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Risk factors for nonsuicidal self-injury: A review of the evidence

Understanding the differences in risk for adolescents and adults can help inform treatment

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Nonsuicidal self-injury (NSSI) is the direct and deliberate destruction of body tissue without intent to die.[1] Common forms of NSSI include cutting, burning, scraping/scratching skin, biting, hitting, and interfering with wound healing.[2] Functional theories suggest that NSSI temporarily alleviates overwhelming negative emotions and can produce feelings of relief, resulting in a reinforcing effect.[3]

NSSI has been shown to be a risk factor for future suicide attempts.[4] A 2018 study found that NSSI is associated with an increased risk of subsequent suicidal ideation (odds ratio [OR] 2.8), suicide plan (OR 3.0), and suicide attempt (OR 5.5).[5] NSSI is also associated with individuals who had suicidal ideation and formed a suicide plan, and individuals who had a suicide plan and attempted suicide (ORs 1.7 to 2.1).[5] Another study found that 70% of adolescents who engage in NSSI have attempted suicide during their lifetime, and 55% have multiple attempts.[6]

Given the overlap between suicide attempts and NSSI, performing a thorough suicide risk assessment (which is beyond the scope of this article) is crucial. This article describes the static and dynamic risk factors for NSSI in adolescents and adults, which can help us perform a suicide risk assessment and allow us to formulate an appropriate treatment plan that includes safety-based interventions.

continued

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Risk factors for NSSI

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Endogenous opioids, monoamine neurotransmitters, and the HPA axis may play a role in nonsuicidal self-injury

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NSSI risk factors for adolescents

From developing sexual identity and undergoing puberty to achieving increased independence from their parents and developing a sense of autonomy, adolescents undergo many biological, psychological, and social changes before reaching adulthood.[7] Data suggest that NSSI often begins in adolescence, with a typical onset at age 13 or 14.[3] Community studies show that one-third to one-half of adolescents in the United States have engaged in NSSI.[8,9] Previously, NSSI during adolescence was associated with 3 major diagnostic categories: eating disorders, developmental disabilities, and borderline personality disorder (BPD).[10] However, recent data suggest that NSSI is also common outside of these categories. Here we describe static and dynamic risk factors for NSSI in adolescents (***Table 1,***[11-42] ***page 17***). ***Table 2***[11-42] (***page 18***) summarizes the studies of NSSI in adolescents that we reviewed.

Static risk factors

Female adolescents and adults engage in NSSI at higher rates than males. The difference is larger in clinical populations compared to the general population.[11]

A large portion of research about NSSI has been conducted in studies in which the majority of participants were White.[12] Most studies report a higher prevalence of NSSI among non-Hispanic White youth,[13] but some suggest other ethnic groups may also experience high rates of self-harm and NSSI.[13-15] Several studies have demonstrated high rates of self-harm among South Asian adult females compared with White adult females, but this difference may be less pronounced in adolescents.[14] One study in the United Kingdom found that White females age 10 to 14 had higher rates of self-harm compared to South Asian females,[14] while another found that risk and rates of self-harm in young South Asian people varied by city and country of origin.[15] Young Black females[15] and young Black males[13] also may be at an increased risk of self-harm. One review found that Black females were more likely to self-harm than Asian or White groups.[15]

Several studies suggest that sexual minority adolescents (SMA) (eg, lesbian, gay, bisexual, transgender, queer) are at greater risk for NSSI than heterosexual adolescents.[16] SMA have been shown to engage in a significantly greater frequency of NSSI and more types of NSSI than heterosexual adolescents.[16] Furthermore, on the Inventory of Statements about Self-Injury, SMA self-reported using NSSI for intrapersonal functions (eg, for affect regulation, antisuicide, self-punishment) significantly greater than their heterosexual peers; however, there were no significant differences between the 2 groups on interpersonal functions (eg, autonomy, interpersonal boundaries, peer bonding, sensation-seeking).[16]

Transgender and gender nonconfirming (GNC) youth are at a particularly high risk for NSSI; 30% to 45.5% of transgender adolescents report self-injury.[17] Factors shown to distinguish transgender/GNC youth who engage in NSSI from those who do not include having a mental health problem, depression, running away from home, substance use, lower self-esteem/greater self-criticism, experiencing transphobia victimization, and having more interpersonal problems.[18,19] Among transgender/GNC youth, those whose biological sex is female are more likely to report NSSI than those whose biological sex is male (ie, transgendered adolescent males are more likely to report NSSI than transgendered adolescent females).[18,19]

