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Citation	Gómez, J. M., Becker-Blease, K., & Freyd, J. J. (2015). A Brief Report on Predicting Self-Harm: Is It Gender or Abuse that Matters?. <i>Journal of Aggression, Maltreatment & Trauma</i> , 24(2), 203-214. doi:10.1080/10926771.2015.1002651
DOI	10.1080/10926771.2015.1002651
Publisher	Taylor & Francis
Version	Accepted Manuscript
Terms of Use	http://cdss.library.oregonstate.edu/sa-termsofuse

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A Brief Report on Predicting Self-Harm: Is It Gender or Abuse That Matters?

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The authors thank Pamela Birrell, John Becker-Blease, and Erik L. Knight for comments on previous drafts of this paper.

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Abstract

Self-harm, which consists of non-suicidal self-injury and attempted suicide, is a public health problem that is not well understood. There is conflicting evidence on the role of gender in predicting self-harm. Abuse history also is a potentially relevant factor to explore, as it is related to both gender and self-harm. In the current study, we hypothesized that abuse history, as opposed to gender, would predict self- harm. Three hundred ninety-seven undergraduates completed a self-report survey that assessed abuse history, non-suicidal self-injury, and attempted suicide. The results suggested that abuse history predicted non-suicidal self-injury and attempted suicide. These findings can inform clinical interventions, as they reinforce the importance of including abuse history in the conceptualizations and treatment of self-harm.

Keywords: self-harm, suicidality, self-injury, non-suicidal self-injury, attempted suicide, abuse, cumulative trauma, gender

A Brief Report on Predicting Self-Harm: Is It Gender or Abuse That Matters?

Self-harm includes self-injury with and without the desire to end one's life. Non-suicidal self-injury is defined as any instance in which an individual deliberately harms him or herself without the intent of committing suicide (Nock, 2009). Self-destructive behaviors in which the negative effects are unintended, such as cigarette smoking, or culturally sanctioned body modifications, such as tattoos, are not classified as non-suicidal self-injury (Nock, 2009). Common forms of non-suicidal self-injury are "cutting, burning, scratching, and interfering with wound healing . . . carving words or symbols into one's skin, banging body parts, and needle-sticking." (Klonsky, 2007, p. 1039). Another form of self-harm, attempted suicide, can be described as a self-injury motivated by a desire to end one's life.

Self-harm—both non-suicidal self-injury and attempted suicide—is an important public health problem that is not well understood (Nock, 2012). Identifying vulnerable groups and the motivation for self-harm is essential for developing effective prevention and intervention strategies. Here, we investigate current theoretical and empirical models of self-harm, with an emphasis on understanding their relationships to gender and abuse history.

Theories of Non-Suicidal Self-Injury

Several theoretical models of non-suicidal self-injury focus on the purpose it serves individuals (Messer & Fremrouw, 2008; Suyemoto, 1998). The behavioral model refers to the roles of environmental or internal reinforcement on non-suicidal self-injury, while the anti-suicide model conceptualizes non-suicidal self-injury as a psychological compromise between living and dying. With the sexual model, non-suicidal self-injury is framed as serving the function of sexual punishment and/or sexual gratification, whereas the affect regulation model proposes that non-suicidal self-injury manages and controls inexpressible intense emotions. The

dissociation or depersonalization model understands non-suicidal self-injury as a coping mechanism for dissociation that results from intense affect, and in the boundaries model, non-suicidal self-injury serves the function of creating a clear distinction between self and others. Finally, the physiological model proposes biological vulnerabilities (e.g., serotonin) as contributors to engagement in non-suicidal self-injury (Messer & Fremrouw, 2008; Suyemoto, 1998).

