MINH
MALAHAYATI INTERNATIONAL JOURNAL OF NURSING AND HEALTH SCIENCE
ISSN 2620-9152 (Print)
ISSN 2621-4083 (Online)
DOI: 10.33024
Nomor: 79/E/KPT/2023

ARTICLE INFORMATION
Received: June, 17, 2026
Revised: July, 8, 2026
Available online: July, 27, 2026
at : https://e-jurnal.iphorr.com/index.php/minh

Emotion dysregulation and childhood trauma are not significantly associated with NSSI scar cognition among Indonesian emerging adults

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Abstract

Background: Non-Suicidal Self-Injury (NSSI) represents a significant public health issue among emerging adults globally and in Indonesia, heavily framed as a byproduct of emotional and developmental vulnerabilities.
Purpose: To examine whether emotion dysregulation and childhood trauma were individually and jointly associated with NSSI scar cognition among Indonesian emerging adults.
Method: Utilizing a cross-sectional correlational design. Data were collected online via Google Forms using a purposive sampling technique based on specific inclusion criteria from 105 emerging adults aged 18–30 with a history of NSSI within the last 6 months. Instruments included the Non-Suicidal Self-Injury Scar Cognition Scale (NSSI-SCS), Difficulties in Emotion Regulation Scale–18 (DERS-18), and Childhood Trauma Questionnaire–Short Form (CTQ-SF). Data were analyzed using multiple linear regression and Pearson product-moment correlation.
Results: The multiple regression analysis revealed no significant simultaneous relationship between emotion dysregulation, childhood trauma, and NSSI scar cognition ($R = 0.117$, $R^2 = 0.014$, $F = 0.712$, $p = 0.493$). Furthermore, no significant relationship was found partially between emotion dysregulation and NSSI ($r = 0.070$, $p = 0.239$) or between childhood trauma and NSSI ($r = -0.101$, $p = 0.153$), indicating that all proposed hypotheses were not supported.
Conclusion: Emotion dysregulation and childhood trauma were not significantly associated with NSSI scar cognition in this sample. These findings should be interpreted cautiously because of the cross-sectional design, nonprobability sampling, and modified measurement instruments.

Keywords: Childhood Trauma; Emerging Adults; Emotion Dysregulation; Non-Suicidal Self-Injury.

INTRODUCTION

Non-suicidal self-injury (NSSI) is an act in which an individual injures themselves without the intention of committing suicide. Non-suicidal self-injury (NSSI) often occurs in adolescents, and research shows that this behavior can be linked to various psychological, social, and environmental factors (Insani & Savira, 2023).

The phenomenon of Non-Suicidal Self-Injury (NSSI), or self-injurious behavior without suicidal intent, has become a growing concern in modern society, particularly among adolescents and young adults. Data shows that the prevalence of NSSI in adolescents aged 10–19 years ranges from 11.5% to 33.8% across various countries, with a higher prevalence in girls (21.4%) compared to boys (13.7%) (Moloney, Amini, Sinyor, Schaffer, Lanctôt, & Mitchell, 2024). The most common methods used by adolescents include picking, self-biting, hair pulling, and cutting (Andersson, Aspeqvist, Dahlström, Svedin, Jonsson, Landberg, & Zetterqvist, 2022). Research shows that these behaviors are often a way

DOI: https://doi.org/10.33024/minh.v9i5.3610

for individuals to cope with intense emotional distress or deep feelings of emptiness.

NSSI scar cognition often reflects an individual's attempt to cope with intense emotional distress or feelings of emptiness. This phenomenon is increasingly recognized as awareness of mental health issues grows. Non-suicidal self-injury is prevalent among adolescents worldwide, underscoring the importance of understanding the psychological processes underlying this behavior (Moloney et al., 2024).