Most forms of childhood maltreatment have been associated with NSSI. In a recently published review, Liu et al[20] found that childhood maltreatment (including sexual abuse, physical abuse, emotional abuse, and physical neglect) was associated with an increased risk for NSSI. However, conflicting evidence suggests that when confounders are removed, only childhood emotional abuse was directly associated with NSSI.[21] Current evidence is modest for childhood emotional neglect as a risk factor for NSSI.[20]

Increasing research is investigating the biological processes that may be implicated in NSSI. Some studies suggest that endogenous opioids,[22] monoamine neurotransmitters,[22] and the hypothalamic-pituitary-adrenal (HPA) axis[23] may play a role in NSSI. Compared to healthy controls, adolescents engaging in NSSI have been

Table 1

Risk factors for nonsuicidal self-injury in adolescents

Static risk factors	Dynamic risk factors
• Female gender • Certain ethnic minorities • Sexual and gender minorities • Childhood maltreatment • Biological processes (although medications could alter this factor)	• Bullying (victimization and perpetration) • Internet addiction/high level of internet use • Certain youth subcultures (eg, goth, emo) • Impulsivity • Loneliness • School absenteeism • High family conflict • Low parental monitoring • Low maternal support and warmth • Parental alcohol abuse • Parental adversity • Substance use • Emotional dysregulation • Sleep problems

Source: References 11-42

shown to have lower pain intensity ($P = .036$), higher pain thresholds ($P = .040$), and lower beta-endorphins (endogenous opioid hormones involved in mediating stress and pain) ($P = .002$).[24] There may be alterations in the HPA axis among adolescents who engage in NSSI, more specifically stronger cortisol awakening responses.[23] Both functional and standard MRI have been used to study the neurobiology of NSSI. One study demonstrated differences in functional connectivity between brain areas linked to neuroregulation of emotions in adolescents who engage in NSSI,[25] while another found volume reduction in the insula of these adolescents, which suggests a possible neurobiological reason for impulsivity and the increased risk of suicidal behavior.[26]

Dynamic risk factors

Research has repeatedly shown bullying is a risk factor for NSSI.[27] One study found that younger children who were victimized reported significantly more NSSI than older children.[28] New data suggest that perpetrators of bullying are also at risk for deliberate self-harm behavior (SHB), which this study defined as a behavior that is intended to cause self-harm but without suicidal intent and having a nonfatal outcome.[29] Victims of cyberbullying also are at a greater risk for self-harm, suicidal behaviors, and suicide attempt.[30] To a lesser extent, cyberbullying perpetrators are at greater risk for suicidal behaviors and suicidal ideation.[30] Bullying is a risk factor for NSSI not only in adolescence, but also in adulthood. Lereya et al[31] found that victims of bullying in childhood and early adolescence were more likely to have mental health problems (including anxiety and depression) and more likely to engage in SHB—which this study defined as hurting oneself on purpose in any way—as adults.

The effects of internet use on adolescents' mental health also has been investigated. A recent review that explored the relationship between all types of internet use (general use, internet addiction, social media, self-harm websites, forums, etc) and SHB/suicidal behavior found that young people with internet addiction, high levels of internet use, and a tendency to view websites with self-harm or suicidal content were at higher risk of engaging in SHB/suicidal behavior.[32] This study did not use a specific definition for SHB or suicidal behavior.[32]

Membership in certain youth subcultures (eg, emo or goth) has been evaluated as potential risk factors for depression and deliberate self-harm. Bowes et al[33] found that for each unit increase in goth affiliation (not at all, not very much, somewhat, more than somewhat, very much), youth were 1.52 times more likely to engage in SHB; these researchers also reported a dose-response association between goth identification and future SHB. This study asked participants if they have ever tried to harm or hurt themselves in any manner, but did not distinguish between individuals who

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Research has repeatedly shown that bullying is a risk factor for nonsuicidal self-injury

Risk factors for NSSI

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Young people with internet addiction may be at higher risk for nonsuicidal self-injury

