Psychiatry Research 225 (2015) 588–595

Contents lists available at ScienceDirect

Psychiatry Research

journal homepage: www.elsevier.com/locate/psychres

Deliberate self-harm and the nexus of violence, victimization, and mental health problems in the United States

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ARTICLE INFO

Article history:
Received 7 February 2014
Received in revised form
4 November 2014
Accepted 17 November 2014
Available online 3 December 2014

Keywords:
Self-injury
Violence
Substance use disorders
Child maltreatment
Victimization

ABSTRACT

Deliberate self-harm (DSH) is associated with diverse psychiatric diagnoses and broad psychopathology but less is known about its association with other forms of interpersonal violence and crime. Using the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), the current study examined linkages between not only DSH and mental health and substance abuse comorbidity, but also childhood abuse, lifetime victimization, and a variety of violent behaviors. We identified a prevalence of 2.91% for DSH and found that DSH is associated with generalized and severe psychopathology, wide-ranging substance abuse, and adverse childhood experiences. Contrary to other studies, we found significant racial and ethnic differences in DSH. African-American, Latinos, and Asians, were substantially less likely than Whites to report DSH. Our hypothesis that DSH would be associated with a variety of violent behaviors including robbery, intimate partner violence, forced sex, cruelty to animals, and use of a weapon was supported even after adjusting for an array of covariates. We extend previous research on DSH by examining its prevalence in one the largest comorbidity surveys ever conducted and show that DSH is associated with multiple forms of violent behavior toward others, including animals.

1. Introduction

Deliberate self-harm (DSH) is the intentional act of harming oneself typically by means of cutting, scratching, or burning the flesh (Winchel and Stanley, 1991; Gratz, 2001). DSH is associated with a host of psychiatric disorders including, but not limited to, anxiety and depressive disorders (Klonsky et al., 2003; Andover et al., 2005), borderline personality disorder (Andover et al., 2005), and post-traumatic stress disorder (Harned et al., 2006), and is thought to be a symptom of severe, yet heterogeneous, psychopathology (Klonsky and Muehlenkamp, 2007). Unsurprisingly, DSH is often tied to suicidal thoughts and behaviors (Canetto, 1997; Brown et al., 2002; Zahl and Hawton, 2004).

Prior epidemiologic studies of DSH have identified wide-ranging prevalence depending on the research sample employed. Prevalence estimates from population-based surveys, though few in number, range from approximately 2% to 6% (Briere and Gil, 1998; Klonsky, 2011), while studies from student and clinical psychiatric settings have been found to be substantially higher (e.g., 30%) (Briere and Gil, 1998; Brunner et al., 2007). DSH is most likely to occur in adolescence and early adulthood (Schmidtke et al., 1996; Briere and Gil, 1998). With respect to sex differences, studies among adolescents have found that women are more likely to engage in DSH (Hawton et al., 2002; Kirkcaldy et al., 2006; Brunner et al., 2007), but this does necessarily hold for adults (Klonsky, 2011). Less research has focused on racial and ethnic patterns of DSH; however, findings suggest non-significant results (Klonsky, 2011).

1.1. Theoretical context

Studies of the etiologic correlates of DSH have found a wide range of correlates including those reflective of childhood abuse and emotional dysregulation. A systematic review of 59 published studies identified strong and predictive evidence of the role of general psychopathology pointing toward DSH as a coping mechanism to manage frequent negative emotions (Fliege et al., 2009). Early trauma and abuse were also pronounced across the study pool. Few investigations examined the role of protective factors that are not merely the reverse of risk, but those that did identified high self-appraisal as inversely correlated with DSH (Fliege et al., 2009). These findings are in accord with recent explanatory models of DSH that

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http://dx.doi.org/10.1016/j.psychres.2014.11.041
0165-1781/

emphasize the role of self-mutilating behaviors as a general affect regulatory strategy (Klonsky, 2009; Nock, 2009; Mikolajcrak et al., 2009), and/or means to communicate interpersonal stress and emotional hurt to others (Klonsky, 2009). Treatment and prevention linked to this explanatory paradigm include behavioral training in coping strategies (Nock, 2009).

Although strides have been made in theorizing the etiology of DSH behaviors, there has been little theoretical linkage to the association between DSH and violence toward others. Given that many theories of DSH emphasize negative emotional states, it seems plausible that negative emotions such as anger may be directed at times toward others. Anger in the absence of self-control may be a mechanism by which persons who deliberately self-harm may also harm others. According to DeLisi and Vaughn (2014) temperament theory of antisocial behavior, anger is an important dispositional and situational emotion that if left uninhibited by appropriate effortful control responses increases the probability of aggression. In the case of persons who deliberately self-harm, negative emotions may overwhelm and exhaust the capacity for effortful control and thereby remove one important protective barrier for reactive aggression particularly during or following heated interpersonal exchanges.

1.2. Study aims

Despite the increase of systematic knowledge on DSH, there remain several gaps. One of these gaps involves whether persons who deliberately self-harm are violent toward others. Several studies allude to aggression (Haavisto et al., 2005) and one study has found that among psychiatric inpatients self-harm and violence are correlated and share common risk and protective factors (Abidin et al., 2013). Beyond these studies, little research has accrued on the connection between DSH behaviors and violent behaviors, including cruelty to animals. Further, few studies of DSH have been derived from large nationally representative samples. This limits the generalizability of prior research.