Research shows that NSSI can be influenced by various factors. Emotional dysregulation is one of the main factors contributing to the emergence of NSSI. NSSI functions as automatic negative reinforcement, namely as a way for individuals to reduce intense negative emotions such as anxiety, sadness, and anger (Nock & Prinstein, 2004). Furthermore, emotional dysregulation is viewed as a key psychological vulnerability that increases the likelihood of individuals using NSSI as a coping strategy when facing emotional distress (Nock, 2009). Emotional dysregulation refers to an individual's inability to manage and regulate their emotions effectively. When individuals are unable to regulate their emotions, they tend to seek maladaptive ways to relieve stress or anxiety, one of which is through self-harm. This is consistent with the view that difficulties in understanding, accepting, and regulating emotions contribute to maladaptive behaviors (Gratz & Roemer, 2004). Empirical evidence further supports this relationship, showing that greater emotional dysregulation is associated with a higher risk of engaging in NSSI (Andersson et al., 2022; Wolff, Thompson, Thomas, Nesi, Bettis, Ransford, & Liu, 2019).

Emotional dysregulation is a condition in which individuals experience difficulty understanding, managing, and responding adaptively to emotions. Emotional regulation encompasses the ability to modify emotional responses to suit the demands of the situation. When this ability is impaired, individuals exhibit high emotional reactivity, impulsivity, and difficulty calming down after experiencing emotional stress (Andover & Morris, 2014). Thus, emotional dysregulation can be understood as a deficit in regulatory skills essential for healthy psychological functioning.

Emotional dysregulation has a significant impact on an individual's psychological well-being. Individuals with high levels of emotional dysregulation tend to experience more intense and prolonged negative emotions and have limited ability to use adaptive coping strategies (Wolff et al., 2019). This condition makes individuals more susceptible to psychological distress and difficulty controlling behavior, thereby increasing the likelihood of various forms of maladaptive behavior. Furthermore, limited tolerance for distress and poor ability to manage emotions encourage individuals to seek quick ways to relieve emotional tension, even if these methods are unhealthy (Hasking, Whitlock, Voon, & Rose, 2016).

Furthermore, emotional dysregulation also acts as a mediator in the relationship between stress and NSSI Scar Cognition. This means that experiencing high levels of stress can increase the likelihood of NSSI SCAR COGNITION through prior failures in emotion regulation (Liu, Wang, Liu, Li, & Xing, 2023). When individuals lack effective emotion regulation strategies, they tend to resort to self-injury as a means of reducing emotional tension or as a form of distraction from perceived distress, even though the resulting effects are only temporary and maladaptive (Hasking et al., 2016).

Furthermore, childhood trauma is considered a significant risk factor associated with the development of non-suicidal self-injury (NSSI) and may contribute to the formation of NSSI scar cognition. Childhood trauma includes adverse experiences such as physical, emotional, and sexual abuse, as well as emotional and physical neglect within the family environment. According to the Developmental Psychopathology Model, traumatic experiences during childhood can disrupt the development of emotion regulation, making it difficult for individuals to understand, manage, and tolerate intense emotions. Consequently, individuals may adopt maladaptive coping strategies, including self-injurious behaviors (Yates, 2004). Empirical evidence further indicates that childhood trauma is significantly associated with NSSI, with emotional dysregulation serving as an important mechanism linking traumatic experiences to self-injurious behavior (Andersson et al., 2022; Serafini, Canepa, Adavastro, Nebbia, Belvederi Murri, Erbuto, & Amore, 2017). Because NSSI scars often

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represent reminders of these experiences, childhood trauma may also influence how individuals perceive and assign meaning to their scars, thereby contributing to the development of NSSI scar cognition.

Similarly, childhood trauma is recognized as a distal risk factor that contributes to the development of psychological vulnerabilities, particularly emotional dysregulation and difficulties in adaptive coping. Individuals who experience traumatic events during childhood may develop difficulties in regulating emotions and managing distress, which can increase their vulnerability to engaging in non-suicidal self-injury (NSSI) as a maladaptive coping strategy when facing stressful situations (Nock, 2009). Empirical evidence also indicates that childhood trauma is significantly associated with an increased risk of NSSI, with emotional dysregulation functioning as an important mechanism underlying this relationship (Andersson et al., 2022; Serafini et al., 2017). These experiences may also influence how individuals interpret and assign meaning to their NSSI scars, contributing to the development of NSSI scar cognition.