These functional models provide diverse motivations and underlying purposes for engaging in non-suicidal self-injury, which may vary between and within individuals. Through these motivations, non-suicidal self-injury may help people manage both internal states and interpersonal situations. For example, intra-personally, non-suicidal self-injury may regulate cognitions (Nock, 2009) or affect (Klonsky, 2007; Santa Mina, 2010), both of which act as reinforcers that increase the behavior (Nock, 2009); thus, these intra-personal benefits, such as affect regulation, may help promote further engagement in non-suicidal self-injury. Interpersonally, non-suicidal self-injury may increase a desired outcome, such as communicating pain (Nock, 2009), that results in either increasing something desirable (e.g., attention and support) or decreasing an undesired behavior (e.g., conflict or harassment). While abuse history may be associated with aspects of these models (e.g., intense affect proposed in both the affect regulation model and the dissociation/depersonalization model), its explicit exclusion from these models may limit the extent to which researchers and clinicians conceptualize non-suicidal self-injury as a proximal or distal outcome of abuse.

Connections Between Non-Suicidal Self-Injury and Attempted Suicide

While acknowledging that non-suicidal self-injury and attempted suicide are distinct phenomena (Nock, 2012), the Interpersonal Theory of Suicide proposed by Joiner, Ribeiro, and

Silva (2012) suggests that non-suicidal self-injury increases the capability for suicide. The Interpersonal Theory of Suicide expands upon the primary predictors of suicide—simultaneous thwarted belongingness and perceived burdensomeness—previously suggested by Van Orden and colleagues (2010). The Interpersonal Theory of Suicide includes more proposed causal mechanisms of suicide: passive suicidal ideation, genetic vulnerability, increased pain tolerance, and non-suicidal self-injury. Though this model includes more testable predictors of self-harm than did the aforementioned functional models of non-suicidal self-injury (e.g., Messer & Fremrouw, 2008), it excludes abuse history as a risk factor, even though some predictors, such as increased pain tolerance, may be an indicator of repeated exposure to abuse.

Predictors of Non-Suicidal Self-Injury and Attempted Suicide

When researchers have measured abuse history, it has been found to be related to both non-suicidal self-injury and attempted suicide (Ford & Gómez, *in press*). For a variety of reasons, however, empirical studies examining predictors of non-suicidal self-injury and/or attempted suicide often have not included abuse history. More commonly, other relevant predictors, such as lifetime psychiatric disorders and self-harm, depression, anxiety, impulsivity, borderline personality disorder, non-suicidal self-injury, other personality disorders, and substance dependence have been examined (Chartrand, Sareen, Toews, & Bolton, 2012; Klonsky, May, & Glenn, 2013; Bakken & Vaglum, 2007). At the same time, many of these predictors have also been associated with abuse history. Due to strong theoretical and empirical links, it would be important to include abuse history as a predictor of non-suicidal self-injury and attempted suicide, thus allowing for a more accurate estimate of the effects of abuse history and to avoid inflating the effects of other factors. Additionally, examining abuse history may help answer an important research question: Why do some people use self-harm, rather than other

strategies, to cope with stressful internal states and social situations? Child abuse is one of several distal risk factors that can lead to intense emotional states and impaired social skills, which in turn lead to a stress response that motivates people to seek relief (Nock, 2012).

Gender, Abuse History, Non-Suicidal Self-Injury, and Attempted Suicide

In examining the literature, it seems apparent that abuse history is related to self-harm. In childhood, physical abuse, emotional abuse, sexual abuse, and peer victimization have all been associated with self-harm directly, and with difficulty in managing emotional states and social relationships that may lead to self-harm (Boudewyn & Liem, 1995; Briere & Gil, 1998; Glassman, Weierch, Hooley, Deliberto, & Nock, 2007; Gratz, 2006; Gratz, Conrad, & Roemer, 2002; Hilt, Cha, & Nolen-Hoeksema, 2008; Maniglio, 2011; Moller, Tait, & Byrne, 2013; Wedig et al., 2012; Zlotnick et al., 1996). Additionally, Swannell et al. (2012) interviewed a large representative sample of adults in Australia regarding child abuse—sexual abuse, physical abuse, and neglect—non-suicidal self-injury, dissociation, and self-blame. Those who reported self-harm were also more likely to report a history of maltreatment; the specific relationships among types of maltreatment and self-harm varied by gender. For both men and women, dissociation (a lack of typical integration of thoughts, feelings, and behavior) was associated with a history of child abuse; self-blame mediated the association between maltreatment and self-harm.

