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Stephanie Jarvi Steele  
*Suffolk University, ssteele@smith.edu*

Kayla Furbish  
*Boston University*

Thröstur Björgvinsson  
*Harvard Medical School*

Lance P. Swenson  
*Suffolk University*

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## An Exploratory Mixed Methods Approach to Implicit and Explicit Identification with Non-Suicidal Self-Injury

Stephanie Jarvi Steele, Ph.D.<sup>a,c</sup>, Kayla Furbish, B.A.<sup>b</sup>, Thröstur Björgvinsson, Ph.D., ABPP<sup>c</sup>, Lance P. Swenson, Ph.D.<sup>a</sup>

<sup>a</sup>Suffolk University, Department of Psychology, 73 Tremont Street, Boston, MA, 02108, USA<sup>1</sup>

<sup>b</sup>Boston University, 900 Commonwealth Avenue, Boston, MA, 02215, USA

<sup>c</sup>McLean Hospital/Harvard Medical School, Department of Psychiatry, 115 Mill Street, Belmont, MA, 02478, USA

### Abstract

**Background and Objectives:** Identification with non-suicidal self-injury (NSSI) is uniquely related to NSSI behavior and predicts future NSSI. This exploratory, mixed methods study used implicit and explicit approaches to further understanding of NSSI identity.

**Methods:** Participants included 15 treatment-seeking adults (60% female, 87% Caucasian) with lifetime NSSI. Participant age ranged from 19 to 38 years ( $M = 25.33$ ,  $SD = 6.10$ ). Implicit tasks were completed at two time points in a test-retest design, followed by a qualitative interview.

**Results:** Qualitative data suggest that explicit NSSI identity is relevant to some individuals with NSSI history. Mixed methods analyses indicate that individuals who explicitly identify with NSSI have stronger implicit NSSI identities than those who do not, and report more methods of NSSI on average.

**Limitations:** Results are novel, although exploratory in nature due to the sample size, and may not be generalizable to non-clinical samples or individuals currently engaging in NSSI.

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Correspondence concerning this article should be addressed to Stephanie Jarvi Steele, Ph.D., 25 Stetson Court, Psychology Department, Williams College, Williamstown, MA, 01267. sjs11@williams.edu. Data is available upon request.

<sup>1</sup>Stephanie Jarvi Steele is now in the Psychology Department at Williams College, Williamstown, MA.

CRedit Author Statement

**Stephanie Jarvi Steele, Ph.D.:** Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Software, Visualization, Supervision, Validation, Writing – original draft, Writing – revised draft, Writing – review & editing.

**Kayla Furbish, B.A.:** Formal analysis, Writing – original draft, Writing – revised draft, Writing review & editing.

**Thröstur Björgvinsson, Ph.D., ABPP:** Funding acquisition, Project administration, Resources, Supervision, Writing – original draft, Writing – revised draft, Writing – review & editing.

**Lance P. Swenson, Ph.D.:** Conceptualization, Funding acquisition, Methodology, Project administration, Resources, Visualization, Supervision, Validation, Writing – original draft, Writing – revised draft, Writing – review & editing.

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Conflict of Interest

The authors decline any conflicts of interest.

**Conclusions:** Individuals with stronger explicit identity evidence higher implicit identity scores, suggesting a potential higher risk profile for future NSSI. This study offers further support for the value of including both implicit and explicit assessment of NSSI identity in risk assessment.

### Keywords

non-suicidal self-injury; identity; Self-Injury Implicit Association Test; mixed methods; implicit; explicit

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Non-suicidal self-injury (NSSI) involves the intentional and immediate damaging of one's own body tissue without suicidal intent or social sanction (Favazza, 2011; Klonsky, Victor, & Saffer, 2014). NSSI is a transdiagnostic phenomenon, occurring across psychological disorders (Andover & Gibb, 2010; Bentley et al., 2015), and is observed in the absence of psychopathology. NSSI is an identified risk factor for suicidality (Hamza, Stewart, & Willoughby, 2012), underlying its clinical and public health relevance.