Childhood trauma is an experience that is threatening, painful, or exceeds a child's coping capacity, occurring during early development and potentially disrupting long-term psychological functioning. This trauma includes exposure to events that induce fear, helplessness, or a loss of a fundamental sense of safety (Teicher & Samson, 2016). From a developmental perspective, traumatic experiences in childhood have a broader impact than those in adulthood because they occur during a critical phase in the formation of an individual's emotional, cognitive, and neurobiological systems.

Childhood trauma can take various forms, including physical abuse, emotional abuse, sexual abuse, neglect, and exposure to family conflict or domestic violence (Felitti, Anda, R. F., Nordenberg, D., Williamson, Spitz, Edwards, Koss, & Marks, 1998). Furthermore, experiences such as parental loss, neglect, or an emotionally unresponsive family environment also fall under the category of developmental trauma (McLaughlin, Weissman, & Bitrán, 2019). These experiences often occur cumulatively, increasing the severity of the psychological impact on an individual.

The impact of childhood trauma is broad and encompasses various aspects of psychological functioning. Individuals with a history of trauma tend to experience impaired emotional regulation, increased reactivity to stress, and difficulty building healthy interpersonal relationships (McLaughlin et al., 2019). Furthermore, childhood trauma is also associated with changes in neurobiological systems, particularly in areas of the brain involved in emotional processing and responding to threats, making individuals more susceptible to anxiety, depression, and impulsive behavior (Teicher & Samson, 2016). This condition can lead to individuals experiencing intense and prolonged negative emotions and difficulties in adaptively managing distress.

In relation to Non-Suicidal Self-Injury (NSSI) Scar Cognition, childhood trauma plays a significant risk factor in the emergence of this behavior. Individuals who experience trauma often develop emotional vulnerability characterized by difficulties in understanding and managing emotions, making them more susceptible to using maladaptive coping strategies (Ford & Gómez, 2015). NSSI scar cognition then emerges as a form of emotion regulation mechanism, in which individuals self-injure as a way to reduce emotional tension, distract from distress, or gain a sense of control over unbearable internal experiences. Research shows a strong association between childhood trauma experiences and an increased risk of NSSI Scar Cognition, especially when the trauma is accompanied by disturbances in emotion regulation and coping (Norman, Byambaa, De, Butchart, Scott, & Vos, 2012).

The combination of emotional dysregulation and childhood trauma may increase an individual's vulnerability to non-suicidal self-injury (NSSI). Individuals who experience childhood trauma often develop difficulties in emotion regulation, which may impair their ability to manage psychological distress effectively. When these vulnerabilities occur simultaneously, individuals may be more likely to engage in NSSI as a maladaptive strategy to regulate intense emotional experiences (Nock, 2009; Serafini et al., 2017). Empirical evidence indicates that emotional dysregulation plays an important role in the relationship between childhood trauma and NSSI, suggesting that these factors may have an additive

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effect in increasing the risk of self-injurious behaviors (Andersson et al., 2022). Furthermore, repeated experiences of NSSI and the emotional meanings attached to these behaviors may influence how individuals perceive and interpret their scars, potentially contributing to the development of NSSI scar cognition.

Difficulties in emotion regulation are a significant predictor of NSSI Scar Cognition in Indonesian adolescents (Rachma & Hendrawan, 2025). Furthermore, this study also showed that emotion dysregulation acts as a mediator between executive function problems and self-injurious behavior, suggesting that the inability to manage emotions is a key mechanism explaining the emergence of NSSI in adolescents.

Psychological factors, particularly maladaptive emotional coping and stressful life experiences, are significantly associated with NSSI scar cognition among adolescents (Yudiyasiwi & Anganthi, 2024). Adolescents who predominantly rely on emotion-focused coping strategies without adequate emotion regulation skills are more likely to engage in non-suicidal self-injury (NSSI) as a means of managing emotional distress. Psychological and emotional factors have also been identified as significant determinants of NSSI among Indonesian adolescents, highlighting emotion regulation as a key mechanism underlying self-injurious behavior (Iswanti, Lai, Saifudin, Kandar, Dewi, & Cahyaningrum, 2024).