Yates, Carlson, and Egeland (2008) examined the relationship between child maltreatment and future self-harm in a prospective longitudinal study with a high-risk sample. Physical abuse, sexual abuse, and neglect were measured at several points during childhood. At age 26, participants reported on lifetime non-suicidal self-injury, whether the self-harm was intermittent or recurrent, and the intrapersonal and interpersonal motivations for self-harm. Controlling for family disruption and violence, stressful life events, socioeconomic status (SES),

and cognitive ability, child sexual abuse was associated with recurrent (more than 2 events) self-harm, while child physical abuse was associated with intermittent (1-2 events) self-harm..

In this study, intrapersonal motivations, such as avoiding negative affect, were more common among those reporting recurrent self-harm. Dissociation significantly mediated the relationship between child sexual abuse and self-harm. Among those participants reporting intermittent self-harm, interpersonal motivations, such as attention-seeking, were more common. Thus, this work supported previous research (see Ford & Gómez, *in press*, for a review) that suggested that maltreatment was related to self-harm. These data collected by Yates, Carlson, and Egeland (2008) showed a more complex pattern than had previously been reported, and the pattern became even more complicated when gender was included. For example, exposure to interpersonal violence did not predict self-harm for men, but did for women. Physical and sexual abuse were correlated with self-harm for men but not women, and sexual abuse and neglect were correlated with self-harm in girls under the age of 18 but not their male counterparts.

It seems clear that abuse, gender, motivations for self-harm, and self-harm itself interact in complex ways. This complexity may explain why some studies report that females are more likely to engage in self-harm (e.g., Sornberger, Heath, Toste, & McLouth, 2012), while other studies report no gender differences (e.g., Guan, Fox, & Prinstein, 2012). The effect of gender on self-harm may actually stem from abuse history and abuse-related intrapersonal factors, not gender itself, (Bakken & Gunter, 2012), as the likelihood of experiencing certain kinds of abuse varies by gender (Goldberg & Freyd, 2006; Gratz, Conrad, & Roemer, 2002). Therefore, understanding the complex etiology of self-harm, including the effect of gender, requires inclusion of abuse history (Zoroglu et al., 2003), as to decrease the likelihood of misguided or erroneous findings (Becker-Blease, Freyd, Russo, & Rich-Edwards, 2012). For this reason, the

current exploratory study included both abuse history and gender within a predictive model of self-harm. We hypothesized that abuse history, as opposed to gender, would predict non-suicidal self-injury and attempted suicide.

Method

Participants and Procedure

Three hundred ninety-seven undergraduate students (70% female; M = 19.68 years, SD = 2.17 years; 77.1% Caucasian, 10.6% Asian; 6.5% Other; 2.0% Native Hawaiian or Other Pacific Islander; 1.8% African American; 0.3% American Indian or Alaska Native; 1.5% declined to answer) were recruited from introductory psychology courses at a Northwestern university. Compared to the university population as a whole (National Center for Education Statistics, n.d.), this sample was less diverse in terms of ethnicity and age, but was similar in gender distribution. The university Institutional Review Board approved this study.

Participants chose the current study based on time availability without knowledge of the topic. They completed the 10-minute self-report survey online in settings of their own choosing and were given class credit for their participation. Data from seven participants were excluded due to missing information. The remaining data were analyzed both descriptively and with rare events logistic regression. These data were part of a larger study (Gómez, Kaehler, & Freyd, 2014); therefore, only some of the measures and results are reported here.