The formation of an identity is a critical developmental task that begins in adolescence (Erikson, 1968) and extends into adulthood (Arnett, 2000). Erikson wrote about the development of identity in his stage theory of psychosocial development (e.g., identity vs. role confusion). During this stage, it is possible to develop a "negative identity", which is defined by the individual's adoption of an identity that conflicts with what is expected of them (Erikson, 1968). More recently, researchers have found positive associations between Erikson's concept of identity confusion and NSSI (Luyckx, Gandhi, Bijttebier, & Claes, 2015), and reported a bidirectional relationship between these constructs (Gandhi et al., 2017). Problematic identity development has been linked to risk behaviors in adolescents (e.g., Crocetti, Klimstra, Hale, Koot, & Meeus, 2013), anxiety, anger, and depression among patients with borderline personality disorder (BPD; Sollberger et al., 2012), and elevated psychiatric symptoms in general adult clinical populations (Benedik, 2008). Additionally, an interesting line of research has been published about identity showing relationships between adolescent identity formation, body esteem, and body ideals (Kling, Wangqvist, & Frisen, 2018; Nelson, Kling, Wangqvist, Frisen, & Syed, 2018; Wangqvist & Frisen, 2013). Finally, self-identity plays a crucial role in psychological functioning by guiding behavioral responses, either adaptive or maladaptive, to social interactions and self-regulation (Linehan, 2014).

Relatively little is known, quantitatively or qualitatively, about the role and impact of NSSI identity on NSSI behavior. Research suggests that *implicit NSSI identity* is uniquely related to NSSI behavior (Nock & Banaji, 2007). This process is best understood through Nock's (2009) *implicit identification hypothesis*, which describes NSSI as a behavior that is maintained through identification with NSSI as an effective means of serving specific functions (e.g., affect regulation). That is, once a behavior serves a desired function, the behavior is encoded within one's coping repertoire and is more likely to be chosen in future situations (Nock, 2009).

In existing empirical studies, *implicit* (i.e., automatic, out of immediate awareness) *NSSI identity* is defined as the strength of implicit association between NSSI and the self on the Self-Injury Implicit Association Test – Identity Version (SI-IAT; Nock & Banaji, 2007). The

SI-IAT is a computer-based test that measures reaction times to NSSI-related stimuli and has been used to explore associations between “Cutting” and “Me” (e.g., Cha et al., 2016; Glenn & Klonsky, 2011; Nock & Banaji, 2007). The SI-IAT has clinical utility in risk assessment and management through short-term prediction of future NSSI (see Cha et al., 2016), and is able to differentiate between individuals based on NSSI history (Cha et al., 2016; Glenn et al., 2016; Glenn et al., 2017; Nock & Banaji, 2007).

Literature examining the development of an *explicit NSSI identity* suggests explicit identification with these behaviors may influence continued engagement in NSSI (Breen, Lewis, & Sutherland, 2013). *Explicit* NSSI identity has no clear definition and instead has been examined primarily through the expression of individual experiences with NSSI in social media (Baker & Fortune, 2008; Breen et al., 2013; Franzen & Gottzen, 2011). In this study, explicit NSSI identity is defined as a conscious process by which individuals define themselves, at least in part, by their past or current NSSI engagement and/or use NSSI-related labels (e.g., “I am a cutter”).

### Web-based Investigations of Explicit NSSI identity

The relatively few studies that have focused on explicit NSSI identity have primarily involved qualitative explorations in online communities of NSSI-related websites (Adler & Adler, 2008; Baker & Fortune, 2008; Franzen & Gottzen, 2011) and on personal websites (Breen et al., 2013). Exploration of the posts on self-harm websites suggests that members may benefit from the positive and valued social identities they gain from becoming members of a web community in which they can be understood and offer support to others (Baker & Fortune, 2008). Franzen and Gottzen (2011) examined the development of explicit NSSI identity in an online NSSI community and found that balancing normalizing and pathologizing views of NSSI in one’s posts on the website was crucial in establishing a recognized identity as an “authentic cutter”. Further, Breen and colleagues (2013) examined personal websites created to discuss NSSI experiences, and found that NSSI identity is involved in self-identification, establishment of individuality, and group identity (i.e., using “we” to describe self-injuring individuals as a group). Results suggested that some individuals continue to engage in NSSI to preserve identity as a “self-injurer” (Breen et al., 2013).

Collectively, these studies suggest that explicit NSSI identity is a construct that may have meaning to those with past and/or current NSSI. However, researchers were unable to directly interact with the participants. It is therefore unknown whether the researchers’ interpretations of explicit NSSI identity correspond with the individuals’ understanding of their identities, or the role NSSI identity plays in their past, current, and future NSSI behavior.

