strategies (40%). Conversely, 60% of adolescents with maltreatment history and adaptive coping strategies did not engage in self-injury, compared to only 30% of those using maladaptive coping. The moderation

analysis revealed a significant interaction effect ($b = 0.47$, $SE = 0.12$, $p < .001$), demonstrating that adaptive coping reduces the risk of self-injury among maltreated adolescents.

Discussion

The present study aimed to examine the relationship between child maltreatment, coping styles, and self-injurious behaviors (SIB) among depressed Pakistani adolescents. Specifically, it examined whether coping styles moderate the relationship between child maltreatment and self-injury. The findings provide valuable insights into how childhood trauma and coping mechanisms interact to influence the mental health outcomes of adolescents, particularly in the context of depression and self-harm.

The results from Table 2 support Hypothesis 1, demonstrating that adolescents with a history of child maltreatment are 3.5 times more likely to engage in self-injurious behaviors compared to those without such a history. This finding aligns with a substantial body of international research that highlights the long-term impact of early trauma on emotional regulation and self-destructive behaviors. Studies have shown that maltreatment significantly increases the likelihood of maladaptive coping, emotional dysregulation, and self-harm (Gratz, 2003; Zanarini et al., 2011). Similarly, Pakistani studies such as Aslam et al. (2020) have found that child abuse and neglect are closely associated with internalizing disorders, including depression and self-injury, in local populations. The cultural stigma around mental health in Pakistan, which prevents many from seeking psychological support, may further exacerbate emotional dysregulation in adolescents with a history of maltreatment, leading to increased engagement in self-harm behaviors. In addition, research conducted by Zafar et al. (2017) within Pakistan supports the idea that abuse-related trauma disrupts adolescents' ability to regulate emotions, leaving them more vulnerable to self-harm. Their findings indicated that Pakistani adolescents who experienced childhood abuse were significantly more likely to develop behavioral issues and engage in self-harm, a result consistent with the international literature (Norman et al., 2012).

The findings in Table 3 support Hypothesis 2, revealing that adolescents who employ maladaptive coping strategies are significantly more likely to engage in self-injury (60%) compared to those who use adaptive coping strategies (25%). These results echo previous studies, such as those by Brausch and Gutierrez (2010), which emphasize the critical role of coping styles in managing emotional distress. Maladaptive coping mechanisms—including avoidance, denial, and self-blame—are strongly linked to higher incidences of SIB, as these individuals often struggle to process emotions in constructive ways. National studies, such as those by Khalid and Asad (2019), also show that maladaptive coping mechanisms are prevalent among Pakistani adolescents and are associated with negative psychological outcomes, including self-harm.

Conversely, adolescents who utilize adaptive coping mechanisms, such as seeking support or problem-solving, exhibit lower rates of self-injury. The work of Nock and Mendes (2008) demonstrates that adaptive coping skills help individuals manage emotional stress more effectively, reducing the need for self-harm as a coping tool. Similarly, Rehman et al. (2021) found that Pakistani adolescents who practiced adaptive coping strategies, such as social support and mindfulness, reported significantly fewer instances of self-injurious behavior. These findings emphasize the need for interventions aimed at fostering adaptive coping strategies in at-risk adolescents.

Hypothesis 3 was tested using a moderation analysis (Table 4), which showed that coping styles significantly moderate the relationship between child maltreatment and self-injury. Adolescents with a history of maltreatment who employed maladaptive coping strategies were more likely to engage in self-injury (70%), while those who used adaptive coping strategies were less likely to do so (40%). This suggests that adaptive coping serves as a protective factor that reduces the likelihood of self-injury, even among adolescents who have experienced trauma. This finding is consistent with international studies such as Gratz and Roemer (2004) and Dixon-Gordon et al. (2015), which emphasize that emotional regulation and adaptive coping mechanisms can buffer against the psychological impacts of trauma. In Pakistan, where familial and social expectations are deeply

embedded, the development of adaptive coping strategies may play a crucial role in mitigating the long-term effects of childhood maltreatment. In a national context, studies by Hashmi et al. (2020) also support the idea that emotional regulation and healthy coping skills can reduce the harmful impacts of trauma. Their research on adolescents in Pakistan found that those with better emotional regulation strategies, such as problem-solving and cognitive reframing, were significantly less likely to engage in self-harm, despite their exposure to adverse childhood experiences.

Limitations and Future Suggestions of the Study

While this study provides valuable insights, there are several limitations that should be acknowledged. First, the cross-sectional design limits the ability to draw causal inferences about the relationships between maltreatment, coping styles, and self-injury. Future research employing longitudinal designs could offer a deeper understanding of how these variables interact over time. Second, the study relied on self-reported measures, which may be subject to bias. Adolescents might have underreported sensitive behaviors such as self-injury due to social desirability bias or fear of judgment. Additionally, the use of retrospective reporting for child maltreatment may lead to recall bias, as participants might not accurately recall or report past abuse. Another limitation is the focus on a specific population of Pakistani adolescents. While this offers culturally relevant insights, the findings may not be generalizable to adolescents from different cultural or socio-economic backgrounds. Future studies should consider including more diverse samples to examine the broader applicability of the findings.

Further research should aim to explore these relationships in greater detail, with a focus on longitudinal designs and more diverse samples, to develop comprehensive intervention programs that address both the immediate and long-term impacts of childhood trauma on adolescent mental health.

Conclusion

The results of this study highlight the significant role that child maltreatment and coping styles play in the development of self-injurious behaviors in depressed adolescents. Adolescents with a history of maltreatment are more likely to engage in self-injury, particularly if they use maladaptive coping strategies. However, the use of adaptive coping can mitigate the negative effects of maltreatment, reducing the likelihood of self-harm. These findings underscore the importance of fostering adaptive coping mechanisms in therapeutic interventions aimed at high-risk adolescents, particularly those with a history of trauma. Culturally tailored interventions that promote emotional regulation and healthy coping strategies may be especially effective in preventing self-harm among Pakistani adolescents, providing them with the tools they need to navigate their emotional pain in healthier ways.

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