Measures

The Brief Betrayal Trauma Survey—Modified (Goldberg & Freyd, 2006) is an eighteen-item questionnaire that assesses physical, sexual, and emotional abuse perpetrated by close (high betrayal) and unclosse (medium betrayal) others at three retrospective time points: before age 12; ages 13-17; and after age 17. Responses were labeled “yes,” “no,” and “decline to answer.” In

the analyses, items were combined to form one continuous variable (abuse history), with each “yes” response to the experience of one type of abuse with one type of betrayal at each time point being recorded as one. Scores could range from zero (no abuse) to a possible total of 18 (experience of each abuse type by each perpetrator type at each time point). In its initial validation, the completed measure yielded good test re-test reliability for childhood items (83%) and adulthood items (75%) (Goldberg & Freyd, 2006).

Due to the exploratory nature of the study, we operationally defined non-suicidal self-injury and attempted suicide very broadly. Therefore, the participants were able to assess any experiences of self-harm in terms of motivation (e.g., with intent of committing suicide) as opposed to modality (e.g., cutting versus taking pills). To accomplish this, we created two items to assess non-suicidal self-injury and attempted suicide: “Have you ever physically hurt yourself on purpose without the intent of committing suicide?” and “Have you ever physically hurt yourself on purpose with the intent of committing suicide?” Responses were labeled “yes,” “no,” and “decline to answer.”

Results

Thirty-one percent of the sample, of which 77% were female, reported a history of abuse. Mean abuse history was just under one abuse experience (.92), ranging from zero to 11 reported abuse experiences, out of a possible total of 18 abuse experiences. Fourteen percent of the total sample (69% of which were female) had engaged in non-suicidal self-injury, and 5% of the total sample (86% female) had previously attempted suicide.

Two logistic regressions were run to assess the differential predictive power of gender and abuse history on non-suicidal self-injury and attempted suicide individually. We used a rare events logistic regression that provides valid results when predicting relatively uncommon

behaviors. In the first model, age, abuse history (number of reported traumatic events), and gender were used to predict non-suicidal self-injury. Age (Wald (1) = 1.12, $p = 0.28$) and gender (Wald (1) = 0.79, $p = .38$) were not significant predictors. Abuse history, on the other hand, significantly predicted non-suicidal self-injury (Wald (1) = 7.65, $p < .01$). In the second model, the same predictors were used to predict attempted suicide. Again, age (Wald (1) = 0.30, $p = 0.58$) and gender (Wald (1) = 1.06, $p = .30$) were not significant predictors, while abuse history significantly predicted attempted suicide (Wald (1) = 11.36, $p < .01$). The results did not change when we ran these regressions with abuse history coded as a dichotomous variable (any abuse history versus no reported abuse). Thus, abuse history, but not gender, predicted both non-suicidal self-injury and attempted suicide.

Discussion

The etiology of self-harm—both non-suicidal self-injury and attempted suicide—is highly complex (Nock, 2012). While some theoretical and empirical models of self-harm include abuse history (e.g., Nock, 2012; Yates, Carlson, & Egeland, 2008), many do not (e.g., Joiner, Ribeiro, & Silva, 2012; Klonsky, May, & Glenn, 2013). As Becker-Blease et al. (2012) have noted, exclusion of abuse history in empirical studies may lead to erroneous findings that, in turn, affect our ability to both prevent and understand complex phenomena. In studying self-harm, the inclusion of abuse history is necessary (Zoroglu et al., 2003) for disentangling the effects of gender. Given that gender by itself cannot be intervened upon and the prevalence and type of abuse differ by gender (e.g., Goldberg & Freyd, 2006), knowledge of abuse history provides an avenue to further understand self-harm.

