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UNDERSTANDING HETEROGENEITY IN NON-SUICIDAL SELF-INJURY: A LATENT CLASS ANALYSIS APPROACH

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ABSTRACT

Non-suicidal self-injury (NSSI) is a dangerous and costly behavior that is highly prevalent in both clinical and non-clinical populations. NSSI is also highly heterogeneous in its presentation with respect to methods, contextual features, functions, and psychiatric symptoms that are associated with it. The present study sought to extend recent research on the identification of latent sub-groups of self-injurers and compare these sub-groups on a comprehensive set of clinical variables as a means of better characterizing the heterogeneity of NSSI. Participants in the current study were undergraduates who completed a newly constructed, broad-based measure of NSSI history and features, as well as measures of relevant clinical constructs including borderline personality features, trauma history and post-traumatic symptomatology, depression, anxiety, risk-taking, dissociation, affective lability, and affective intensity. Latent class analysis was used to identify subgroups of self-injurers, using a comprehensive set of NSSI features as indicators for the latent classes. This analysis yielded a four-class solution as the best-fitting model, and the classes were compared on the clinical variables. The between-class group analyses suggested that the groups varied significantly in terms of the severity of NSSI characteristics and psychiatric symptoms. These findings were consistent with the existing literature in this area but also highlighted additional characteristics that may distinguish latent subgroups of self-injurers. These findings can inform understanding of the phenomenology of NSSI and may have implications for clinical interventions and risk assessment.

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Chapter 1

INTRODUCTION

Non-suicidal self-injury (NSSI) is defined as direct, intentional damage to one's bodily tissues that is performed without explicit suicidal intent, such as deliberate cutting or burning of the skin (Klonsky, Oltmanns, & Turkheimer, 2003; Nock, Joiner, Gordon, Lloyd-Richardson, & Prinstein, 2006; Ross & Heath, 2002). Researchers have used different terms to describe this behavior; by 2005, over thirty-three terms had been used to describe behaviors related to self-injury (Meuhlenkamp, 2005). Commonly used terms include deliberate self-harm (Pattison & Kahan, 1983), self-mutilation (Favazza & Rosenthal, 1993), self-wounding (Tantam & Whittaker, 1992), and parasuicide (Linehan, 1993). As a construct, NSSI is typically viewed as distinct from both suicidal behavior that is undertaken with an explicit intent to die and engagement in harmful behaviors that indirectly may lead to physically damaging consequences (e.g., cancer from smoking; see Nock, 2010 for a review). Although conceptually distinct, these various types of behaviors have sometimes been found to be correlated (Vrouva, Fonagy, Fearon, & Roussow, 2010), and some types of behavior remain difficult to classify, such as suicide attempts wherein intent is ambivalent (Brown, Comtois, & Linehan, 2002).

NSSI is quite prevalent, even within non-clinical populations; specific prevalence estimates differ by sample type as well as age group. Approximately 4% of the general population and one fifth of adults in clinical samples endorse having engaged in self-injurious behavior at least once (Briere & Gil, 1998; Klonsky et al., 2003; Nock & Prinstein, 2005), whereas 17-36% of college-aged, young adults have reported engaging

in self-injury (Gratz, 2001; Whitlock, Eckenrode, & Silverman, 2006). Studies of adolescents have found lifetime prevalence rates of 14-39% in community (non-clinical) samples, and 40-61% in clinical, often inpatient, samples (Nock & Prinstein, 2005). Additionally, there is evidence to suggest that the rates of self-injurious behaviors have increased over time, potentially explaining the cohort differences in prevalence (e.g., Muehlenkamp, 2005; Nock, 2010; Zlotnick, Mattia, & Zimmerman, 1999).[1]

Self-injury is also a costly and harmful behavior in a number of ways. Physically, the behavior may lead to significant injury requiring medical treatment (and associated financial costs) or unintentional death or disability (Klonsky, 2007). The behavior is also associated with a variety of negative mental health outcomes and increased risk of suicide (Glenn & Klonsky, 2008; Nock et al., 2006; Whitlock et al., 2006). In addition, NSSI may be distressing to the individual engaging in it in addition to others with whom he or she is close. Individuals may experience aversive emotions after incidents of self-injury (e.g., guilt and shame), which may serve to exacerbate the feelings that initially led to the behavior, thus potentially perpetuating a cycle of self-injury (Gratz, 2003). Additionally, NSSI can further contribute to interpersonal problems, often due to others' negative reactions toward those who self-injure. In addition to significant others, the behavior may also lead to negative reactions from medical providers (Ramon, 1980) and mental health providers (Paris, 2007; Pfohl et al.,1999) ; NSSI may disrupt alliance with mental health

[1] Mechanisms underlying the increase in rates of NSSI remain to be fully explored, although hypotheses include social contagion effects and media depiction of the behavior (e.g., Whitlock et al., 2006).

professionals, particularly if it leads to involuntary hospitalization (Klonsky, 2007). At present, self-injury also appears to be a difficult and complicated behavior to treat. Even after completion of efficacious treatments that include some focus on self-injury, patients often continue the behavior, if at a decreased rate (Klonsky, 2007).

Heterogeneity in NSSI

In addition to being prevalent and costly, NSSI is also a complicated behavior to examine due to the heterogeneity in its presentation. Extant research has highlighted the high degree of heterogeneity in NSSI with respect to methods, psychiatric diagnoses, other clinical correlates, contextual features, and functions associated with this behavior.

Methods of NSSI differ by individual, although there are a few forms that are consistently found to be more common across samples. A recent review of literature in this area (Klonsky, 2007), which compared rates of different methods of self-injury across studies, found that cutting was the most common method reported across studies, with 70-97% of individuals with a history of self-injury endorsing this behavior. Banging and/or hitting the self (21-44% of self-injurers) and burning (15-35%) were also found to be among the most common methods reported. The different forms of self-injury may be distinguished in terms of amount of damage to the skin or risk of severe injury through a given method. Through a principal components analysis of one measure of self-injury, the Functional Assessment of Self-Mutilation (FASM), Lloyd-Richardson and colleagues (2007) identified two components they interpreted as representing two different levels of severity in method. The first component, labeled by the authors as “minor non-suicidal self-injury” included methods that primarily involved less severe skin trauma, such as

biting, hair pulling, hitting self, and picking at wounds. The second component, labeled by the authors as "moderate-severe NSSI" included methods with a higher likelihood of skin breakage, including cutting, burning, and erasing/scraping the skin to draw blood. Individuals often report using multiple methods, and frequency rates are highly variable across people (Klonsky, 2007; Muehlenkamp, 2005). More chronic and frequent NSSI in addition to engagement in multiple methods of NSSI have been found to be associated with a greater likelihood of suicide attempts across a range of populations and more lethal attempts (Andover & Gibb, 2010; Stanley Gameroff, Michalsen, & Mann, 2001; Joiner et al., 2005; Nock et al., 2006). In addition, some studies (Glenn & Klonsky, 2011; Nock et al., 2006) have found that the number of methods employed by individuals may be an especially robust predictor of future NSSI, over and above other features.

The high prevalence rates for NSSI within normative samples as well as psychiatric populations suggest that there may be considerable variability in the clinical implications of NSSI. Studies that have more directly examined the clinical constructs and psychiatric diagnoses associated with NSSI have similarly found heterogeneity in clinical presentation (for reviews, see Klonsky & Meuhlenkamp, 2007; Nock, 2010; Skegg, 2005). Self-injurious behavior is part of the DSM-IV-TR criteria for borderline personality disorder (BPD) along with suicidality (American Psychiatric Association, 2000); even when this criterion is excluded, symptoms of BPD have been found to be positively related to engagement in NSSI across studies (e.g., Andover, Pepper, Ryabchenko, Orrico, & Gibb., 2005), and BPD symptomatology discriminates between individuals who self-injure and those who do not (Klonsky, Oltmanns, & Turkheimer,

2003). In addition to BPD, researchers have found associations between self-injury and symptoms of a host of other disorders, including major depressive disorder (MDD), post-traumatic stress disorder (PTSD), other anxiety disorders, dissociative disorders, eating disorders, schizophrenia, substance use disorders, and personality disorders other than BPD (see Klonsky, 2007 for a review). Several studies have also indicated that trauma history, particularly early trauma, is predictive of self-injury, with other psychological symptoms potentially mediating this association (Gratz, Conrad, & Roemer, 2002; Klonsky & Moyer, 2008; Yates, Carlson, & Egeland, 2008).

Often these studies of clinical correlates involve an in-depth examination of the psychiatric diagnoses within a group of self-injuring individuals. For example, one study examined diagnostic diversity among a group of adolescent psychiatric inpatients with a history of NSSI (Nock et al., 2006). In this study, each participant was administered a full Axis I and Axis II assessment using the Diagnostic Interview Scale for Children (DISC; Shaffer et al., 2006) and the Diagnostic Interview for DSM-IV Personality Disoders (DIPD-IV; Zanarini, Frankenburg, Sickel, & Yong, 1996). The authors argued that diagnosing personality disorders in this sample was acceptable due to previous research regarding how the structure of personality disorders is similar in adolescents and adults (e.g., Becker, Grilo, Edell, & McGlashan, 2000; Levy et al., 1999); however, the authors did not modify the criteria due to adolescent age (i.e., reducing the duration needed to fulfill criteria, as recommended by Loranger [1999]), which could have potentially led to under-diagnosis. Within this sample, 87.6% of participants met criteria for at least one Axis I diagnosis, and 67.3% met criteria for at least one Axis II diagnosis (BPD most

common, followed by avoidant and paranoid personality disorders). Although this study and others like it have provided evidence for the presence of a variety of symptoms in the context of self-injury, they tend not to have provided more fine-grained analysis of comorbidity present within individuals, controlled for the influence of comorbid diagnoses, or explored how psychiatric presentation may relate to other features of NSSI. Additionally, studying NSSI from a diagnostic lens becomes difficult when one considers that many of the psychological difficulties associated with NSSI have similar core features (i.e., negative affect and dysregulation), and it is therefore difficult to determine if the behavior is really uniquely related to a particular disorder versus features of particular disorders (Klonsky et al., 2003). For instance, self-injury has been found to be associated with eating disorder symptoms, although most self-injurers do not carry a formal diagnosis of eating disorder (Peebles & Kahan, 2011). In this case, both NSSI and disordered eating behaviors may be emblematic of a larger problem of dysregulation, as both behaviors could serve a similar goal of regulating aversive emotional experience. Thus, an important goal of future research regarding the likelihood of engaging in NSSI should be to examine these symptoms together in ways that are aimed at disentangling these effects.

In addition to examining the phenomenology and clinical context of self-injury, researchers have also begun to investigate the reasons why individuals engage in this behavior. In particular, researchers have used a functional approach (i.e., one rooted in identifying antecedents and consequences of the behavior) to examine why individuals engage in self-injury and what processes may contribute to the development and

maintenance of this behavior. Although this approach is typically associated with a behavioral perspective, some of the proposed functions and constructs contained therein are deeply rooted in other perspectives (e.g., psychodynamic), suggesting that various perspectives may be mutually informative in explaining the basis for NSSI. In this body of work, functions have been studied both though self-report methods and through laboratory studies. Findings in this area suggest that functions are another source of heterogeneity within NSSI meriting further investigation, because there is variability both between and within individuals with regard to functions of NSSI, and the use of different functions is not necessarily mutually exclusive.

A recent review (Klonsky, 2007) outlined seven functions that have repeatedly been explored in the existing empirical and theoretical literature on this topic. These functions include affect regulation, anti-dissociation/"feeling generation," anti-suicide, exerting interpersonal influence, asserting interpersonal boundaries, self-punishment, and sensation-seeking. As noted previously, some of these functions are more traditionally associated with a psychodynamic perspective, including the use of self-injury to assert boundaries between self and other, which stems primarily from object-relations theory. Additionally, the function of self-punishment has roots in the psychodynamic idea of "anger turned inward" and has been elaborated first by Kernberg (1984) and incorporated into Linehan's model (1993) with regard to how an invalidating environment may lead to invalidation of the self and subsequent engagement in self-punishment as an ego-syntonic and soothing experience. Although some the functions reviewed by Klonsky (2007) have been studied more extensively than others, there has been at least modest evidence for

each of these functions in self-report studies, although endorsement rates for each function vary depending on population (e.g., inpatients with BPD vs. community samples). Perhaps the most extensively studied function has been affect regulation, or using NSSI to provide relief from an aversive affective state. In self-report studies, this function is the most highly endorsed function for both BPD and non-BPD samples and for both adolescents and adult populations. Laboratory studies have provided additional evidence for an affect regulation function of NSSI. In comparison to those who do not self-injure, individuals who engage in NSSI have been found to have higher levels of arousal on psychophysiological measures (e.g., skin conductance) and lower distress tolerance in experimental paradigms (Nock & Mendes, 2008). These findings suggest that individuals who have difficulty regulating emotion may be more likely to engage in NSSI as a means to regulate their affective experience. Other studies have found positive changes in mood and physiological arousal following either a lab task that is a proxy for self-injury, such as a cold-pressor task (Russ et al., 1992), or exposure to self-injury imagery (Brain, Haines, &Williams, 1998; Haines, Williams, & Brain, 1995). To the extent that these tasks are valid proxies for NSSI, these studies indicate that NSSI can lead to changes in subjective affect and in physical experience of arousal.

Further work has been aimed at examining the structure of NSSI functions and framing them from a more traditional functional approach. Much of this work has relied on factor analyses conducted on self-report measures of NSSI functions. Nock and Prinstein (2004) reviewed the empirical literature on NSSI functions and posited that NSSI functions could be modeled on two dimensions: 1) one capturing whether the

contingencies of self-injurious behavior are primarily within the person (automatic) or external to the person (social), and 2) another capturing whether the behavior is positively reinforcing (followed by the presentation of a positive stimulus) vs. negatively reinforcing (followed by the removal of an aversive stimulus). The authors conducted a confirmatory factor analysis on the FASM in a sample of young adults; the results of this analysis supported their initial model. Subsequent studies employing factor analyses of a different measure of NSSI function, the Inventory of Statements about Self-Injury (ISAS; Klonsky & Glenn, 2009), have also supported this model (Klonsky & Olino, 2008). This model also encapsulates existing theories regarding the regulation functions of NSSI (e.g., Linehan, 1993) as well as theories that suggest a primary function of NSSI is to avoid aversive emotional experiences and mental states (Chapman, Gratz, & Brown, 2006). In addition to regulating internal experience, this model also accounts for the interpersonal functions that may motivate NSSI and contribute to ongoing behavior. These functions, such as using self-injury to communicate distress and elicit response from others, have been thoroughly explicated in clinical theory (e.g., Kernberg, 1984) and have been found to be widely endorsed across research samples (see Nock, 2008 for a review). Individuals often report both interpersonal/social and intrapersonal/automatic functions for NSSI (Yates, 2008). To date, there has been less work to examine how functions may relate to particular presentations of NSSI, although there is some evidence to suggest that different functions may be related to different clinical presentations. For instance, adolescents who report more automatic functions of NSSI are more likely to have a recent suicide attempt, feel hopeless, and report symptoms of PTSD (Nock &

Prinstein, 2005).

