

Causes and Motivations of Non-Suicidal Self-Injury in Everyday Life Scenarios

Chengzhi He^{1,a,*}

¹*The College of Liberal Arts and Sciences, Arizona State University, 1151 S Forest Ave, Arizona, United States*

a. chengzh2@asu.edu.

**corresponding author*

Abstract: Non-suicidal self-injury (NSSI) is a behavior in which a person purposefully injures himself or herself without suicidal intent. NSSI is most common in teens and young adults and has been linked to a number of mental diseases. The risk of future suicide is increased among people who participate in repetitive self-harming practices. Medication and psychotherapy, such as cognitive behavioral therapy, are treatment possibilities. The study conducted a literature review to better understand NSSI among adolescents aged 10 to 29 years. NSSI is motivated both inside and externally. Interventions of NSSI include immediate medical attention for persons suffering from mental illnesses and self-harm. Psychological therapies aim to improve coping skills and emotional regulation. Support and early intervention should be provided by parents, teachers, and healthcare experts.

Keywords: Non-Suicidal Self-Injury, Emotion Dysregulation, Motivation, Self-injury

1. Introduction

Non-Suicidal Self-Injury (NSSI) refers to individuals engaging in self-inflicted bodily harm as a means to alleviate inner distress, interpersonal difficulties, or seek release, without any suicidal intent. NSSI typically begins in early adolescence, around the age of 10, and persists for many years. Compared to other age groups, Adolescents are more likely to experience NSSI, and it is very likely that it will display a recurrent pattern. Notably, repetitive self-injurious behavior increase the risk of future suicide [1].

From a physiological perspective, it is observed that the prefrontal cortex of adolescents, responsible for rational thinking, is still developing. As a consequence, individuals in this demographic exhibit reduced levels of self-control and a weaker capacity to evaluate the ramifications of their behaviors when compared to cohorts of differing age ranges. The prefrontal cortex reaches full maturity at approximately 25 years of age. Consequently, the peak of hospitalization for NSSI among patients occurs in the 20-29 age range and gradually declines thereafter [2]. Typically, hospitals utilize scales to assess the severity of NSSI, such as the Ottawa Self-Injury Scale (OSI) and the Suicide Attempt Self-Injury Interview (SASII). These scales assist doctors in understanding the level of distress about the self-injurious behavior and suicidal intent in patients, enabling them to determine whether hospitalization is necessary to reduce the likelihood of further self-injurious behavior outside the hospital setting.

There are currently two main treatment approaches available to reduce patients' self-injury behavior. Firstly, since NSSI is often associated with conditions such as major depressive disorder (MDD), borderline personality disorder (BPD), obsessive-compulsive disorder (OCD), and binge eating disorders (BED), pharmacological treatment can be utilized to reduce negative emotions and subsequently decrease the probability of self-injury behavior. Antidepressant and anti-anxiety medications, for example, can be employed for this purpose. Secondly, psychological treatment methods such as cognitive-behavioral therapy (CBT) and dialectical behavior therapy (DBT) have been shown to lower the frequency of NSSI in adolescents and young adults [3].

It's crucial to note that NSSI is not just for clinical populations; it is also prevalent among non-clinical individuals, especially during adolescence. Despite being under the supervision of adults, adolescents still find various ways to engage in self-injury behavior, thereby increasing the risk of future suicide. The objective of this study is to examine the factors contributing to self-injury within a specific demography, considering the prevalence of NSSI among adolescents and the focus of this literature review. A thorough understanding of the causes and motivations of NSSI is crucial in identifying effective strategies to reduce such behaviors. This understanding can help therapists, psychiatrists, and family members of patients better comprehend NSSI. Through collaborative efforts, we can strive to minimize the occurrence of future NSSI behaviors among individuals.

2. Method

The database Google scholar, APA Psyc Articles, was used to conduct a comprehensive literature search. The following search terms (and their derivatives) were entered in relation to NSSI, Emotion, Adolescents, Affect Regulation/Emotion Dysregulation, Self-mutilation, Self-injury, Self-harm, Deliberate self-harm (DSH). The primary search terms used were "Adolescents," "Self-mutilation," and "Self-harm." A total of 93 articles were obtained through the search using these keywords, which were then further evaluated based on predefined selection criteria. The criteria for selection are as follows: First, articles that did not include or explicitly specify the reasons for self-harm were excluded. For instance, articles that only mentioned differences in self-injury prevalence among genders without providing specific reasons for gender-related variations were excluded. Second, articles that did not employ observational or survey methods were excluded from the analysis. Third, excluding the correlation studies of NSSI caused by other mental disorders and related behaviors, such as studies on the correlation with suicide attempts.