### Implicit and Explicit Measures of NSSI

Cha and colleagues (2016) recruited 123 adolescent inpatients who completed the SI-IAT – Identity and self-report measures at three time points. The authors asked participants to predict the likelihood of future self-injury on a scale of 0 to 4. Second, a visual analogue

scale was used; this scale involved a horizontal line with “Not Cutting” and “Cutting” included as anchors. Participants were instructed to mark the line according to which side of the line they most identified with. The explicit NSSI measures were highly correlated ( $r = .74$ ) and aggregated into a single composite (Cha et al., 2016). Results suggested: 1) implicit identification with NSSI predicted short-term engagement in NSSI, but not at three month follow-up, suggesting the construct is most important to consider as a proximal (not distal) risk factor for NSSI; 2) self-reported prediction of future NSSI behavior was a robust predictor of NSSI; 3) integration of the implicit and explicit measures allowed for stronger prediction of future cutting behavior (Cha et al., 2016). However, the analog scale was not primarily implemented to assess NSSI identity and was not examined in isolation; thus, its unique relationship with implicit NSSI identity was not directly tested.

## Study Aims

The current study builds upon these prior findings by implementing a novel mixed methods design by combining the strengths of quantitative and qualitative data (Brannen & O’Connell, 2015). This study aims to explore whether: 1) individuals who engage in NSSI self-identify with NSSI (e.g., use labels such as “cutter”), 2) consciously consider NSSI a meaningful aspect of their identities, and 3) examine whether explicit NSSI identity is meaningfully related to implicit NSSI identity. These exploratory mixed methods analyses will use quantitative findings to enhance understanding of qualitative data. Importantly, this is the first study to our knowledge to use a mixed methods approach to further understanding of implicit and explicit identification<sup>1</sup> with NSSI.

## Methods

### Participants

Participants were recruited from a partial hospital program serving patients presenting with acute psychological distress (e.g., admitted for stabilization following inpatient hospitalization). Typical length of stay in the program ranges from 7-14 days (sample mean: 10.99 days; SD: 3.31 days; Jarvi et al., 2016). Informed consent, participation in the program-wide parent-study examining psychiatric impairment, and fluency in English were required for participation. Patients experiencing extreme levels of distress that would prevent them from comprehending study content and procedures (e.g., active mania or psychosis) were excluded; these decisions were based on agreement between the first author and a clinical case manager (social worker or psychologist). Overall, 164 patients met inclusion criteria and were approached for study recruitment. Of these, 142 participants provided consent (87% response rate). The final quantitative sample consisted of 133 participants (118 completed both SI-IAT assessments), 15 of whom were recruited to complete the qualitative interview.

The present study focuses on the 15 participants with both quantitative and qualitative data. All 15 participants enrolled had a history of NSSI. Participant age ranged from 19 to 38

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<sup>1</sup>Please note that the terms “identity”, “identify”, “identifying”, and “identification” are used interchangeably in the context of discussing implicit and explicit NSSI identity/identification with NSSI in the current study (Nock, 2009; Nock & Banaji, 2007).

years, with an average of 25.33 years ( $SD = 6.10$ ). The sample was 60% ( $n = 9$ ) female and mostly Caucasian (87%,  $n = 13$ ). Most participants (68%,  $n = 10$ ) had some college education. Prior to admission in the program, 40% ( $n = 6$ ) had been hospitalized for a psychiatric condition within the past 6 months. According to the Mini-International Neuropsychiatric Interview (MINI; Sheehan et al., 1998;  $n = 13$ ), completed by advanced doctoral students on day one of the treatment program, participants were diagnosed with Major Depressive Disorder ( $n = 4$ ; 31%), Generalized Anxiety Disorder ( $n = 3$ ; 23%), Bipolar Disorder ( $n = 3$ ; 23%), Social Anxiety Disorder ( $n = 2$ ; 15%), and Obsessive-Compulsive Disorder ( $n = 1$ ; 8%). Of the 13 participants with complete diagnostic assessments, 10 (67%) met criteria for more than one current disorder. Although personality disorders were not formally assessed in the program, 6 (40%) participants met the clinical cutoff for BPD on the McLean Screening Instrument for BPD (MSI-BPD; Zanarini et al., 2003;  $n = 15$ ). The mean score for the MSI-BPD in the sample ( $N = 15$ ) was one point below the clinical cutoff ( $M = 6$ ,  $SD = 2.56$ ). Finally, suicide risk (e.g., low, moderate, high) was examined based on MINI results ( $n = 13$ ). Three participants (23%) were categorized as reporting low risk suicidality, two (15%) reported moderate suicidality, and eight (61.5%) reported high suicidality.

### General Procedure

One to three patients were approached by study staff each week from October 2015 to June 2016. Eligible patients (i.e., those who consented to the partial program parent study) were selected according to admission date (i.e., the most recently admitted patient was approached first). Verbal and written consent were then obtained. Participants completed the quantitative assessment portion of the study at two time points (to examine the stability of the SI-IAT), approximately three days apart in a brief test-retest design (results to be published separately), prior to completing the qualitative interview.