The purpose of the current exploratory study was to examine gender and abuse history as predictors of non-suicidal self-injury and attempted suicide. We hypothesized that abuse

history, as opposed to gender, would predict both forms of self-harm. Our results support this hypothesis and replicate other findings that suggest that abuse history is an important factor in self-harm (Boudewyn & Liem, 1995; Briere & Gil, 1998; Ford & Gómez, *in press*; Glassman, Weierch, Hooley, Deliberto, and Nock, 2007; Gómez & Freyd, 2013; Gratz, 2006; Gratz, Conrad, & Roemer, 2002; Hilt, Cha, & Nolen-Hoeksema, 2008; Maniglio, 2011; Moller, Tait, & Byrne, 2013; Nock, 2012; Rabinovitch, Kerr, Leve, & Chamberlain, 2014; Swannell et al., 2012; Wedig at al., 2012; Zlotnick et al., 1996). Consistent with some other studies (e.g., Guan, Fox, & Prinstein, 2012), we found that gender alone was not a predictor of self-harm. Additionally, as the predictive power of gender may be dependent upon the differential experience of abuse in a given sample, the current study provides further evidence that abuse history should be considered in theoretical and empirical models of non-suicidal self-injury and attempted suicide.

Limitations

The findings of this exploratory study should be interpreted alongside its limitations. As opposed to frequency of abuse, the current study examined cumulative trauma—the number of different abuse types—which previously have been linked to trauma sequelae (e.g., Martin, Cromer, DePrince, & Freyd, 2013). Due to our categorical measurement (yes/no) of abuse history, the differential predictive power of these abuse types could not be examined. Similarly, our measure of self-harm included only two broad, categorical (yes/no) items that could detect neither the rates of self-harm nor the potentially important differences in types of self-harm (e.g., cutting versus burning). Additionally, the generalizability of this study may be limited given that the sample consisted of university students who were predominantly Caucasian young women. Future studies should address these and any other limitations by utilizing diverse samples with even distributions of men and women, and a larger number of items to capture the complexity of

self-harm and abuse history, including elements of abuse, such as severity and betrayal, and modes of self-harm. Additionally, future studies should measure abuse history alongside other known predictors of self-harm, such as previous self-harm (Chartrand, Sareen, Toews, & Bolton, 2012) and substance dependence (Bakken & Vaglum, 2007), in order to better understand the associations among contributing mechanisms of self-harm.

Conclusion

Despite limitations, our findings reiterate the practical importance of including abuse history in theoretical and empirical models of self-harm. There are multiple measures of abuse history that can be incorporated into work on self-harm. For instance, measures of adverse childhood experiences (ACEs) have been used effectively in large community samples (Felitti et al., 1998). Additionally, the Brief Betrayal Trauma Survey has been used to successfully examine abuse history in community samples (Freyd, Klest, & Allard, 2005; Goldberg & Freyd, 2006), college samples (e.g., Goldsmith, Freyd, & DePrince, 2012), parent/caregiver samples (Hulette, Kaehler, & Freyd, 2011), and ethnically diverse samples (Klest, Freyd, & Foynes, 2013). Further, the Juvenile Victimization Questionnaire is a possible option to investigate self-harm in youth under the age of 18 (Finkelhor, Hamby, Ormrod, & Turner, 2005).

The findings from this study can also be helpful in informing clinical interventions for self-harm, as they highlight the importance of including abuse history in the conceptualizations and treatment of non-suicidal self-injury and attempted suicides for both men and women. The results suggest the need for continued research into abuse-specific cognitions and behaviors related to self-harm, as opposed to focusing solely on gender-specific factors. For example, dynamics of shame and avoiding reminders of abuse are addressed in trauma-focused cognitive behavioral therapy (Weiner, Schneider, & Lyons, 2009) and may be more effective than

traditional cognitive behavioral therapy for people who self-harm. Other therapeutic approaches, including acceptance and commitment therapy (Gratz & Gunderson, 2006) and dialectical behavior therapy (Linehan et al., 2006), may be helpful forms of treatment as they emphasize accepting strong feelings, including those associated with abuse. Finally, given that abuse is relational in nature and includes a level of betrayal (e.g., Freyd, 1996; Freyd & Birrell, 2013), relational cultural therapy would be beneficial in attending specifically to the relational components of abuse (Birrell & Freyd, 2006; Gómez, Kaehler, & Freyd, 2014). By incorporating abuse history into our conceptualizations of self-harm, the empirical work will place us in a stronger position to build upon therapies for those individuals who express their distress in these physically self-destructive ways.

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