

Descriptive Characteristics and Initial Psychometric Properties of the Non-Suicidal Self-Injury Disorder Scale

Sarah Elizabeth Victor MA, Tchiki Davis MA & E. David Klonsky PhD

To cite this article: Sarah Elizabeth Victor MA, Tchiki Davis MA & E. David Klonsky PhD (2016): Descriptive Characteristics and Initial Psychometric Properties of the Non-Suicidal Self-Injury Disorder Scale, Archives of Suicide Research, DOI: [10.1080/13811118.2016.1193078](https://doi.org/10.1080/13811118.2016.1193078)

To link to this article: <http://dx.doi.org/10.1080/13811118.2016.1193078>



Accepted author version posted online: 07 Jun 2016.
Published online: 07 Jun 2016.



Submit your article to this journal [↗](#)



View related articles [↗](#)



View Crossmark data [↗](#)

Descriptive Characteristics and Initial Psychometric Properties of the Non-Suicidal Self-Injury Disorder Scale

Sarah Elizabeth Victor, MA

University of British Columbia, Vancouver

Tchiki Davis, MA

University of California, Berkeley

E. David Klonsky, PhD

University of British Columbia, Vancouver

Address correspondence to Sarah Elizabeth Victor, Doctoral Student, University of British Columbia, Vancouver, UK. E-mail: sevictor@psych.ubc.ca

Abstract

Non-suicidal self-injury (NSSI) is highly prevalent and associated with tissue damage, emotional distress, and psychiatric disorders. While often discussed in the context of Borderline Personality Disorder and suicide, research demonstrates that NSSI is distinct from these constructs and should be viewed as an independent diagnostic category. Recently, Non-Suicidal Self-Injury Disorder (NSSID) was included in the revised Diagnostic and Statistical Manual of Mental Disorders as a condition for further study. In this article, we describe the properties of a self-report measure designed to assess proposed criteria for NSSID.

Undergraduate students at two large, public universities completed the NSSID Scale (NSSIDS) along with other measures of NSSI characteristics and psychopathology. Among participants with a history of NSSI, approximately half (54.55%) met diagnostic criteria for NSSID. Participants were most frequently excluded from an NSSID diagnosis on the basis of criterion A (frequency of NSSI) and criterion E (distress or impairment related to NSSI), while participants were least likely to be excluded from diagnosis on the basis of criterion D (NSSI method exclusions) and criterion F (diagnostic “rule-outs”). Consistent with previous literature, the most commonly reported precipitants to NSSI were negative feelings or thoughts (criterion C2). Participants who met criteria for NSSID reported more severe depression, anxiety, and NSSI than participants who engaged in NSSI but did not meet criteria for NSSID. These results support the use of the NSSIDS as a reliable and valid self-report measure of NSSID symptoms.

Keywords: diagnosis, DSM 5, non-suicidal self-injury, psychometrics, scale development

NSSI, defined as the intentional, direct destruction of one’s own body tissue without suicidal intent (International Society for the Study of Self-Injury, 2007), occurs in a variety of populations, ranging from children and adolescents (Barrocas, Hankin, Young, & Abela, 2012) to adults (Klonsky, 2011). While NSSI is common in community populations (Andover, 2014; Zetterqvist, Lundh, Dahlström, & Svedin, 2013), it is particularly prevalent among adolescents and adults receiving psychiatric services (Glenn & Klonsky, 2013; Nock, Joiner, Gordon, Lloyd-Richardson, & Prinstein, 2006). In addition to its high prevalence in a variety of groups, NSSI is associated with substantial psychological distress and impairment, including suicidality (Hamza, Stewart, & Willoughby, 2012; Selby, Bender, Gordon, Nock, & Joiner, 2012).

Much of the early research on NSSI focused on individuals diagnosed with Borderline Personality Disorder (BPD; see, for example, Soloff, Lis, Kelly, Cornelius, & Ulrich, 1994). More

recent research, however, demonstrates that NSSI frequently occurs in individuals who do not meet diagnostic criteria for BPD (Selby et al., 2012; Zanarini et al., 2008), suggesting that there may be utility in understanding NSSI as its own diagnostic category. Within the last several decades, researchers and clinicians began to call for a set of formal diagnostic criteria for an NSSI psychiatric diagnosis (Muehlenkamp, 2005; Plener & Fegert, 2012; Wilkinson, 2013), and the most recent edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM 5; American Psychiatric Association, 2013) included criteria for a Non-Suicidal Self-Injury Disorder (NSSID) as a condition for further study (for a summary of proposed diagnostic criteria, see **Table 1**). Shaffer and Jacobson (2009), in their proposal for inclusion of an NSSI Disorder in DSM 5, argued for the need to distinguish NSSI both from BPD and from suicide; indeed, there is considerable research to support the classification of NSSI as a distinct entity that can occur independently of BPD and suicide, yet carries clinical significance (Glenn & Klonsky, 2013; Muehlenkamp, 2005; Nock et al., 2006).

While clinicians and researchers report that the proposed criteria are appropriate for assessing self-injury (Lengel & Mullins-Sweatt, 2013), research on the utility of the criteria themselves are limited. Many researchers have drawn preliminary findings on NSSID from existing datasets, in which only certain proposed criteria happened to be assessed (see, for example, Barrocas et al., 2012; Bracken-Minor & McDevitt-Murphy, 2014; Glenn & Klonsky, 2013; Selby et al., 2012), while other work published prior to DSM 5 was based on criteria that differed from those ultimately included in DSM 5 (e.g., Zetterqvist et al., 2013). As a result, literature on the utility of the DSM 5 NSSID criteria is limited.