Identification of Subgroups of Self-injurers

One way of better understanding the heterogeneity found in self-injury is by attempting to identify meaningful subgroups of self-injurers within a broad pool of individuals who engage in self-injurious behavior. To date, two studies have attempted to do this using latent class analysis (Klonsky & Olino, 2008; Whitlock, Meuhlenkamp, & Eckenrode , 2008). Both of these studies used non-clinical samples of undergraduates who had endorsed a history of at least one incident of self-injury. Additionally, each of these studies included assessment of a range NSSI features, used these variables as indicators in the latent class analysis to generate subgroups reflecting different patterns of NSSI, and then compared these subgroups on related psychological constructs. In both studies, presence of different NSSI behaviors and NSSI functions were used as indicators although measurement of these constructs differed between studies. Klonsky and Olino (2008) also included descriptive features of the NSSI context (i.e., absence of pain, NSSI when alone, time from urge to injure to action) as additional indicators. Whitlock and colleagues (2008), included the additional indicators of presence of current NSSI, NSSI frequency (entered as a categorical variable), and the degree of life interference from NSSI.

Klonsky and Olino's (2008) latent class analysis revealed four subgroups, whereas Whitlock's (2008) analysis revealed three subgroups. Though different in number, the overall characteristics of the subgroups were rather similar across these studies. Both studies revealed one large group that represented individuals who generally exhibited less

severe NSSI (i.e., low frequency, low number of forms, lower risk of injury, fewer functions endorsed), one group that was indicative of more severe and harmful NSSI (i.e., high frequency, numerous forms, higher risk of injury, higher scores on multiple functions). The other groups tended to exhibit NSSI of more moderate severity in terms of methods, frequency, and functions endorsed. In the Klonsky and Olino (2008) study, participants directly reported on depression, anxiety, and BPD symptoms, with some between-group differences found, particularly between the low severity group (few symptoms) and the other groups. Whitlock and colleagues (2008) asked participants to provide information regarding any psychiatric diagnoses they had received in the past; however, the authors did not directly assess for mental disorders or clinical symptoms through interviews or self-report methods. Membership in the more severe NSSI group was associated with a greater likelihood of reporting a clinical diagnosis, yet no information was provided regarding between-group differences on specific diagnoses. Overall, these studies support the idea that the complex phenomenological heterogeneity in NSSI can be characterized by a relatively small number of latent subgroups as determined by NSSI feature indicators. Moreover, comparison of subgroups on clinical variables can reveal meaningful differences in presentation and can help to inform the degree of clinical severity associated with particular patterns of self-injury. However, the existing studies are somewhat limited in the number of NSSI features measured as well as the extensiveness of the assessment of psychological constructs upon which the between-group analyses were based.

The Present Study

The present study was intended as an extension of the work that attempted to identify and characterize latent sub-groups of individuals who have engaged in self-injurious behavior (Klonsky & Olino, 2008; Whitlock et al., 2008). A primary goal of the present study was to replicate this earlier work by using latent class analysis to determine subgroups of self-injurers within a non-clinical sample of young adults. However, the current study differed in several ways from this earlier research in an effort to expand upon the conclusions of this earlier work. First, the present study employed a newly constructed, broad-based measure of non-suicidal self-injury, which served as the basis for the model indicators. This measure was developed to provide a more comprehensive assessment of the range of self-injury methods, functions, and contextual features in order to fully capture the heterogeneity inherent in NSSI within one measure. In addition to capturing a broader spectrum of behavior, this measure allowed for a more complete set of theoretically and empirically driven indicators to be included in the latent class model. Finally, in addition to assessments of symptoms that have been examined in previous studies (e.g., symptoms of anxiety, depression, and BPD), the present study included measures of clinical constructs and symptoms that have been found to be related to NSSI in other investigations but have not yet been examined in previous latent class analyses. Direct assessment of these constructs—including dissociative symptoms, affect lability and intensity, and trauma symptoms—allowed for a more thorough investigation of sub-group comparisons on relevant clinical constructs.

The overarching aims of this study were threefold. The primary aim was to use

latent class analysis to identify subgroups of self-injurers, with the goal of better characterizing the heterogeneity of the behavior. Given previous investigations (Klonsky & Olino, 2008; Whitlock et al., 2008), it was hypothesized that latent subgroups can be identified on the basis of data on NSSI methods, severity, functions and contextual features. A secondary aim was to compare subgroups on relevant clinical measures to ascertain if there were meaningful clinical differences between these groups; it was hypothesized that the level of clinical symptomatology would differ between classes. A third aim was to provide an ample psychometric analysis of the new measure of non-suicidal self-injury, including comparing its factor structure to that of existing measures of analogous constructs.

Chapter 2

METHOD

Participants

Participants were undergraduate students enrolled in introductory psychology courses at the Pennsylvania State University who were recruited via the psychology department subject pool. Given that introductory psychology students (as opposed to more advanced psychology students) often represent a diversity of academic backgrounds, this group was considered to be a relatively representative sample of the university population. Additionally, NSSI has been found to be both prevalent and varied in its presentation within college-aged samples (e.g., Gratz, 2001; Temes, Righter, & Levy, 2011), indicating that this group represented a relevant population of study and one in which an adequately-sized sample feasibly could have been attained.

A total of 988 participants completed the study. Of these participants, 14 percent (n = 138) were excluded from further analyses because they answered more than three questions on the Jackson Infrequency Scale (Jackson, 1970) in the infrequent direction. This scale was used to identify those participants who may have responded to measures in a random or otherwise overly stereotyped manner. The final sample after data cleaning consisted of 850 participants; full demographic data for the sample is provided in Table 1. Of these participants, 36 percent (n = 303) reported a history of at least one episode of non-suicidal self-injury. This rate is consistent with existing estimates of the prevalence of self-injurious behavior in college-aged samples (Gratz, 2001; Whitlock et al., 2006). Data from these 346 participants were used in all subsequent analyses; full demographic

data for the self-injuring subsample as well as those without a history of NSSI are also included in Table 1.Two-way Chi-square analyses and *t*-tests were conducted to examine demographic differences between participants reporting a history of NSSI and those without a history of NSSI. There were no significant demographic differences between these two groups in terms of age, ethnicity, or work status. There was a significant difference between these two groups with regard to gender. Specifically, there were more men in the self-injuring group than expected by chance, X^2 (2, N = 840) = 8.292, p = .02; it was expected that men would make up 35.2% of the NSSI group, and they actually comprised 39.9% of this group.

Procedure

Participants were initially recruited from the psychology department subject pool and were provided with a link to complete the study via PsychData, a website designed for the administration of research-related questionnaires. Upon entering the PsychData site, participants completed an informed consent form and demographic questionnaire. A unique identification number was created for each participant, and the participant was randomly sent to a form that contained the study questionnaires. To protect against ordering effects, the sequence of measures was counterbalanced in each of the different forms. In order to maintain a feasible number of forms, a Latin square was used in order to create a random sequence of measures for each form, and the number of available forms was limited to the total number of measures.

Measures

Non-suicidal self-injury. Self-injury methods, severity, functions, and contextual

features were assessed using a comprehensive measure of non-suicidal self-injury, developed in part for this study (Appendix B). The first part of this measure asked participants whether or not they had ever engaged in 22 commonly reported forms of self-injury (e.g., cutting, burning, etc.). The particular methods assessed in this measure were based on a comprehensive review of existing measures of self-injury, including the Linehan Suicide Attempt-Self-Injury Interview (SAS-II; Linehan, Comtois, Brown, Heard, & Wagner, 2006), the Deliberate Self-Harm Inventory (DSHI, Gratz, 2001), the Self-Harm Inventory (SHI, Sansone, Wiederman, and Sansone, 1998), the Inventory of Statements about Self-Injury (ISAS; Klonsky & Glenn, 2009), and the FASM (Lloyd-Richardson et al., 2007). The present measure asked about several methods typically assessed in most of these measures in addition to some methods that have b een less frequently endorsed but which may be more representative of methods employed in more severe forms of self-injurious behavior. If a respondent indicated that he/she had engaged in a particular behavior, he/she completed questions about when he/she had begun this behavior, how many times he/she had done it, the most recent time he/she had engaged in the behavior, and the level of intervention required for treatment of the injury, if any.

The second part of this measure included Section II of the ISAS (Klonsky & Glenn, 2009), a scale which assesses self-reported functions of self-injury. Individuals who reported a history of any self-injury completed this part of the measure. The ISAS included 39 items answered on a 3-point Likert-like scale with responses ranging from "not relevant" to "very relevant." Each item included a function of NSSI (e.g., "When I self-harm, I am calming myself down."), and participants reported on the degree to which

these statements applied to their experience of self-injury. Factor analyses of this measure (Klonsky & Glenn, 2009; Klonsky & Olino, 2008) have suggested a two-factor solution with one factor corresponding to "intrapersonal" functions and the other factor corresponding to "interpersonal" functions; these two factors are conceptually analogous to the "automatic" and "social" factors reported by Nock and Prinstein (2004; 2005). Scales derived from these factors have demonstrated high internal consistency within a non-clinical sample ($\alpha = .87$ for the interpersonal scale and $\alpha = .80$ for the intrapersonal scale; Klonsky & Glenn, 2009). In addition to all of the original items of the ISAS, this section of the present measure included functions assessed in other measures of self-injury functions, including the FASM (Lloyd-Richardson et al., 2007) and the SAS-II (Linehan, et al., 2006).

The third part of this measure assessed contextual features of self-injury. Using items from Card D of the SAS-II (Linehan et al., 2006), this section asked participants to identify emotions, stressors, and thoughts that had occurred before incidents of self-injury. For each emotion, stressor, or thought provided, participants were asked to indicate using a 4-point Likert-like scale (from 1 = "never" to 4 = "yes, typically") how often it had preceded an incident of self-injury. For emotions, participants were also asked to identify the frequency with which participant emotions had followed episodes of self-injury. This section also included some other commonly assessed items regarding the context of self-injury; using the same Likert-like scale, participants were asked about the frequency of particular contextual features of self-harm, including the presence of other people, use of drugs or alcohol, the experience of pain, etc.

Depression Anxiety Stress Scales (DASS; Lovibond & Lovibond, 1995; Appendix B). Depression and anxiety symptoms were assessed with the DASS (Lovibond & Lovibond, 1995). The DASS is a 42-item scale that was designed as an empirically-derived inventory of three major areas of negative affect: depression, anxiety, and stress. For each item, participants indicated the degree to which particular statements applied to how they had been feeling over the week prior to administration (e.g., "I found it difficult to relax") using a four-point Likert-type scale ranging from "did not apply to me at all" to "applied to me very much, or most of the time." Factor analyses conducted on data from a normative sample of college students (Lovibond & Lovibond, 1995) as well as clinical samples of patients comprised of individuals diagnosed with anxiety disorders and depression (Antony, Bieling, Cox, Enn, & Swinson., 1998) also yielded this three-scale solution, although some of the scales have been found to be modestly correlated. Across these sample types, internal consistencies (Cronbach's alphas) for the depression, anxiety and stress subscales respectively were: α= .91-.97, α = .84-.92, α = .90-.95. The DASS has been found to better discriminate between depression and other negative affective states when compared with the Beck Depression Inventory (Lovibond & Lovibond, 1995).

McLean Screening Instrument for BPD (MSI-BPD; Zanarini et al., 2003; Appendix B). Borderline personality disorder features were measured using a 24-item modified version of the MSI-BPD. The original MSI-BPD (Zanarini et al., 2003) is a 10-item questionnaire that has been used widely as a screener for BPD traits. This scale has demonstrated test-retest reliability, internal consistency, validity, and diagnostic

efficiency in identifying adult individuals with BPD (sensitivity and specificity both above .90), using DSM-IV-TR criteria. The modified version includes items rewritten in the first-person to facilitate self-administration as well as the addition of sub-items to more precisely assess particular symptom domains. For example, the original MSI-BPD item "Have you deliberately hurt yourself physically (e.g., punched yourself, cut yourself, burned yourself)? How about made a suicide attempt?" was broken into two separate items, the first assessing deliberate self-harm and the other history of suicide attempts. For each item, participants were asked to indicate the degree to which a particular symptom applied to them (from 0= "not at all true" to 3= "very true"); to score the inventory, a sum of all items was calculated. Previous uses of this modified questionnaire in the laboratory have demonstrated excellent internal consistency in a sample of young adults (e.g., Scott, Levy, Adams, & Stevenson, 2011).

Dissociative Experiences Scale (DES-II; Bernstein & Putnam, 1986; Carlson & Putnam, 1993; Appendix B). Participants completed the DES-II as an assessment of dissociative symptoms. The DES-II is a widely-used, 28-item self-report questionnaire of dissociative experiences and is conceptualized best as a measure of trait dissociativity (Carlson & Putnam, 1989). Each item describes a potentially dissociative experience (e.g., "being in a familiar place but finding it strange and unfamiliar"), and respondents identified the percentage of time they had a given experience. Scoring of this scale yields three subscale scores for specific types of dissociative experiences (amnestic, depersonalization, and absorption) as well as a total score for dissociative symptoms. Studies have demonstrated good test-retest reliability, internal consistency, and ample

evidence for construct and criterion validity across a variety of clinical and non-clinical samples (Carlson & Putnam, 1993). A meta-analysis of over 100 studies using the DES (van Ijzendoorn & Schuengel, 1996) demonstrated excellent convergent validity with other interview and self-report measures of dissociation and excellent predictive validity of dissociative disorder diagnoses and trauma history.

Risk Taking and Self-Harm Inventory (RTSHIA; Vrouva et al., 2010; Appendix E). Risk-taking behavior was measured using the risk-taking scale from the RTSHIA. This scale includes eight items that assess risk-taking behaviors, such as substance use and sexual promiscuity. This inventory was in part developed as a means to disentangle the measurement of self-harm from other kinds of risky behaviors. The scale used in the present study was created from items that loaded onto a risky behavior factor, which the authors argued was related but conceptually distinct from self-injurious behaviors assessed in the other factor. Each item corresponded to a particular form of risky behavior (e.g., "Have you ever been promiscuous (i.e., had many sexual partners within a short period of time)?") and respondents indicated the frequency with which they had engaged in a particular behavior (0 = "never," 1 = "once," 2 = "more than once," 3 = "many times"). The risk-taking scale demonstrated high internal consistency ($\alpha = .85$), test-retest reliability ($r_{tt} = .90$) in a sample of older adolescents; there was also considerable evidence for convergent, divergent, and concurrent validity (Vrouva et al., 2010).