However, a comprehensive mapping of the existing literature reveals significant research gaps that necessitate further exploration within the Indonesian context. First, there are notable inconsistent findings across global studies; while standard paradigms positions emotion dysregulation and childhood trauma as robust direct linear predictors of NSSI scar cognition (Andersson et al., 2022), emerging contemporary evidence suggests that the standalone predictive value of early adversity often dissipates unless it interacts with specific proximal cognitive distortions or acute clinical states (Fu, Li, Ji, Yang, Chen, Guo, & He, 2024; Xie, Liu, Gong, Sun, Li, Liu, Yang, Zhang, Zhu, & Cai, 2023).

Second, investigating this phenomenon within the specific cultural context of Indonesia is critical. The distinct socio-cultural fabric of Indonesian society, characterized by tight-knit communal collectivism and high levels of religiosity, introduces unique psychological buffers and spiritual coping strategies that potentially disrupt or alter the western-centric linear pathways of behavioral maladaptation. Third, despite the severity of self-harming behaviors, the vast majority of local empirical investigations in Indonesia remain heavily saturated within adolescence (Iswanti et al., 2024; Rachma & Hendrawan, 2025; Yudiyasiwi & Anganthi, 2024). Consequently, individuals navigating emerging adulthood (aged 18–30) have been largely overlooked, ignoring the reality that this developmental stage carries distinct, high-stakes psychosocial transitions such as academic burnout, financial instability, and career uncertainty that heavily aggravate psychological vulnerabilities.

Finally, current domestic studies frequently analyze these predictors in isolation, leaving the overarching mediating mechanisms and simultaneous dynamics unexamined. This study directly addresses these gaps by evaluating the concurrent and partial roles of emotion dysregulation and childhood trauma specifically among Indonesian emerging adults. Rather than merely replicating Western frameworks, this manuscript expands the existing literature by testing the structural stability of established psychological predictors against non-Western cultural buffers, thereby offering vital empirical insights necessary for generating culturally nuanced and age-appropriate clinical interventions.

RESEARCH METHOD

This study employed a cross-sectional correlational design to examine the relationships between emotion dysregulation (X_1) and childhood trauma (X_2) as independent variables and non-suicidal self-injury (NSSI) scar cognition (Y) as the dependent variable. This design was selected to investigate associations among variables without experimental manipulation or intervention. Data were collected between April and May 2026. Participants were recruited using purposive voluntary sampling through online dissemination of the survey link via university student organizations, including student associations, student executive boards (BEM), and other student communities. The accessible population comprised approximately 300 individuals who met the recruitment criteria. At the end of the data collection

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period, 105 participants met the eligibility criteria and completed the online questionnaire. Eligible participants were: (1) aged 18–30 years; (2) reported engaging in non-suicidal self-injury within the previous six months and having visible NSSI-related scars; and (3) provided electronic informed consent before participating in the study.

An a priori sample size calculation was conducted using G*Power version 3.1.9.7 for multiple linear regression analysis. Assuming a medium effect size ($f^2 = 0.15$), a significance level of $\alpha = 0.05$, a statistical power of 0.80, and two predictors (emotion dysregulation and childhood trauma), the minimum required sample size was estimated to be 68 participants. A total of 105 participants were included in the final analysis, exceeding the required sample size and providing adequate statistical power.

Participants accessed the online questionnaire through a recruitment link containing information about the study objectives, eligibility criteria, confidentiality, and voluntary participation. Before completing the questionnaire, participants answered screening questions to confirm their age, history of NSSI within the previous six months, and the presence of NSSI-related scars. These eligibility criteria were assessed through self-report. To minimize duplicate responses, Google Forms was configured to limit submissions to one response per Google account. The dataset was subsequently screened by examining submission timestamps, demographic information, and response patterns to identify potential duplicate entries.

Data were collected electronically using Google Forms. Electronic informed consent was obtained from all participants before data collection. Participants were informed about the purpose of the study, the voluntary nature of participation, confidentiality procedures, and their right to withdraw from the study at any time without penalty. Considering the sensitive nature of self-injury, participants were provided with information regarding available psychological support services after completing or withdrawing from the survey. Contact information for KPT Insight crisis support services was provided to facilitate access to professional psychological assistance if participation elicited emotional distress. This study received ethical approval from the Health Research Ethics Committee of Universitas Muria Kudus (Protocol No. 200/Psik.UMK/Um/B.02.3/IV/2026).