Since the publication of DSM 5, researchers have begun developing assessment tools for NSSID that appropriately capture all proposed criteria. Washburn, Potthoff, Juzwin, and Styer

(2015) developed the Alexian Brothers Assessment of Self-Injury (ABASI), which includes items keyed to specific DSM 5 NSSID criteria. They demonstrated the measure's reliability and validity in a sample of psychiatric patients receiving treatment for NSSI. While the ABASI is a self-report measure, its utility is limited to psychiatric populations because it does not directly assess criteria E or F (distress, impairment, or diagnostic exclusion criteria), which are instead evaluated through psychiatrists' diagnoses and ratings of overall levels of functioning (2015). In a Swedish study also involving psychiatric patients, researchers developed a semi-structured interview measure of NSSID (Odelius & Ramklint, 2014); while this study provides useful information about the proposed diagnostic criteria in a clinical population, the measure itself requires the use of trained interviewers and is not yet available in English, which limits its utility for many research protocols. Andover (2014) also developed a self-report measure keyed to DSM 5 NSSID criteria and evaluated its use in a sample of adults drawn from an online survey site. Unfortunately, this measure does not directly assess criteria D or F, and as a result, prevalence estimates for NSSID using the measure may be artificially inflated.

In order to address the lack of a comprehensive self-report measure of NSSID criteria in the literature, the authors developed the Non-Suicidal Self-Injury Disorder Scale (NSSIDS) and tested its psychometric properties in two samples of undergraduate students with a history of NSSI. In addition to evaluating the measure itself, we also compared individuals who did and did not meet criteria for NSSID on measures of clinical severity, demographics, and NSSI characteristics, to determine whether a diagnosis of NSSID provides useful information above and beyond a documented history of NSSI behavior.

METHODS

Participants and Procedures

Sample 1 was drawn from a large, public university in western Canada, while sample 2 was drawn from a large, public university in the western United States. Participants were undergraduate students enrolled in Psychology courses, participating in research studies for course credit. All study procedures were conducted in accordance with the universities' research ethics boards.

For sample 1, data were collected as part of a larger study looking at NSSI, and as a result participants with a history of NSSI (as indicated on a pre-participation screening measure) were over-represented in this sample. For sample 2, students were asked to participate in a study on emotion that did not include any prescreening or mention of NSSI; as a result, NSSI characteristics in this sample more closely approximate that of a general undergraduate population. It is likely that these divergent recruitment strategies yielded varying endorsement not only of NSSI in general, but of the NSSID criteria as well. In both samples, only participants reporting at least one instance of NSSI were included in analyses (see below).

Measures

Demographics

In both samples, participants completed a self-report measure of basic demographic characteristics, including gender and age.

Depression and Anxiety

Depression and anxiety were assessed via validated self-report measures in both samples. In sample 1, participants completed the Depression, Anxiety, and Stress Scales, Short Form

(DASS-21; Lovibond & Lovibond, 1995b). This measure provides well-differentiated assessments of depression and anxiety, and has been shown to perform reliably in samples of college students (Lovibond & Lovibond, 1995a). In sample 2, participants completed the Beck Depression Inventory, 2nd Edition (BDI-II; Beck, Steer, & Brown, 1996), a self-report measure of depressive symptoms, as well as the Beck Anxiety Inventory (BAI; Beck & Steer, 1990), a self-report measure of anxiety symptoms. The BDI and BAI are widely used and reliable measures of depression and anxiety symptoms in adults (Julian, 2011; Wang & Gorenstein, 2013).

Self-Injury History

In both samples, the Inventory of Statements About Self-Injury (ISAS; Klonsky & Olino, 2008) was used to screen for any history of NSSI. On the ISAS, participants report the lifetime frequency of 12 NSSI behaviors, as well as “other” types of NSSI. These NSSI behaviors are listed in **Table 2**. In both samples, participants who reported a lifetime NSSI frequency greater than zero on the ISAS were then asked to complete the NSSIDS.

Participants in sample 2 also completed the Deliberate Self-Harm Inventory (DSHI; Gratz, 2001), another self-report measure of NSSI methods, as well as other characteristics of NSSI such as age of onset, medical severity, and frequency. This sample’s participants further completed the Functional Assessment of Self-Mutilation (FASM; Lloyd, Kelley, & Hope, 1997), a measure of NSSI methods in the past year. This measure also includes items assessing whether any NSSI required medical attention, and the frequency of NSSI in the past year.

Non-Suicidal Self-Injury Disorder Criteria

The NSSIDS items were written to align as closely as possible to the wording of NSSID criteria in DSM 5. Full text of the items that comprise the NSSIDS can be found in **Table 1**. For

criterion A, participants reported on two items: the number of days in the past year in which they engaged in NSSI (criterion A – recent), and whether or not they had engaged in NSSI for 5 or more days within a year *prior* to the last year (criterion A – past). For participants who answered “yes” to the latter item, they were asked for the number of days on which they engaged in NSSI in a previous year; for participants who engaged in NSSI across multiple years, respondents were cued to report the maximum number of days in which they engaged in NSSI in any previous year. Participants were coded as meeting criterion A (recent) if they reported 5 or more days with NSSI in the past year, and as meeting criterion A (past) if they answered “yes” to having a previous year in which they engaged in 5 or more instances of NSSI.

For criterion B, participants responded to three items using a seven point Likert scale, with anchor points at 1 (never), 4 (half of the time), and 7 (always). These items assessed the use of NSSI to relief negative feelings or thoughts, to cope with interpersonal problems, and to create positive feelings. Participants were coded as meeting threshold for each item if they scored a 4 or higher (half of the time or greater), and were coded as meeting criterion B overall if they met threshold on at least one of the three items.

For criterion C, participants responded to four items using the same Likert scale. These items assessed interpersonal difficulties prior to NSSI, negative feelings or thoughts before NSSI, preoccupation with NSSI prior to self-harm, and thoughts about NSSI when not engaging in it. Participants were coded as meeting each item if they scored a 4 or higher (half of the time or greater), and were coded as meeting criterion C overall if they met threshold on at least one of the four items.