Affect. In order to examine how subgroups may compare on measurements of intensity of affect and affective reactivity—constructs related to affective experience and capacity for regulation—the Affect Lability Scales (ALS; Harvey, Greenberg, & Serper,

1989; Appendix B) and Affect Intensity Measure (AIM; Larsen, Diener, & Emmons, 1986; Appendix B) were administered. The ALS is a 54-item questionnaire that is designed to measure lability in anxiety, depression, anger, and hypomania, as well as shifts between these affect states. The total score can provide a measurement for overall emotional lability. Respondents used a 4-point Likert-like scale (1 = "very uncharacteristic of me, extremely undescriptive" to 4 = "very characteristic of me, extremely descriptive") to rate the degree to which particular experiences applied to them (e.g., "There are times when I feel perfectly calm one minute and then the next minute the least little things makes me furious."). The scales have been shown to have adequate internal consistency and excellent test-retest reliability (Harvey, Greenberg, & Serper, 1989). Additional research on this measure has shown that scores are uncorrelated to measures of affective intensity, and that the measure can differentiate between individuals with BPD and Bipolar disorder (Henry et al., 2001). The AIM is a 40-item self-report measure of intensity of affective experience. Respondents rated items (e.g., "My happy moods are so strong that I feel like I'm 'in heaven'") on a 6-point Likert-like scale ranging from "never" to "always." The scale has demonstrated excellent internal consistency, validity, and adequate test-retest reliability (Larsen and Diener, 1987). It has been shown to differentiate individuals with BPD from healthy controls and from individuals with Bipolar disorder (Henry et al., 2001).

Trauma. In order to examine how subgroups may differ on experiences of trauma and its sequelae, participants completed assessments of trauma history and post-traumatic symptomatology. These measures included the Traumatic Life Events Questionnaire

(TLEQ; Kubany et al., 2000; Appendix B), a 23-item self-report measure of exposure to various potentially traumatic events. For 22 different types of events (e.g., natural disaster, motor vehicle accident, family violence), participants indicated the number of times the event had happened to them (from "never" to "more than 5 times") and if (yes/no) they experienced "fear, helplessness, or horror" when this event occurred. In the last question in this measure, participants were asked which event (if any) was the most distressing to them, in addition to the first and last time this event happened and the amount of distress this event caused (on a 6-point Likert-like scale from "no distress" to "extreme distress"). Across samples of college students, female victims of domestic violence, Vietnam veterans, and substance abuse program residents, the TLEQ has demonstrated adequate to excellent test-retest reliability and has corresponded well to interview reports of trauma history.

Participants also completed the Childhood Trauma Questionnaire (CTQ; Bernstein, Fink, Handelsman, & Foote, 1994; Appendix B), a 28-item self-report inventory that assesses for history of early experiences of maltreatment; the CTQ yields scale scores for emotional abuse, physical abuse, sexual abuse, emotional neglect, and physical neglect. This measure also includes a 3-item minimization/denial scale to detect individuals who may be underreporting experiences of maltreatment. For each item, participants were asked to indicate the extent to which a provided experience corresponded to how often that event had occurred or was true when they were growing up on a scale from 1 ("never true") to 5 ("very often true"). The CTQ has demonstrated good test-retest reliability across a range of samples, good to excellent internal validity,

and good convergent and divergent validity with other measures of trauma (Bernstein et al., 1994; Bernstein, Ahluvalia, Pogge, & Handelsman., 1997). Finally, participants completed the Posttraumatic Stress Disorder Checklist-Civilian Version (PCL-C; Weathers, Litz, Herman, Huska, & Keane, 1993; Appendix B), a 17-item self-report questionnaire of the DSM-IV symptoms of PTSD. Participants were asked to rate on a 5-point Likert-like scale (from 1 - "not all all" to 5- "extremely") the extent to which they had been bothered by PTSD symptoms (e.g., "Repeated, disturbing memories, thoughts, or images of a stressful experience from the past") within the month prior to administration. Scoring of the PCL-C yields both a symptom severity score (by summing the items) and a diagnosis of PTSD (based on a combination of symptom severity and endorsing the symptom pattern consistent with a DSM-IV diagnosis of the disorder). This measure has demonstrated adequate-excellent internal consistency, test-retest reliability, and discriminant and convergent validity in a sample of university students (Ruggiero, Del Ben, Scotti, & Rabalais, 2003). In a sample of accident and sexual assault victims (Blanchard, Jones-Alexander, Buckley, & Forneris, 1996), scores on the PCL-C were very highly correlated (r = .929) with PTSD symptoms as reported on the Clinician-administered PTSD Scale, and the measure showed excellent diagnostic efficiency (.900).

Data Analysis

Psychometic and structural analyses of the NSSI measure. The goal of this set of analyses was to examine the psychometric properties and factor structure of the NSSI measure. The first step included examining the internal consistency and item-total correlations of items in the each part of the measure. A preliminary analysis of construct

validity was conducted by comparing responses on the first part of the measure (assessing NSSI history) with the MSI-BPD, using the procedure described in Klonsky and Olino (2008). Next, the factor structure of the second part of the measure (i.e., the section assessing NSSI functions) was examined. This step involved first examining the factor structure of the original ISAS items contained within this section. Klonsky and Olino (2008) conducted an exploratory factor analysis on this measure within their sample, which revealed two factors: one factor associated with automatic/intrapersonal functions and a second factor associated with social/interpersonal functions. The scoring guidelines these authors provided are based on this analysis. In the current sample, a confirmatory factor analysis was conducted to verify this factor structure. Given that the current measure included additional function items, an exploratory factor analysis on the entire scale was also performed. These analyses were conducted to provide information about how the scale is structured with the new items included and if there is any added value in including these additional items. These analyses were used to determine which function scale scores were used as indicators in the latent class analysis (LCA).

Latent class analysis. LCA was carried out using PROC LCA for SAS Version 9.3 (Lanza, Collins, Lemmon, & Schafer, 2007; Penn State Methodology Center, 2011). LCA can be used to identify unobservable subgroups of individuals from a heterogeneous population. For the purpose of this study, LCA was used to identify subgroups of self-injurers based on characteristics of their history of self-injurious behavior. For these analyses, latent classes were extracted based on several indicators, specifically the presence of NSSI methods, the overall frequency of NSSI, age of NSSI onset, highest

level of intervention needed, function of NSSI (based on scaling as determined by the first set of analyses), presence of others during NSSI, and absence of pain with NSSI. Selection of these indicators was informed by the previous latent class studies of NSSI and an empirical review of the characteristics that are most likely to distinguish different groups of self-injurers in a meaningful way (i.e., based on risk and severity). LCAs specifying 2-10 cases (as suggested by previous investigations [Klonsky and Olino, 2008; Whitlock et al., 2008]) were run. Model fit was determined by examining several fit indices, including the Akaike Information Criterion (AIC), the Bayesian Information Criterion (BIC), and the adjusted Bayesian Information Criterion (ABIC); lower scores on these indices indicate better model fit. Entropy values, which indicate the degree of model precision in assigning individuals to classes, were also consulted. Once the best-fitting model was identified, individual cases were assigned to their most likely classes using posterior probabilities.

Between-group comparisons on clinical correlates. To compare latent subgroups on clinical variables of interest that have been associated with NSSI, one-way ANOVA and post-hoc Tukey HSD tests were used to examine between-group differences on the scales related to clinical correlates, including the DASS, MSI-BPD, DES-II, AIM, ALS, RTSHIA, and trauma scales. Differences on these measures between individuals reporting a history of NSSI vs. individuals without a history of NSSI were also examined.

Chapter 3

RESULTS

Measure of NSSI: Psychometric and Structural Properties

Due to the multi-part nature of the NSSI measure, the psychometric properties and structure of the measure were examined in parts, relative to each major domain the measure assessed (i.e., methods, functions, and contextual features). First, the initial part of the measure, which assessed participants' history of various NSSI methods, was evaluated by examining descriptive statistics and internal consistency. These initial analyses resulted in dropping three items (i.e., items related to wound-picking, exercising an injury on purpose, and scrubbing skin with abrasives) from the original scale. The decision to drop these particular items was informed by one item having an unusually high rate of endorsement (19.8% of the sample reported wound-picking) and all three items appreciably and adversely affecting the overall internal consistency of the scale. Cronbach's alpha was calculated to determine internal consistency for the revised scale with these three items dropped, $\alpha = .602$. Construct validity of the methods scale was examined by correlating the number of NSSI methods reported on this scale to items on the MSI-BPD. The full results of these analyses are reported in Table 3. NSSI methods and MSI-BPD items were weakly correlated, with a median correlation of $r = .222$ across items; number of methods and the MSI-BPD total score (with the parasuicidality item from this scale excluded) was also weakly correlated, $r = .296$. Additionally, the NSSI methods scale score was correlated much more highly with the item on the MSI-BPD that assesses history of suicidality and parasuicidality, $r = .481$. This pattern of findings

suggests that the NSSI methods scale appears to be a valid measure of the construct of NSSI insofar as it is strongly related to one close measure of parasuicidality and comparatively more weakly associated with symptoms that are expected to be less strongly correlated with NSSI.

The properties of the NSSI functions scale were evaluated only in the sample reporting a history of NSSI, as all of these items required a history of NSSI to be answered validly. This scale contained 39 items from the original ISAS scale (Klonsky & Glenn, 2009), plus an additional 21 items that were not included on the original scale added in the present study. Internal consistency for both the original ISAS items ($\alpha = .95$) and total scale with new items included ($\alpha = .97$) was high. Initially, the factor structure of the existing ISAS scale items was examined using confirmatory factor analysis. Results from a previous study (Klonsky & Glenn, 2009) that used exploratory factor analysis to examine this instrument's factor structure in a non-clinical sample indicated that the ISAS items loaded onto two factors, which correspond to automatic/intrapersonal and social/interpersonal functions of NSSI. This factor structure was evaluated in the current sample using confirmatory factor analysis. The results of this analysis suggest that a two-factor solution provided a good fit for the data, providing further support for this underlying structure (RMSEA = .077 , CFI = .955, NFI = .932). To examine the structure of the full-scale including the original ISAS items and the new items, exploratory factor analysis (principal axis factoring) with promax rotation was used. This analysis suggested that an 11-factor solution best fit the data, although there was considerable spread in indicated by the scree plot, with most items loading on the first

three factors. Given this series of results, the original ISAS (Klonsky & Glenn, 2009) with suggested scoring for the intrapersonal/automatic and interpersonal/social scales was used for this study. This decision was made to retain parsimony in the scales and avoid redundancy as a result of the additional items.

The third part of the NSSI measure, which assessed contextual and descriptive features of NSSI, was also examined with respect its internal consistency. This section of the measure was examined in parts corresponding to particular constructs. The first part of the scale reflected characteristics (e.g., mood states, stressors, etc.) that occur prior to incidents of self-injury and had high internal consistency ($\alpha = 0.97$). The second part reflected characteristics (e.g., mood states, thoughts) after incidents of self-injury; this scale was also highly internally consistent ($\alpha = 0.97$). The third part of this scale represented other descriptive characteristics of NSSI, including if the participant experienced pain during NSSI, the time NSSI is contemplated prior to an episode, etc. This scale showed adequate ($\alpha = 0.70$) internal consistency.

Test-retest reliability of NSSI measure. A portion of the original sample ($n = 60$) completed the NSSI measure a second time 3-5 weeks after the initial administration, allowing for an assessment of test-retest reliability for the various parts of the measure. In terms of NSSI history, dichotomous NSSI scores (i.e., no history of NSSI vs. history of NSSI) from the first administration and the second administration were correlated. Results indicated that the measure had adequate test-retest reliability in terms of classifying participants as self-injuring or not ($\varphi = .47$, $p < .001$). Secondly, the number of NSSI methods from the first administration was correlated with the second

administration. These findings suggest a high rate of agreement between the number of NSSI methods endorsed across both administrations, $r = .77$, $p <. 001$. For the NSSI functions portion of the measure, total scores for social and automatic scores on the ISAS for both administrations were correlated. Results indicated that although social/interpersonal function scores at Time 1 were weakly but significantly correlated with Time 2 scores ($r = .27$, $p = .04$), automatic/intrapersonal function scores were highly and significantly correlated across administrations ($r = .775$, $p < .001$). Overall, these findings suggest that the scale has adequate to good test-retest reliability across a 3-5 week follow-up period.

Frequencies and Descriptive Characteristics of NSSI

The prevalence rates for each of the NSSI methods used by the group of self-injurers are provided in Table 1. The most common forms of self-injury endorsed by the sample were pinching (11.2%), hitting/head-banging (8.7%), and cutting (8.6%). The number of methods participants reported using was not normally distributed. Although the range of methods used was 9, the median number of methods was 1 (interquartile range: 1-2). The total number of lifetime NSSI episodes was also non-normally distributed, with a median of 4 (interquartile range: 2-14). The average age of onset (i.e., the age at which participants reported they first engaged in self-injury) was 14 years (*SD* = 2.39). Slightly more than half of participants (50.8%) reported that the last time that they had self-injured was prior to the past year, although 18.5% reported self-injuring within the past week. The vast majority of participants (94.4%) reported that the injuries that resulted from NSSI required no care or only self-care, although a minority of

participants reported requiring medical attention, including hospitalization, on at least one occasion.

Latent Class Analysis Results

The best-fitting model, as determined by several fit indices including the adjusted BIC and the AIC, was the four-class solution. This model had a relatively high entropy value (.88), suggesting great precision in assigning individuals to correct classes. Item response probabilities for presence of each of the NSSI methods by class are provided in Table 4, and probabilities for other NSSI features by class are provided in Table 5.

As shown in the tables, the first class (17% of the sample) consisted of individuals with a moderate-high probability of biting, pinching, hair-pulling, and hitting self/head-banging and low probabilities of other NSSI behaviors; they most likely required no care or self-care for injuries sustained during NSSI episodes. These individuals varied with respect to NSSI age of onset and overall frequency (although frequency tended to be above the median number of episodes of the sample as a whole), and they endorsed relatively low-moderate levels of automatic functions but low levels of socially reinforcing functions. The second class, which was the largest class (58%), was comprised of individuals with moderate probability of pinching and hitting/head-banging and low probabilities of other NSSI behaviors; they most likely did not require any care as a result of their injuries. These individuals had a high probability of only engaging in 1-2 episodes of NSSI, demonstrated a variable age of onset for these behaviors, and had low levels of automatically and socially reinforcing functions. The third class (11%) had a very high probability of cutting, and a moderate-high probability of engaging in a

number of other NSSI methods, including biting, carving, pinching, hair-pulling, hitting self/head-banging, scratching, using drugs and alcohol to self-injure, and starving themselves. These individuals almost exclusively reported greater than 14 NSSI episodes, varied with respect to age of onset (although onset tended to be <17 years), and tended to self-injure when alone. It was highly probable that members of this class required self-care for injuries sustained during NSSI, although there was a low-moderate probability of requiring hospital services following an episode of NSSI. They reported relatively high levels of automatic functions and higher levels of socially reinforcing functions relative to the other classes. The fourth class (14%) had a high probability of cutting but low probability of engaging in other forms of self-injury. These individuals were relatively variable with respect to NSSI frequency, although none were in the upper-quartile in terms of number of episodes. They tended to begin self-injuring at an older age and generally required either no care or self-care for NSSI wounds. They typically were alone and experienced pain during NSSI, and they had low-moderate automatic function scores.