### Qualitative Procedure

Qualitative data were collected between September 2015 and May 2016 and involved a 20 to 40-minute qualitative interview about explicit NSSI identity. Twenty participants were eligible for the interview and 15 interviews were completed. Of the five participants who did not complete the interview, one discharged before the interview could be scheduled, two were hospitalized, and two had scheduling conflicts (e.g., individual therapy). During the initial consent process, participants were informed verbally and in writing that eligible participants might be approached about participating in a third, qualitative assessment following the two quantitative assessments. At the conclusion of the Time 2 quantitative assessment, eligible participants were reminded about the qualitative portion of the study and told that the interview would involve discussion about their experiences with NSSI. All participants consented to participate and to have the interview audio recorded; the interview was typically scheduled for the next day (i.e., interviews occurred between the second SI-IAT assessment and discharge). Interviews took place during the lunch hour on site in the partial program and were conducted by the first author.

The qualitative interview was developed through an iterative process. First, 20 to 30-minute interviews were conducted with three participants using an initial set of open-ended

questions. These initial interviews were evaluated, and interview questions were revised by the authors, and an additional 12 participants were then interviewed. Participants were asked general questions about identity (“What is identity/what does it mean to have an identity?”), experiences with NSSI (e.g., “Tell me a little bit about your experience with NSSI”), and specific questions about NSSI identity (e.g., “Have your experience with NSSI or mental health impacted your identity? How so?”). The length and content of the interview did not change after the revision; the final 12 interviews involved more open-ended follow-up questions regarding identity and NSSI identity.

**Coding.**—Qualitative interviews were transcribed and coded using a grounded theory approach (Glaser & Strauss, 1967). Grounded theory assumes no *a priori* codes or meaning categories to participants’ interview responses. Narrative information is organized into its smallest meaningful components (i.e., words and phrases) and then grouped according to emergent themes. The Straussian approach (Jones & Alony, 2011) was applied in the current study, which includes having a general idea of what to ask participants, and using somewhat structured questions during the interview.

**Open coding:** Open coding was completed in parallel by two coders (Strauss & Corbin, 1997). Interviews were first transcribed by two undergraduate research assistants. Seven of the 15 interviews were checked for transcription errors and reliability. Coding began after the interview was revised between interviews three and four. Interviews one to six were coded by the first author, which generated a list of 15 codes. The research assistant then coded the same six interviews, followed by an in-depth discussion of the code list, which generated a revised list that included 23 codes, which were used to code the remaining nine interviews by the first author. The first six interviews were also recoded using all 23 codes by the first author. A second research assistant then coded five of the 15 interviews for reliability using the revised code list. In sum, 40% of the interviews were coded in parallel by two people; the first author coded the remaining 60% of interviews.

**Consensual coding:** The first two authors completed consensual coding (i.e., discussing themes) along with a research assistant volunteer. All three coders independently reviewed the 15 interviews and wrote brief summaries to capture themes. The coders then met in person to discuss themes.

### **Mixed Methods: Sequential-Embedded Mixed Methods Design (QUAN – qual)**

Mixed methods research is defined as “an approach to research in which both quantitative and qualitative data are collected, integrated, and interpreted based on the combined strengths of both sets of data to understand research problems” (Creswell, 2015, p. 2). Applying mixed methods is also well suited to addressing different aspects of a research question (Brannen & O’Connell, 2015). Quantitative data typically answers the “why” questions, while qualitative data is best suited for “how” and “what” questions (Creswell, 2015).

Due to study aims involving implicit and explicit identification with NSSI, we chose to employ a “QUAN-qual”, sequential-embedded mixed methods design. The “QUAN – qual”

distinction refers to the priority of the data, meaning that the quantitative methods in the larger sample (N = 133) were primary (and will be published separately), and qualitative methods were exploratory (Morgan, 1998). “Sequential” in this definition refers to the sampling methods employed (Teddlie & Yu, 2007). Quantitative and qualitative data were collected during the same phase of the study, however qualitative sampling was dependent on the quantitative sample (Small, 2011). The sequential-embedded design indicates a dominant quantitatively driven research question, with qualitative methods “embedded” into the quantitative study (Creswell & Plano Clark, 2007), and allows for a broader understanding of the construct of interest (i.e., NSSI identity) than would be achieved by using quantitative methods alone (Creswell & Plano Clark, 2007). The embedded qualitative methods answer a related, and slightly different, research question about *explicit* (i.e., conscious, within awareness) NSSI identity than the quantitative methods, which focus primarily on *implicit* (i.e., automatic) NSSI identity. The “mixing” in this design occurred during data collection, data analysis, and interpretation of results and allowed for a broader, more thorough understanding of primary constructs of interest (Creswell, 2015).