For criterion D, participants cannot be diagnosed with NSSID if their only methods of NSSI are picking at scabs or biting nails. Because participants completed the ISAS, detailed

information on their methods of NSSI was available. Participants were coded as meeting criterion D if they endorsed a lifetime history of any method of NSSI other than interfering with wound healing on the ISAS (nail biting is not assessed on the ISAS).

For criterion E, participants responded to four items using the same Likert scale described above. These items assessed whether NSSI causes stress, problems with others, academic/work difficulties, or other types of difficulties. Participants were coded as meeting threshold for each item if they scored a 4 or higher (half of the time or greater), and were coded as meeting criterion E if they reached threshold on at least one of the four items. While it may be difficult for some individuals to accurately report their level of distress or impairment around NSSI, the use of self-reported distress and impairment in this questionnaire is consistent with other self-report measures that assess psychiatric diagnoses, such as the Patient Health Questionnaire (Spitzer, Kroenke, & Williams, 1999).

For criterion F, participants responded to three items to assess possible rule-outs for NSSID. Participants responded to one item assessing frequency of NSSI while using drugs or alcohol and one item assessing frequency of NSSI while experiencing hallucinations or delusions, both using the same Likert scale described above. Because the NSSID criteria state that a diagnosis is ruled out only if NSSI occurs *exclusively* during psychosis or substance intoxication, participants were coded as meeting threshold for these two components of criterion F if they provided an answer other than 7 (always) on the Likert scale (e.g., they engage in NSSI at least some of the time while not experiencing psychosis or substance intoxication). Participants also responded to a binary (yes/no) item to indicate whether or not they had been diagnosed with a mental health disorder; if yes, the participant was then prompted to provide the diagnoses they had received. Participants were coded as meeting this component of criterion F as long as none of the listed

diagnoses are exclusions for NSSID (e.g., pervasive developmental disorder, autism spectrum disorder). Participants were only coded as meeting criterion F if they met all three aspects of the criterion (e.g., NSSI not exclusively during substance use, NSSI not exclusively during psychosis, NSSI not due to another disorder).

RESULTS

Sample Characteristics

A total of 164 individuals, all with NSSI histories, participated in the study (sample 1 $n = 63$, sample 2 $n = 101$). Participants were, on average, 20 years old and were predominantly female. For full details on sample characteristics, see **Table 2**.

Participants varied widely in the extent of their NSSI history. In sample 1, participants reported using a median of 4 methods of NSSI, while in sample 2, a median of 2 methods of NSSI was reported. The greater number of methods of NSSI in sample 1 is consistent with that sample being screened into a study specifically regarding NSSI, compared to sample 2, where participants were not screened for an NSSI history. The most common method of NSSI reported in sample 1 was banging (62%), followed by pinching (54%), cutting (51%) and interference with wound healing (51%). The most common methods of NSSI in sample 2 were cutting (38%), followed by hair pulling (29%) and pinching (27%). All twelve methods of NSSI assessed were reported by at least 1 participant in each sample.

Frequency of Endorsement of NSSID Disorder Criteria

For criterion A, 50% of sample 1 and 18% of sample 2 met threshold for current NSSI, while 56% of sample 1 and 24% of sample 2 met criterion A threshold for past NSSI. In total, 65%

of sample 1 and 36% of sample 2 met lifetime threshold for criterion A. Further details on participants' endorsement of each criterion, as well as mean levels of endorsement and range of reported values, can be found in **Tables 3** and **4**.

For criterion B, participants were most likely to endorse using NSSI to obtain relief from negative feelings or thoughts (sample 1: 78%; sample 2: 30%), while the least common criterion B item was the use of NSSI to create a positive feeling (sample 1: 32%; sample 2: 9%). In total, 83% of sample 1 and 35% of sample 2 met threshold for criterion B. For criterion C, participants most frequently reported NSSI occurring following negative feelings or thoughts (sample 1: 88%; sample 2: 40%). The least common item of criterion C was thoughts about NSSI when not engaging in the behaviors (sample 1: 33%; sample 2: 14%). Overall, 90% of sample 1 and 43% sample 2 met threshold for criterion C.

For criterion D, participants reported on their methods of NSSI on the ISAS, including interference with wound healing. Two participants in sample 1 and 7 participants in sample 2 reported interference with wound healing as their only method of NSSI. Therefore, 99% of sample 1 and 93% of sample 2 met criterion D for NSSID.

For criterion E, distress and impairment related to NSSI was less common than other NSSID criteria. Distress was most prevalent in both samples (sample 1: 45%; sample 2: 20%).

In sample 1, other problems related to NSSI were next most common, followed by problems with other people, school, or work related to NSSI; in sample 2, problems with other people were next most common, followed by other problems and then difficulties with work or school. In total, 61% of sample 1 and 25% of sample 2 met threshold for criterion E.

For criterion F, NSSI in the context of psychosis, substance use, or other disorders was relatively rare. Only one participant in each sample reported always engaging in NSSI while using drugs or alcohol, and no participants in either sample reported always engaging in NSSI while experiencing psychosis. In sample 1, 32% of participants ($n = 20$) reported having received a mental health diagnosis; the most common diagnoses were depressive disorders ($n = 10$) and anxiety disorders ($n = 8$). In sample 2, 28% of participants ($n = 23$) reported receiving a psychiatric diagnosis; these were also primarily depressive disorders ($n = 12$) and anxiety disorders ($n = 12$). Only one participant reported a possible exclusionary diagnosis (trichotillomania); because this person endorsed five other methods of NSSI in addition to hair pulling, he or she was coded as meeting threshold for this component of criterion F. In total, 98% of sample 1 and 99% of sample 2 met threshold for criterion F.

In total, criteria A through F were assessed in 49 participants in sample 1 and in 63 participants in sample 2; of those, 49% in sample 1 ($n = 24$) and 19% in sample 2 ($n = 12$) met all criteria for NSSID. Information regarding the criteria on which participants were excluded for NSSID diagnosis can be found in **Figures 1** and **2**.