In summary, the four classes were distinct in terms of the NSSI features associated with each class. The first group appeared to be characterized by recurrent NSSI with methods that involve little risk of serious injury. The second group seemed to be comprised primarily of individuals who have rarely engaged in NSSI, having used methods that were also low risk with respect to the severity of injury incurred. The third group was one that was characterized by frequent NSSI using multiple methods that carry a high risk of physical injury and may require relatively high level of intervention (e.g., hospitalization). The fourth group was comprised of individuals with a relatively more

recent onset of NSSI, who used cutting almost exclusively as a method; despite using a method that carries more physical risk, these individuals tended to engage in NSSI less frequently than those in Class 3 and reported lower rates of reinforcing functions of NSSI.

Comparisons of Latent Classes on Demographic and Clinical Variables

After the classes were identified in the LCA, individual participants were assigned to their most likely classes based upon posterior probabilities. Chi-square analyses and one-way ANOVA were conducted to compare the classes on demographic variables. The full results are presented in Table 5. The percentage of participants of each gender differed significantly by class, X^2 (6, N = 301) = 36.084, p < .001. In particular, there were more men than expected in Class 2 and more women than expected in Classes 1, 3, and 4. The percentage of participants of each ethnic group also differed significantly by class, X^2 (12, N = 302) = 26.899, p = .008. Specifically, there were fewer White/Caucasian individuals than expected in Class 1, but more Hispanic/Latino, Asian/Pacific Islander, and Black/African descent individuals than expected in this class. There were no significant between-class differences on age or work status.

One-way ANOVAs with post-hoc Tukey HSD tests were conducted to compare the classes on the clinical variables. Full results of these analyses are presented in Table 6. Significant between-class differences were observed for several clinical variables, including borderline personality disorder symptoms, F(3, 299) = 24.6, p = .000 depression, F(3, 297) = 15.89, p = .000; anxiety, F(3, 298) = 6.80, p = .000; stress, F(3, 298) = 11.30, p = .000; affective lability, F(3, 299) = 8.74, p = .000; risk-taking behavior,

$F(3, 297) = 4.43$, $p = .005$; and post-traumatic stress symptoms, $F(3, 296) = 15.15$, $p = .000$. In addition, significant between-class differences were observed for some indices of trauma exposure, including total lifetime trauma, $F(3, 299) = 5.90$, $p = .001$; childhood emotional abuse, $F(3, 299) = 22.49$, $p = .000$; and childhood emotional neglect, $F(3, 299) = 5.48$, $p = .001$. No significant between-class differences were seen for affective intensity, $F(3, 298) = 1.95$, $p = .121$; childhood sexual abuse, $F(3, 298) = 1.62$, $p = .185$; childhood physical abuse, $F(3, 299) = 2.18$, $p = .091$; or childhood physical neglect, $F(3, 299) = 0.16$, $p = .923$.

Post-hoc analyses revealed significant pair-wise differences between the classes, providing additional information regarding the clinical characteristics of each class. As noted earlier, the largest class was Class 2, and this class was also generally the lowest in symptomatology across all domains. The other classes tended to be significantly more symptomatic than Class 2, but with varying patterns of clinical features by class. Class 1 had significantly higher levels of depression, PTSD symptoms, affective lability, and lifetime trauma than Class 2. Class 1 also had high levels of anxiety (significantly greater than Class 2 and Class 4). Class 1 exhibited significantly more stress and childhood emotional abuse than Class 2 but was significantly lower than Class 3 in scores in these domains. Furthermore, Class 1 reported significantly less risk-taking behavior than Class 3. Class 3 was characterized by high levels of symptomatology and generally had the most elevated scores of the classes across all clinical domains. Class 3 had higher levels of depression, stress, and childhood emotional abuse than all other classes. Class 3 exhibited significantly more symptoms of BPD than Class 1 and Class 2, more risk-

taking than Class 1, more anxiety than Class 2 and Class 4, and significantly more childhood emotional neglect and PTSD symptoms when compared to Class 2. Class 4 was also quite symptomatic, although symptom levels tended to be less severe than Class 3. Class 4 exhibited significantly more symptoms of BPD than Class 2 (but did not differ from Class 1 or Class 3) and significantly greater levels of depression than Class 2; however, Class 4 had significantly lower levels of depression, anxiety, stress, and affective lability than Class 3.

Mean scores on clinical measures were also compared for the sample reporting a history of NSSI as a whole vs. the sample of individuals who reported no history of NSSI. The full results of these analyses are presented in Table 8. Overall, these groups differed significantly on nearly all clinical variables, with the NSSI group generally reporting higher levels of symptomatology than the group without NSSI. There were a few exceptions to this general pattern. The sample without history of NSSI had slightly but significantly higher average affective lability scores, $t(846) = 4.16$, $p < .001$. Additionally, there were no significant between-group differences on measures of affective intensity, $t(847) = -0.37$, $p = .711$; sexual abuse, $t(564.86) = -1.15$, $p = .249$; and physical neglect, $t(846) = -0.61$, $p = .545$.

Chapter 4

DISCUSSION

The primary goal of the present study was to use latent class analysis to identify latent subgroups of self-injurers using a comprehensive set of indicators, including variables related to NSSI methods, severity, functions and contextual features. A related aim was to compare these subgroups on relevant clinical measures to examine how the classes differed on these variables. The prevalence of self-injury in the present sample (36%) was consistent with existing studies that have used college-aged samples (e.g., Gratz, 2001), and the latent class analysis results indicated that a four-class solution was the best-fitting model to describe subgroups based on NSSI features. The number of classes identified in this study was consistent with that of models specified in previous studies (Klonsky & Olino, 2008; Whitlock et al., 2008), which found four and three classes, respectively. Additionally, the classes identified in the present study also were found to differ significantly from each other with respect to various clinical symptoms. These findings suggest that although NSSI is a complex, heterogeneous behavior, latent class analysis can be used to identify group self-injurers in a manner that reflects meaningful differences in NSSI behavior and clinical symptom profiles.

Consistent with previous investigations (Klonsky & Olino, 2008; Whitlock et al., 2008), some classes (Class 1 and Class 2) exhibited less severe NSSI behavior along with lower levels of clinical symptoms. These classes also made up the majority of the sample. Class 2, which comprised 58% of sample, could be characterized as a class with mild, likely experimental NSSI and low symptom severity. Individuals in this class were most likely most likely to employ methods of NSSI with a low-risk of severe injury or death

(e.g., pinching and hitting self) and were unlikely to engage in NSSI repeatedly. Although symptoms were not completely absent in this group, this class generally was lower in symptomatology than the other classes, and their function scores were low, suggesting that NSSI behavior was not highly reinforced. Overall, members of this class likely experimented with NSSI on a few occasions or less and likely comprise a lower risk group relative to other classes. Class 1, which made up 17% of the sample, exhibited what could be characterized as mild-moderate NSSI, using methods that are unlikely to cause skin-breakage or serious injury, although at a frequency that was more variable than Class 2. Symptom-wise, this class was characterized by relatively high anxiety and mild to moderate levels of other symptoms, notably with less risk-taking and a less severe trauma history than other symptomatic groups. Additionally, this group reported moderate levels of automatic functions of NSSI, suggesting that NSSI may be reinforced as a strategy to regulate aversive internal states, such as anxiety or other symptoms. The profile of this class suggests that NSSI may be a behavior of concern, even if it does not carry immediate, severe physical risk, and that treatment directed at symptomatic concerns and appropriate regulation of internal states may be useful at combatting NSSI for these individuals.

Classes 3 and 4 represent groups that are both characterized by more dangerous NSSI profiles and high degrees of symptomatology but appear distinct from one another on a number of indices. Class 3 (11% of sample) could be characterized as exhibiting severe, multi-method, multi-function NSSI, accompanied by moderate-severe symptomatology in multiple domains. Members of this class were likely to employ a broad range of methods, many of which involved a high risk of serious injury (e.g.,

cutting, carving, substance abuse) and the possibility of requiring a high level of intervention to treat. They endorsed relatively high levels of both social and automatic functions, suggesting the behavior was highly reinforced, which was supported by the higher frequency of NSSI reported. Symptomatically, this group was high on a number of areas, including BPD symptoms, depression, and anxiety. These individuals often reported a more traumatic history and greater levels of stress in their lives. Additionally, members of this group reported higher rates of risky behavior and emotional lability. This profile of high distress, relatively high rates of trauma, and highly reinforced NSSI, along with scores reflecting tendencies toward risk-taking, impulsivity, and emotion dysregulation is consistent with more chronic, severe psychological difficulties, such as borderline personality disorder (Skodol et al., 2002). These dangerous patterns of NSSI behavior combined with tendencies toward risk-taking and affective instability present a particularly risky profile that would need to be carefully monitored in treatment. Additionally, the characteristic use of multiple methods (as seen in this Class) is particularly concerning in light of research indicating that number of methods is robustly predictive of future NSSI behavior and psychopathology (Glenn & Klonsky, 2011; Nock et al., 2006). Appropriate treatment for this group may be focused on longer term difficulties, with an aim to improve regulatory strategies and adopt healthier approaches to dealing with interpersonal and intrapersonal distress.

Class 4, which made up 14% of the sample, was characterized by cutting almost exclusively and endorsed relatively high levels of automatic (but not social) functions for engaging in NSSI. This class had less frequent NSSI than Class 3 and lower probability of requiring a high level of intervention for NSSI wounds. This class still reported

relatively high levels of multiple symptoms, including BPD features, depression, anxiety, and stress, but as a group tended to be significantly lower on these measures when compared to Class 3. They also reported less affective lability and risk-taking than Class 3, suggesting more stability in emotional state and less risk-proneness, even in the face of significant distress. This group also appears to be of concern and one for which treatment may be appropriate and helpful. Given the nature of the distress and automatic functions endorsed, treatment aimed at treating particular symptom domains with the goal of adopting more adaptive approaches to dealing with negative internal states may be warranted.

There were some symptom domains for which between-class differences were notably lacking. One such area was dissociative symptomatology, which was examined because one of the proposed functions of NSSI is relief from dissociation. It is possible that having high levels of dissociative symptoms represents an especially low base-rate phenomenon that is not present to a high enough degree in the present sample to detect differences. However, this domain should be examined in clinical groups that may exhibit higher levels of dissociation to determine the relationship between these symptoms and NSSI characteristics. Interestingly, there were differences in this domain between the self-injuring and non-self-injuring groups, suggesting that although NSSI classes did not differ on dissociation, individuals with a history of NSSI had higher levels of dissociativity than those without a history of NSSI. There were also no between-class differences on measures of affective intensity and little variability across groups on this measure. It is possible that the measure of affective lability may have better captured a distinguishing aspect of affective experience (in terms of stability vs. instability) among

self-injurers in this sample.

Comparison of the self-injuring and non-self-injuring subsamples suggested that the NSSI group was generally more symptomatic than the group without a history of NSSI and that members of the NSSI group reported higher rates of some kinds of traumatic experiences. Unexpectedly, one exception to this pattern was that the sample without a history of NSSI displayed slightly higher levels of affective lability than the NSSI group. This difference was quite small but significant; however, it does not necessarily suggest that affective lability is not a useful construct in thinking about NSSI. When the averages by class are considered, only Class 2 (the "experimental" NSSI group) had lower affective lability scores than did the group without a history of NSSI. Generally, the more severe NSSI classes had higher affective lability scores, indicating that this construct may still reflect a meaningful correlate of NSSI. In addition to suggesting that the NSSI group experienced more distress, this general pattern of findings also illustrates how even the relatively "healthier" class of self-injurers still appears significantly more distressed than a comparison group without a NSSI history on a number of indices. Thus, although some classes of individuals with a history of NSSI may appear to be seemingly less risky than others in the realm of NSSI, they are not symptom-free and generally exhibit higher rates of symptoms than comparison participants.

Interestingly, the results of the latent class analysis and accompanying clinical features appear to be highly consistent with those found by Klonsky and Olino (2008), thus lending additional support for the existence of these types of subgroups within populations of self-injuring young adults. Overall, the existence of different subgroups of

NSSI suggest that merely having the knowledge that given individual self-injures is not sufficiently informative about the level of risk of this behavior, the accompanying clinical features, or the utility of treatment for a given individual. The LCA results are informative about features that may be relevant to examine (e.g., number and type of methods used, frequency, onset, interventions needed, functions, etc.) insofar as these features seem to distinguish groups of self-injurers from each other in terms of NSSI features as well as severity of clinical symptoms. Additionally, these findings further support the notion that self-injurers likely represent a diagnostically diverse group, as opposed to a group characterized primarily by one disorder, such as BPD.

The results of the present study are also relevant to the dialogue concerning the potential inclusion of NSSI as a psychiatric disorder in DSM-5 (Meuhlenkamp,2005; Selby, Bender, Gordon, Nock, & Joiner, 2011; Shaffer & Jacobson, 2009). A preliminary study in this area (Selby et al., 2011) found evidence for the existence of a group of recurrent self-injurers with clinically significant levels of distress who also were not diagnosed with BPD; the authors argued that the existence of this group provides some preliminary evidence for NSSI as a separate diagnostic entity. In the present study, individuals from the NSSI group—regardless of latent class membership—reported higher levels of distress (as manifested in the clinical measures) when compared to their counterparts without a history of NSSI. Additionally, one of the latent classes (Class 2) did not report levels of BPD symptoms high enough to meet a clinical cut-off. Thus, these findings were somewhat consistent with those of Selby and colleagues' (2011) in that NSSI was found to relate to significant markers of clinical distress and could seemingly be found without the presence of BPD. That said, the individuals in Class 2 were also

unlikely to self-injure frequently enough to meet the proposed DSM-5 criteria, and members of the other classes displayed a wide range of significant clinical symptoms, including depression, anxiety, risk-taking, PTSD symptoms, and relatively high levels of BPD symptomatology (even if not at diagnostic threshold). Thus, it remains a question as to how adequately an NSSI disorder diagnosis would describe this diverse group. Additionally, it is unclear if creating such a diagnosis would meaningfully capture aspects of these individuals' experience above and beyond those that may be already accounted for by the features of other clinical syndromes, which may represent high levels of dysregulation of which NSSI may be a manifestation.

An additional goal of the present study was to examine the psychometric properties of a new measure of NSSI history, functions, and contextual features. Overall, the measure demonstrated adequate to excellent internal consistency, adequate to good test-retest reliability over two administrations, and good construct validity. Internal consistency was somewhat lower for the scale of NSSI methods, but this finding could be due in part to the broad range of methods assessed. Even if this range of methods still captured the underlying construct of NSSI, it is possible that variability in the particular methods self-injuring individuals employ may have dampened the extent to which the items assessing methods could "hang together." The latent class analysis results suggested that groups of individuals employ different combinations of methods (or even use one method exclusively) even if they are frequently self-injuring; this between-group variability may have likewise impacted this scale's internal consistency. Examining the function scale indicated that the current ISAS scale appears to be an adequate and parsimonious means of assessing NSSI functions. Additionally, the present investigation

confirmed the two-factor structure (reflecting interpersonal and intrapersonal functions) of the ISAS that was previously found in an exploratory factor analysis within an undergraduate sample of self-injurers (Klonksy & Glenn, 2009). Overall, the new measure allowed for the examination of a more comprehensive set of indicators in the current study, which in turn contributed to a more thorough look at NSSI features. It appears to be a promising measure, particularly if researchers are interested in obtaining an extensive NSSI history through the use of a self-report—as opposed to interview—method.

