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The association between nonsuicidal self-injury and the emotional disorders: A meta-analytic review

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HIGHLIGHTS

- We review the magnitude of associations between NSSI and the emotional disorders.
- The risk of NSSI is higher among individuals with emotional disorders than without.
- NSSI is most strongly related to panic disorder and post-traumatic stress disorder.
- The risk of NSSI does not significantly differ across the emotional disorders.
- Findings support a relationship between NSSI and the emotional disorders.

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ABSTRACT

Existing research supports a relationship between nonsuicidal self-injury (NSSI) and the emotional disorders (i.e., anxiety, mood, and related disorders). The aim of this investigation was to conduct a meta-analysis of the associations between NSSI and the emotional disorders, and evaluate the quality of evidence supporting this relationship. A literature search was conducted from database inception through June 2014, and two reviewers independently determined the eligibility and quality of studies. A total of 56 articles providing data on engagement in NSSI among individuals with and without emotional disorders met eligibility criteria. Compared to those without an emotional disorder, individuals with an emotional disorder were more likely to report engagement in NSSI (OR = 1.75, 95% CI: 1.49, 2.06). This increase of risk of NSSI was shown for each disorder subgroup, with the exceptions of bipolar disorder and social anxiety disorder. The largest associations were observed for panic and post-traumatic stress disorder; however, the risk of NSSI did not differ significantly across disorders. The quality of evidence was variable due to inconsistent methodological factors (e.g., adjustment for confounding variables, NSSI assessment). Overall, these findings provide evidence for a relationship between NSSI and the emotional disorders, and support conceptualizations of NSSI as transdiagnostic.

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1. Introduction

The phenomenon of self-injury has received increasing attention over the past several decades (Nock, 2010). An important distinction has been made between suicidal behavior and nonsuicidal self-injury (NSSI), with the latter referring to the direct and deliberate destruction of one's own body tissue without suicidal intent (Nock & Favazza, 2009). NSSI is a maladaptive behavior that can result in heightened negative affect, severe injuries, hospitalization, and even death (Briere & Gil, 1998; Klonsky, 2009). Research has also shown that NSSI is a strong predictor of future suicide attempts (e.g., Asarnow et al., 2011; Bryan, Bryan, Ray-Sannerud, Etienne, & Morrow, 2014; Klonsky, May, & Glenn, 2013; Wilkinson, Kelvin, Roberts, Dubicka, & Goodyer, 2011), and that among both adults and adolescents who engage in NSSI, the risk of suicidal behavior is higher than their non-self-injuring counterparts (e.g., Andover & Gibb, 2010; Andover, Morris, Wren, & Bruzzese, 2012; Brausch & Gutierrez, 2010; Martin, Swannell, Hazell, Harrison, & Taylor, 2010).

NSSI can present in a number of forms, some of which include cutting, scratching, and burning the skin, inserting objects under the skin, and hitting oneself. Although cutting is most commonly reported, most individuals utilize multiple methods of NSSI (Klonsky, 2007, 2011; Nock, 2010). Prevalence rates of NSSI vary significantly across studies; for example, estimates of lifetime prevalence have ranged from 13% to 45% of community-based adolescents and adults (Briere & Gil, 1998; Lloyd-Richardson, Perrine, Dierker, & Kelley, 2007; Plener, Libal, Keller, Fegert, & Muehlenkamp, 2009; Ross & Heath, 2002; Shaffer & Jacobson, 2009; Swannell, Martin, Page, Hasking, & St. John, 2014) and 19% to 60% of clinical samples (Briere & Gil, 1998; Darche, 1990; DiClemente, Ponton, & Hartley, 1991). Among samples of individuals with borderline personality disorder (BPD) specifically, rates have been shown to exceed 50% (e.g., Dulit, Fyer, Leon, Brodsky, & Frances, 1994; Shearer, 1994). One explanation for such wide variation in prevalence rates is the fact that terms used to capture this behavior are inconsistent across the literature (e.g., self-mutilation, deliberate self-harm, parasuicide). Despite difficulties in comparing prevalence rates across studies, findings generally suggest that NSSI occurs more frequently than a number of widely studied mental disorders, such as anorexia nervosa, panic disorder (PD), obsessive–compulsive disorder (OCD), and BPD (American Psychiatric Association, 2013).

