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Clinical specificity of acute versus chronic self-injury: Measurement and evaluation of repetitive non-suicidal self-injury

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ABSTRACT

Overall, previous studies on the prevalence of non-suicidal self-injury (NSSI) behaviors in the general population have stressed the importance of differentiating between occasional and repetitive NSSI, examining different severity levels (e.g., frequency and variety of methods), as well as investigating the diverse psychopathological correlates of NSSI. However, existing NSSI measures have not been explicitly developed by to comply with the NSSI diagnostic criteria proposed in the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). The purpose of this study is to develop a measure of repetitive NSSI by considering its essential features, as described in the proposed DSM-5 as well as in other clinically relevant aspects emerging from case reports. Two independent samples of participants (N1=383 young adults and 251 adolescents; N2=953 adolescents) belonging to the general population were involved in the present study. The questionnaire showed satisfactory fit statistics and reliably discriminated between occasional and repetitive self-injurers (Area Under Curve, AUC=0.755). The pattern of correlations with psychopathological measures confirmed a more clinically-compromised profile for repetitive rather than occasional self-injurers.

1. Introduction

Among adolescents and young adult populations, non-suicidal self-injury (NSSI) – defined as the deliberate, self-inflicted destruction of body tissue resulting in immediate damage, without suicidal intent – has received increased attention in recent years (Muehlenkamp, et al., 2012). The longstanding interest in including NSSI as a separate clinical syndrome – distinguished from suicidal behavior (Muehlenkamp, 2005) – in the Diagnostic and Statistical Manual of Mental Disorders (DSM; Pattison and Kahan, 1983; Favazza, 1996; Shaffer and Jacobson, 2009) has its roots in the relative diffusion of NSSI among adolescents.

NSSI generally begins in early adolescence, between the ages of 12 and 14. Lifetime rates of NSSI range from 13% to 41.5% within community adolescent samples (most of which have focused on high school students; Ross and Heath, 2002; Zoroglu et al., 2003; Muehlenkamp and Gutierrez, 2004; Laye-Gindhu and Schonert-Reichl, 2005; Izutsu et al., 2006; Lundh et al., 2007; Cerutti et al., 2011; Di Pierro et al., 2012) and from 17% to 41% in non-clinical young adult samples (most of which have focused on university students; Gratz, 2001, 2006; Paivio and McCulloch, 2004; Whitlock et al., 2006; Cerutti et al., 2012). The variability in the prevalence estimates of NSSI may be related to the various ways in which NSSI has been defined and assessed (Laye-Gindhu and Schonert-Reichl, 2005).

The most frequent self-injury methods include skin cutting, burning, scratching and self-hitting, and should be distinguished from suicidal behaviors involving an intent to die (Walsh, 2006; Nock, 2010; Nixon and Heath, 2009). Compulsiveness and impulsiveness are the most common characteristics of NSSI behaviors (Simeon and Favazza, 2001; Kress, 2003; Whitlock et al., 2006). Compulsive self-injury includes repetitive, often ritualistic behavior that occurs multiple times per day, such as trichotillomania (hair pulling), onychophagia (nail biting) skin picking and skin scratching (Simeon and Favazza, 2001). Impulsive self-injury includes behaviors that may be considered acts of impulsive aggression (Simeon and Favazza, 2001), such as burning, skin cutting and self-hitting, though a distinction between compulsive self-injury and impulsive-repetitive self-injury is not always very clear.

Currently, the proposed diagnosis of a NSSI condition in the new Diagnostic and Statistical Manual of Mental Disorder (DSM-5; American Psychiatric Association, 2010) applies to individuals engaging in intentional self-inflicted damage in the last year, without suicidal intent and presenting with significant distress or impairment. The diagnostic criteria include three primary features that characterize the NSSI condition: the repetition of

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NSSI behaviors (criterion A) that has different bearings on clinical aspects of the condition; the emotional, motivational and perceptual aspects of a NSSI act (criterion B); and finally, the consequences of a NSSI act (criterion C).

The first proposed criterion is one of the most discussed in literature since NSSI behaviors may be episodic or repetitive in nature, with low to moderate lethality (Nock and Favazza, 2009). The majority of episodic NSSI behaviors may be understood as a transient common phenomenon during the adolescence (Heath et al., 2008; Wichstrom, 2009), but previous studies have suggested that the transition from episodic to repetitive may occur after as few as five or as many as 20 episodes (Favazza, 1996). Giving the problematic nature of NSSI episodes this point will be considered more deeply.

1.1. Occasional vs. repetitive NSSI

The qualification of the NSSI as requiring more than five episodes is based on empirical differences between occasional NSSI (O-NSSI) and repetitive NSSI (R-NSSI) among non-clinical population (Rosenthal et al., 1972; Dulit et al., 1994; Zanarini et al., 2006; Bjärehed and Lundh, 2008; Klonsky and Olino, 2008, Whitlock et al. 2008).

O-NSSI frequently involves skin cutting, burning, bone-breaking, hitting, deliberate overuse injuries, interference with wound healing, and any other method of inflicting damage onto oneself. Moreover, it occurs a limited number of times in a person's life and typically lacks lethal intent (Favazza, 1996; Simeon, Favazza, 2001; Kress, 2003).