The present study had a number of strengths, and it expanded upon the current research base in a number of ways. The current study used some novel characteristics of NSSI (e.g., frequency, level of intervention required) as indicators in the latent class model, which appear to be informative in distinguishing groups and in providing a thorough description of the classes. Additionally, more methods were assessed than in previous investigations, providing information about which methods (and relative risk) tend to co-occur within groups. The present study also examined a broader range of clinical variables previously found to be relevant in the study of NSSI, which provided additional knowledge about how these clinical characteristics may differ among groups of self-injurers and how these differences may impact approaches to treatment. For example, this investigation revealed that between-class differences also extend to some indices of trauma history and post-traumatic symptomatology, suggesting that some groups of self-injurers may report a more extensive history of trauma and sequelae than others. There is some existing evidence of modest relationship between trauma history and NSSI (Yates, 2004). Although causation cannot be inferred from the present findings, the results do

suggest that more severe profiles of NSSI are associated with reports of greater levels of past trauma. Thus it will be important to further investigate the relationship between traumatic experiences and NSSI behavior, particularly the degree to which trauma may confer a risk for more dangerous NSSI behavior above and beyond other symptoms. In addition to trauma, affective lability and risk-taking were important constructs to be considered in concert with ratings of symptomatic distress, as these constructs capture overall tendency toward an array of risky behavior and the nature of distress experienced by participants.

The current study also had some limitations. One such limitation was using a non-clinical, college student population to examine the constructs of interest. Although using this sample was not entirely a limitation—as the purpose of the study was to examine a full range of NSSI presentations and NSSI is common among college-aged people—it remains important to study these questions in other samples, including clinical samples, to determine if the findings generalize to other populations. Similarly, the psychometric properties and structure of NSSI measures have still not yet been examined in clinical samples, and it would be important to conduct these studies as a next step in validating these measures. Additionally, the current study used self-report measures to assess some complex internal states. This method allowed for an efficient and thorough data collection process; however, ratings obtained from interviewers or informants, particularly of characteristics may be subject to impression management (e.g., reporting on risky behaviors) or difficult to report on, may improve the accuracy of these measurements, as would employing performance-based measures of some domains (e.g., impulsivity).

Future studies could elucidate these findings in a number of ways. Investigating the current research questions within a clinical group could establish if the same subgroups (and related between-class differences on clinical variables) are also found in clinical samples, or if a different model better explains this behavior when clinical participants are taken into account. Furthermore, this type of study could further clarify whether particular clinical groups tend to be associated with membership in particular classes, as might be expected from the between-class symptomatology findings. It would likewise be useful to examine these data longitudinally to examine what happens to class membership over time. For instance, it would be important to know if individuals transition between groups over time and what variables may predict initial class membership and/or transition between classes. It would likewise be valuable to examine how class membership affects the course of treatment among those receiving mental health services.

In conclusion, a comprehensive set of indicators (based on NSSI features) was able to identity four latent classes of self-injurers within a large non-clinical sample of college students. These classes were associated with different patterns of NSSI behavior and different types of clinical symptoms. Future work should examine the latent structure of NSSI behavior longitudinally and within other samples, particularly among clinically referred participants.

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APPENDIX A

Tables

Table 1.

Demographic Characteristics as Percentage of the Full Sample and Subsamples of Participants with and without NSSI History

Characteristic	Full Sample (n = 850)	Subsample without NSSI History (n = 547)	Subsample with NSSI history (n = 303)
Gender			
Female	64.5	67.3	59.5
Male	35.2	32.7	39.9
Transgender	0.2	0	0.7
Ethnicity			
White/Caucasian	79.9	79.4	80.8
Hispanic/Latino	4.0	4.8	2.6
Asian/Pacific Islander	8.1	6.7	10.6
Black/African Descent	5.9	7.1	4.2
Arab	0.2	0.4	0
Other	1.7	1.6	1.7
Work Status			
Employed	31.3	31.1	31.7
Unemployed	68.7	68.9	68.3
Average age in years (*SD*)	19.17 (2.14)	19.14 (2.05)	19.20 (2.31)

Note. NSSI = non-suicidal self-injury.

Table 2.

Frequency of Individuals Endorsing History of NSSI Methods as Percentage of Sample with History of NSSI (n = 303)

Method	Percentage Reporting History *n* (%)
Cutting	73 (8.6)
Burning	18 (2.1)
Biting self	60 (7.1)
Carving words/pictures	24 (2.8)
Hair-pulling	56 (6.6)
Pinching	95 (11.2)
Scratching/Scraping skin	51 (6.0)
Banging head/Hitting self	74 (8.7)
Rubbing skin against rough surface	12 (1.4)
Needle-sticking	10 (1.2)
Swallowing dangerous substance	3 (0.4)
Skin-picking	4 (0.5)
Drug use with intent to harm self	23 (2.7)
Hanging/asphyxiating	5 (0.6)
Jumping from a high place	0 (0)
Starving self	24 (2.8)
Laxative abuse	5 (0.6)
Stopping required medical treatments	2 (0.2)

Note. NSSI = non-suicidal self-injury.

Table 3.

Correlations between Total Number of NSSI Methods with MSI-BPD Items

MSI-BPD Item	Correlation with NSSI total
Intense interpersonal relationships	0.106
Self-injury and suicidality	0.481**
Impulsivity	0.192*
Mood instability	0.117*
Inappropriate anger	0.216**
Difficulty trusting others	0.175*
Dissociation	0.227**
Emptiness	0.359**
Identity problems	0.276**
Attempts to avoid abandonment	0.273**
MSI-BPD total score without NSSI item	0.296**

Note. MSI-BPD = McLean Screener for Borderline Personality Disorder; NSSI = non-suicidal self-injury. *$p < .05$. **$p < .001$

Table 4.

Four-Class Model of NSSI: Probability of Engagement in NSSI Methods within Each Subgroup

Method	Class 1 (n = 50)	Class 2 (n = 177)	Class 3 (n = 32)	Class 4 (n = 44)
Cutting	.15	.02	.85	.78
Burning	.00	.06	.19	.05
Biting self	.31	.16	.45	.03
Carving words/pictures	.03	.04	.04	.08
Hair-pulling	.35	.15	.28	.06
Pinching	.45	.31	.48	.05
Scratching/Scraping Skin	.06	.13	.56	.17
Banging head	.35	.23	.41	.06
Rubbing skin against rough surface	.02	.03	.09	.05
Needle-sticking	.04	.04	.00	.02
Swallowing dangerous substance	.00	.00	.09	.00
Skin-picking	.00	.01	.06	.00
Drug use with intent to harm self	.00	.03	.37	.12
Hanging/asphyxiating	.03	.00	.06	.00
Starving self	.10	.02	.31	.12
Laxative abuse	.06	.00	.06	.00
Stopping required medical treatments	.03	.00	.00	.00

Note. Values represent the item response probabilities for each method of non-suicidal self-injury (NSSI) by class, as determined by latent class analysis.

Table 5.

Four-Class Model of NSSI: Probability of NSSI Characteristics and Function Scores within Each Subgroup

Characteristic	Class 1 (*n* = 50)	Class 2 (*n* = 177)	Class 3 (*n* = 32)	Class 4 (*n* = 44)
Features, *n* (%)				
NSSI frequency				
1-2 episodes	.04	.58	.00	.30
3-4 episodes	.17	.13	.00	.22
5-14 episodes	.37	.17	.05	.48
>14 episodes	.42	.12	.94	.00
Highest level of intervention for NSSI				
No care	.75	.89	.04	.45
Self-care	.22	.09	.74	.44
Doctor's visit	.02	.01	.04	.09
Hospital visit	.00	.01	.19	.02
Age of onset of NSSI				
Less than 11 years	.31	.30	.22	.00
Between 11 and 14 years	.35	.25	.23	.16
Between 14 and 17 years	.24	.19	.34	.39
Over 17 years	.10	.27	.20	.44
Alone during NSSI				
Never	.01	.72	.00	.00
1-2 times	.14	.02	.12	.03
Occasionally	.67	.06	.77	.70
Typically	.21	.02	.25	.30
Experienced Pain during NSSI				
Never	.20	.86	.04	.11
1-2 times	.41	.11	.18	.47
Occasionally	.18	.00	.53	.13
Typically	.21	.02	.25	.30
Functions[a], *M* (*SD*)				
Automatic	1.27 (.99)	.42 (.86)	2.95 (1.5)	1.63 (1.33)
Social	.47 (.75)	.27 (.70)	.79 (.75)	.58 (1.0)

Note. Values represent the item response probabilities for each feature of non-suicidal self-injury (NSSI) by class, as determined by latent class analysis.. [a]As determined by subscale scores on the Inventory of Statements about Self-Injury.

Table 7.

Frequencies, Percentages, and Chi-Square Results for Demographic Characteristics by Latent Class for Sample with History of NSSI

Variable, *n*(%)	Class 1 (*n* = 50)	Class 2 (*n* = 177)	Class 3 (*n* = 32)	Class 4 (*n* = 44)	X^2
Gender					
Male	16 (13.3)	93 (52.8)	4 (12.5)	7 (16.3)	36.084***
Female	34 (68.0)	81 (46.0)	28 (87.5)	36 (83.7)	
Ethnicity					
Hispanic/Latino	4 (8)	3 (1.7)	1 (3.1)	0 (0)	26.899**
Asian/Pacific Islander	12 (24)	17 (9.6)	0 (0)	3 (7.0)	
Black/African Descent	3 (6)	5 (2.8)	3 (9.4)	2 (4.7)	
Caucasian/White	31 (62)	149 (84.2)	27 (84.4)	37 (86.0)	
Other	0 (0)	0 (0)	1 (3.1)	1 (2.3)	
Work Status					
Employed	14 (28.0)	36 (72.0)	13 (40.6)	15 (34.9)	1.807
Unemployed	36 (72.0)	123 (69.5)	19 (59.4)	28 (65.1)	
Age, *M* (*SD*)	19.7 (3.1)	19.2 (2.5)	18.7 (0.7)	19.0 (0.7)	1.269[b]

Note. **p < .01; ***p < .001. NSSI = non-suicidal self-injury. [a]Because there were fewer than 5 participants who identified as transgender, these individuals were not included in this analysis. [b]F-statistic was used to determine between-class differences on age.

Table 7.

Differences between the Four Latent Classes on Clinical Variables

Variable, *M* (*SD*)	Class 1 (n = 50)	Class 2 (n = 177)	Class 3 (n = 32)	Class 4 (n = 44)
Symptoms				
BPD symptoms[a]	5.54 (2.94)$_{a}$	3.83 (2.98)$_{b}$	7.81 (2.02)$_{c}$	6.43 (2.62)$_{a,c}$
Depression[b]	8.51 (8.97)$_{a}$	4.51 (6.87)$_{b}$	15.60 (10.92)$_{c}$	9.34 (10.37)$_{a}$
Anxiety[b]	7.44 (7.65)$_{a}$	4.10 (5.91)$_{b}$	8.52 (6.92)$_{a}$	4.53 (6.39)$_{a,b}$
Stress[b]	10.94 (8.07)$_{a}$	7.42 (7.54)$_{b}$	15.83 (9.01)$_{c}$	9.93 (8.60)$_{a,b}$
Risk-taking[c]	6.45 (4.88)$_{a}$	8.17 (5.27)$_{a,b}$	10.64 (4.76)$_{b,c}$	8.57 (5.06)$_{a,b,c}$
Affective Lability[d]	2.27 (0.63)$_{a}$	1.99 (0.67)$_{b}$	2.59 (0.53)$_{c}$	2.12 (0.67)$_{a,b}$
Affective Intensity[e]	3.74 (0.53)$_{a}$	3.59 (0.50)$_{a}$	3.56 (0.51)$_{a}$	3.73 (0.55)$_{a}$
Dissociative Symptoms[f]	2.88 (1.75)$_{a}$	2.39 (1.33)$_{a}$	2.73 (1.13)$_{a}$	2.61 (1.51)$_{a}$
Trauma				
TLEQ Total	8.78 (9.79)$_{a}$	5.59 (5.20)$_{b}$	8.72 (6.43)$_{a,b,c}$	9.00 (7.23)$_{a,c}$
CTQ Emotional Abuse	3.92 (4.58)$_{a}$	1.67 (2.64)$_{b}$	6.88 (5.30)$_{c}$	3.75 (3.94)$_{a}$
CTQ Physical Abuse	1.42 (2.45)$_{a}$	0.73 (1.74)$_{a}$	1.28 (1.63)$_{a}$	0.93 (1.86)$_{a}$
CTQ Sexual Abuse	0.98 (2.45)$_{a}$	0.33 (1.57)$_{a}$	0.78 (3.14)$_{a}$	0.70 (2.31)$_{a}$
CTQ Physical Neglect	5.94 (2.54)$_{a}$	5.76 (2.39)$_{a}$	5.66 (1.94)$_{a}$	5.61 (2.94)$_{a}$
CTQ Emotional Neglect	13.64 (4.05)$_{a,c}$	12.98 (3.65)$_{a}$	15.69 (4.24)$_{b}$	14.50 (4.05)$_{b,c}$
PTSD symptom severity	36.73 (14.59)$_{a}$	29.67 (12.23)$_{a,b}$	44.34 (12.63)$_{a,c}$	37.91 (14.33)$_{a,b,c}$

Note. For each row, cell values that do not share subscripts are significantly different according to post-hoc Tukey tests. BPD = Borderline Personality Disorder. [a] As assessed by the McLean Screener for BPD. [b]As assessed by the Depression Anxiety Stress Scales. [c]As assessed by the Risk-taking and Self Harm Inventory. [d]As assessed by the Affective Lability Scale. [e]As assessed by the Affective Intensity Measure. [f]As assessed by the Dissociative Experiences Scale total score. TLEQ = Traumatic Life Events Questionnaire. CTQ = Childhood Trauma Questionnaire. PTSD = Post-traumatic Stress Disorder.

Table 8.

Means on Clinical Variables for Subsamples with and without History of NSSI

Variable, *M* (*SD*)	Subsample without NSSI history (*n* = 547)	Subsample with NSSI history (*n* = 303)	*t*	*df*
Symptoms				
BPD symptoms[a]	2.61 (2.78)	4.91 (3.16)	-10.63***	560.17
Depression[b]	2.93 (5.03)	6.95 (8.89)	-7.21***	408.63
Anxiety[b]	3.03 (4.84)	5.19 (6.58)	-4.99***	484.75
Stress[b]	5.53 (6.37)	9.26 (8.35)	-6.75***	498.36
Risk-taking[c]	6.26 (4.82)	8.20 (5.21)	-5.34***	579.08
Affective Lability[d]	2.09 (0.71)	1.88 (0.67)	4.16***	846
Affective Intensity[e]	3.16 (0.52)	3.18 (0.52)	-0.38	847
Dissociative Symptoms[f]	2.11 (1.25)	2.53 (1.42)	-4.40***	559.12
Trauma				
TLEQ Total	28.06 (4.85)	29.94 (6.75)	-4.29***	477.53
CTQ Emotional Abuse	1.32 (2.57)	2.89 (3.92)	-6.26***	449.11
CTQ Physical Abuse	0.52 (1.59)	0.93 (1.89)	-3.15**	538.21
CTQ Sexual Abuse	0.38 (1.84)	0.54 (2.06)	-1.15	564.86
CTQ Physical Neglect	5.65 (2.45)	5.76 (2.45)	-0.61	846
CTQ Emotional Neglect	12.82 (4.17)	13.60 (3.93)	-2.67**	847
PTSD symptom severity	26.68 (11.34)	33.62 (12.90)	-7.39***	500.27

Note. **p <.01; ***p < .001. BPD = Borderline Personality Disorder. [a]As assessed by the McLean Screener for BPD. [b]As assessed by the Depression Anxiety Stress Scales. [c]As assessed by the Risk-taking and Self Harm Inventory. [d]As assessed by the Affective Lability Scale. [e]As assessed by the Affective Intensity Measure. [f]As assessed by the Dissociative Experiences Scale total score. TLEQ = Traumatic Life Events Questionnaire. CTQ = Childhood Trauma Questionnaire. PTSD = Post-traumatic Stress Disorder.