We conceived this study to address these gaps by using the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). This data source is ideally suited to surmount the shortcomings of prior investigations due to its scope and extensive assessment of comorbidity, violence, and adverse childhood experiences. Consistent with prior research we hypothesize that DSH will be associated with extensive mental health and substance abuse comorbidity and childhood abuse and lifetime victimization. More uniquely, however, we hypothesize that due to heightened levels of negative emotionality such as anger in conjunction with diminished levels of effortful control, DSH will be associated with a variety of violent behaviors including robbery, intimate partner violence, forced sex, cruelty to animals, and use of a weapon.

2. Method

2.1. Participants

This study employs data from Wave I (2001–2002) and Wave II (2004–2005) of the NESARC. The NESARC is a nationally representative sample of non-institutionalized U.S. residents aged 18 years and older. The survey gathered background data and extensive information about substance use and comorbid psychiatric disorders from individuals living in households and group settings such as shelters, college dormitories, and group homes in all 50 states and the District of Columbia. The NESARC utilized a multistage cluster sampling design, oversampling young adults, Hispanics, and African-Americans in the interest of obtaining reliable statistical estimation in these subpopulations, and to ensure appropriate representation of racial and ethnic subgroups. The response rate for Wave I data was 81% ($N=43,093$) and for Wave II was 87% ($N=34,653$) with a cumulative response rate of 70% for both waves. The design and methods are presented in a summarized form; however, a more detailed description of the NESARC procedures is available elsewhere (Grant et al., 2003). Due to low base rates for deliberate self-harm among older participants, the current study restricted analyses to individuals between the ages of 18 and 49 ($N=19,073$).

2.2. Diagnostic assessment

Data were collected through face-to-face structured psychiatric interviews conducted by U.S. Census workers trained by the National Institute on Alcohol Abuse and Alcoholism and the U.S. Census Bureau. Interviewers administered the Alcohol Use Disorder and Associated Disabilities Interview Schedule – DSM-IV version (AUDADIS-IV), which provides diagnoses for clinical, personality, and substance use disorders. The AUDADIS-IV has shown to have good-to-excellent reliability in assessing mental disorders in the general population by trained lay interviewers (Grant et al., 1995; Hasin et al., 1997). In recent years, the NESARC has proven to be a useful dataset for the study of violence, antisocial behaviors, and psychopathology (Vaughn et al., 2010; Vaughn et al., 2011; McCabe et al., 2013).

2.3. Measures

2.3.1. Deliberate self-harm

Respondents were asked: "Have you ever cut, scratched, or burned yourself on purpose?" Respondents who responded affirmatively to this question were classified as persons who deliberately self-harm ($N=526$, 2.91%) and were coded as one. All other respondents were coded as zero.

2.3.2. Child maltreatment

Four measures of child maltreatment were examined, including: child sexual abuse, child physical abuse, child neglect, and child exposure to serious fights in the home. For instance, respondents were asked, "Were you ever physically attacked, beaten, or injured before the age of 18 by a parent or caretaker?" For each of these variables, respondents who responded affirmatively to these questions were coded as one and those who reported not having experienced such maltreatment as children were coded as zero.

2.3.3. Victimization

Three measures of lifetime victimization were also included. Respondents who reported that they had ever been physically attacked, beaten, or injured by a spouse or partner; physically attacked, beaten, or injured by an individual who was not a spouse or partner; or stalked by someone were coded as one and all other respondents coded as zero.

2.3.4. Mental health

Using the AUDADIS-IV, lifetime DSM-IV Axis 1: Clinical Disorders (generalized anxiety disorder, bipolar disorder, major depression, dysthymia, panic disorder, social phobia, specific phobia, and posttraumatic stress disorder) and Axis 2: Personality Disorders (avoidant, histrionic, narcissistic, obsessive–compulsive, paranoid, schizoid, and schizotypal) were examined. For each of these disorders, respondents who were identified as having met diagnostic criteria during their lifetime were coded as one and all other individuals coded as zero.

2.3.5. Substance use disorders

Using the AUDADIS-IV, eight substance use disorders were examined, including: nicotine, alcohol, cannabis, cocaine, stimulant, sedative, tranquilizer, and opioid use disorders. For each of these disorders, respondents who were identified as having met diagnostic criteria for abuse or dependence during their lifetime were coded as one and all other individuals coded as zero.

2.3.6. Violent behavior

Nine violent behaviors from the antisocial personality disorder module of the AUDADIS-IV were examined, including: bullying/intimidation, hurting an animal or pet, hurting another person on purpose, intimate partner violence, forced sex, robbing or mugging someone, hitting and injuring someone, initiating lots of fights, and using a weapon in a fight. For each item, respondents who self-reported that they exhibited such behaviors in their lifetime were coded as one and all other individuals were coded as zero.

2.3.7. Sociodemographic and behavioral controls

The following sociodemographic variables were included as controls: age, gender, race/ethnicity, household income, education level, marital status, region of the United States, and urbanicity. In addition, in examining the associations between DSH and health and behavioral correlates, we controlled for parental antisocial influence (i.e. mother or father had behavioral problems), parental substance abuse (i.e. mother or father were ever a problem drinker or had problems with drugs), and lifetime diagnoses of clinical, personality, and substance use disorders.