The ISAS includes assessment of 12 methods of NSSI, some of which (pinching, hair pulling, interference with wound healing) may be less likely to cause tissue damage, depending on the extent and severity of the injury involved. If these methods were removed from the total methods that could be counted towards criterion A, 0 participants in sample 1 (of 24) and 2 participants in sample 2 (of 12) would no longer meet NSSID criteria. Removing the 2 participants from the analyses for sample 2 did not change the pattern of results described below.

Internal Reliability of the NSSIDS

After each item was recoded to a binary variable (threshold met/threshold not met), the internal consistency of the scale was evaluated in each sample using Cronbach's alpha. In sample 1, the overall alpha was .76, which is in the range typically considered to demonstrate good internal consistency. After removing the two items for which there was no variance (criteria F2 and F3), Cronbach's alpha was .77. In sample 2, the overall alpha was .87, demonstrating excellent internal consistency. After removing the two items for which there was no variance (criteria F2 and F3), Cronbach's alpha was .88.

Construct Validity of the NSSIDS

We were interested in determining whether self-injurers who met NSSID criteria differed from self-injurers who did not meet NSSID on variables of clinical interest, such as NSSI methods and characteristics, demographic characteristics, depression, and anxiety, with results indicating greater clinical severity in the NSSID group supporting the construct validity of the NSSIDS. Participants meeting NSSID criteria reported more methods of NSSI on the ISAS than those who did not in both samples (sample 1 Cohen's $d = .69$, $p = .02$; sample 2 Cohen's $d = .80$, $p = .05$). In sample 2, this was also true with respect to the number of methods endorsed on the DSHI (Cohen's $d = .71$, $p = .03$) and on the FASM (Cohen's $d = .82$, $p = .01$). Patients who met NSSID criteria reported greater lifetime (on the DSHI) and past year (on the FASM) NSSI frequency in sample 2, as well, although this difference was only statistically significant for the DSHI (Cohen's $d = 1.18$, $p = .002$; FASM: Cohen's $d = .15$, $p = .74$). With respect to demographic characteristics, there were no statistically significant differences between the two groups in age (sample 1 Cohen's $d = .28$, $p = .36$; sample 2 Cohen's $d = .22$, $p = .57$) or gender (sample 1 Cohen's $d = .69$, $p = .14$; sample 2 Cohen's $d = .11$, $p = .82$).

In sample 1, participants with NSSID reported significantly greater levels of anxiety (Cohen's $d = .70$, $p = .02$) and depression (Cohen's $d = .71$, $p = .02$) on the DASS-21 than participants without NSSID. In sample 2, participants with NSSID also reported higher levels of depression on the BDI than participants without NSSID (Cohen's $d = .81$, $p = .008$), as well as higher levels of anxiety on the BAI than participants without NSSID (Cohen's $d = 1.14$, $p = .007$).

DISCUSSION

Extensive evidence demonstrates that NSSI occurs frequently, has great public health significance, and can be distinguished from other types of psychopathology, supporting the creation of a diagnostic category specific to NSSI (Shaffer & Jacobson, 2009). Since the publication of proposed criteria for NSSID in the most recent edition of the DSM, clinicians and researchers have become interested in developing reliable and valid measures to assess this diagnosis. While multiple tools to assess NSSI behaviors already exist, limited research has focused specifically on measuring the criteria for NSSID, and what measures do exist have been validated in limited samples and do not include items meant to assess the full range of diagnostic criteria. In order to address this gap in the literature, we developed a brief, self-report measure keyed to the proposed criteria for NSSID, the NSSI Disorder Scale (NSSIDS), and validated the measure in two distinct samples of young adults.

Our results suggest that the NSSIDS is internally consistent and appropriately assesses the criteria proposed for NSSID in DSM 5. Additionally, we found that individuals with a history of self-injury who met NSSID criteria based on the NSSIDS exhibited more significant NSSI (on most metrics) and more anxiety and depressive symptoms than individuals with a history of self-

injury who did not meet NSSID criteria. These results support the validity of the NSSID criteria and the use of the NSSIDS to assess those criteria in an adult, nonclinical population.

It is important to note that, because of the use of different recruitment strategies in each sample, the prevalence of specific NSSID criteria varied by sample. Given the broader recruitment strategy for sample 2, the prevalence of NSSID symptoms and NSSID disorder in sample 2 are likely closer to the “true” prevalence among undergraduates than the prevalence reported for sample 1. Future research should investigate how these prevalence rates might differ in other groups, such as patients receiving psychiatric care.

The NSSIDS has several strengths that support its utility in assessing NSSID. First, each item is keyed to a specific diagnostic criterion, providing clear and valuable data on how each of the proposed criteria behaves and relates to the overall construct of NSSID. In particular, it is worth noting that a substantial proportion of self-injurers in both samples who met threshold for criteria A through D (related to the frequency, methods, antecedents, and functions of NSSI) did not meet threshold for criterion E (distress or impairment), which has rarely been explicitly assessed in previous measures meant to capture NSSID criteria. Second, the measure can be appended to any existing assessment tool that asks about NSSI behaviors; while we used the ISAS in these analyses, other well-validated NSSI tools, such as the Deliberate Self-Harm Inventory (DSHI; Gratz, 2001), the Functional Assessment of Self-Mutilation (FASM; Lloyd et al., 1997), and the Ottawa Self-Injury Inventory (OSI; Martin et al., 2013) could also be used to assess for criterion D (use of methods other than nail biting or wound picking). This permits researchers and clinicians to ensure they include assessment of the methods of NSSI that most interest them, without being tied to a specific set of methods listed in the NSSIDS. Third, the NSSIDS was designed as a brief self-

report measure, allowing for its inclusion in routine clinical practice or in research protocols where time and complexity of assessment tools are important concerns.