## Measures

**Demographics.**—Patient demographics were collected through the program-wide assessment battery on day one of treatment.

**Inventory of Statements about Self-Injury – Part A (ISAS; Klonsky & Glenn, 2009).**—The ISAS – Part A assesses the frequency of 12 self-injurious behaviors (e.g., cutting, burning). The instructions clearly state that the measure is meant to assess *intentional* non-suicidal self-injurious behavior (i.e., not motivated by intent to die; Klonsky & Glenn, 2009). The ISAS was slightly modified to better fit the current study design. Part A was added to the program-wide admission battery to be completed by all patients. Additionally, “embedding” (see Lloyd-Richarson, Perrine, Dierker, & Kelley, 2007) and “other [method of self-injury]” were added to Part A to capture additional methods. Rather than using Part A for frequency counts for each NSSI behavior, participants responded “Yes/No” to each. This information allowed for determination of lifetime history of NSSI and used to determine eligibility for the qualitative interview.

**McLean Screening Instrument for Borderline Personality Disorder (MSI-BPD; Zanarini et al., 2003).**—The MSI-BPD is a 10-item self-report measure developed as a screening instrument for BPD. The 10 items include DSM-IV criteria for BPD; participants respond “Yes/No” to each item. In the original study (Zanarini et al., 2003), the authors suggested a clinical cutoff score of 7 or more items to be indicative of self-reported BPD. The MSI-BPD has shown good sensitivity (.81; percentage of correctly identified cases of BPD) and specificity (.85; correctly identified participants without BPD) for BPD (Zanarini et al., 2003).

**Self-Injury Implicit Association Task – Identity Version (SI-IAT; Nock & Banaji, 2007).**—The identity version of the SI-IAT assesses the implicit strength of association between the self (e.g., “Me” vs. “Not Me”) and NSSI. Specifically, participants are presented with NSSI-related (e.g., cut skin) or neutral (e.g., non-injured skin) stimuli and



asked to respond as quickly as possible to categorize each picture into one of two categories: “Cutting” or “No Cutting.” Critical test blocks (i.e., pairs of stimuli) were presented in random order (Nock & Banaji, 2007). For the first critical test block, participants were instructed to pair stimuli representing NSSI and oneself (i.e., “Cutting” and “Me”) by pressing the same computer key, and used the other computer key to respond to the opposite pairing (i.e., “No Cutting” and “Not Me”). In the second critical test block, participants were instructed to pair non-injuring stimuli with oneself (i.e., “No Cutting” and “Me”) with one computer key, and used the other key to represent the opposite pairing (i.e., “Cutting” and “Not Me”; Nock & Banaji, 2007).

Standardized D scores were calculated to examine the relative strength of association between NSSI and oneself (Greenwald et al., 2003; Nock & Banaji, 2007). Specifically, mean response latency for the Cutting/Me block was subtracted from the mean response latency for the Cutting/Not Me block, then divided by the standard deviation of the response latencies for all the trials included. Positive D scores represent stronger associations with the pairing of NSSI and oneself (i.e., participants responded faster when these stimuli were paired; Nock & Banaji, 2007). The SI-IAT was developed with the assumption that it will be easier and faster for participants to press the computer key related to strongly associated concepts (Nock & Banaji, 2007).

## Results

Open coding (identifying, naming, categorizing, describing; Jones & Alony, 2011) generated a final list of 23 codes. This section focuses on the content that preliminary coding revealed in the data. Please see Table 1 for an overview of codes.

Following open coding procedures, consensual coding revealed two core themes around identity in the current sample. The first, identifying explicitly with NSSI (past and/or current), was a topic area directly discussed with participants. The second, identifying with a psychological diagnosis/label, was a spontaneous theme that emerged in response to questions about NSSI identity and identity more generally. Secondary themes about identity included changes in identity over time (i.e., identity changed as behavior changed), and references to an underdeveloped or shifting identity/sense of self.

