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Direct and indirect forms of non-suicidal self-injury: Evidence for a distinction

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ABSTRACT

Non-suicidal self-injury (NSSI) involves deliberate acts (such as cutting) that directly damage the body but occur without suicidal intent. However, other non-suicidal behaviors that involve people mistreating or abusing themselves but that do not deliberately and directly damage bodily tissue may have much in common with NSSI. Such 'indirect' methods of self-injury might include involvement in abusive relationships, substance abuse, risky or reckless behavior, or eating disordered behavior. Using a community sample ($N = 156$) we compared individuals engaging in NSSI ($n = 50$), indirect (non-suicidal) self-injurers ($n = 38$), and healthy controls ($n = 68$) on a range of clinical and personality characteristics. As predicted, non-suicidal self-injurers and indirect self-injurers showed more pathology than healthy controls on all measures. Comparisons of the NSSI and the Indirect self-injury groups revealed no significant differences on measures of dissociation, aggression, impulsivity, self-esteem, negative temperament, depressive symptoms, and borderline personality disorder. However, compared to people who engaged only in indirect forms of self-injury, those who engaged in NSSI were more self-critical, had higher scores on a measure of suicide proneness, and had a history of more suicide attempts. The findings suggest that NSSI and indirect self-injury are best viewed as separate and distinct clinical phenomena.

1. Introduction

Non-suicidal self-injury (NSSI) involves the direct and deliberate destruction of one's own body tissue in the absence of suicidal intent (Favazza, 1998; Nock et al., 2006). Although still little understood, this form of self-inflicted injurious behavior is now attracting a great deal of theoretical and empirical attention (Hooley, 2008; Prinstein, 2008; Nock, 2009).

Non-suicidal self-injury is estimated to occur in 4% of the general adult population, and in approximately 20% of adult clinical inpatients (Briere and Gil, 1998; Favazza, 1998; Nock and Prinstein, 2005). Rates of NSSI appear to be even higher in adolescents and young adults, affecting anywhere from 14 to 21% of the general population (Ross and Heath, 2002; Klonsky et al., 2003; Whitlock et al., 2006). Moreover, in samples of adolescent inpatients, rates as high as 40% have been reported (Darche, 1990; Hurry, 2000). There is also evidence that the prevalence of NSSI may be increasing (Jacobson and Gould, 2007). Understanding more about the nature and origins of NSSI is thus a priority for researchers and clinicians.

In the current literature 'non-suicidal self-injury' generally refers to highly visible forms of direct self-injury such as cutting or burning. However, from its earliest beginnings, the term 'self-defeating behaviors' has been used to describe a broad spectrum of acts ranging from nail biting to purposive accidents (see Menninger, 1938). Baumeister and Scher (1988) have also defined self-destructive behavior as "any deliberate or intentional behavior that has clear, definitely or probably negative effects on the self or on the self's projects" (p. 3). Recently, some clinicians have expressed concern that the prevailing definition of self-injurious behavior may be too narrow (see Turp, 2002). Certainly, it is not uncommon for clinicians and researchers to use terms such as 'health risk behaviors' or 'self-defeating behaviors' to refer to eating disordered behaviors, substance use, or sexual risk taking. This raises the question of whether behaviors that involve people mistreating or abusing themselves (but not intentionally altering body tissue) should also be considered as forms of self-injury. An examination of this issue was the focus of the current study.

Indirect self-injurious behavior can be conceptualized as behavior that is clearly damaging to the self but does not involve immediate and deliberate damage to body tissue. Hooley and St. Germain (in press) have further suggested that indirect self-injurious behavior should be clinically significant, repetitive or persistent, represent a source of serious concern for clinicians or family members, and have the potential to lead to marked physical damage over time. The exact limits of indirect self-injury remain a subject for debate. However, substance abuse, eating disordered behavior, continuous engagement in abusive relationships, and engagement in risky or reckless behaviors all clearly fall within this general definition.