Table 2

Nonsuicidal self-injury in adolescents: Select studies

Study	Design, N, and/or age range, y	Major findings
Bresin et al[11]	Meta-analysis 245,506, 11 to 55	Women were more likely than men to report engaging in NSSI (OR 1.50) as well to engage in cutting, biting, scratching, pinching, hairpulling, and interfering with wound healing (OR >1 in all cases)
Gholamrezaei et al[12]	Systematic review 43,509, age not specified	Characteristics and functions of NSSI varied between Western and non-Western cultures. Gender and socioeconomic status may mediate the relationship between ethnicity and NSSI
Rojas-Velasquez et al[13]	Systematic review 14,611, mean: 13 to 25	Non-Hispanic White youth had the highest risk of NSSI, but African American males may also be at an increased risk
Bhui et al[14]	Literature review of 25 articles "adolescents"	Asian females ages 10 to 14 experienced higher rates of self-harm than White females in the same age group. Asian and White females had higher rates of self-harm than their male counterparts
Cooper et al[15]	20,574, 16 to 64	Among patients who presented to the emergency department for self-harm, rates were highest in young Black females (age 16 to 34). Older South Asian patients had lower relative rates of self-harm than White patients
Peters et al[16]	52, 12 to 18	Among inpatients, SMA reported higher rates of NSSI compared to heterosexual adolescents. SMA had higher rates of suicide ideation but not suicide behavior
Connolly et al[17]	Systematic review 301,500, age not specified	Transgender youth had higher rates of self-harm, eating disorders, depression, and suicidality
Taliaferro et al[18]	1,635, 9th and 11th grade	52% reported NSSI within past year. NSSI was associated with depression, running away from home, and substance use
Arcelus et al[19]	286, 17 to 25	Lifetime NSSI was 46.3%. NSSI was associated with psychopathology, lower self-esteem, having experienced greater transphobic victimization, and natal female gender
Liu et al[20]	Meta-analysis 114,128, <18	Except for childhood emotional neglect, childhood maltreatment was associated with NSSI
Thomassin et al[21]	95, 10 to 17	Childhood emotional abuse was directly associated with lifetime frequency of NSSI
Stanley et al[22]	29, 18 to 65	Individuals with a history of NSSI had lower levels of CSF beta-endorphin and met-enkephalin than those with no history of NSSI
Reichl et al[23]	52, 14 to 18	Adolescents engaging in NSSI had higher cortisol awakening responses compared to adolescents who did not engage in NSSI
van der Venne et al[24]	129, 12 to 17	Adolescents engaging in NSSI had increased pain threshold, lower pain intensity, and lower plasma beta-endorphin levels compared to adolescents who did not engage in NSSI
Osuch et al[25]	28, 16 to 24	Reward-processing areas in the brain of adolescents who engaged in NSSI were different from those areas in adolescents who did not engage in NSSI
Ando et al[26]	50, 14 to 17	There was volume reduction in the insula and anterior cingulate cortex in adolescents engaging in NSSI
Karanikola et al[27]	Systemic review 205,778, <20	School bullying victimization was associated with self-harm (including NSSI), with a dose-response effect. Depression was a mediator
van Geel et al[28]	Meta-analysis 20,898, 10 to 19	There was a positive and significant relationship between NSSI and peer victimization, especially among younger youth

Table 2 continued

Study	Design, N, and/or age range, y	Major findings
Heerde et al[29]	Meta-analysis 156,284, 11 to 19	Exposure to bullying, either as a perpetrator or victim, posed a risk for deliberate self-harm
John et al[30]	Systemic review 156,384, <25	Cyberbullying victims were at a greater risk than nonvictims for NSSI and suicide ideation; to a lesser extent, perpetrators were at a greater risk compared to nonperpetrators
Lereya et al[31]	5,446, 8 to 26	Children and adolescents who were bullied had a higher risk of overall mental health problems, anxiety, depression, and self-harm
Marchant et al[32]	Systemic review 192,950, <25	NSSI was associated with internet addiction, high levels of internet use, and viewing web sites with self-harm or suicide content
Bowes et al[33]	3,694, 15	Persons identifying as goth subculture may be at increased risk of depression and self-harm behavior
Costa et al[34]	505, 12 to 17	The prevalence of NSSI disorder (DSM-5) was 6.5%. The motive was to relieve emptiness/stop bad feelings. NSSI was more prevalent in females than in males
McHugh et al[35]	2,493, 12 to 30	Deficits in inhibitory control and impulsive decision-making were associated with self-harm and suicidal behaviors
Epstein et al[36]	Systemic review 1,427,560, 10 to 20	School absenteeism was associated with self-harm and suicidal ideation in young people, but this evidence was from a small number of cross-sectional studies
DeVille et al[37]	11,814, 9 to 10	High family conflict and low parental monitoring were associated with suicidality and NSSI in children
Tschan et al[38]	116, 13 to 20	Adolescents with NSSI reported significantly less maternal warmth and support; mothers of adolescents with NSSI reported higher depression, anxiety, and stress
Pisinger et al[39]	75,853, 15 to 25	Individuals with parental alcohol problems had higher odds of self-injury, suicidal ideation, and suicide attempts compared to those without parental alcohol problems
Pitkänen et al[40]	155,855, 0 to 14	Parental adversities increased the risk of self-harm in children. This risk was higher with multiple experiences of parental adversities
Monto et al[41]	64,671, "high school age"	Depression, suicidal thoughts/plans/attempts, sexual minority status, being electronically bullied, smoking, and substance use were associated with NSSI in high school students in the United States
Hysing et al[42]	10,220, 16 to 19	Insomnia, short sleep duration, long sleep onset latency, wake after sleep onset, and large differences in sleep between weekdays vs weekends were associated with higher risk of NSSI. Depression partially mediated this association