### Explicit identification with NSSI.

References to identity were mentioned 67 times across 14 of the 15 interviews (one participant did not identify with NSSI and did not discuss NSSI identity). These accounted for 9.45% of the coded segments. One female participant (P1) mentioned identity 15 times, and referred to specific, explicit identification with NSSI in her past: “That’s cutting. That’s me. That’s my identity.” P4 (male) referred to himself as “a cutter” in the present, although seemed unsure about this label, noting that either his therapist or his mother first used this term to describe him, which he then internalized. Two additional participants described that NSSI was relevant to their past identities only. P3 (female) mentioned a prior identification with NSSI three times during the interview (e.g., “I don’t think it really affects who I am as much now as it did...”). One participant (P6, female) made connections between identification with NSSI and having visible scars from prior NSSI: “I have scars from years

and years ago and I don't foresee them going away anytime soon. So, in that way, it's literally on my body. Which, that is part of my, like, identity I guess." Another participant, P13 (female), identified with NSSI in the context of recovery: "I guess I identify with being someone who's recovered from it."

One participant discussed a positive association with formerly identifying with NSSI: "It was part of my identity for a while and I was proud of it" (P1, female). Four participants referred to negative connotations with NSSI identity, particularly in the context of others' NSSI behavior. For example, P1 (female) stated: "That's probably why when the girl cut herself, I was like...you're being desperate and petty. Like cuz I was reminded of who I was and what I did." P7 (female) described a process of explicitly deciding not to incorporate NSSI into her identity: "Part of the reason I stopped was because I didn't want it to be my identity. And I think that some people do it because they do want it to be their identity." P8 (male) stated, "My results [from the SI-IAT] should be that of someone who is not a cutter... It's not part of my identity...I don't want this to be me". Three participants discussed NSSI as a behavior or symptom of a larger problem/issue (e.g., "I didn't know how to deal with stress" [P14, male]) or as an insignificant part of the past (e.g., "I don't think self-harm is part of my identity because I experienced and dabbled in it but I don't actually partake in it" [P11, female]).

#### **Identification with a psychological disorder/label ("patient" identity).**

Four participants identified explicitly with a particular psychiatric diagnosis/disorder, seemingly unrelated to NSSI. Interestingly, P5 (female) noted that due to her identification with "having a psychological or psychiatric problem" in addition to considering gender, sexuality, and her artistic talents as part of her identity, she did not consider NSSI to be a part of her identity. P6 (female) identified primarily with her mental health diagnoses: "I just look in the mirror and I'm like, 'You're the girl with anxiety and depression and an eating disorder...That's all you are.'" Others used statements such as, "I'm an alcoholic, I have bipolar disorder...my identity is my disorders" (P8, male). One participant (P11, female) did not identify in this way: "I don't think my mental health changes my identity. I think it's like, a side effect of my identity".

#### **Changes in identity.**

P1 (female) made a point to note that the explicit identification with NSSI she experienced in her past was no longer part of her: "It was kind of refreshing to know that I've totally like shed this part of me". Alternatively, P12 (female) described the onset of her identification with NSSI: "...it just comes out of nowhere but then it becomes a part of you. So, it wasn't me at all...and then it was".

#### **Underdeveloped identity.**

Generally, participants described identity as what makes a person unique, goals one has, what one likes to do/how one spends time (e.g., baking, being artistic), and what gives one purpose in life. P6 (female) stated, "Identity is who you are as a person and things that make a person who they are...it's a bunch of different things that make up an identity. But I have

no idea what mine is.” Two other participants also endorsed an undefined sense of self/identity.

### Exploratory Mixed Methods Analyses

Six participants mentioned current or past explicit identification with NSSI. All but one of these participants had a history of cutting behavior (see Table 2).

On average, these participants reported slightly more methods of NSSI ( $M = 4$ ) than those participants who did not report explicit NSSI identity ( $M = 3$ ). More females ( $n = 4$ ; 44%) explicitly identified with NSSI than did males ( $n = 2$ ; 33%). Notably, participants who discussed explicit identification with NSSI during the interviews had higher mean SI-IAT scores than those who did not at both T1 ( $n = 6$ ,  $M = .34$ ;  $n = 9$ ,  $M = -.22$ , respectively) and T2 ( $n = 6$ ,  $M = .76$ ;  $n = 9$ ,  $M = -.09$ , respectively; see Table 3).

Further, participants with explicit NSSI identity had higher mean SI-IAT scores at T1 and T2 than the full sample ( $N = 113$ ;  $T1_M = -.20$ ,  $T2_M = -.10$ ) and other participants with NSSI history ( $n = 56$ ;  $T1_M = -.01$ ,  $T2_M = .03$ ), respectively. These results suggest that explicit identification with NSSI may indicate a higher risk profile, use of more methods to self-injure, and stronger identification with the behavior both implicitly (i.e., unconsciously) and explicitly (i.e., consciously). Finally, integration of quantitative and qualitative findings comparing quantitative IAT scores with explicit descriptions of identity are presented in Table 3.

