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Classifying nonsuicidal overdoses: Nonsuicidal self-injury, suicide attempts, or neither?

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ABSTRACT

Self-injurious behaviors (SIBs) are leading causes of death and injury. Unfortunately, disagreement regarding whether and how to classify suicidal and nonsuicidal SIBs has contributed to their misclassification, likely hindering clinical care and impeding scientific progress. The present study utilized a data-driven approach to facilitate classification and measurement of three forms of SIBs, with a particular focus on one with scant clinical and scientific attention: nonsuicidal overdoses (i.e. intentional overdoses where the person states that they had no intention of dying from the overdose). Results from this study demonstrated that nonsuicidal overdoses were similar to suicide attempts in terms of age of onset, and similar to nonsuicidal self-injury (NSSI) in terms of suicidal thoughts and desire to die when engaging in these behaviors. Nonsuicidal overdoses were unique from NSSI and suicide attempts in terms of the reported likelihood of dying from the behavior. The present study highlighted that current definitions for nonsuicidal behaviors (including requirements that the person has zero intent to die) may not accurately represent people's intent when engaging in these behaviors. Additionally, the present study highlighted that empirical analysis of SIBs can provide important insights for classification of SIBs.

1. Introduction

Self-injurious behaviors (SIBs) are leading causes of death and injury. Worldwide, suicide results in more than 800,000 deaths each year (WHO, 2012), and non-fatal suicide attempts result in substantially more injuries and hospitalizations. Self-injury without suicidal intent (nonsuicidal self-injury, or NSSI, such as self-cutting) is even more common, with millions of people engaging in these behaviors each year (e.g., Klonsky, 2011; Lloyd-Richardson et al., 2007; Whitlock et al., 2013). There are many different forms of suicidal and nonsuicidal SIBs. On the surface, the development of a clear SIB taxonomy may seem straightforward because SIBs are observable behaviors (e.g., self-hanging, self-burning, self-cutting, self-poisoning). However, the non-observable aspects of these behaviors (e.g., suicidal intent) have prompted longstanding disagreement about how they are most accurately classified, likely contributing to misclassification in both clinical (Brown et al., 2015) and research settings (Millner et al., 2015; Hom et al., 2015). In particular, researchers often disagree about how to best distinguish between suicidal and nonsuicidal self-injury, with some researchers arguing that such a distinction might not even exist (e.g., Kapur et al., 2013). Although these disagreements have existed for decades, surprisingly few empirical studies have directly evaluated the differing SIB classification approaches. The primary purpose of the present study was to take a step toward resolving these disagreements by providing direct empirical evidence for how to best classify a particularly controversial SIB: nonsuicidal overdoses.

Intentional self-poisoning, including ingestion of inedible plants and objects, as well as drug and/or alcohol overdose, is the third leading cause of death by suicide (Karch et al., 2010), and non-fatal self-poisoning causes hundreds of thousands of emergency room and hospital visits each year (Albert et al., 2015). Intentional overdosing, a particularly common type of self-poisoning, involves taking an excess (i.e., more than the acknowledged therapeutic dose) of a prescribed, over the counter, or recreational drug (e.g., Madge et al., 2008; Rodham et al., 2004; Schmidtke et al., 1996). People overdose to kill themselves, to lead people to believe they want to kill themselves, or to hurt themselves without any intention of dying. Yet, unlike most other forms of SIBs, nonsuicidal overdoses do not fit into existing SIB categories. They are not classified as suicide attempts, because suicide attempts are defined as potentially harmful behaviors enacted with some non-zero intent to die (e.g., Crosby et al., 2011; De Leo et al., 2006; Nock and Favazza, 2009; O'Carroll et al., 1996; Posner et al., 2007; Silverman et al., 2007). Clearly, this definition excludes overdoses

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enacted without the intent to die. Similarly, popular definitions of NSSI require that the behaviors result in direct tissue damage (e.g., American Psychological Association, 2013; Gratz, 2001; Nock and Favazza, 2009). As a result, nonsuicidal overdoses cannot be classified as NSSI either (see Brown et al., 2002; Glenn and Klonsky, 2010; Klonsky and Glenn, 2009 for exceptions). This leads to the questions: what are nonsuicidal overdoses and where do they fit in?

To answer this question, it is important to consider that the classification of SIBs as suicidal or nonsuicidal is complex. First, there is disagreement regarding whether self-reported intent for an SIB must be exactly zero to be considered nonsuicidal, or whether "very minimal" intent should still be classified as nonsuicidal (e.g., Brown et al., 2002). This distinction could present difficulties when choosing to classify nonsuicidal overdoses as suicidal or nonsuicidal, especially when reported intent is ambivalent. Second, relying on self-reported intent could lead SIBs that are clearly nonlethal (e.g., taking three ibuprofen) to be considered a suicide attempt if the person endorses non-zero intent to die from the behavior. This is especially problematic when another person engaging in the exact same behavior reports no intent to die from the small overdose. Third, some people will be motivated to conceal their suicidal intent due to stigma or other considerations (e.g., to avoid inpatient hospitalization; Busch et al., 2003). Given difficulties in self-report, other researchers have argued that intent should be determined implicitly, using objective information about whether a SIB was potentially lethal (e.g., Crosby et al., 2011; Posner et al., 2007). Unfortunately, in some cases this implicit information may contradict someone's self-report, which might have more accurately reflected their actual goal for the behavior. In summary, a variety of factors can influence and potentially distort determinations of intent to die from different SIBs.