NSSI: nonsuicidal self-injury; OR: odds ratio; SMA: sexual minority adolescents

had harmed themselves with and without suicidal intent.[33]

Personality traits such as impulsiveness and loneliness have been linked to NSSI among adolescents.[34,35] A recent study found that adolescents who met the proposed DSM-5 diagnostic criteria for NSSI scored higher on the Barratt Impulsiveness Scale, specifically in measures of:

- motor impulsiveness (ie, acting without thinking)
- attentional impulsiveness (ie, making decisions quickly)
- impulsiveness due to lack of planning (ie, failure to plan for the future).[34]

This study also found that adolescents who identified as being lonely based on scores on the Brazilian Loneliness Scale were at a higher risk for NSSI.[34]

A recent systematic review (32 studies) and meta-analysis (9 studies) found that school absenteeism was associated with a

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Impulsiveness and loneliness have been linked to nonsuicidal self-injury in adolescents

Risk factors for NSSI

Clinical Point

Compared to heterosexual or cisgender individuals, members of sexual and gender minorities have a higher prevalence of NSSI

risk of self-harm (pooled aOR 1.37, P = .01) and suicidal ideation (pooled aOR 1.20, P = .03).[36] This study suggested that school absenteeism, an important marker of social exclusion, was associated with both SHB and suicidal ideation in young people.[36] It defined SHB as any act of self-injury or self-poisoning, regardless of intent.[36]

Finally, family-related factors have been associated with an increased risk of NSSI. One study of 11,814 children age 9 and 10 revealed that high family conflict (OR 1.09; 95% CI, 1.05 to 1.14) and low parental monitoring (OR 0.95; 95% CI, 0.93 to 0.98) were associated with NSSI.[37] A smaller, community-based study found that adolescents with NSSI reported significantly less maternal support and warmth than nonclinical controls, but a cause-and-effect relationship has not yet been determined.[38] Parental history alone may influence adolescents' risk of NSSI. A study that included nearly 76,000 youth found that adolescents with perceived parental alcohol problems had higher odds of self-injury, suicidal ideation, and suicide attempts.[39] Adolescents exposed to maternal or paternal adversities were also at a higher risk of self-harm (hazard ratio 1.5 to 5.4 among males, 1.7 to 3.9 among females).[40]

NSSI risk factors for adults

Although data regarding the prevalence of NSSI in adults are lacking, available studies report a 12-month prevalence of 0.9%[2] and a lifetime prevalence of 5.5% to 5.9%.[43] There is a significant overlap in risk factors for NSSI in adolescent and adult populations, but there are also many important differences. The static and dynamic risk factors for NSSI in adults are described in ***Table 3***[44-66] (***page 21***). ***Table 4***[44-66] (***page 22***) summarizes the studies of NSSI in adults that we reviewed.