### Discussion

Implicit identification with NSSI is a relevant, clinically meaningful construct that may be useful in clinical risk assessment and in predicting future NSSI behavior (e.g., Cha et al., 2016). Together, the quantitative and qualitative results indicate that explicit identification with NSSI was relevant to a subset of participants' current and past identities, and that NSSI behavior had been integrated into their personal narratives. Qualitative coding and analysis indicated that six participants perceived NSSI to be a relevant aspect of their current or past identities. Generally, these participants did not speak positively about NSSI identity. For some, these experiences had become part of the past, and they spoke of accepting that NS SI was a part of their larger identities and life experiences. When asked directly about explicitly identifying with NSSI, a theme around identification with a psychological disorder/diagnostic label emerged. Participants discussed identifying with these labels (e.g., being bipolar) in a more stable, persistent fashion than they described identifying with NSSI. This finding can be interpreted in the context of the fact that participants were currently in treatment for acute psychological distress, but the majority were not currently self-injuring (one participant had self-injured in the past week). Participants may have identified more with diagnostic labels like “being bipolar” than labels related to NSSI due to the current relevance of these diagnostic labels (i.e., reason for treatment); a sample of individuals who were *actively* self-injuring might have responded differently to measures of identity. Several participants spoke about change in their identification with NSSI as their behaviors changed, which suggests that identifying with a particular *behavior* may be a more malleable aspect of identity than a stable, trait-like component. In turn, this finding indicates that explicit

identification with NSSI may decrease/weaken as the behavior decreases/remits, perhaps providing valuable evidence for future treatment considerations.

Exploratory mixed methods results suggested that participants who explicitly identified with NSSI had stronger implicit identity scores on average than those who did not. Participants who described explicit NSSI identity showed “matching” implicit scores on the SI-IAT (i.e., SI-IAT scores in the “high” category). Together, findings suggest that assessment of both automatic (i.e., implicit) and deliberative (i.e., explicit) processes may be the most comprehensive approach for the complementary information each provides.

### Interpretation of Current Results in the Context of Existing Findings

Similar to Breen et al.’s (2013) findings, individuals in the current study discussed both individual and group identification with NSSI. Generally, participants did not report explicit identities related to engagement in NSSI online communities (Baker & Fortune, 2008; Franzen & Gottzen, 2011). Rather, identification with NSSI in the current study related most strongly to past experiences of engaging in NSSI to cope. Similar to Cha et al.’s (2016) study, participants in the current study were forthcoming and willing to discuss their experiences with NSSI. The current study adds to the existing literature by providing a unique examination of explicit NSSI identity (i.e., asking *directly* about identity through open-ended questioning) in isolation, in addition to using measures of implicit NSSI identity to better understand explicit identity.

### Limitations and Future Directions

Limitations to the current study warrant mention. First, results cannot be generalized to non-psychiatric individuals with NSSI history, or those currently engaging in NSSI. Further, implicit identity scores on the SI-IAT may have been impacted by the methods of NSSI participants endorsed (i.e., not all participants endorsed a history of cutting however this was the only method of NSSI depicted in the task). Additionally, diagnoses on record were primarily mood and anxiety disorders; personality disorders (BPD specifically) were not formally assessed in the program beyond use of brief self-report measures. The qualitative sample ( $N = 15$ ) was not large enough for more formal mixed methods analyses to understand whether implicit NSSI identity is statistically related to explicit NSSI identity. This sample was recruited from the larger quantitative sample, and may not be representative. Finally, practice effects in the context of using IATs in test-retest designs require further examination in future research in larger samples.

Important next steps in understanding the role of NSSI identity in incidences of NSSI will involve testing whether NSSI identity can be targeted and modified through existing interventions (e.g., CBT; interpersonal therapy). For example, single-case experimental design research (Barlow, Nock, & Hersen, 2009) offers an idiographic approach to explore the malleability of implicit and explicit NSSI identity in brief, individual treatment. Elucidation of the shared and unique effects of implicit and explicit identity on NSSI behavior has the potential to inform science-based intervention efforts targeting intra-individual characteristics.