Due in part to difficulties distinguishing among SIBs, several researchers (e.g., Kapur et al., 2013) choose to forgo the distinction between suicidal and non-suicidal self-injury and instead combine all SIBs regardless of intent. Using this model, it would be unnecessary to differentiate suicidal and nonsuicidal overdoses. However, combining disparate behaviors can obscure important differences, adversely affecting both future research and treatment. Moreover, prior research suggests that suicidal and typical nonsuicidal (e.g., cutting) forms of SIBs are distinguishable (e.g., Nock et al., 2009).

Perhaps related to these difficulties, few studies have examined overdoses enacted without suicidal intent. These studies are drawn from research on deliberate self-harm, an umbrella term for all non-lethal self-harm regardless of suicide intent (e.g., Morgan, 1979). Results from these studies show that up to 1/3 of people who engage in SIBs endorse intentionally overdosing without the intent to die (e.g., Bancroft et al., 1979; Madge et al., 2008; Rodman et al., 2004). As with other forms of nonsuicidal self-injury, participants from these studies endorsed a variety of motivations for these overdoses including to get relief from pain (Bancroft et al., 1979) and to self-punish (Madge et al., 2008). These few studies highlight that overdosing without suicidal intent is relatively common among people who engage in SIBs, and that these behaviors warrant attention.

More information about nonsuicidal overdoses is needed to determine whether these behaviors should be classified as suicide attempts, NSSI, or neither. The goal of the current paper was to test a data-driven approach to aid classification and measurement of nonsuicidal overdoses. To accomplish this, we collected data on descriptive characteristics, course, frequency, and suicidal thoughts and intent reported across three different forms of SIBs: NSSI, suicide attempts, and nonsuicidal overdoses. We hypothesized that nonsuicidal overdoses would more closely resemble NSSI than suicide attempts given that both are reportedly enacted without the intent to die. Additionally, given popular definitions of NSSI, we hypothesized that there would be minimal thoughts of suicide and intention to die when engaging in NSSI.

2. Methods

2.1. Subjects

Participants were 183 young adults recruited online from web forums related to self-harm and severe psychopathology. Inclusion criteria for this sample included being 18+ years of age and fluent in English. In addition, it included at least one of the following: 5+ episodes of NSSI in the past year; 1+ suicide attempt with at least some intent to die; or 1+ episode of intentional overdosing without wanting to die in the past year.

Participants were primarily young adults ($M=25.16$ years old, $SD=6.78$) who reported female sex (86.8%). Participants identified as Caucasian (81.6%), Asian (5.8%), Black/African American (2.6%), Hispanic/Latino (3.2%), and Other (9%; e.g., Native American, Pacific Islander). Additionally, 71.58% were born in the USA.

2.2. Procedures

We used an identical recruitment technique as in earlier work (e.g., Franklin et al., 2016). Briefly, we joined online forums and posted study advertisements within self-harm and psychopathology related Internet communities. Interested forum members completed a screening questionnaire assessing inclusion criteria and related questions to obscure inclusion criteria. Those who qualified and were interested in participating indicated consent by providing an electronic signature (i.e., typing their first name only) and answering four questions about the consent form to ensure risks and benefits were understood. After completing each of these steps, participants were emailed a link to the assessment described in more detail below. Finally, participants were paid $10 in Amazon gift cards for their participation. We asked that participants use an email address that did not contain any identifying information (e.g., name, date of birth) to increase their anonymity. Of the 280 forum members who completed the screening questionnaire, 203 (72.5%) qualified for the study and 183 adults participated in the study (90.1%).

Importantly, by approximating anonymity, it was impossible to intervene if someone indicated recent history of some form of self-injurious behavior or a desire to self-injure again in the future. Instead, at several points throughout the study we provided all participants with links to online support and treatment resources, and tips to locate treatment providers near them. Additionally, when participants indicated a recent (i.e., past month) engagement in self-injury of some kind or a desire to self-harm again in the future, we emailed them directly. In this email we mentioned that it seemed like they were going through a hard time right now, and encouraged them to use resources provided (e.g., suicide prevention hotlines) at any point, especially if they did not feel safe. The university institutional review board approved of all study materials, measures, methods, and procedures.

2.3. Questionnaires

2.3.1. Eligibility questionnaire

We created a brief screening questionnaire assessing inclusion criteria (i.e., age, English fluency, and past year history of NSSI, nonsuicidal overdoses, and suicide attempts). The survey also included additional questions, such as lifetime presence and frequency of various suicidal thoughts and behaviors.