As with any novel measure, the NSSIDS has several limitations. First, while the measure performed well in two samples of undergraduate students, it is unclear whether it will demonstrate the same properties in a more severe, clinical sample of self-injurers; future research investigating its psychometric properties in such a population will be warranted. Second, the NSSIDS is not designed as a stand-alone measure of NSSI; as a result, researchers and clinicians interested in assessing for NSSI will need to include at least a brief measure of NSSI behaviors in their assessment battery in addition to the NSSIDS. Given that there is debate in the field about the behaviors most appropriately considered NSSI, and that the DSM 5 criteria are relatively broad in requiring that the behaviors be “of a sort likely to induce bleeding, bruising, or pain”, researchers and clinicians should consider whether to broadly assess different kinds of self-injurious behaviors or whether to focus on those behaviors most likely to cause tissue damage or pain. Third, due to the relative infancy of the NSSID criteria (published in 2013) and the lack of existing measures to capture these criteria, we were unable to validate our self-report measure against a “gold standard” clinical interview to assess NSSID. Fourth, we chose to use self-report for our assessment of distress or impairment due to NSSI, which may not fully correspond to objective measures of distress or impairment due to individual differences in the level of insight regarding or ambivalence towards NSSI. As such, our reported levels of distress and impairment may be lower than what would be found using another type of assessment method, such as clinician report; however, this method is frequently used in the development of self-report measures of psychiatric diagnoses (see, for example, Spitzer et al., 1999). Fifth, due to limitations with data collection, we were unable to assess the test-retest reliability or divergent validity of the NSSIDS; it will be

worthwhile for future researchers to investigate whether these criteria remain stable over time or whether they change over the course of engagement in NSSI, as well as whether the NSSIDS is uncorrelated with measures that should not be strongly related to NSSI history (for example, intelligence).

While it is important to understand the limitations inherent in our measure, given the relative youth of the field devoted to assessment of NSSID, the NSSIDS is an important first step in understanding the phenomenology, correlates, and properties of NSSID in a non-clinical sample of young adults. The NSSIDS provides a valid, reliable, and user-friendly means for assessing NSSID, and is likely to be of use in both research and clinical settings when a brief, self-report assessment of NSSID is desired.

References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5*. Washington, DC: American Psychiatric Association.
- Andover, M. S. (2014). Non-suicidal self-injury disorder in a community sample of adults. *Psychiatry Research*, *219*(2), 305–310. doi:10.1016/j.psychres.2014.06.001
- Barrocas, A. L., Hankin, B. L., Young, J. F., & Abela, J. R. Z. (2012). Rates of nonsuicidal self-injury in youth: Age, sex, and behavioral methods in a community sample. *Pediatrics*, *130*(1), 39–45. doi:10.1542/peds.2011-2094
- Beck, A. T., & Steer, R. A. (1990). *BAI, Beck anxiety inventory: Manual*. San Antonio: Psychological Corp.: Harcourt Brace Jovanovich.
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *BDI-II, Beck depression inventory: Manual*. San Antonio, TX: Psychological Corp.; Boston: Harcourt Brace.
- Bracken-Minor, K. L., & McDevitt-Murphy, M. E. (2014). Differences in features of non-suicidal self-injury according to borderline personality disorder screening status. *Archives of Suicide Research*, *18*(1), 88–103. doi:10.1080/13811118.2013.809040
- Glenn, C. R., & Klonsky, E. D. (2013). Nonsuicidal self-injury disorder: An empirical investigation in adolescent psychiatric patients. *Journal of Clinical Child and Adolescent Psychology*, *42*(4), 496–507. doi:10.1080/15374416.2013.794699
- Gratz, K. L. (2001). Measurement of deliberate self-harm: Preliminary data on the deliberate self-harm inventory. *Journal of Psychopathology and Behavioral Assessment*, *23*(4), 253–263. doi:10.1023/a:101277940394

- Hamza, C. A., Stewart, S. L., & Willoughby, T. (2012). Examining the link between nonsuicidal self-injury and suicidal behavior: A review of the literature and an integrated model. *Clinical Psychology Review, 32*(6), 482–495. doi:10.1016/j.cpr.2012.05.00
- International Society for the Study of Self-Injury. (2007). *Definition of non-suicidal self-injury*.
- Julian, L. J. (2011). Measures of anxiety: State-Trait anxiety inventory (STAI), beck anxiety inventory (BAI), and hospital anxiety and depression scale-anxiety (HADS-A). *Arthritis Care & Research, 63*(Suppl 11), S467–S472. doi:10.1002/acr.20561
- Klonsky, E. D. (2011). Non-suicidal self-injury in United States adults: Prevalence, sociodemographics, topography and functions. *Psychological Medicine, 41*(9), 1981–1986. doi:10.1017/s0033291710002497
- Klonsky, E. D., & Olino, T. M. (2008). Identifying clinically distinct subgroups of self-injurers among young adults: A latent class analysis. *Journal of Consulting and Clinical Psychology, 76*(1), 22–27. doi:10.1037/0022-006x.76.1.22
- Lengel, G. J., & Mullins-Sweatt, S. N. (2013). Nonsuicidal self-injury disorder: Clinician and expert ratings. *Psychiatry Research, 210*(3), 940–944. doi:10.1016/j.psychres.2013.08.047
- Lloyd, E., Kelley, M. L., & Hope, T. (1997). *Self-mutilation in a community sample of adolescents: descriptive characteristics and provisional prevalence rates*. Poster Presentation at the Annual meeting of the Society for Behavioral Medicine, New Orleans
- Lovibond, P. F., & Lovibond, S. H. (1995a). The structure of negative emotional states: Comparison of the depression anxiety stress scales (DASS) with the beck depression and anxiety inventories. *Behaviour Research and Therapy, 33*(3), 335–343. doi:10.1016/0005-7967(94)00075-u
- Lovibond, S. H., & Lovibond, P. F. (1995b). *Manual for the depression anxiety stress scales* (2nd ed.). Sydney: Psychology Foundation.
- Martin, J., Cloutier, P. F., Levesque, C., Bureau, J. F., Lafontaine, M. F., & Nixon, M. K. (2013). Psychometric properties of the functions and addictive features scales of the Ottawa self-injury inventory: A preliminary investigation using a university sample. *Psychological Assessment, 25*(3), 1013–1018. doi:10.1037/a003257
- Muehlenkamp, J. J. (2005). Self-injurious behavior as a separate clinical syndrome. *American Journal of Orthopsychiatry, 75*(2), 324–333. doi:10.1037/0002-9432.75.2.324
- Nock, M. K., Joiner, T. E., Gordon, K. H., Lloyd-Richardson, E., & Prinstein, M. J. (2006). Non-suicidal self-injury among adolescents: Diagnostic correlates and relation to suicide attempts. *Psychiatry Research, 144*(1), 65–72. doi:10.1016/j.psychres.2006.05.010
- Odelius, C. B., & Ramklint, M. (2014). Clinical utility of proposed non-suicidal self-injury diagnosis – A pilot study. *Nordic Journal of Psychiatry, 68*(1), 66–71. doi:10.3109/08039488.2013.775340
- Plener, P. L., & Fegert, J. M. (2012). Non-suicidal self-injury: State of the art perspective of a proposed new syndrome for DSM V. *Child and Adolescent Psychiatry and Mental Health, 6*, 9. doi:10.1186/1753-2000-6-9
- Selby, E. A., Bender, T. W., Gordon, K. H., Nock, M. K., & Joiner, T. E. (2012). Non-suicidal self-injury (NSSI) disorder: A preliminary study. *Personality Disorders: Theory, Research, and Treatment, 3*(2), 167–175. doi:10.1037/a0024405
- Shaffer, D., & Jacobson, C. (2009). *Proposal to the DSM-V childhood disorder and mood disorder work groups to include non-suicidal self-injury (NSSI) as a DSM-V disorder [PDF document]*. Retrieved from www.slideshare.net/anuskamos1/apa-dsm-5-nssi-proposal