Following the guidelines outlined in DSM-5, this review primarily focused on articles involving individuals between the ages of 10 and 29 who engaged in self-injury behaviors. After applying these selection criteria, a total of 49 articles were ultimately selected for this review.

3. Literature review

3.1. Definitions and Prevalence of Non-Suicidal Self-Injury

According to the criteria outlined in DSM-5, NSSI has six suggested diagnostic criteria. A. In the past year, the patient has engaged in deliberate self-injurious behavior on five or more days, with the expectation that these actions will not result in death. B. The patient participates in NSSI in hopes of achieving one or more of the following results: 1. To lessen unpleasant feelings. 2. To reconcile conflict with others. 3. To elicit a positive emotional state. C. The self-injurious behavior is associated with one of the following circumstances: 1. Preceded by interpersonal difficulties or negative emotions. 2. Accompanied by a period of indulgence in uncontrollable deliberate actions. 3. Frequent thoughts of self-injury, even in the absence of engaging in NSSI behaviors. D. The behavior is not socially sanctioned, including picking scabs or biting fingers. E. The behavior or its

consequences interfere with interpersonal relationships, academic performance, or other important areas of functioning. F. The behavior cannot be explained by other mental disorders [4].

According to some estimates, the lifetime prevalence of NSSI in adults is anywhere from 5.5% to 17.2%. It has been found that between 30 and 45 percent of adolescents and up to 21 percent of adults in clinical inpatient samples engage in NSSI, and that the prevalence of this behavior has been on the rise over the past few decades [5].

3.2. Self-injury

Non-suicidal self-injury differs from suicide in that patients do not intend for their actions to be lethal, even if some methods (such as cutting wrists with blades) are similar to those used in suicide attempts. Patients may communicate their lack of intention clearly or it may be assumed from their recurrent use of procedures that are manifestly non-lethal [6]. Patients frequently injure themselves repeatedly during a single session, leaving many lesions in the same spot, usually in easily hidden but reaching places (for example, the front of the thighs or the forearms). This pattern of scars is left behind by this action, which is frequently recurrent. Patients frequently give thought to how they self-injury.

The prevalent instances of NSSI encompass actions such as cutting or puncturing the dermis with implements possessing sharp edges, such as knives, razor blades, or needles. NSSI methods can vary widely, including but not limited to cutting, impeding wound healing, burning, biting, excessive alcohol consumption, hitting, pulling hair, forcefully biting or injuring nails, excessive use of illegal drugs, forcefully striking the head, swallowing or drinking inedible substances, attempting to break bones. However, it is important to note that during diagnosis, this behavior cannot be better explained by other mental disorders and physical illnesses, such as trichotillomania for hair pulling mentioned above, alcohol abuse for excessive alcohol consumption, substance use disorder for excessive use of illegal drugs, and pica for swallowing or drinking inedible substances.

3.3. Motivation

3.3.1. Internal motivation

Non-suicidal self-injury has been incorporated into the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), albeit classified as a "condition necessitating additional investigation". So far, no medications have been approved for the treatment of NSSI. Numerous studies have extensively investigated the strong correlation between NSSI and several mental diseases, including PTSD, dissociative disorders, OCD, mood disorders, substance use disorders, and BPD. The most common diagnoses among NSSI patients are depression, bipolar disorder, and borderline personality disorder. Self-harm is frequently used by people who engage in NSSI as a method to alleviate unpleasant feelings and to produce pleasant feelings or positive mental states in themselves. After NSSI, patients who immediately feel a reduction in negative feelings or an induction of pleasant emotions have a larger tendency to engage in NSSI as a recurrent practice. Patients may, throughout the course of treatment, come to view NSSI as an avoidance technique or a rewarding process, hence displaying addictive characteristics. From a physiological perspective, NSSI has been found to be linked to the reward system. Based on empirical investigations, it has been observed that persons who engage in NSSI have notable activation in the dorsal and ventral striatum regions. These regions are closely linked to reward processing, addiction, and impulsive behaviors. This activation pattern has been found to be more pronounced in comparison to individuals without a history of NSSI, as documented by Yu, Deng, and Li (2021). Persons who engage in NSSI also exhibit atypical activation patterns in the dorsolateral prefrontal cortex, mirroring the aberrant neural activity observed in brain regions of persons with compromised

impulse control and substance addiction [7,8]. Therefore, NSSI is correlated with heightened impulsivity and reward systems.