APPENDIX B

Measures

1. Comprehensive Measure of Non-Suicidal Self-Injury

Part I. History and Severity

This questionnaire asks about a number of different things that people sometimes do to hurt themselves. Please be sure to read each question carefully and respond honestly. Often, people who do these kinds of things to themselves keep it a secret, for a variety of reasons. However, honest responses to these questions will provide us with greater understanding and knowledge about these behaviors and the best way to help people. Please **answer yes to a question only if, at least once, you did the behavior intentionally, or on purpose, to hurt yourself without the intention to kill yourself.** Do not respond yes if you did something accidentally (e.g., you tripped and banged your head on accident.) Also, please be assured that your responses are completely confidential.

1. Have you ever cut yourself on purpose (without intending to kill yourself)?
   YES NO
   If YES:
   a. How old (in years) were you when you first did this? Years: ____ Months: _____
   b. How many times have you done this? ____
   c. When was the most recent time you did this?
   PAST WEEK PAST MONTH PAST SIX MONTHS
   PAST YEAR PRIOR TO PAST YEAR
   d. This behavior has resulted in which of the following treatments in the past (check all that apply):
   □ none/no care needed □ only self-care required □ visit to nurse/doctor
   □ ER visit □ ambulance needed □ hospitalization on a medical unit
   □ hospitalization on a psychiatric unit

2. Have you ever burned yourself on purpose?
   YES NO
   If YES:
   a. How old (in years) were you when you first did this? Years: ____ Months: _____
   b. How many times have you done this? ____
   c. When was the most recent time you did this?
   PAST WEEK PAST MONTH PAST SIX MONTHS
   PAST YEAR PRIOR TO PAST YEAR
   d. This behavior has resulted in which of the following treatments in the past (check all that apply):
   □ none/no care needed □ only self-care required □ visit to nurse/doctor
   □ ER visit □ ambulance needed □ hospitalization on a medical unit
   □ hospitalization on a psychiatric unit

3. Have you ever bitten yourself on purpose?
YES NO
If YES: Typically, have you broken your skin when doing so? YES NO
a. How old (in years) were you when you first did this? Years: ____ Months: _____
b. How many times have you done this? ____
c. When was the most recent time you did this?
PAST WEEK PAST MONTH PAST SIX MONTHS
PAST YEAR PRIOR TO PAST YEAR
d. This behavior has resulted in which of the following treatments in the past (check all that apply):
□ none/no care needed □ only self-care required □ visit to nurse/doctor
□ ER visit □ ambulance needed □ hospitalization on a medical unit
□ hospitalization on a psychiatric unit

4. Have you ever carved something (e.g., words, designs, pictures, etc.) into your skin on purpose?
YES NO
If YES:
a. How old (in years) were you when you first did this? Years: ____ Months: _____
b. How many times have you done this? ____
c. When was the most recent time you did this?
PAST WEEK PAST MONTH PAST SIX MONTHS
PAST YEAR PRIOR TO PAST YEAR
d. This behavior has resulted in which of the following treatments in the past (check all that apply):
□ none/no care needed □ only self-care required □ visit to nurse/doctor
□ ER visit □ ambulance needed □ hospitalization on a medical unit
□ hospitalization on a psychiatric unit

5. Have you ever pinched yourself on purpose to the extent that it left a mark on your skin?
YES NO
If YES:
a. How old (in years) were you when you first did this? Years: ____ Months: _____
b. How many times have you done this? ____
c. When was the most recent time you did this?
PAST WEEK PAST MONTH PAST SIX MONTHS
PAST YEAR PRIOR TO PAST YEAR
d. This behavior has resulted in which of the following treatments in the past (check all that apply):
□ none/no care needed □ only self-care required □ visit to nurse/doctor
□ ER visit □ ambulance needed □ hospitalization on a medical unit
□ hospitalization on a psychiatric unit

6. Have you ever pulled out your hair on purpose?
YES NO
If YES:
a. How old (in years) were you when you first did this? Years: ____ Months: _____
b. How many times have you done this? ____
c. When was the most recent time you did this?
PAST WEEK PAST MONTH PAST SIX MONTHS
PAST YEAR PRIOR TO PAST YEAR
d. This behavior has resulted in which of the following treatments in the past (check all that apply):
□ none/no care needed □ only self-care required □ visit to nurse/doctor
□ ER visit □ ambulance needed □ hospitalization on a medical unit
□ hospitalization on a psychiatric unit

7. Have you ever purposefully scratched or scraped your skin?
YES NO
If YES: Typically, have you broken your skin when doing so? YES NO
If YES:
a. How old (in years) were you when you first did this? Years: ____ Months: _____
b. How many times have you done this? ____
c. When was the most recent time you did this?
PAST WEEK PAST MONTH PAST SIX MONTHS
PAST YEAR PRIOR TO PAST YEAR
d. This behavior has resulted in which of the following treatments in the past (check all that apply):
□ none/no care needed □ only self-care required □ visit to nurse/doctor
□ ER visit □ ambulance needed □ hospitalization on a medical unit
□ hospitalization on a psychiatric unit

8. Have you ever purposefully banged your head or hit yourself?
YES NO
If YES:
a. How old (in years) were you when you first did this? Years: ____ Months: _____
b. How many times have you done this? ____
c. When was the most recent time you did this?
PAST WEEK PAST MONTH PAST SIX MONTHS
PAST YEAR PRIOR TO PAST YEAR
d. This behavior has resulted in which of the following treatments in the past (check all that apply):
□ none/no care needed □ only self-care required □ visit to nurse/doctor
□ ER visit □ ambulance needed □ hospitalization on a medical unit
□ hospitalization on a psychiatric unit

9. Have you ever picked at a wound and prevented it from healing?
YES NO
If YES:
a. How old (in years) were you when you first did this? Years: ____ Months: _____
b. How many times have you done this? ____
c. When was the most recent time you did this?
PAST WEEK PAST MONTH PAST SIX MONTHS
PAST YEAR PRIOR TO PAST YEAR
d. This behavior has resulted in which of the following treatments in the past (check all that apply):
□ none/no care needed □ only self-care required □ visit to nurse/doctor □ ER visit □ ambulance needed □ hospitalization on a medical unit
□ hospitalization on a psychiatric unit

10. Have you ever rubbed your skin against rough surfaces (e.g., sandpaper, glass, etc.), or erased your skin?
YES NO
If YES: Typically, have you broken your skin when doing so? YES NO
If YES:
a. How old (in years) were you when you first did this? Years: ____ Months: _____
b. How many times have you done this? ____
c. When was the most recent time you did this?
PAST WEEK PAST MONTH PAST SIX MONTHS
PAST YEAR PRIOR TO PAST YEAR
d. This behavior has resulted in which of the following treatments in the past (check all that apply):
□ none/no care needed □ only self-care required □ visit to nurse/doctor □ ER visit □ ambulance needed □ hospitalization on a medical unit
□ hospitalization on a psychiatric unit

11. Have you ever stuck yourself with needles or otherwise punctured your skin (other than when cutting)?
YES NO
If YES:
a. How old (in years) were you when you first did this? Years: ____ Months: _____
b. How many times have you done this? ____
c. When was the most recent time you did this?
PAST WEEK PAST MONTH PAST SIX MONTHS
PAST YEAR PRIOR TO PAST YEAR
d. This behavior has resulted in which of the following treatments in the past (check all that apply):
□ none/no care needed □ only self-care required □ visit to nurse/doctor
□ ER visit □ ambulance needed □ hospitalization on a medical unit
□ hospitalization on a psychiatric unit

12. Have you ever deliberately swallowed something dangerous, like a poison, a caustic substance (e.g. an acid), or something sharp? (Does not include over doses with medications)
YES NO
If YES, check what you have swallowed in the past:
□ poison □ caustic substance □ sharp object □ other _____
If YES:
a. How old (in years) were you when you first did this? Years: ____ Months: _____
b. How many times have you done this? ____
c. When was the most recent time you did this?
PAST WEEK PAST MONTH PAST SIX MONTHS
PAST YEAR PRIOR TO PAST YEAR
d. This behavior has resulted in which of the following treatments in the past (check all that apply):
□ none/no care needed □ only self-care required □ visit to nurse/doctor
□ ER visit □ ambulance needed □ hospitalization on a medical unit
□ hospitalization on a psychiatric unit

13. Have you ever picked at your body (not a pre-existing wound) in order to draw blood?
YES NO
If YES:
a. How old (in years) were you when you first did this? Years: ____ Months: _____
b. How many times have you done this? ____
c. When was the most recent time you did this?
PAST WEEK PAST MONTH PAST SIX MONTHS
PAST YEAR PRIOR TO PAST YEAR
d. This behavior has resulted in which of the following treatments in the past (check all that apply):
□ none/no care needed □ only self-care required □ visit to nurse/doctor □ ER visit □ ambulance needed □ hospitalization on a medical unit
□ hospitalization on a psychiatric unit

14. Have you ever used street drugs (e.g., cocaine), prescription medication (e.g., Vallium), or alcohol with the intent to self-harm (for example, overdosing without intent to die)?
YES NO
If YES, what substances have you used in the past to self-harm (check all that apply)?
□ street drugs □ prescriptions drugs □ alcohol
If YES:
a. How old (in years) were you when you first did this? Years: ____ Months: _____
b. How many times have you done this? ____
c. When was the most recent time you did this?
PAST WEEK PAST MONTH PAST SIX MONTHS
PAST YEAR PRIOR TO PAST YEAR
d. This behavior has resulted in which of the following treatments in the past (check all that apply):
□ none/no care needed □ only self-care required □ visit to nurse/doctor
□ ER visit □ ambulance needed □ hospitalization on a medical unit
□ hospitalization on a psychiatric unit

15. Have you ever strangled, hung or asphyxiated yourself?
YES NO
If YES, in which of these behaviors have you engaged (check all that apply)?
□ strangling □ hanging □ asphyxiating
If YES:
a. How old (in years) were you when you first did this? Years: ____ Months: _____
b. How many times have you done this? ____
c. When was the most recent time you did this?
PAST WEEK PAST MONTH PAST SIX MONTHS
PAST YEAR PRIOR TO PAST YEAR
d. This behavior has resulted in which of the following treatments in the past (check all that apply):
□ none/no care needed □ only self-care required □ visit to nurse/doctor
□ ER visit □ ambulance needed □ hospitalization on a medical unit
□ hospitalization on a psychiatric unit

16. Have you ever jumped from a high place in order to harm yourself?
YES NO
If YES:
a. How old (in years) were you when you first did this? Years: ____ Months: _____
b. How many times have you done this? ____
c. When was the most recent time you did this?
PAST WEEK PAST MONTH PAST SIX MONTHS
PAST YEAR PRIOR TO PAST YEAR
d. This behavior has resulted in which of the following treatments in the past (check all that apply):
□ none/no care needed □ only self-care required □ visit to nurse/doctor
□ ER visit □ ambulance needed □ hospitalization on a medical unit
□ hospitalization on a psychiatric unit

17. Have you ever exercised an injury on purpose?
YES NO
If YES:
a. How old (in years) were you when you first did this? Years: ____ Months: _____
b. How many times have you done this? ____
c. When was the most recent time you did this?
PAST WEEK PAST MONTH PAST SIX MONTHS
PAST YEAR PRIOR TO PAST YEAR
d. This behavior has resulted in which of the following treatments in the past (check all that apply):
□ none/no care needed □ only self-care required □ visit to nurse/doctor
□ ER visit □ ambulance needed □ hospitalization on a medical unit
□ hospitalization on a psychiatric unit

18. Have you ever starved yourself to hurt yourself?
YES NO
If YES:
a. How old (in years) were you when you first did this? Years: ____ Months: _____
b. How many times have you done this? ____
c. When was the most recent time you did this?
PAST WEEK PAST MONTH PAST SIX MONTHS
PAST YEAR PRIOR TO PAST YEAR
d. This behavior has resulted in which of the following treatments in the past (check all that apply):
□ none/no care needed □ only self-care required □ visit to nurse/doctor
□ ER visit □ ambulance needed □ hospitalization on a medical unit
□ hospitalization on a psychiatric unit

19. Have you ever abused laxatives to hurt yourself?
YES NO
If YES:
a. How old (in years) were you when you first did this? Years: ____ Months: _____
b. How many times have you done this? ____
c. When was the most recent time you did this?
PAST WEEK PAST MONTH PAST SIX MONTHS
PAST YEAR PRIOR TO PAST YEAR
d. This behavior has resulted in which of the following treatments in the past (check all that apply):
□ none/no care needed □ only self-care required □ visit to nurse/doctor
□ ER visit □ ambulance needed □ hospitalization on a medical unit hospitalization on a psychiatric unit

20. Have you ever stopped required medical treatments with the intent to harm yourself?
YES NO
If YES:
a. How old (in years) were you when you first did this? Years: ____ Months: _____
b. How many times have you done this? ____
c. When was the most recent time you did this?
PAST WEEK PAST MONTH PAST SIX MONTHS PAST YEAR PRIOR TO PAST YEAR
d. This behavior has resulted in which of the following treatments in the past (check all that apply):
□ none/no care needed □ only self-care required □ visit to nurse/doctor
□ ER visit □ ambulance needed □ hospitalization on a medical unit
□ hospitalization on a psychiatric unit

21. Have you ever scrubbed your skin with bleach, abrasive cleanser, oven cleaner, etc.?
YES NO
If YES:
a. How old (in years) were you when you first did this? Years: ____ Months: _____
b. How many times have you done this? ____
c. When was the most recent time you did this?
PAST WEEK PAST MONTH PAST SIX MONTHS
PAST YEAR PRIOR TO PAST YEAR
d. This behavior has resulted in which of the following treatments in the past (check all that apply):
□ none/no care needed □ only self-care required □ visit to nurse/doctor
□ ER visit □ ambulance needed □ hospitalization on a medical unit
□ hospitalization on a psychiatric unit

If you answered YES to engaging in any of the behaviors listed above:

23. Do you have any visible scars as a result of past self-injury? (Circle response.)
YES NO

24. Has anyone (who was not present at the time of injury) ever noticed or commented about your self-injury? (Circle response.)
YES NO

Part II. Functions

Instructions: This inventory was written to help us better understand the experience of non-suicidal
self-harm. Below is a list of statements that may or may not be relevant to your experience of self-harm. Please identify the statements that are most relevant for you:

• Circle **0** if the statement is not relevant for you at all
• Circle **1** if the statement is somewhat relevant for you
• Circle **2** if the statement is very relevant for you

"When I self-harm, I am … **Response**			
1. … calming myself down	0	1	2
2. … creating a boundary between myself and others	0	1	2
3. … punishing myself	0	1	2
4. … giving myself a way to care for myself (by attending to the wound)	0	1	2
5. … causing pain so I will stop feeling numb	0	1	2
6. … avoiding the impulse to attempt suicide	0	1	2
7. … doing something to generate excitement or exhilaration	0	1	2
8. … bonding with peers	0	1	2
9. … letting others know the extent of my emotional pain	0	1	2
10. … seeing if I can stand the pain	0	1	2
11. … creating a physical sign that I feel awful	0	1	2
12. … getting back at someone	0	1	2
13. … ensuring that I am self-sufficient	0	1	2
14. … releasing emotional pressure that has built up inside of me	0	1	2
15. … demonstrating that I am separate from other people	0	1	2
16. … expressing anger towards myself for being worthless or stupid	0	1	2
17. … creating a physical injury that is easier to care for than my emotional distress	0	1	2
18. … trying to feel something (as opposed to nothing) even if it is physical pain	0	1	2
19. … responding to suicidal thoughts without actually attempting suicide	0	1	2
20. … entertaining myself or others by doing something extreme	0	1	2
21. … fitting in with others	0	1	2
22. … seeking care or help from others	0	1	2
23. ... demonstrating I am tough or strong	0	1	2
24. … proving to myself that my emotional pain is real	0	1	2
25. … getting revenge against others	0	1	2
26. … demonstrating that I do not need to rely on others for help	0	1	2
27. … reducing anxiety, frustration, anger, or other overwhelming emotions	0	1	2
28. … establishing a barrier between myself and others	0	1	2
29. … reacting to feeling unhappy with myself or disgusted with myself	0	1	2
30. … allowing myself to focus on treating the injury, which can be gratifying or satisfying.	0	1	2
31. … making sure I am still alive when I don't feel real	0	1	2
32. … putting a stop to suicidal thoughts	0	1	2

• Circle **0** if the statement is not relevant for you at all
• Circle **1** if the statement is somewhat relevant for you
• Circle **2** if the statement is very relevant for you

"When I self-harm, I am …			
Response			
33. … pushing my limits in a manner akin to skydiving or other extreme activities	0	1	2
34. … creating a sign of friendship or kinship with friends or loved ones	0	1	2
35. … keeping a loved one from leaving or abandoning me	0	1	2
36. … proving I can take the physical pain	0	1	2
37. … signifying the emotional distress I'm experiencing	0	1	2
38. … trying to hurt someone close to me	0	1	2
39. … establishing that I am autonomous/independent	0	1	2
40. … avoiding school, work or other activities	0	1	2
41. … avoiding doing something unpleasant I don't want to do	0	1	2
42. … avoiding being with people	0	1	2
43. … getting other people to act differently or change	0	1	2
44. … avoiding punishment or paying the consequences	0	1	2
45. … being like someone I respect	0	1	2
46. … getting my parents to understand or notice me	0	1	2
47. … giving myself something to do when alone	0	1	2
48. … getting attention	0	1	2
49. … stopping bad feelings	0	1	2
50. … gaining admission into a hospital or treatment program	0	1	2
51. … getting a vacation from having to try so hard	0	1	2
52. … shocking or impressing others	0	1	2
53. … getting away or escaping	0	1	2
54. … demonstrating to others how wrong they are/were	0	1	2
55. … relieving anxiety or terror	0	1	2
56. … distracting myself from other problems	0	1	2
57. … relieving feelings of aloneness, emptiness or isolation	0	1	2
58. … expressing anger or frustration	0	1	2
59. … obtaining relief from a terrible state of mind	0	1	2
60. … making others understand how desperate I am	0	1	2

Part III. Contextual Factors

Instructions: This inventory contains a list of stressful events that sometimes happen to people. **For each event, use the provided scale to indicate how often you have experienced the event in the 24 hours preceding an incident of self-injury.**

1	2	3	4
No, never	Yes, 1-2 times	Yes, occasionally	Yes, typically

____ 1. I had an argument or conflict with another person

____ 2 I tried to spend time with someone but couldn't

____ 3. Someone was disappointed with me

____ 4. Someone was angry with me, criticized me, or put me down

____ 5. Someone let me down or broke a promise

____ 6. Someone rejected me

____ 7. I lost someone important (even if temporary loss)

____ 8. Therapist went out of town or took a break from having sessions

____ 9. I was isolated or alone more than I wanted to be

____ 10. I had financial problems

____ 11. I lost a job

____ 12. I had health problems or physical discomfort

____ 13. I had a new demand

____ 14. I tried to get (or continue) something I wanted but couldn't

____ 15. I heard of someone else harming themselves

____ 16. I saw things that I could use to harm myself

____ 17. I talked to someone about sexual abuse or rape

____ 18. I talked with my therapist about sexual abuse or rape

____ 19. I had a therapy session before my self-injury/suicide attempt (on the same day)

____ 20. I had a therapy session scheduled for later in the day (after self-injury)

____ 21. I had a problem at work or school

____ 22. Other important negative events happened which could have triggered my self-injury

Instructions: This inventory contains a list of thoughts and related experiences that people sometimes have. For each thought/experience, use the provided scale to **indicate how often you have experienced the thought in the 24 hours preceding an incident of self-injury.**

1	2	3	4
No, never	Yes, 1-2 times	Yes, occasionally	Yes, typically

___ 23. Thought about sexual abuse or rape

___ 24. Thought about physical abuse or assault

___ 25. Had flashbacks or nightmares

Instructions: This inventory contains a list of feelings that people sometimes experience. For each feeling, use the provided scale to **indicate how often you have experienced the feeling in the 24 hours BEFORE an incident of self-injury.**

1	2	3	4
No, never	Yes, 1-2 times	Yes, occasionally	Yes, typically

____ 26. Upset, miserable or distressed

____ 27. Out of control

____ 28. Anxious, afraid, or panicked

____ 29. Overwhelmed

____ 30. Angry, frustrated or enraged for no known reason

____ 31. Angry, frustrated or enraged at someone else

____ 32. Angry frustrated or enraged at myself

____ 33. Self-hatred or shame, or thought I was “bad”

____ 34. Like I deserved to be punished or hurt

____ 35. Like a failure or inferior

____ 36. Like a burden to others

____ 37. Felt bad about myself

____ 38. Guilty

____ 39. Sad or disappointed

____ 40. Depressed

____ 41. Tired or exhausted

____ 42. Lonely, isolated, or abandoned

____ 43. Trapped or helpless

____ 44. Discouraged or hopeless

____ 45. Confused

____ 46. Emotionally empty or numb

Instructions: This inventory contains a list of feelings that people sometimes experience. For each feeling, use the provided scale to **indicate how often you have experienced the feeling in the 24 hours AFTER an incident of self-injury**

1	2	3	4
No, never	Yes, 1-2 times	Yes, occasionally	Yes, typically

____ 47. Upset, miserable or distressed

____ 48. Out of control

____ 49. Anxious, afraid, or panicked

____ 50. Overwhelmed

____ 51. Angry, frustrated or enraged for no known reason

____ 52. Angry, frustrated or enraged at someone else

____ 53. Angry frustrated or enraged at myself

____ 54. Self-hatred or shame, or thought I was "bad"

____ 55. Like I deserved to be punished or hurt

____ 56. Like a failure or inferior

____ 57. Like a burden to others

____ 58. Felt bad about myself

____ 59. Guilty

____ 60. Sad or disappointed

____ 61. Depressed

____ 62. Tired or exhausted

____ 63. Lonely, isolated, or abandoned

____ 64. Trapped or helpless

____ 65. Discouraged or hopeless

____ 66. Confused

____ 67. Emotionally empty or numb

68. On average, during times when you have self-injured, how long have you thought about self-injury before engaging in it? (Please circle response.)

0) 0 seconds
1) 1-60 seconds
2) 2-15 minutes
3) 16-60 minutes
4) less than one day
5) 1-2 days
6) more than 2 days
7)other amount of time

67. **Before you ever engaged in self-injury**, how many of your friends or people you know, to your knowledge, engaged in self-injury? _____

68. **Since the first time you engaged in self-injury,** how many of your friends have engaged in self-injury? _____

69. During times when you have self-injured, have you been alone?

1	**2**	**3**	**4**
No, never	Yes, 1-2 times	Yes, occasionally	Yes, typically

70. During times when you have self-injured, have you told anyone before doing so?

1	**2**	**3**	**4**
No, never	Yes, 1-2 times	Yes, occasionally	Yes, typically

71. During times when you have self-injured, have you told anyone afterward?

1	**2**	**3**	**4**
No, never	Yes, 1-2 times	Yes, occasionally	Yes, typically

72. During times when you have self-injured, have you also been under the influence of drugs or alcohol?

1	**2**	**3**	**4**
No, never	Yes, 1-2 times	Yes, occasionally	Yes, typically

73. During times when you have self-injured, have you experienced pain?

1	**2**	**3**	**4**
No, never	Yes, 1-2 times	Yes, occasionally	Yes, typically

2. Depression Anxiety Stress Scales (DASS)

Please read each statement and circle a number 0, 1, 2 or 3 that indicates how much the statement applied to you *over the past week*. There are no right or wrong answers. Do not spend too much time on any statement.

The rating scale is as follows:

0 Did not apply to me at all
1 Applied to me to some degree, or some of the time
2 Applied to me to a considerable degree, or a good part of time
3 Applied to me very much, or most of the time

1	I found myself getting upset by quite trivial things	0	1	2	3
2	I was aware of dryness of my mouth	0	1	2	3
3	I couldn't seem to experience any positive feeling at all	0	1	2	3
4	I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)	0	1	2	3
5	I just couldn't seem to get going	0	1	2	3
6	I tended to over-react to situations	0	1	2	3
7	I had a feeling of shakiness (eg, legs going to give way)	0	1	2	3
8	I found it difficult to relax	0	1	2	3
9	I found myself in situations that made me so anxious I was most relieved when they ended	0	1	2	3
10	I felt that I had nothing to look forward to	0	1	2	3
11	I found myself getting upset rather easily	0	1	2	3
12	I felt that I was using a lot of nervous energy	0	1	2	3
13	I felt sad and depressed	0	1	2	3
14	I found myself getting impatient when I was delayed in any way (e.g., elevators, traffic lights, being kept waiting)	0	1	2	3
15	I had a feeling of faintness	0	1	2	3
16	I felt that I had lost interest in just about everything	0	1	2	3
17	I felt I wasn't worth much as a person	0	1	2	3
18	I felt that I was rather touchy	0	1	2	3
19	I perspired noticeably (eg, hands sweaty) in the absence of high temperatures or physical exertion	0	1	2	3
20	I felt scared without any good reason	0	1	2	3
21	I felt that life wasn't worthwhile	0	1	2	3

DASS (Continued)

Reminder of rating scale:
0 Did not apply to me at all
1 Applied to me to some degree, or some of the time
2 Applied to me to a considerable degree, or a good part of time
3 Applied to me very much, or most of the time

22	I found it hard to wind down	0	1	2	3
23	I had difficulty in swallowing	0	1	2	3
24	I couldn't seem to get any enjoyment out of the things I did	0	1	2	3
25	I was aware of the action of my heart in the absence of physical exertion (e.g., sense of heart rate increase, heart missing a beat)	0	1	2	3
26	I felt down-hearted and blue	0	1	2	3
27	I found that I was very irritable	0	1	2	3
28	I felt I was close to panic	0	1	2	3
29	I found it hard to calm down after something upset me	0	1	2	3
30	I feared that I would be "thrown" by some trivial but unfamiliar task	0	1	2	3
31	I was unable to become enthusiastic about anything	0	1	2	3
32	I found it difficult to tolerate interruptions to what I was doing	0	1	2	3
33	I was in a state of nervous tension	0	1	2	3
34	I felt I was pretty worthless	0	1	2	3
35	I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
36	I felt terrified	0	1	2	3
37	I could see nothing in the future to be hopeful about	0	1	2	3
38	I felt that life was meaningless	0	1	2	3
39	I found myself getting agitated	0	1	2	3
40	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
41	I experienced trembling (e.g., in the hands)	0	1	2	3
42	I found it difficult to work up the initiative to do things	0	1	2	3

3. McLean Screening Instrument for Borderline Personality Disorder (MSI-BPD)

Please rate how much each of the following statements are accurate about you. Mark your answers in the column to the right, using the following rating scale:

0	1	2	3
False, not at all true	Slightly true	Mainly true	Very true

		Rating:
1	Some of my closest relationships been troubled by a lot of arguments or repeated breakups.	
2	I have deliberately hurt myself physically (e.g., punched myself, cut myself, burned myself).	
3	I have made a suicide attempt.	
4	I have engaged in impulsive…	
	a) binge eating.	
	b) spending sprees.	
	c) excessive drinking.	
	d) verbal outbursts.	
5	I have been extremely moody.	
6	I have felt very angry a lot of the time.	
7	I have often acted in an angry or sarcastic manner.	
8	I have often been distrustful of other people.	
9	I have frequently felt unreal or as if things around me were unreal.	
10	I have chronically felt empty.	
11	I have often felt that I had no idea who I am.	
12	I have often felt that I have no identity.	
13	I have made desperate efforts to avoid feeling abandoned or being abandoned by:	
	a) repeatedly calling someone to reassure myself that he or she still cared.	
	b) begging them not to leave me.	
	c) clinging to them physically.	
	d) threatening to hurt them or myself.	
	e) engaging in behavior that I really didn't want to do (e.g., having sex even though I didn't feel like it).	

	f) blackmailing the person (e.g., threatening to tell parents/significant other about his/her past behavior).	
14	I show my feelings for everyone to see.	
15	Giving in to some of my urges gets me into trouble.	
16	I get into very intense relationships that don't last.	
17	I've never threatened suicide or injured myself on purpose.	
18	I often feel "empty" inside.	
19	I have tantrums or angry outbursts.	
20	I'm very moody.	
21	When I'm under stress, things around me don't seem real.	
22	I go to extremes to try to keep people from leaving me.	
23	I've never injured myself on purpose (e.g., cut myself, burned myself).	
24	I've never attempted suicide.	

4. Dissociative Experiences Scale (DES-II)

Name _____ **Date** _____ **Age** _____ **Sex** _____

Directions: This questionnaire consists of twenty-eight questions about experiences that you may have in your daily life. We are interested in how often you have these experiences. It is important, however, that your answers show how often these experiences happen to you when you **are not** under the influence of alcohol or drugs. To answer the questions, please determine to what degree the experience described in the question applies to you and circle the number to show what percentage of the time you have the experience.