Static risk factors

Research findings regarding the prevalence of NSSI based on gender are varied. For years, it has been believed that women are more likely to engage in NSSI than men. Recent meta-analyses that have examined this relationship closely found that the gender difference is larger for clinical samples compared to community samples and more pronounced in younger individuals.[11]

As is the case with adolescents, there may be ethnic variations in rates of self-harm and NSSI among adults. A 2013 study by Chesin et al[44] found that Asian and White young adults experience higher rates of NSSI than their Hispanic and Black counterparts. Evidence suggests that relative rates of self-harm for older South Asian adults are lower than in older White adults.[15]

Compared to heterosexual or cisgender individuals, members of sexual and gender minorities have a higher past-year and lifetime prevalence of NSSI.[45] One study found that the weighted effect size between sexual orientation and NSSI had an OR of 3 (95% CI, 2.46 to 3.66), indicating a medium-to-large effect.[46] Bisexual and transgender individuals appear to be at the highest risk for NSSI when compared to members of other sexual and gender minority groups.[45] One review that included mostly cross-sectional studies found that individuals identifying as bisexual had up to 6 times the odds of engaging in NSSI when compared to those of other sexual orientations.[47]

Incarceration is a risk factor for NSSI. The rates of NSSI in criminal justice settings are higher (up to 61%) than in the general adult population (approximately 4%).[48] Recent research found that NSSI serves similar functions in correctional and non-correctional settings, primarily to regulate emotions.[48] However, there is also evidence of higher rates of NSSI being motivated by an attempt to influence the environment (ie, engaging in NSSI in order to be transferred to another prison unit) compared to NSSI in community settings.[48]

Though less robust than data published regarding adolescents, the role of biological processes in adults engaging in NSSI has also been studied. A 2021 study by Störkel et al[49] found that levels of salivary beta-endorphins were significantly lower in adults immediately before engaging in NSSI compared to after NSSI. Furthermore, adults who engage in NSSI have lower levels of met-enkephalin (P < .01), an opioid growth factor, compared to adults who have never engaged in NSSI.[22]

Table 3

Risk factors for nonsuicidal self-injury in adults

Static risk factors	Dynamic risk factors
• Female gender • Certain ethnic minorities • Sexual and gender minorities • Incarceration • Biological processes (although medications could alter this factor)	• Bullying victimization in adolescence • Substance use • Eating disorders • Mood disorders • Psychosis • Dissociative disorder or symptoms • Emotional dysregulation • Intimate partner violence (victimization and perpetration) • Sleep problems

Source: References 44-66

Dynamic risk factors

Individuals who engage in NSSI often report substance use, but there is little data on whether substance use is an independent risk factor for NSSI. Although limited, recent evidence suggests illicit substance use in both adolescents[41] and adults[50] increases risk for NSSI. Richardson et al[50] found that the use of barbiturates, opiates, and sedatives significantly increased the frequency of NSSI, whereas use of marijuana, phencyclidine, and medications used to treat anxiety significantly increased the severity of NSSI. A smaller study conducted in South Africa found that individuals who engage in substance use and NSSI were more likely to be male ($P < .001$).[51]

Eating disorders and NSSI are highly comorbid.[52] The lifetime prevalence of NSSI among individuals with eating disorders ranges from 20.6% to 37.1%.[52,53] Results are inconsistent regarding which eating disorders (if any) are greater risk factors for NSSI. One study found that the prevalence of NSSI in patients with bulimia nervosa was 32.7% (95% CI, 26.9% to 39.1%) vs 21.8% in patients with anorexia nervosa (95% CI, 18.5% to 25.6%).[54] Another study found that individuals with binge eating/purging–type eating disorders reported engaging in NSSI more frequently than those with other types of eating disorders.[55] Among patients with eating disorders who reported NSSI, risk factors included younger age of onset, more negative self-evaluation, more impulsive behavior, concomitant substance use, history of suicide attempts, childhood abuse, and peer aggression.[53,55] Body image dissatisfaction and self-criticism, even in individuals not formally diagnosed with an eating disorder, are small but significant predictors of NSSI.[56,57]

Mood disorders have also been linked to NSSI.[58,59] Anxiety disorders (including generalized anxiety disorder, social phobia, panic disorder, and agoraphobia) as well as anxiety-related disorders such as obsessive-compulsive disorder have been significantly associated with NSSI ($P < .001$), but this relationship decreased in strength when mood instability was removed as a confounder.[58] Among patients with anxiety and anxiety-related disorders, panic disorder and posttraumatic stress disorder (PTSD) have shown the strongest association with NSSI, with pooled aORs of 2.67 and 2.06, respectively.[59]