3.3.2. Social Motivation

Non-suicidal self-injury can be perpetuated through the application of Skinner's operant conditioning framework. This framework encompasses positive reinforcement, whereby the occurrence of a behavior is followed by a good consequence that enhances the likelihood of future engagement in that behavior. Additionally, negative reinforcement is involved, which entails the removal or reduction of pre-existing aversive stimuli to promote the occurrence of these behaviors more frequently [4]. As a form of positive reinforcement, NSSI can serve as a means of communication for individuals. When verbal communication or less extreme strategies fail to achieve the desired outcomes and result in unresponsiveness or ineffectiveness, conventional strategies may not produce the expected results. As a result, individuals may engage in NSSI as a means to enhance the strength of their signals and promote more efficient social engagement, including obtaining the attention of others through self-injurious behavior. NSSI is more likely than low-intensity or low-cost behaviors to elicit the desired responses from others [9]. As a form of negative reinforcement, NSSI can function as a means of social avoidance. Negative reinforcement occurs when an individual engages in certain behaviors to avoid or reduce unpleasant social situations or interpersonal demands. Through the act of self-injury, individuals may find momentary alleviation from feelings of anxiety, emotional distress, or societal expectations, as their attention is redirected from external difficulties to the physical sensations arising from self-inflicted wounds. Consequently, this negative reinforcement strengthens the connection between self-injury and the alleviation of social difficulties, perpetuating a harmful cycle [10].

Childhood traumatic experiences are highly correlated with self-injury behavior. This correlation may involve the development of emotional processing abilities and coping mechanisms [2,8]. Family environment and parenting styles can influence an individual's emotional regulation, particularly during childhood. According to research, families comprising of middle school adolescents that engage in nonsuicidal self-injury behaviors exhibit reduced levels of intimacy and adjustment, while also displaying a higher propensity for utilizing emotion regulation mechanisms that involve inhibitory expressions [11]. Adverse familial circumstances experienced throughout childhood, such as socioeconomic disadvantage, parental marital dissolution, chronic parental sickness, familial bereavement, and exposure to inter-parental violence, have the potential to impact the basic beliefs of adolescents and influence their adoption of emotion regulation mechanisms. This can result in emotional dysregulation, making individuals more prone to immature coping mechanisms like avoidance and self-blame [12]. These strategies might arise from not having learned healthier, positive ways to deal with life's challenges and setbacks. These coping mechanisms have the potential to exacerbate emotional and behavioral instability, thus raising the probability of adolescents resorting to self-injury behaviors, substance abuse, impulsive actions, and other similar strategies in order to alleviate the negative emotions resulting from encountered difficulties and setbacks.

It is possible that the people to whom teenagers are exposed have an effect on the adolescent population's tendency to engage in self-injurious behavior [13]. Teenagers who have been diagnosed with mental health issues are more likely to hang out with peers who have a history of self-harm, which can lead to the gradual development of the impression that self-harm could be an effective method of coping with emotional pain. In addition, other factors, like as the internet, movies, literature, and news coverage, all have a significant role in the spread of self-injurious behaviors.

4. Interventions and Future directions

There exist numerous avenues to mitigate self-injurious behavior, facilitated by both social and intrinsic reasons. It is imperative for those experiencing serious mental diseases accompanied by non-suicidal self-injury symptoms to promptly seek medical assistance. Within the context of a hospital environment, it is imperative for both physicians and nurses to augment patient monitoring in order to mitigate instances of self-harm and mitigate the occurrence of adverse emotional states. In the context of psychological therapy, it is imperative for therapists to facilitate patients in discovering more appropriate strategies for managing stress, augmenting their mindfulness of emotional states, and imparting tools for emotional regulation. When children exhibit self-injurious behaviors, it is imperative for parents and teachers to promptly acknowledge these behaviors, attentively listen to the concerns expressed by the persons, and effectively address them to mitigate the development of adverse emotional states. In the event of an increase in self-injurious conduct, prompt medical intervention is imperative, as recurrent instances of self-harm have the potential to result in permanent outcomes.