- Soloff, P. H., Lis, J. A., Kelly, T., Cornelius, J., & Ulrich, R. (1994). Self-mutilation and suicidal behavior in borderline personality disorder. *Journal of Personality Disorders*, 8(4), 257–267. doi:10.1521/pedi.1994.8.4.257
- Spitzer, R. L., Kroenke, K., & Williams, J. B. (1999). Validation and utility of a self-report version of PRIME-MD: The PHQ primary care study. Primary care evaluation of mental disorders. Patient health questionnaire. *JAMA*, 282(18), 1737–1744. doi:10.1001/jama.282.18.173
- Wang, Y.-P., & Gorenstein, C. (2013). Psychometric properties of the beck depression inventory-ii: A comprehensive review. *Revista Brasileira De Psiquiatria* (São Paulo, Brazil: 1999), 35(4), 416–431. doi:10.1590/1516-4446-2012-1048
- Washburn, J. J., Potthoff, L. M., Juzwin, K. R., & Styer, D. M. (2015). Assessing DSM-5 nonsuicidal self-injury disorder in a clinical sample. *Psychological Assessment*, 27(1), 31–41. doi:10.1037/pas0000021
- Wilkinson, P. (2013). Non-suicidal self-injury. *European Child & Adolescent Psychiatry*, 22(Suppl 1), S75–S79. doi:10.1007/s00787-012-0365-7
- Zanarini, M. C., Frankenburg, F. R., Reich, D. B., Fitzmaurice, G., Weinberg, I., & Gunderson, J. G. (2008). The 10-year course of physically self-destructive acts reported by borderline patients and axis II comparison subjects. *Acta Psychiatrica Scandinavica*, 117(3), 177–184. doi:10.1111/j.1600-0447.2008.01155.x
- Zetterqvist, M., Lundh, L.-G., Dahlström, O., & Svedin, C. G. (2013). Prevalence and function of non-suicidal self-injury (NSSI) in a community sample of adolescents, using suggested DSM-5 criteria for a potential NSSI disorder. *Journal of Abnormal Child Psychology*, 41(5), 759–773. doi:10.1007/s10802-013-9712-5

Accepted Manuscript

Table 1. DSM 5 criteria for non-suicidal self-injury disorder (NSSID) and NSSIDS items

Criteria	NSSI DS item(s)
A. Engagement in NSSI without suicidal intent on 5 or more days in the past year.	1. In the last year, on how man y separ ate days have you enga ged in any of

Accepted Manuscript	these beha viors inten tiona lly (i.e., on purp ose) and with out suici dal inten t (i.e., not for suici dal reaso
---------------------	--

Accepted Manuscript	ns)? 2. In the past, prior to the last year, was there ever a time when you enga ged in any of these beha
---------------------	---

Accepted Manuscript	vions on 5 or more separ ate days, over the cours e of 1 year? 2b. If so, how man y separ ate days did you
---------------------	--

Accepted Manuscript	enga ge in these beha viors durin g that year? If there have been multi ple years in whic h you have self- harm
---------------------	---

Accepted Manuscript	ed on 5 or more days, pleas e write dow n how man y separ ate days durin g the year in whic h you
---------------------	---

	harm ed your self most frequ ently
B. NSSI to (1) relieve negative feelings or cognitive states, (2) resolve an interpersonal difficulty, or (3) induce a positive feeling.	3. I enga ge in self- harm to obtai n relief from a negat ive feeli ngs or

Accepted Manuscript	thou ghts 4. I enga ge in self- harm to cope with probl ems with other peop le 5. I enga ge in self- harm to creat
---------------------	--

	e a posit ive feeli ng
C. Individual experiences (1) interpersonal difficulties, (2) negative feelings/thoughts, or (3) hard-to-control preoccupation with NSSI immediately prior to NSSI, or (4) frequent thoughts about NSSI when not engaging in NSSI.	6. Do inter perso nal diffic ulties (for exam ple a disag reem ent with a frien d) occu

	r
	right
	befor
	e
	you
	enga
	ge in
	self-
	harm
	?
	7.
	Do
	you
	have
	negat
	ive
	feeli
	ngs
	or
	thou
	ghts
	right
	befor