Although our current understanding of the relationship between direct and indirect forms of non-suicidal self-injury is limited, the available literature suggests that people who engage in NSSI are also likely to engage in indirect forms of self-injurious behaviors. For example, high rates of co-morbidity between NSSI and substance use are

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commonly reported (Putnins, 1995; Beutrais et al., 1996; Kessler et al., 1999; Hilt et al., 2008), although not invariably found (Dulit et al., 1994; Soloff et al., 1994). There is also a well-documented link between NSSI and eating disorders (Favazza et al., 1989; Favaro and Santonastaso, 2000; Wonderlich et al., 2001; Dohm et al., 2002; Paul et al., 2002; Sansone and Levitt, 2002; Stein et al., 2004; but see also Zlotnick et al., 1999). Rates of self-injury are also elevated six-fold in people who have been exposed to physical acts of violence or threats to their lives (Berenson et al., 2001). There is also evidence linking risky sexual practices in adolescents with self-injurious behaviors such as cutting (DiClemente et al., 1991; Brown et al., 2005; Brown et al., 2008).

Although indirect self-injurious behaviors may be accepted under a very broad definition of self-injurious behavior, we do not know to what extent those who engage in indirect forms of self-injury have characteristics in common with those who engage in NSSI. To date there has been no specific empirical investigation of this issue. However, several researchers have recommended that NSSI be considered as a distinct clinical syndrome (Favazza and Rosenthal, 1993; Muehlenkamp, 2005; Oquendo et al., 2008). Now NSSI is being considered for inclusion into the DSM-5 (Shaffer and Jacobson, 2009) it is especially important to know to what extent those who engage in NSSI are similar or different from those who engage in indirect self-injury.

In the current study we explored this issue using measures of constructs that have previously been found to distinguish people who engage in NSSI from non-self-injuring controls. For example, research has shown that, compared to controls, direct self-injurers report higher levels of trait negative mood, more depression, high levels of impulsivity, and more dissociation (Darche, 1990; Simeon et al., 1992; Guertin et al., 2001; Klonsky et al., 2003). They also have decreased self-esteem (Boudewyn and Liem, 1995; Hawton et al., 2002; Lundh et al., 2007; Claes et al., 2010) and higher levels of aggression (Simeon and Favazza, 2001; Brown and Williams, 2007; Brunner et al., 2007). Increased disinhibition is also found in people with borderline personality disorder (BPD) (see Nigg et al., 2005; Coffey et al., 2011). Because NSSI is a symptom of BPD, we expected that individuals who engage in NSSI would score significantly higher on all of these measures compared to non-self injuring controls.

Problems with self-regulation and self-control occur in individuals who engage in any form of self-injurious behavior. We did not therefore predict significant differences between the NSSI and Indirect groups on measures of impulsivity, disinhibition, and aggression. Moreover, because symptoms of BPD within the DSM include both NSSI and impulsivity in at least two areas that are potentially self-damaging (with reckless driving, substance use, and binge eating listed as possible examples) we anticipated that both these groups would score higher than controls on our measure of BPD pathology. We also did not predict any differences between the NSSI and Indirect groups on this measure. Additionally, negative temperament, depression and low self-esteem, while common in those who engage in NSSI, are also characteristic of those involved in abusive relationships (Grant et al., 2004; Matud, 2005; Zlotnick et al., 2006; Pineles et al., 2008), those with disordered eating (Joiner et al., 1997; Thompson et al., 1999; Polivy and Herman, 2002), and those who engage in substance use (Mertens et al., 2003). Accordingly we did not anticipate significant differences between the NSSI and Indirect groups for measures of negative temperament and self-esteem.

We did, however, hypothesize that those in our NSSI group would report higher levels of dissociation than those who engaged only in indirect methods of self-injurious behavior. This prediction was based on literature suggesting a link between dissociation (and frequent pain analgesia) and acts of direct self-injury (Giolas and Sanders, 1992; Russ, 1992; Brodsky et al., 1995; Orbach et al., 1997). Moreover, because those who engage in NSSI have a significantly elevated risk for suicide attempts than those who do not (Nock et al., 2006; Wilkinson et al., 2011), we hypothesized that those in our NSSI group would score significantly higher than indirect self-injurers on a measure of suicide proneness and also report more lifetime suicide attempts. Finally, in light of current thinking about the links between self-criticism and NSSI (see Glassman et al., 2007; Hooley et al., 2010) we predicted that individuals in our NSSI group would score significantly higher than indirect self-injurers on our measure of negative self-construct. For all measures, however, we predicted that the scores of both self-injury groups would be significantly higher than those of the non self-injuring controls.