Recent studies have examined the association of other mental health disorders and symptoms with NSSI, including psychosis[60] and dissociative symptoms.[61] One study found that paranoia, thought control, and auditory hallucinations were significantly associated with NSSI[60]; however, after controlling for concomitant BPD, only paranoia was significantly associated with NSSI.[60] Individuals diagnosed with dissociative disorders were more likely than patients without such disorders to endorse NSSI and suicide attempts.[61]

Emotional dysregulation (EDR)—defined as difficulty understanding, recognizing, and managing one's emotions—has been researched extensively in relation to NSSI.[62] A recent review that included studies of both adolescents and adults reported a significant

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Eating disorders and nonsuicidal self-injury are highly comorbid

Risk factors for NSSI

Clinical Point

Individuals diagnosed with a dissociative disorder are more likely to endorse NSSI and suicide attempts compared to those with no such diagnosis

Table 4

Nonsuicidal self-injury in adults: Select studies

Study	Design, N, and/or age range, y	Major findings
Chesin et al[44]	709, ≥18	21.7% of White young adults and 21.4% of Asian young adults reported clinically significant lifetime NSSI compared to 9.2% of Black young adults and 10.4% of Hispanic young adults
Liu et al[45]	Meta-analysis 244,691, age not specified	NSSI prevalence rates were elevated among sexual minority (29.68% lifetime) and gender minority (46.65% lifetime) individuals compared to their heterosexual and/or cisgender peers (14.57% lifetime). Individuals who were transgender (46.65% lifetime) or bisexual (41.47% lifetime) were at greatest risk
Batejan et al[46]	Meta-analysis 68,848, age not specified	The overall weighted effect size for the relationship between sexual orientation and NSSI using a random-effects model was OR 3.00, indicating a medium-to-large effect. Sexual minority adolescents and individuals who were bisexual were found to be at particularly high risk for NSSI
Dunlop et al[47]	Meta-analysis 194,908, age not specified	Bisexual individuals had up to 6 times the odds of engaging in NSSI compared to those of other sexual orientations
Dixon-Gordon et al[48]	Systematic review 900, age not specified	Although environmental control is a more salient function of NSSI within correctional settings, the primary motive for engaging in NSSI was emotion regulation
Störkel et al[49]	51, age not specified	Beta-endorphin levels immediately before engaging in NSSI were significantly lower than immediately after NSSI
Richardson et al[50]	309, ≥18	Opiates, barbiturates, and sedatives increased the frequency of NSSI behaviors, while phencyclidine and antianxiety medications increased the severity of NSSI behaviors
Breet et al[51]	238, age not specified	Compared to other self-harm patients, patients in a chronic substance use subgroup were more likely to be men (OR 8.33), to have self-harmed by inflicting damage to their body tissue (OR 4.45), and to have a history of self-harm (OR 3.71)
Pérez et al[52]	226, age not specified	Body dissatisfaction and body investment were related to NSSI
Islam et al[53]	1,649, age not specified	Although NSSI was not associated with eating disorder type or gender, individuals with an eating disorder plus NSSI exhibited more impulsive behavior and substance use disorders, were younger, had more previous treatments, exhibited more severe eating disorder and general psychopathological symptoms, and had more dysfunctional personality traits
Cucchi et al[54]	Meta-analysis 6,466, age not specified	The weighted average percentage of patients with a lifetime history of NSSI was 27.3% for those with any eating disorder, 21.8% for anorexia nervosa, and 32.7% for bulimia nervosa
Vieira et al[55]	245, 14 to 49	33% of patients with an eating disorder reported NSSI in their lifetime. NSSI appeared to occur more frequently among patients with binge eating/purging–type eating disorder than among patients with other types of eating disorders and to be related to a more severe eating pathology
Black et al[56]	106, age not specified (adult females only)	Body image dissatisfaction was a small yet significant predictor of NSSI, both cross-sectionally and longitudinally
Zelkowitz et al[57]	Meta-analysis 9,248, age not specified	Findings supported self-criticism as a possible candidate for transdiagnostic pathways to self-harm