<p>Accepted Manuscript</p>	<p>e you enga ge in self- harm ? 8. Befo re you enga ge in self- harm , do you have a perio d of preo ccup</p>
----------------------------	--

Accepted Manuscript	ation with self- harm that is diffic ult to contr ol? 9. Do you think abou t self- harm even when you aren' t
---------------------	---

	engaging in it?
D. NSSI is not socially sanctioned, picking scabs, or nail biting.	Criterion D assessed from ISAS (no items on the NSSI DS)
E. NSSI or its consequences cause significant distress (1) or impairment in interpersonal (2), academic (3), or other functioning (4).	10. Does engaging in self-

Accepted Manuscript	harm caus e you stres s? 11. Does enga ging in self- harm caus e you probl ems with other peop le? 12.
---------------------	--

Accepted Manuscript	Does enga ging in self- harm caus e acad emic or work diffic ulties ? 13. Does enga ging in self- harm caus
---------------------	---

	e diffic ulties in other areas of your life? 13b. If so, in what areas ?
F. NSSI does not exclusively occur during psychosis, delirium (1), substance intoxication, withdrawal (2), or better explained by another disorder, such as stereotypes (3).	14. How often do you enga ge in these

<p>Accepted Manuscript</p>	<p>behaviors when under the influence of drugs or alcohol? 15. How often do you engage in these behaviors in</p>
----------------------------	--

Accepted Manuscript	respo
	nse
	to
	odd
	expe
	rienc
	es,
	like
	heari
	ng or
	seein
	g
	thing
	s that
	other
	peop
	le
	can't
hear	
or	
see	
(e.g.	
voice	

<p>Accepted Manuscript</p>	<p>s or visio ns)? 16. Have you been diag nose d with a ment al healt h disor der? 16b. If so, pleas e indic</p>
----------------------------	--

	ate whic h ment al healt h disor ders you have been diag nose d with
--	---

Note: Criteria are drawn from the Diagnostic and Statistical Manual of Mental Disorders, 5th edition, copyright 2013, American Psychiatric Association.

Table 2. Demographic and NSSI characteristics in both samples

Variable	Sample 1 (<i>n</i> = 63) <i>M</i> (<i>SD</i>) or <i>n</i> (%)	Sample 2 (<i>n</i> = 101) <i>M</i> (<i>SD</i>) or <i>n</i> (%)
Age	20.02 (2.81)	20.74 (2.47)
Gender		
Female	51 (82.26)	76 (75.25)
Male	10 (16.13)	25 (24.75)
Other	1 (1.61)	–
Lifetime NSSI number of methods	4.24 (2.12)	2.13 (1.71)
NSSI methods		
Cutting	32 (50.8)	38 (37.62)
Biting	26 (41.3)	15 (15)
Burning	9 (14.3)	4 (4)
Carving	6 (9.5)	12 (11.88)
Pinching	34 (54)	27 (26.73)
Hair pulling	27 (42.9)	29 (28.71)
Severe scratching	30 (47.6)	26 (26)
Banging	39 (61.9)	17 (17.35)

Interfering with wound healing	32 (50.8)	24 (23.76)
Rubbing skin against rough surfaces	11 (17.5)	1 (.99)
Sticking self with needles	8 (12.7)	7 (7)
Swallowing dangerous substances	6 (9.5)	6 (5.94)
Other	7 (11.1)	9 (9.78)

Note: Genders other than male or female were not assessed in sample 2.

Accepted Manuscript

Table 3. NSSIDS item descriptive characteristics sample 1 ($n = 63$)

NSSID criteria (NSSIDS item #)	n	$M(SD)$	Observed range	Met threshold $n(\%)$
Criterion A (1)	62	15.04 (24.95)	0-110	31 (50)
Criterion A (2)	63	–	–	35 (55.6)
Criterion A (Ever)	63	–	–	41 (65.08)
Criterion B1 (3)	63	4.68 (1.98)	1–7	49 (77.78)
Criterion B2 (4)	63	3.92 (2.15)	1–7	37 (58.73)
Criterion B3 (5)	63	2.73 (2.07)	1–7	20 (31.75)
Criterion B (Overall)	63	–	–	52 (82.54)
Criterion C1 (6)	49	3.65 (2.17)	1–7	22 (44.9)
Criterion C2 (7)	49	5.96 (1.87)	1–7	43 (87.76)
Criterion C3 (8)	49	3.43 (2.15)	1–7	24 (48.98)
Criterion C4 (9)	49	2.87 (1.79)	1–7	16 (32.65)
Criterion C (Overall)	49	–	–	44 (89.80)
Criterion D (N/A)	63	–	–	61 (98.83)
Criterion E1 (10)	49	3.29 (1.73)	1–7	22 (44.9)
Criterion E2 (11)	49	2.59 (1.96)	1–7	14 (28.57)

Criterion E3 (12)	49	2.62 (1.99)	1–7	14 (28.57)
Criterion E4 (13)	49	3.02 (2.2)	1–7	20 (40.81)
Criterion E (Overall)	49	–	–	30 (61.22)
Criterion F1 (14)	63	1.61 (1.31)	1–7	62 (98.41)
Criterion F2 (15)	63	1.32 (1.01)	1–6	63 (100)
Criterion F3 (16)	63	–	–	63 (100)
Criterion F (Overall)	63	–	–	62 (98.41)
Criteria A–F (Overall)	49	–	–	24 (48.98)