NSSI scar cognition was measured using the Non-Suicidal Self-Injury Scar Cognition Scale (NSSI-SCS) developed by Burke et al. (2017). The instrument was translated and culturally adapted into Indonesian following a forward–backward translation procedure. Two independent bilingual translators performed the forward translation, followed by back-translation by an independent translator blinded to the original version. The translated instrument was reviewed by experts in clinical psychology and psychometrics to ensure semantic equivalence, cultural appropriateness, and content validity. The final Indonesian version consisted of 21 items. Responses were scored according to the original instrument, with higher total scores indicating more negative cognitions regarding NSSI scars. In the present study, the instrument demonstrated excellent internal consistency (Cronbach's $\alpha = 0.903$), with corrected item–total correlations ranging from 0.387 to 0.654.

Emotion dysregulation was assessed using the Difficulties in Emotion Regulation Scale–18 (DERS-18), developed from the framework of Gratz and Roemer (2004) and revised by Victor and Klonsky (2016). The Indonesian version underwent forward translation, backward translation, expert review, and cultural adaptation using the same procedures applied to the NSSI-SCS. The final Indonesian version consisted of 16 items. Higher scores reflected greater difficulties in emotion regulation. In the present study, the instrument demonstrated excellent internal consistency (Cronbach's $\alpha = 0.906$), with corrected item–total correlations ranging from 0.385 to 0.719.

Childhood trauma was measured using the Childhood Trauma Questionnaire–Short Form (CTQ-SF) developed by Bernstein et al. (2003). The Indonesian version was translated and culturally adapted using forward translation, backward translation, and expert review to ensure conceptual equivalence and cultural relevance. The final Indonesian version consisted of 22 items. Higher scores indicated greater exposure to childhood traumatic experiences. In the present study, the instrument demonstrated excellent internal consistency (Cronbach's $\alpha = 0.926$), with corrected item–total correlations ranging from 0.358 to 0.708.

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Data were analyzed using IBM SPSS Statistics. Prior to hypothesis testing, the data were screened for completeness and outliers. Assumptions for multiple linear regression were evaluated, including normality, linearity, multicollinearity, and homoscedasticity. Normality was assessed using the Shapiro–Wilk test and visual inspection of Q–Q plots. Multicollinearity was evaluated using tolerance values and variance inflation factors (VIF), while homoscedasticity and linearity were examined through residual scatterplots. Because all questionnaire items in Google Forms were configured as mandatory responses, no missing data were identified. Consequently, all 105 eligible responses were included in the analyses without the need for data imputation or case deletion. Descriptive statistics were used to summarize participants' demographic characteristics and study variables. Pearson's product–moment correlation analysis was performed to examine the bivariate relationships among emotion dysregulation, childhood trauma, and NSSI scar cognition. Subsequently, multiple linear regression analysis was conducted to evaluate the simultaneous contributions of emotion dysregulation and childhood trauma to NSSI scar cognition. All statistical tests were two-tailed, and statistical significance was established at $p < 0.05$.

RESEARCH RESULTS

Table 1. Characteristics of Respondents (N=105)

Variable	Results
Age (Mean±SD)(Range)(Year)	(24.3±2.78)(18-30)
Age (n/%)	
18-20	12/11.4
21-25	63/60.0
26-30	30/28.6
Gender (n/%)	
Female	61/58.1
Male	44/41.9
Employment Status (n/%)	
Employed	30/28.6
Unemployed	17/16.2
School and university students	58/55.2
Region (n/%)	
Central Java	45/42.8
West Java	10/9.5
Special Region of Yogyakarta	5/4.7
East Java	5/4.7
Banten	3/2.9
Central Kalimantan	3/2.9
DKI Jakarta	3/2.9
South Sumatra	3/2.9
Lampung	3/2.9
Southwest Papua	2/1.9
Gorontalo	2/1.9
Bali	2/1.9
South Kalimantan	2/1.9
Aceh	2/1.9
Other Regions (e.g., West Sumatra, South Sulawesi, East Kalimantan)	15/14.3