In prior iterations of the Diagnostic and Statistical Manual of Mental Disorders (DSM; e.g., DSM-IV-TR; APA, 2000), "self-mutilating behavior" was included only as one of the nine diagnostic criteria for BPD, which may partially explain the elevated rates of NSSI in BPD-specific samples. However, accumulating findings show that NSSI often presents in the absence of BPD (e.g., Muehlenkamp, Erlelt, Claes, & Miller, 2011; Nock, Joiner, Gordon, Lloyd-Richardson, & Prinstein, 2006; Selby, Bender, Gordon, Nock, & Joiner, 2012) and can co-occur with a variety of psychological disorders, including eating disorders, substance use, unipolar and bipolar depression, post-traumatic stress disorder (PTSD), generalized anxiety disorder (GAD), social anxiety disorder (SOC), and OCD (e.g., Briere & Gil, 1998; Claes, Klonsky, Muehlenkamp, Kuppens, & Vandereycken, 2010; Evren, Sar, Evren, & Dalbudak, 2008; Jacobson, Muehlenkamp, Miller, & Turner, 2008; Klonsky, Oltmanns, & Turkheimer, 2003; Nock et al., 2006; Zlotnick, Mattia, & Zimmerman, 1999). In response to growing conceptualizations of NSSI as a transdiagnostic phenomenon, rather than a symptom of a single disorder (e.g., Bentley, Nock, & Barlow, 2014; Selby et al., 2012; Wilkinson & Goodyer, 2011), numerous calls have been made for the reclassification of NSSI (e.g., Muehlenkamp, 2005; Shaffer & Jacobson, 2009). These proposals resulted in the inclusion of NSSI disorder as an area in need of further study (Section 3) in the recently published DSM-5 (APA, 2013) and emerging research continues to support classifying NSSI as a distinct clinical syndrome (e.g., Andover, 2014; Glenn & Klonsky, 2013; In-Albon, Ruf, & Schmid, 2013; Lengel & Mullins-Sweatt, 2013; Selby et al., 2012).

Given increasing evidence that NSSI commonly presents with disorders other than BPD, as well as enduring uncertainty about where to place NSSI disorder in the DSM (e.g., McKay & Andover, 2012), a more precise understanding of the relationship between NSSI and the range of psychiatric conditions is needed. The "emotional disorders" are one disorder grouping that may warrant particular attention in this line of research. According to Sauer-Zavala and Barlow (2014), emotional disorders refer to psychopathology characterized by "frequent and intense negative emotions, strong aversive reactions to negative emotions, and efforts to avoid or escape these emotional experiences" (p. 118; Barlow, 1991; Brown & Barlow, 2009). Conditions historically thought to fall under the emotional disorder umbrella include the range of DSM-5 (APA, 2013) depressive and anxiety disorders, and obsessive–compulsive and trauma- and stress-related disorders (Barlow, 2002); however, any disorder determined to fit the aforementioned definitional characteristics through functional analysis may be considered within this group.

This definition of emotional disorders demonstrates clear conceptual overlap with the phenomenon of NSSI. As noted above, emotional disorders are characterized by the frequent experience of negative emotions (e.g., fear, anxiety, sadness), which in turn are maintained and exacerbated by the use of maladaptive avoidant strategies (e.g., Aldao, Nolen-Hoeksema, & Schweizer, 2010; Barlow, Sauer-Zavala, Carl, Bullis, & Ellard, 2014; Tull & Roemer, 2007; Weiss et al., 2012). Although a variety of models exist to explain why NSSI occurs, there is consensus that NSSI is most often used to regulate affect, and more specifically, to reduce or escape from aversive affective states, such as anxiety, sadness, or guilt (Chapman, Gratz, & Brown, 2006; Klonsky, 2007; Nock & Prinstein, 2004, 2005). Thus, NSSI often serves functions equivalent to the attempts to avoid negative emotional experiences that maintain the emotional disorders. Indeed, the association of avoidant coping strategies characteristic of emotional disorders (e.g., rumination, thought suppression) with engagement in and severity of NSSI is now well-established (e.g., Bentley, Sauer-Zavala, & Wilner, in press; Borrill, Fox, Flynn, & Roger, 2009; Hilt, Cha, & Nolen-Hoeksema, 2008; Howe-Martin, Murrell, & Guarnaccia, 2012; McKay & Andover, 2012; Najmi, Wegner, & Nock, 2007; Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008; Voon, Hasking, & Martin, 2014).

There is also ample evidence to support the presence of similar higher-order constructs underlying the emotional disorders and NSSI. Neuroticism, or the tendency to experience negative emotions accompanied by a sense of the uncontrollability of these emotional experiences (Barlow, Sauer-Zavala, et al., 2014; Clark, 2005), has been established as an important trait contributing to the development and maintenance of emotional disorders (e.g., Barlow, Ellard, Sauer-Zavala,