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### Declaration of Interest Statement

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### Highlights

- Explicit identification with NSSI was present in a clinical sample of adults
- Participants also identified with psychological disorders (e.g., “being bipolar”)
- Those who explicitly identified with NSSI had strong implicit identity scores
- Those who endorsed explicit and implicit NSSI identity reported more NSSI methods



**Table 1**

## Frequencies for Qualitative Codes

Variable	Frequency	Percentage (Valid)
Function	88	12.41
Identity	67	9.45
Social	60	8.46
Attitude	51	7.19
Method(s)	47	6.63
Circumstances	44	6.21
Course	40	5.64
Label	39	5.50
Emotions	38	5.36
Reaction to SI-IAT	31	4.37
Suicidality	30	4.23
Treatment	30	4.23
Mental health	27	3.81
Coping	22	3.10
Recovery	18	2.54
Age of onset	17	2.40
Social learning	16	2.26
Social media	14	1.97
Location	13	1.83
Thoughts	10	1.41
Pop culture	4	0.56
Relapse	2	0.28
Gesture	1	0.14
<i>Total (Valid)</i>	709	100.00

Note. N = 15.

**Table 2**

## Overview of Participant NSSI Characteristics

Participant: Age & Sex	Primary Diagnosis	History of Cutting (Yes/No)	Suicide Risk	MSI-BPD score	Age of Onset of NSSI	Most Recent NSSI
#1, 31, F	GAD	Yes	High	0	10	1+ year
#2, 20, M	OCD	No	High	6	5	1+ year
#3, 19, F	MDD	Yes	High	8	16	Past 6 mos.
#4, 33, M	MDD	Yes	Moderate	7	14	Past 30 days
#5, 19, agender	MDD	Yes	High	6	12	Past 6 mos.
#6, 19, F	SOC	Yes	High	2	14	Past week
#7, 20, F	GAD	Yes	High	5	12	1+ year
#8, 38, M	Bipolar Disorder w/hx of psychosis	Yes	Moderate	5	33	1+ year
#9, 27, M	Bipolar Disorder	Yes	Low	9	26	Past 6 mos.
#10, 24, M	Bipolar Disorder	No	Low	5	19	1+ year
#11, 20, F	-	No	-	8	16	Past 6 mos.
#12, 28, F	GAD	Yes	High	6	25	Past 30 days
#13, 23, F	-	Yes	-	9	13	Past 30 days
#14, 32, M	SOC	Yes	High	5	14	Past 30 days
#15, 27, F	MDD	Yes	High	9	15	Past 30 days

*Note.* Primary diagnosis and suicide risk obtained from The Mini-International Neuropsychiatric Interview (MINI) conducted upon admission. MINI not completed for participants 11 and 13 due to recommendations by attending clinical team. The clinical cutoff score for the MSI-BPD is 7.

**Table 3**

## Exploratory Mixed Methods Results: Comparisons of Explicit Identity and SI-IAT Scores

Participant: Age and Sex	SI-IAT Time 1	SI-IAT Time 2	Qualitative, Explicit Description of NSSI Identity
<i>Low SI-IAT:</i>			
#10, 24, M	-.970	-.893	Reported identifying with NSSI in past; SI-IAT scores indicate low implicit NSSI identity
#11, 20, F	-.956	-.673	Denied NSSI identity
#9, 27, M	-.931	-.478	Denied NSSI identity; reported 1 lifetime episode of NSSI
#1, 31, F	-.615	-.729	Strong past NSSI identity; found it difficult to respond to “cutting” and “me” on SI-IAT
#8, 38, M*	-.519	.424	Denied NSSI identity; stated SI-IAT scores “should be that of someone who is not a cutter”
<i>Moderate SI-IAT:</i>			
#14, 32, M	-.432	-.443	Denied NSSI identity
#7, 20, F	-.377	.091	Described stopping NSSI to prevent it becoming part of identity
#2, 20, M	-.192	-.394	Denied NSSI identity
#15, 27, F	-.163	.412	Denied NSSI identity; acknowledged “significance” of NSSI in her life: “NSSI is a white girl’s problem-no one ever had heard of a Muslim person talking about this”
#5, 19, agender	.265	-.260	Denied NSSI identity
<i>High SI-IAT:</i>			
#6, 19, F	.402	.392	Identified with NSSI currently due to scarring from past NSSI; had engaged in NSSI most recently of all participants
#12, 28, F	.890	.951	Reported identifying with NSSI; stated she did not have a good “sense of self”
#3, 19, F	.898	1.089	Reported past identification with NSSI
#13, 23, F	1.119	1.020	Reported identifying with being in recovery from NSSI
#4, 33, M	1.193	.737	Made contradictory statements about NSSI identity; denied NSSI identity and also described self in present tense as “a cutter”

*Note.* Participants were grouped by into low, moderate, and high categories according to SI-IAT scores at Time 1. S-IAT values listed above represent D scores (i.e., mean response latency for the Cutting/Me block was subtracted from the mean response latency for the Cutting/Not Me block, then divided by the standard deviation of the response latencies for all trials included).