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Variable	Results
NSSI (n/%)	
Very Low	20/19.0
Low	8/7.6
Moderate	12/11.4
High	15/14.3
Very High	50/47.7
Emotion Dysregulation (n/%)	
Very Low	22/21.0
Low	20/19.0
Moderate	10/9.5
High	11/10.5
Very High	42/40.0
Childhood Trauma (n/%)	
Very Low	51/48.6
Low	4/3.8
Moderate	14/13.3
High	10/9.5
Very High	26/24.8

Table 1 presents the demographic characteristics of the participants and the distribution of the study variables. A total of 105 participants were included in the study, with a mean age of 24.3 years (SD = 2.78; range = 18–30 years). The majority were aged 21–25 years (60.0%), followed by 26–30 years (28.6%) and 18–20 years (11.4%). This refined distribution confirms that the study sample net the inclusion criteria while predominantly capturing young adults navigating critical educational, occupational, and psychosocial transitions.

Most participants were female (58.1%), while 41.9% were male. These findings indicate that female participation was slightly higher than male participation. Nevertheless, both groups were adequately represented, allowing for a balanced overview of respondent characteristics based on gender.

More than half of the participants were school or university students (55.2%), followed by employed (28.6%) and unemployed individuals (16.2%). These results indicate that the sample was primarily drawn from an educational context, although participants from various employment backgrounds were also represented.

Participants were recruited from various provinces across Indonesia, with the largest proportion residing in Central Java (42.8%), followed by West Java (9.5%). The remaining participants were distributed across other provinces, including the Special Region of Yogyakarta, East Java, Banten, Central Kalimantan, DKI Jakarta, South Sumatra, Lampung, Southwest Papua, Gorontalo, Bali, South Kalimantan, Aceh, and several other regions. Overall, the domicile distribution demonstrates that respondents originated from diverse geographical regions throughout Indonesia. This geographical diversity enhances the breadth of perspectives represented in the study and provides a broader understanding of the respondent population.

Regarding the study variables, almost half of the participants were categorized as having very high levels of non-suicidal self-injury (NSSI) (47.7%), whereas 19.0% were classified as very low, 14.3% as high, 11.4% as moderate, and 7.6% as low. Emotion dysregulation showed a similar pattern, with the largest proportion of participants classified in the very high category (40.0%), followed by very low (21.0%), low (19.0%), high (10.5%), and moderate (9.5%). In contrast, childhood trauma was predominantly reported at very low levels (48.6%), while 24.8% of participants reported very high levels, 13.3% moderate levels, 9.5% high levels, and 3.8% low levels.

Prior to primary hypothesis testing, standard parametric assumptions were calculated. Normal distribution was confirmed utilizing the Kolmogorov-Smirnov test with Lilliefors correction. The data distribution was normal as asymptotic significance values exceeded 0.050: NSSI (K-SZ = 0.269, p = 0.200), Emotion Dysregulation (K-SZ = 0.066, p = 0.063), and Childhood Trauma (K-SZ = 0.126, p = 0.136). Linearity evaluation using ANOVA Deviation from Linearity confirmed acceptable linear relationships: NSSI-Emotion Dysregulation (F = 1.455, p = 0.115) and NSSI-Childhood Trauma (F = 1.004, p = 0.471). The major hypothesis concerning the simultaneous relationship was computed using Multiple Linear Regression.

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Table 2. Multiple Linear Regression Matrix (Simultaneous Test)

Model	R	R^2	SE	F	Sig. (p)
1	0.117	0.014	6.663	0.712	0.493

The simultaneous analysis yielded R = 0.117 and an Rxy = 0.014, signifying that emotion dysregulation and childhood trauma collectively account for a mere 1.4% of the variance within NSSI scar cognition, while the remaining 98.6% is determined by unexplained variance. The variance analysis showed an F = 0.712 with p = 0.493, which fails to meet the significance threshold (p > 0.05), thus the major hypothesis was not statistically supported.

Partial relationships were tested using Pearson Product-Moment Correlation to address the minor hypotheses.