2. Method

2.1. Participants

Participants were 156 individuals (109 females; 47 males; mean age 25.2 years (S.D. = 9.0)) recruited from the local community. The NSSI group consisted of 50 participants (43 females, 7 males; average age = 22.5 years (S.D. = 5.6)) who reported currently engaging in NSSI, specifically cutting. The mean duration of self-injury in this group was 5.5 years (S.D. = 6.0). Additionally, participants in the NSSI group reported a mean age of onset of 16.8 years (S.D. = 4.8). A further 38 participants (19 females, 19 males; average age = 29.5 years, (S.D. = 10.4)) who had never engaged in NSSI but who were currently engaging in indirect forms of self-injury (again without suicidal intent) comprised the Indirect self-injury group. The mean duration of self-injury for this group was 7.2 years (S.D. = 6.7). Additionally, participants in the Indirect group reported a mean age of onset of 19.9 years (S.D. = 4.7). Finally, 68 participants (47 females, 21 males; average age = 24.8 years (S.D. = 9.4)) who had never engaged in any form of self-injurious behavior and who had no current Axis I disorder were assigned to the control group. All participants provided written informed consent to a research protocol approved by the Harvard University Committee on the Use of Human Subjects and received remuneration for their participation.

2.2. Procedures

Participants were recruited via electronic or printed advertisements. Two different advertisements were used. The NSSI/self-injury advertisement began with the question, "Do you habitually tend to do things or behave in ways that are NOT in your best interests?" This posting flier listed six examples — getting into or staying in abusive relationships, drinking large quantities of alcohol, using illegal drugs, engaging in eating disordered behavior, doing things aggressively or impulsively, and deliberately causing oneself physical harm (e.g., cutting). The control advertisement began with the question, "Do you generally take good care of yourself?" The posting listed maintaining a healthy lifestyle and generally acting in one's best interests as examples of this.

Participants who responded to either advertisement were contacted and asked to complete a telephone interview to determine eligibility and group assignment. In this telephone interview, participants were questioned about the specific type, frequency, and severity of the reported self-injurious behavior(s) during a standardized semi-structured interview (see Hooley et al., 2010). This covered content similar to that found in the Self-Injurious Thoughts and Behaviors Interview (SITB: Nock et al., 2007). Participants were also screened for the presence of current Axis I disorders using the SCID (First et al., 1996). To be considered for inclusion, potential self-injuring participants (in addition to having a lifetime history of engagement in NSSI or indirect self-injury) were required to have engaged in this behavior at least once in the past month. Control participants with current Axis I disorders were excluded.

Following the phone screening, eligible participants were scheduled to participate in a single two-hour experimental session. After obtaining informed consent, participants were asked to complete a variety of questionnaire assessments. Data were collected by research assistants blind to the group membership of participants.

2.3. Clinical measures

To confirm the information about self-injury that participants provided in the screening interview, we administered the Michigan Alcoholism Screening Test (MAST: Selzer, 1971), the Drug Abuse Screening Test (DAST: Skinner, 1982), the Eating Disorder Examination-Questionnaire (EDEQ: Fairburn and Beglin, 1994), and a modified version of the Self-Harm Inventory (SHI: Sansone et al.,1998b).

2.3.1. Michigan Alcoholism Screening Test (MAST)

The MAST (Selzer, 1971) is a self-report measure that consists of 24 yes/no questions that relate to current and lifetime problems stemming from excessive alcohol use. The MAST was originally conceptualized as a screening tool, but is also used extensively as a severity index for alcohol abuse and dependence (Zung, 1979; Hotch et al., 1983; Mischke and Venneri, 1987; Harburg et al., 1988). A score of 6 or above on the measure indicates serious difficulties with alcohol use ("problem drinking"). The MAST has been found to have good reliability and concurrent validity (Zung and Charalampous, 1975; Zung, 1978). Additionally the MAST has internal consistency as evidenced by Cronbach's alphas ranging from 0.83 to 0.93 (Gibbs, 1983).