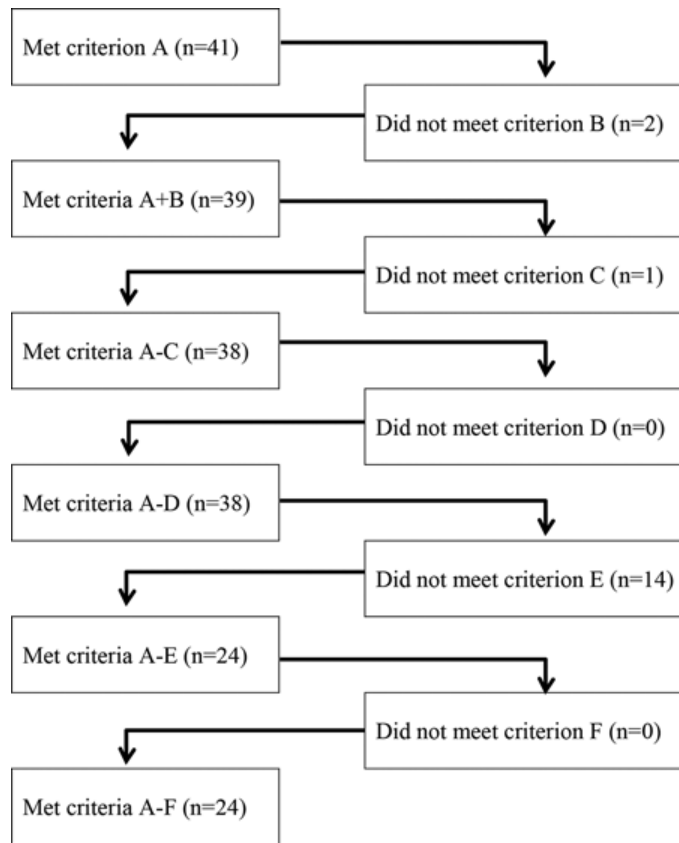
Note: Sample sizes are lower for criteria C and E than for other criteria due to a data collection error that removed an anchor points for some participants for these items.

Table 4. NSSIDS item descriptive characteristics sample 2 ($n = 101$)

NSSID criteria (NSSIDS item #)	n	$M(SD)$	Observed range	Met threshold $n(\%)$
Criterion A (1)	66	11.85 (41.23)	0–300	12 (18.18)
Criterion A (2)	84	–	–	20 (23.81)
Criterion A (Ever)	69	–	–	25 (36.23)
Criterion B1 (3)	82	2.62 (1.98)	1–7	25 (30.49)
Criterion B2 (4)	84	2.36 (1.72)	1–7	21 (25)
Criterion B3 (5)	82	1.63 (1.33)	1–7	7 (8.54)
Criterion B (Overall)	80	–	–	28 (35)
Criterion C1 (6)	81	2.14 (1.82)	1–7	16 (19.75)
Criterion C2 (7)	83	3.11 (2.28)	1–7	32 (39.51)
Criterion C3 (8)	84	2.11 (1.8)	1–7	15 (17.86)
Criterion C4 (9)	81	1.81 (1.22)	1–6	11 (13.58)
Criterion C (Overall)	79	–	–	34 (43.04)
Criterion D (N/A)	101	–	–	94 (93.07)
Criterion E1 (10)	80	2.15 (1.66)	1–7	16 (20)
Criterion E2 (11)	83	1.78 (1.39)	1–6	12 (14.46)

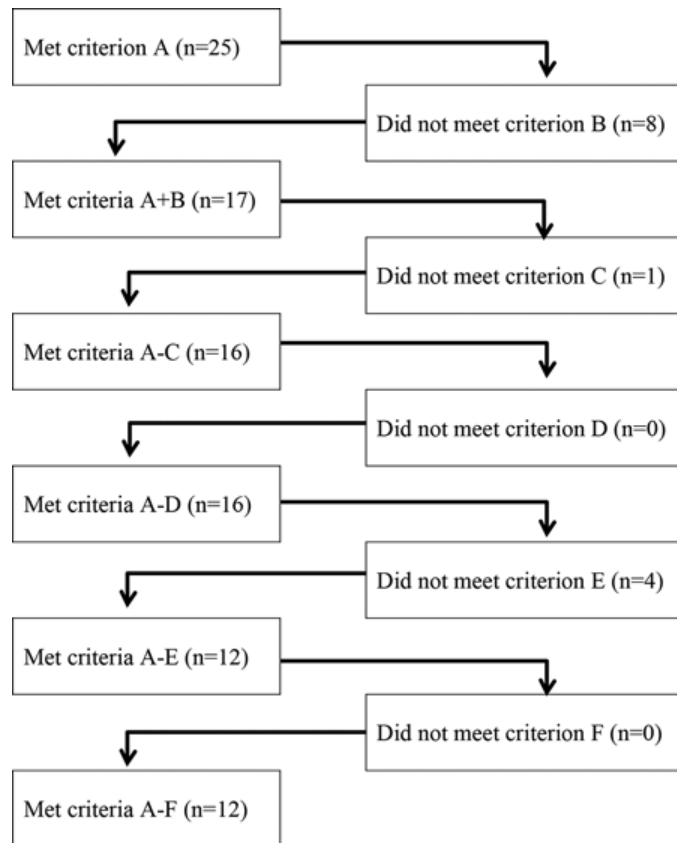
Criterion E3 (12)	84	1.64 (1.35)	1–6	8 (9.52)
Criterion E4 (13)	84	1.55 (1.32)	1–6	9 (10.71)
Criterion E (Overall)	79	–	–	20 (25.32)
Criterion F1 (14)	83	1.19 (0.8)	1–7	82 (98.8)
Criterion F2 (15)	82	1.15 (0.55)	1–4	82 (100)
Criterion F3 (16)	83	–	–	83 (100)
Criterion F (Overall)	82	–	–	81 (98.78)
Criteria A–F (Overall)	63	–	–	12 (19.05)

Figure 1. Prevalence of NSSID in Sample 1.



Accepted Manuscript

Figure 2. Prevalence of NSSID in Sample 2.



Accepted Manuscript