Table 3. Partial Correlation Matrix (Minor Hypotheses)

Relationship Pathway	Correlation Coefficient (r)	Coefficient of Determination (R2)	Significance Value (p)	Result
Emotion Dysregulation – NSSI	0.070	0.005	0.239	Rejected
Childhood Trauma – NSSI	-0.101	0.010	0.153	Rejected

The partial correlation between emotion dysregulation and NSSI was r = 0.070 with p = 0.239 (p > 0.05), rendering the first minor hypothesis rejected. The secondary partial correlation between childhood trauma and NSSI scored r = -0.101 with p = 0.153$ (p > 0.05), rendering the second minor hypothesis rejected.

DISCUSSION

The statistical findings generated across all analytical models consistently reject the entire set of hypotheses formulated for this study. The data demonstrates that there is no significant direct linear relationship, either simultaneously or partially, linking emotion dysregulation and childhood trauma directly to the cognitive processing of NSSI Scar Cognition within this specific sample. While these outcomes stand in contrast to mainstream psychological literature that routinely isolates severe emotional regulatory failure and early developmental trauma as direct clinical predictors of self-harming tendencies, they strongly imply that these dynamics do not function through simplistic, direct, linear pathways. Instead, they suggest that the development of NSSI is a highly complex, non-linear process governed by systems of protective factors and multi-stage psychological mechanisms.

Addressing the first minor hypothesis, the correlation between emotion dysregulation and NSSI scar cognition was exceptionally weak and statistically non-significant (r = .070, p = .239). This finding suggests that emotion dysregulation alone does not sufficiently explain how individuals cognitively perceive or interpret their self-inflicted scars. Emotion dysregulation functions as a distal vulnerability factor that increases susceptibility to emotional distress but is generally insufficient to produce self-injurious behavior or its subsequent cognitive meaning in isolation. Rather, NSSI is more likely to emerge when this vulnerability interacts with proximal risk factors, such as acute interpersonal stress, heightened negative affect, psychiatric symptoms, or limited access to adaptive coping strategies (Nock, 2009).

Similarly, individuals experiencing substantial emotion dysregulation do not inevitably cope with distress through self-injury. Instead, the specific behavioral response depends on the individual's learned coping repertoire and cognitive appraisal of emotional experiences. Consequently, emotional distress may be managed through a variety of experiential avoidance strategies, including social withdrawal, substance misuse, compulsive behaviors, or other maladaptive coping mechanisms, rather than through NSSI (Chapman, Gratz, & Brown, 2006).

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Because NSSI scar cognition reflects the personal meanings, interpretations, and emotional significance attributed to existing self-injury scars, these cognitions are likely shaped more directly by factors such as trauma-related beliefs, self-concept, shame, identity, and autobiographical processing than by generalized difficulties in emotion regulation alone. This theoretical perspective provides a plausible explanation for the absence of a significant direct association between emotion dysregulation and NSSI scar cognition observed in the present study.

A primary consideration in contextualizing this lack of statistical significance lies in the demographic profile of the participants, who were predominantly university students and young adults immersed in academic environments. Although these factors were not explicitly measured in the present study, several unexamined variables may have functioned as protective factors that attenuated the association between emotion dysregulation and NSSI scar cognition. Individuals in the developmental stage of emerging adulthood often have greater access to socio-emotional support systems, including peer networks, student organizations, and institutional counseling services, which may enhance adaptive coping and emotional resilience (Arnett, 2000). Furthermore, strong social support has been identified as a psychological buffer that reduces the impact of emotional distress and may interrupt the progression from emotional dysregulation to self-injurious behavior (Klonsky & Muehlenkamp, 2007). Consequently, these unmeasured protective resources may have weakened the direct association between emotion dysregulation and NSSI scar cognition observed in the present study.

Furthermore, within the Indonesian cultural paradigm, high levels of communal religiosity and spiritual coping strategies might provide young adults with structural alternatives to process emotional turbulence. It is highly possible that these unmeasured cultural and institutional variables served as extraneous buffers, thereby blunting the direct linear predictability of the DERS-18 scores relative to actual self-injury within this specific sample. Because religiosity, institutional counseling, and social support were outside the empirical scope of this study, these factors must be strictly interpreted as speculative, alternative explanations rather than definitive conclusions, highlighting critical pathways that future research should formally measure.