O-NSSI usually appear early in adolescence and may develop into a chronic or repetitive pattern of self-injury (R-NSSI) with multiple methods, extending over many years and can range from moderate (e.g., more frequent and severe, sometimes requiring medical attention), to severe (e.g., high frequency, severe injury, and resulting impairment; Nock, 2010). So the number of NSSI episodes is also indicative of the severity of this behavior, both in clinical and community samples of adolescents and young adults (Nock and Prinstein, 2004; Brunner et al., 2007; Sarno et al., 2010; Cerutti et al., 2012).

Basing on this findings, Shaffer and Jacobson (2009) consider a cut-off of five or more NSSI episodes in the last year as an inclusion criterion for NSSI condition. In the case of O-NSSI, individuals who meet all of the criteria for a NSSI condition, fall in the non-otherwise-specified (NOS) type 1 sub-category of NSSI (Shaffer and Jacobson, 2009).

Differences between O-NSSI and R-NSSI were also found at the level of consequences in the interpersonal area. In high school adolescents, girls with low school performance seem more likely to engage in O-NSSI behaviors, while for both sexes, social factors such as school type, lower academic achievement, and parental health problems seem to increase the risk of occasional NSSI. These factors do not show any association with R-NSSI (Brunner et al., 2007). In another study, college students who self-injured once reported different experiences during NSSI (e.g., anger before, during and after the act) than did those who self-injured multiple times and who are more likely to report multiple types of trauma, drug and alcohol use, and suicidal ideation (Kakhnovets et al., 2010).

In adolescence, some psychological and psychopathological correlates have been found to be more strongly associated with R-NSSI rather than with occasional NSSI; personality disorders, depression, drug and alcohol use, troubled relationships with peers and/or family members, and chronic psychosocial and behavioral problems (Dulit et al., 1994; Hawton et al., 2002; Muehlenkamp et al., 2005; Haw et al., 2007). In a recent investigation designed to identify clinically distinct subgroups of self-injurers within a college population, students who performed relatively few NSSI behaviors demonstrated the fewest clinical symptoms compared to those who used a variety of NSSI methods (Klonsky and Olino, 2008).

Moreover, studies have also indicated that individuals with a history of self-injury tended to report a negative body image, lower levels of body protection (Muehlenkamp, 2005; Cerutti et al., 2012) and a higher pain tolerance, despite tissue damage (Orbach et al., 1997; Nock and Prinstein, 2004; Schmahl et al., 2006).

1.2. R-NSSI and co-occurrence of suicidal ideation

Although it is known that NSSI and suicide attempts are distinct behavioral phenomena, they tend to co-occur frequently and the nature of their relationship is greatly debated (Dulit et al., 1994; Nock et al., 2006; Whitlock et al., 2006; Lloyd-Richardson et al., 2007; Muehlenkamp et al., 2011). Some authors (e.g., Joiner, 2005; Van Orden et al., 2010; Joiner et al., 2012) consider the repetition of NSSI as an attempt to habituate the negative feelings associated with suicide. In this way, the self-injurer acquires the capability to commit a lethal self-injury, and R-NSSI should be considered a strong risk factor. This hypothesis is also in line with Brausch and Gutierrez's (2010) findings whereby among high school adolescents, suicide attempters presented a history of repetitive and severe injury such as “cutting wrists” or “traumatic injury”, like hanging. Shaffer and Jacobson (2009) acknowledge this relationship by introducing another non-otherwise-specified category (type 2 sub-category of NSSI) reserved for individuals who fit all of the NSSI criteria, but who also explicitly declare that they intended to commit suicide.

1.3. Empirical basis and assessment of R-NSSI

The evidence considered thus far (and summarized by criteria A, B and C of Shaffer and Jacobson, 2009), highlights that syndromal and functional aspects (Nock and Prinstein, 2004) are involved in the assessment of NSSI: the syndromal characteristics mainly concern clearly estimating the repetition of NSSI by including both frequency of the same method or a number of different NSSI methods (criterion A, Shaffer and Jacobson, 2009) as well as the assessment of interpersonal consequences (criterion C, Shaffer and Jacobson, 2009); while the functional aspects of NSSI concern the assessment of the emotional, motivational and functional aspects involved before, during and after the NSSI act (criterion B, Shaffer and Jacobson, 2009).

For the most part, existing NSSI measures (for a thorough review of NSSI measures, see Borschmann et al., 2011; Latimer et al., 2012) take into account only one of these two aspects: only syndromal elements of NSSI with a specific focus on only assessing the frequency of different NSSI methods, like the DSHI (Gratz, 2001), the SHIF (Croyle and Waltz, 2007), the SHI (Sansone et al., 1998), the SITBI (Nock et al., 2007) and the SIQTR (Claes and Vandereycken, 2007); or only the assessment of functional, motivational and/or emotional regulatory aspects of NSSI – like the SASII (Linehan et al., 2006), and the SIQ (Santa Mina et al., 2006).

However, there are three exceptions: the FASM (Nock and Prinstein, 2004), the ISAS developed by Klonsky and Glenn (2009), and the OSI (Cloutier and Nixon, 2003; Martin et al., 2013) include sections that consider both syndromal (i.e., frequencies of NSSI methods) and functional aspects of NSSI.

Nonetheless, when comparing the three instruments (FASM, ISAS and OSI), the more complete of the NSSI instruments, with the criteria A, B, and C of Shaffer and Jacobson (2009) some limitations of the instruments emerge. In particular, the instruments only consider the frequency of NSSI acts while their interpersonal consequences are not assessed (i.e., criterion C of