5. Conclusion

Non-suicidal self-injury is a significant issue that often goes unnoticed by others. This behavior is prevalent among individuals in a particular age group, and repeated instances of self-injury increase the risk of future suicide. Through a thorough analysis of the existing literature, it has been determined that NSSI is influenced by both internal and social factors. Internal motivations include the regulation of emotions, the pursuit of positive emotional states, and the addictive nature of NSSI itself. Social motivations, on the other hand, revolve around avoiding communication and situations that evoke social aversion.

Regarding treatment, it is imperative for social workers, family members, and healthcare professionals to offer support and implement appropriate intervention measures for individuals displaying NSSI symptoms. Looking ahead, it is crucial to introduce early interventions within social and healthcare settings that specifically target individuals exhibiting signs of NSSI. Hospitals should improve their monitoring practices while addressing patients' negative emotions, thereby minimizing opportunities for self-injury. Psychological interventions should primarily focus on helping individuals develop healthier coping mechanisms, fostering emotional awareness, and teaching skills for emotion regulation. Additionally, parents and teachers should maintain a vigilant approach, attentively listen to adolescents' inner experiences, and extend support whenever necessary.

References

- [1] Guan, K., Fox, K. R., & Prinstein, M. J. (2012). Nonsuicidal self-injury as a time-invariant predictor of adolescent suicide ideation and attempts in a diverse community sample. *Journal of consulting and clinical psychology, 80*(5), 842–849.
- [2] Xu, X., & Hu, Z. (2022). A review of psychosocial mediating factors between childhood trauma and non-suicidal self-injury in adolescents. *Chinese Mental Health Journal, 2022*(12), 1079–1083.
- [3] HU, C., & HUANG, J. (2022). The impact of emotional dysregulation on nonsuicidal self-injury among adolescents diagnosed with mood disorders. *Zhejiang Medical Journal, 2022*(17), 1833–1836.
- [4] American Psychiatric Association. (2022). *Conditions for Further Study, In Diagnostic and statistical manual of mental disorders (5th ed., text rev.)*.
- [5] Qu, D., Wen, X., Liu, B., Zhang, X., He, Y., Chen, D., Duan, X., Yu, J., Liu, D., Zhang, X., Ou, J., Zhou, J., Cui, Z., An, J., Wang, Y., Zhou, X., Yuan, T., Tang, J., Yue, W., & Chen, R. (2023). Non-suicidal self-injury in Chinese population: A scoping review of prevalence, method, risk factors and preventive interventions. *The Lancet Regional Health - Western Pacific, 37*, 100794.

- [6] CHEN, Y., & YAN, W. (2022). *Neurobiological mechanism and research progress of non-suicidal self-injury*. *China Journal of Health Psychology*, 2022(04), 635–640.
- [7] JIA, X., WANG, T., & WANG, C. (2023). *The Association Between Non-Suicidal Self-Injurious Conduct and Psychopathological Issues*. *Journal of Neuroscience and Mental Health*, 23(1).
- [8] CHEN, X., & TANG, H. (2019). *Relationship of Bullying Victimization and Emotional Behavior to Non-Suicidal Self-Harm in Middle School Students*. *Journal of Nanchang University (Medicine)*, 2019(01), 71–75.
- [9] CHEN, H., & ZHOU, J. (2022). *Advances in the Study of Addictive Characteristics of Non-Suicidal Self-Injurious Behavior*. *Chinese Journal of Psychiatry*, 2022(55), 64–68.
- [10] GUO, Y., & HUANG, Y. (2021). *Factors Influencing Non-Suicidal Self-Injurious Behavior and Its Relationship with Suicide Among Adolescents: A Study*. *Chinese Journal of Disease Prevention and Control*, 2021(07), 817–822.
- [11] YU, C., DENG, Y., & LI, M. (2021). *The Cognitive, Neural and Genetic Mechanisms of Non-suicidal Self-injury*. *Journal of South China Normal University (Social Science Edition)*, 2021(2), 137–145.
- [12] ZHAO, T. (2021). *The Impact of Emotion Regulation Strategies and Family Function on Non-Suicidal Self-Injury in Adolescents*. *Chinese Journal of Child Health Care*, 2021(29), 946–950.
- [13] Wan, Y., Chen, R., Ma, S., McFeeters, D., Ma, J., Hao, J., & Tao, F. (2018). *The Impact of Adverse Childhood Experiences and Social Support on Self-Injurious Behavior and Suicidality in Adolescents*. *British Journal of Psychiatry*, 214(3), 146–152.