Similarly, the second minor hypothesis examining the relationship between childhood trauma and NSSI scar cognition was not supported, demonstrating a weak negative and statistically non-significant correlation ($r = -.101$, $p = .153$). This finding suggests that childhood trauma alone may not directly predict how individuals cognitively perceive or evaluate their self-inflicted scars. From a developmental psychopathology perspective, early relational trauma is believed to disrupt neurobiological stress regulation and impair socio-emotional development; however, its behavioral and psychological consequences are highly heterogeneous and non-linear (Yates, 2004). Consequently, the long-term impact of childhood trauma is likely influenced by multiple interacting factors, including resilience, environmental support, subsequent life experiences, and individual cognitive processing. These intervening factors may explain why childhood trauma did not demonstrate a significant direct association with NSSI scar cognition in the present study.

A key methodological factor behind the statistical insignificance in this study is a restricted range effect within the childhood trauma dataset, where 48.6% of the participants reported exceptionally low scores on the CTQ-SF. Statistically, this severe range restriction deflates correlation coefficients, obscuring underlying relationships that might exist in a sample with a broader distribution of traumatic experiences. Furthermore, while the purposive sampling technique effectively enabled recruitment according to the eligibility criteria for age and active NSSI history, exclusive reliance on online self-report tools within this specific cohort introduces a substantial risk of under-reporting trauma due to social desirability or psychological defense mechanisms like repression and minimization. Subjects experiencing active psychological distress may unconsciously minimize historical abuse to avoid the immediate emotional pain associated with recalling traumatic memories.

The absence of a direct association also suggests the presence of important psychological mediators. Contemporary evidence indicates that the effects of childhood trauma are often transmitted through complex, multi-layered pathways involving maladaptive cognitive and emotional processes, such

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as rumination, self-criticism, shame, and depressive symptoms, rather than exerting a direct influence on self-injurious outcomes. Specifically, childhood trauma has been shown to predict self-injurious behavior more strongly when accompanied by elevated cognitive rumination or clinically significant depressive symptoms (Fu et al., 2024; Xie et al., 2023). Consequently, when these mediating variables are omitted from a direct linear model, the independent predictive effect of childhood trauma may no longer reach statistical significance. At the same time, protective psychological characteristics, including resilience and self-compassion, may buffer the long-term impact of early adversity, enabling individuals with traumatic histories to regulate distress through more adaptive coping strategies rather than engaging in self-injurious behavior.

Ultimately, the regression model evaluated for the major hypothesis proved non-significant ($F = 0.712$, $p = 0.493$), with both independent variables accounting for only 1.4% of the variance in NSSI scar cognition. This confirms that NSSI is an inherently multidimensional phenomenon that cannot be adequately modeled by simplistic, linear, two-predictor formulas. Beyond simple affect regulation, behaviors are heavily sustained by social positive reinforcement, interpersonal communication needs, or alternative unmeasured factors such as peer victimization, borderline personality traits, impulsivity, and acute interpersonal conflicts.

CONCLUSION

This study demonstrates that emotion dysregulation and childhood trauma do not act as direct, linear predictors of Non-Suicidal Self-Injury (NSSI) scar cognition among this emerging adult cohort, as evidenced by their minimal collective variance explanation of only 1.4%. The core contribution of these empirical findings lies in providing robust evidence that simple linear models are fundamentally insufficient to capture the highly intricate cognitive and behavioral mechanics of self-injury within this population. Instead of functioning through straightforward direct causal pathways, early relational trauma and proximal emotional processing difficulties likely influence NSSI scar cognition indirectly through complex, multi-layered mechanisms that involve key mediating variables. Consequently, future research must shift away from direct linear frameworks and focus on testing mediation and moderation models that explicitly evaluate intervening cognitive-affective factors such as clinical depression, chronic rumination, shame, and self-criticism. Additionally, future studies could expand the scope of the purposive criteria or combine it with probability sampling methods, while simultaneously incorporating methodological diversifications like clinical interviews or multi-informant assessments to minimize self-report bias and mitigate the effects of restricted range within trauma datasets.

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