Table 4 continued

Study	Design, N, and/or age range, y	Major findings
Peters et al[58]	7,221, ≥16	Participants with an anxiety disorder were more likely to report NSSI (ORs 3.86 to 18.9, all $P < .001$)
Bentley et al[59]	Meta-analysis 39,814, age not specified	Compared to those with no emotional disorders, individuals with an emotional disorder were more likely to report engaging in NSSI (OR 1.75). The largest associations were observed for panic and PTSD; however, the risk of NSSI did not differ significantly across disorders
Koyanagi et al[60]	7,403, ≥16	The overall prevalence of NSSI was 4.7% (5.2% among females and 4.2% among males). NSSI prevalence among those with and without any psychotic-like experiences were 19.2% and 3.9%, respectively
Calati et al[61]	Meta-analysis 1,997, age not specified	Patients with dissociative disorders were more likely to report both previous suicide attempts and NSSI compared to patients without dissociative disorders
Wolff et al[62]	Meta-analysis 21,605, age not specified	Greater emotional dysregulation was associated with a higher risk for NSSI among individuals across settings, regardless of age or sex
Vaughn et al[63]	77,746, ≥18	Prevalence of DSH was 2.91%. African American, Latino, and Asian patients were substantially less likely than White patients to report DSH. DSH was associated with violent behaviors, including robbery, IPV, forced sex, cruelty to animals, and use of a weapon
Levesque et al[64]	537, 18 to 25	Anxiety over abandonment was a significant predictor of NSSI thoughts and behaviors in women and a significant predictor of NSSI thoughts in men. IPV was a significant predictor of NSSI behaviors in men and women
Carranza et al[65]	1,018, ≥18	A significantly higher prevalence of NSSI was found among those who reported bidirectional IPV compared with nonviolent individuals. Rates of NSSI in the unidirectional IPV groups were more similar to the rates of NSSI in the bidirectional group than in nonviolent individuals
Khazaie et al[66]	Meta-analysis 49,719, age not specified, included both adolescents and adults	Short sleep duration, sleep disturbances, and poor sleep quality were associated with NSSI. Emotional dysregulation, depression, and PTSD appeared to mediate this relationship. Adolescents and young adults with sleep disruptions were at higher risk of NSSI

DSH: deliberate self-harm; IPV: intimate partner violence; NSSI: nonsuicidal self-injury; OR: odds ratio; PTSD: posttraumatic stress disorder

association between EDR and NSSI, with an OR of 2.40 (95% CI, 2.01 to 2.86).[62] A larger effect size was observed between EDR and lifetime NSSI (OR 3.21; 95% CI, 2.63 to 3.91) compared to past-year NSSI (OR 2.32; 95% CI, 1.84 to 2.92).[62] Patient age, sex, and sample type (clinical vs community) were not significant moderators of strength between the reported associations.[62]

Studies examining intimate partner violence (IPV) and NSSI have found that young adults who engage in IPV (both as victims and as perpetrators) are more likely to report NSSI.[63-65] Researchers have proposed that anxiety over abandonment may explain this relationship.[64] A recent study found that individuals with bidirectional IPV (ie, both victimization and perpetration) engaged in NSSI at a higher prevalence than those engaging in unidirectional IPV or no IPV.[65] This suggests that relationship violence in general (rather than just being a victim of IPV) may be a risk factor for NSSI.[65]

Finally, studies suggest that adolescents and adults who have sleep problems (insomnia, short sleep duration, long sleep onset latency, waking after sleep onset, and poor quality sleep) are more likely to report

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There is a significant association between emotional dysregulation and nonsuicidal self-injury

Risk factors for NSSI

Related Resources

- American Foundation for Suicide Prevention. https://afsp.org/
- Cipriano A, Cella S, Cotrufo P. Nonsuicidal self-injury: a systematic review. Front Psych. 2017;8:1946. doi:10.3389/fpsyg.2017.01946
- Gold LH, Frierson RL, eds. *Textbook of Suicide Risk Assessment and Management*. 3rd ed. American Psychiatric Association Publishing; 2020.

self-harm or NSSI than those without sleep problems.[42,66] In adults, this relationship is partially mediated by depressive symptoms, EDR, and PTSD.[66] In adolescents, depressive symptoms are a mediator for this relationship.[42]

Clinical Point

The prevalence of NSSI may be increased in both victims and perpetrators of intimate partner violence

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Bottom Line

Nonsuicidal self-injury (NSSI) is a significant health concern due to its association with suicide attempts. Although there are similarities in NSSI risk factors between adolescents and adults, there are also important differences. Understanding these differences is necessary to develop appropriate treatment plans.

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Clinical Point

Adolescents and adults with sleep problems are more likely to report self-harm or nonsuicidal self-injury