Example:

0% (never) 10 20 30 40 (50) 60 70 80 90 100% (always)

1. Some people have the experience of driving a car and suddenly realizing that they don't remember what has happened during all or part of the trip. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

2. Some people find that sometimes they are listening to someone talk and they suddenly realize that they did not hear all or part of what was said. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

3. Some people have the experience of finding themselves in a place and having no idea how they got there. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

4. Some people have the experience of finding themselves dressed in clothes that they don't remember putting on. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

5. Some people have the experience of finding new things among their belongings that they do not remember buying. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

6. Some people sometimes find that they are approached by people that they do not know who call them by another name or insist that they have met them before. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

7. Some people sometimes have the experience of feeling as though they are standing next to themselves or watching themselves do something as if they were looking at another person. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

8. Some people are told that they sometimes do not recognize friends or family members. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

9. Some people find that they have no memory for some important events in their lives (for example, a wedding or graduation). Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

10. Some people have the experience of being accused of lying when they do not think that they have lied. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

11. Some people have the experience of looking in a mirror and not recognizing themselves. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

12. Some people sometimes have the experience of feeling that other people, objects, and the world around them are not real. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

13. Some people sometimes have the experience of feeling that their body does not belong to them. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

DES-II (continued)

14. Some people have the experience of sometimes remembering a past event so vividly that they feel as if they were reliving that event. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

15. Some people have the experience of not being sure whether things that they remember happening really did happen or whether they just dreamed them. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

16. Some people have the experience of being in a familiar place but finding it strange and unfamiliar. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

17. Some people find that when they are watching television or a movie they become so absorbed in the story that they are unaware of other events happening around them. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

18. Some people sometimes find that they become so involved in a fantasy or daydream that it feels as though it were really happening to them. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

19. Some people find that they are sometimes able to ignore pain. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

20. Some people find that they sometimes sit staring off into space, thinking of nothing, and are not aware of the passage of time. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

21. Some people sometimes find that when they are alone they talk out loud to themselves. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

22. Some people find that in one situation they may act so differently compared with another situation that they feel almost as if they were different people. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

23. Some people sometimes find that in certain situations they are able to do things with amazing ease and spontaneity that would usually be difficult for them (for example, sports, work, social situations, etc.). Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

24. Some people sometimes find that they cannot remember whether they have done something or have just thought about doing that thing (for example, not knowing whether they have just mailed a letter or have just thought about mailing it). Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

25. Some people find evidence that they have done things that they do not remember doing. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

26. Some people sometimes find writings, drawings, or notes among their belongings that they must have done but cannot remember doing. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

27. Some people find that they sometimes hear voices inside their head that tell them to do things or comment on things that they are doing. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

28. Some people sometimes feels as if they are looking at the world through a fog so that people or objects appear far away or unclear. Circle a number to show what percentage of the time this happens to you.

0% 10 20 30 40 50 60 70 80 90 100%

5. Risk-Taking Scale of the Risk-Taking and Self-Harm Inventory for Adolescents (RTSHIA)

Instructions: This questionnaire asks about a number of different things that young people sometimes do. Please do not be concerned if some statements seem unusual. They are included to provide us with greater understanding and knowledge about these behaviors and the best way to help young people.

• If a statement is not applicable to you, please circle Never.

• Please try to answer as truthfully as possible.

1	2	3	4
Never	Once	More than once	Many times

1. Have you ever put yourself in a risky situation (such as classroom cheating, shoplifting, etc.) knowing that you may get caught?	
2. Have you ever been suspended or dropped out of school?	
3. Have you ever stayed out late at night without your parents knowing where you are?	
4. Have you ever participating in gang violence or physical fights or held a weapon?	
5. Have you ever been promiscuous (i.e., had many sexual partners within a short period of time)?	
6. Have you ever had so much alcohol that you were really drunk?	
7. Have you ever used drugs (such as marijuana, cocaine, LSD, etc.)?	
8. Have you ever smoked tobacco?	

6. Affect Lability Scale (ALS)

Instructions: This questionnaire is designed to find out about people's moods. Using the scale below select the letter that best describes how descriptive each item is of you

Very characteristic of me, extremely descriptive	Rather characteristic of me, quite descriptive	Rather uncharacteristic of me, quite undescriptive	Very uncharacteristic of me, extremely undescripive
A	B	C	D

1. My sleeping patterns shift from times when I sleep perfectly well to times when I have insomnia and can't sleep well at all. _____

2. There are times when I feel very restless and then shortly afterwards I will not feel very restless at all _____

3. There are times when I am so nervous that I feel light-headed and/or dirty and then soon afterwards I feel so sad that I have difficulty getting motivated to do anything _____

4. I frequently shift back and forth between worrying more than other people And not worrying much more than anyone else. _____

5. At times I feel just as relaxed as everyone else and then within minutes I Become so nervous that I feel light-headed and dizzy. _____

6. There are times when I get very involved in activities which I later regret and which I quickly lose interest in _____

7. I switch back and forth between being more talkative than usual and having only a normal amount of interest in talking _____

8. There are times when I have very little energy and then soon afterwards I have about the same energy level as most people _____

9. I find that my enjoyment in my daily activities frequently change from times when I enjoy these daily activities to other times when I couldn't care less about these activities _____

10. There are times when all I can think about is how worthless I am and then very soon afterwards all I can think about are the things that I am worried about. _____

11. My sleeping habits frequently shift from times when I could sleep all day long to time when I do not have much of a need to sleep at all _____

ALS (continued)

12 One minute I can be feeling O.K. and the next minute I'm tense, jittery, and nervous _____

13 Sometimes I feel guilty about things and then suddenly they stop bothering me _____

14 I frequently switch from being able to control my temper very well to not being able to control it very well at all. _____

15 It's very common for me to be extremely angry about something and then to suddenly feel like my normal self. _____

16 Many times I feel very nervous and tense and then I suddenly feel very sad and down. _____

17. Sometimes I go from feeling extremely anxious about something to feeling very down about it. _____

18. My mood shifts rapidly from times when I feel about Average to times when I could laugh and joke all day long _____

19 There are times when I feel moderately optimistic about the future and then shortly afterwards I feel quite pessimistic about the future and what it will bring. _____

20. I shift back and forth from feeling perfectly calm to feeling uptight and nervous _____

21. There are times when I feel perfectly calm one minute and then the next minute the least little things makes me furious. _____

22. I shift back and forth between feeling depressed and "down in the dumps" to feeling "on edge" and miserable. _____

23. Frequently, I will be feeling O.K. but then I suddenly get so mad that I could hit something. _____

24. I switch back and forth between a great deal of interest in sexual activities and having very little or no interest in sex _____

25. Sometimes I can think clearly and concentrate well one minute and then the next minute I have a great deal of difficulty concentrating and thinking clearly _____

26. I switch back and forth between being able to sleep perfectly well and being so nervous that I can hardly sleep at all. _____

27. I switch back and forth from wanting to be able to sleep perfectly well and being So nervous that I can hardly sleep at all _____

ALS (continued)

28. There are times when I have felt "on edge" and irritable and other times shortly afterwards when I have felt comfortable and relaxed _____

29. Sometimes I feel depressed one minute and then I shift to feeling elated the next minute. _____

30. There are times when I feel extremely worthless and then suddenly I will start feeling wonderful about myself and my accomplishments _____

31. Sometimes I find myself feeling perfectly O.K. one minute and then the next minute I'll be crying _____

32. My level of optimism shifts frequently from times when I am extremely optimistic to times when I have about the same level of optimism as everyone else. _____

33. There are times when I am so mad that I can barely stop yelling and other times shortly afterwards when I wouldn't think of yelling at all. _____

32. I switch back and forth between being extremely energetic and having so little energy that it's a huge effort just to get where I'm going. _____

35. My mood frequently shifts from feeling O.K. to feeling extremely happy and "on top of the world." _____

35. There are times when I feel absolutely wonderful about myself but soon afterwards I often feel that I am just about the same as everyone else. _____

37. I shift back and forth between worrying about many things and having very little interest in almost anything. _____

38. Sometimes I feel so sad that all I want to do is sleep but then soon afterwards. I might feel so nervous that I can hardly sleep at all. _____

39. My productivity level frequently shifts from time when I am no more productive than anyone else to times when I feel extremely productive _____

40. Appetite frequently changes from times when it's either increased or decreased to times when it's perfectly normal. _____

41. There are times when I'm so mad that my heart starts pounding and/or I start shaking and then shortly afterwards I feel quite relaxed. _____

42. I shift back and forth between being very unproductive and being just as productive as everyone else. _____

Appendix F – Affect Lability Scale (ALS)

Instructions: This questionnaire is designed to find out about people's moods. Using the scale below select the letter that best describes how descriptive each item is of you

Very characteristic of me, extremely descriptive	Rather characteristic of me, quite descriptive	Rather uncharacteristic of me, quite undescriptive	Very uncharacteristic of me, extremely undescriptive
A	B	C	D

1. My sleeping patterns shift from times when I sleep perfectly well to times when I have insomnia and can't sleep well at all. _____

2. There are times when I feel very restless and then shortly afterwards I will not feel very restless at all _____

3. There are times when I am so nervous that I feel light-headed and/or dirty and then soon afterwards I feel so sad that I have difficulty getting motivated to do anything _____

4. I frequently shift back and forth between worrying more than other people And not worrying much more than anyone else. _____

5. At times I feel just as relaxed as everyone else and then within minutes I Become so nervous that I feel light-headed and dizzy. _____

6. There are times when I get very involved in activities which I later regret and which I quickly lose interest in _____

7. I switch back and forth between being more talkative than usual and having only a normal amount of interest in talking _____

8. There are times when I have very little energy and then soon afterwards I have about the same energy level as most people _____

9. I find that my enjoyment in my daily activities frequently change from times when I enjoy these daily activities to other times when I couldn't care less about these activities _____

10. There are times when all I can think about is how worthless I am and then very soon afterwards all I can think about are the things that I am worried about. _____

11. My sleeping habits frequently shift from times when I could sleep all day long to time when I do not have much of a need to sleep at all _____

12 One minute I can be feeling O.K. and the next minute I'm tense, jittery, and nervous _____

13 Sometimes I feel guilty about things and then suddenly they stop bothering me _____

14 I frequently switch from being able to control my temper very well to not being able to control it very well at all. _____

15 It's very common for me to be extremely angry about something and then to suddenly feel like my normal self. _____

16 Many times I feel very nervous and tense and then I suddenly feel very sad and down. _____

17. Sometimes I go from feeling extremely anxious about something to feeling very down about it. _____

18. My mood shifts rapidly from times when I feel about Average to times when I could laugh and joke all day long _____

19 There are times when I feel moderately optimistic about the future and then shortly afterwards I feel quite pessimistic about the future and what it will bring. _____

20. I shift back and forth from feeling perfectly calm to feeling uptight and nervous _____

21. There are times when I feel perfectly calm one minute and then the next minute the least little things makes me furious. _____

22. I shift back and forth between feeling depressed and "down in the dumps" to feeling "on edge" and miserable. _____

23. Frequently, I will be feeling O.K. but then I suddenly get so mad that I could hit something. _____

24. I switch back and forth between a great deal of interest in sexual activities and having very little or no interest in sex _____

25. Sometimes I can think clearly and concentrate well one minute and then the next minute I have a great deal of difficulty concentrating and thinking clearly _____

26. I switch back and forth between being able to sleep perfectly well and being so nervous that I can hardly sleep at all. _____

27. I switch back and forth from wanting to be able to sleep perfectly well and being So nervous that I can hardly sleep at all _____

28. There are times when I have felt "on edge" and irritable and other times shortly afterwards when I have felt comfortable and relaxed _____

29. Sometimes I feel depressed one minute and then I shift to feeling elated the next minute. _____

30. There are times when I feel extremely worthless and then suddenly I will start feeling wonderful about myself and my accomplishments _____

31. Sometimes I find myself feeling perfectly O.K. one minute and then the next minute I'll be crying _____

34. My level of optimism shifts frequently from times when I am extremely optimistic to times when I have about the same level of optimism as everyone else. _____

35. There are times when I am so mad that I can barely stop yelling and other times shortly afterwards when I wouldn't think of yelling at all. _____

33. I switch back and forth between being extremely energetic and having so little energy that it's a huge effort just to get where I'm going. _____

36. My mood frequently shifts from feeling O.K. to feeling extremely happy and "on top of the world." _____

36. There are times when I feel absolutely wonderful about myself but soon afterwards I often feel that I am just about the same as everyone else. _____

39. I shift back and forth between worrying about many things and having very little interest in almost anything. _____

40. Sometimes I feel so sad that all I want to do is sleep but then soon afterwards. I might feel so nervous that I can hardly sleep at all. _____

40. My productivity level frequently shifts from time when I am no more productive than anyone else to times when I feel extremely productive _____

43. Appetite frequently changes from times when it's either increased or decreased to times when it's perfectly normal. _____

44. There are times when I'm so mad that my heart starts pounding and/or I start shaking and then shortly afterwards I feel quite relaxed. _____

45. I shift back and forth between being very unproductive and being just as productive as everyone else. _____

46. Sometimes I feel extremely energetic one minute and then the next minute I might have so little energy that I can hardly do a thing. __

47. I switch back and forth between feeling perfectly calm and feeling some or all of the following: My heart pounding or racing , an upset stomach, or difficulty breathing _____

48. There are times when I have more energy than usual and more than most people and soon afterwards I have about the same energy level as everyone else. _____

40. At times when I feel that I'm doing everything at a very slow pace but then soon afterwards I feel that I'm no more slowed down than anyone else _____

40. I switch back and forth between thinking unusually clearly and very creatively to thinking no more creatively and clearly than anyone else. _____

48. My sleeping patterns frequently shift from times when I have difficulty falling asleep to times when I don't have much of a desire to sleep at all. _____

49. At times I have difficulty thinking or concentrating but then soon afterwards I think a lot about all of the things that I′ m worried about. _____

50. There have been times when I've been so mad that I snap at people all day long but then soon afterwards I have a lot more tolerance for people. _____

51. There are times when I love being with lots of people but then soon afterwards I prefer to be alone and not see anyone. ____

49. Sometimes I feel extremely energetic one minute and then the next minute I might have so little energy that I can hardly do a thing.
_____

50. I switch back and forth between feeling perfectly calm and feeling some or all of the following: My heart pounding or racing , an upset stomach, or difficulty breathing _____

51. There are times when I have more energy than usual and more than most people and soon afterwards I have about the same energy level as everyone else. _____

41. At times when I feel that I'm doing everything at a very slow pace but then soon afterwards I feel that I'm no more slowed down than anyone else _____

41. I switch back and forth between thinking unusually clearly and very creatively to thinking no more creatively and clearly than anyone else. _____

48. My sleeping patterns frequently shift from times when I have difficulty falling asleep to times when I don't have much of a desire to sleep at all. _____

49. At times I have difficulty thinking or concentrating but then soon afterwards I think a lot about all of the things that I′ m worried about. _____

50. There have been times when I've been so mad that I snap at people all day long but then soon afterwards I have a lot more tolerance for people. ___

51. There are times when I love being with lots of people but then soon afterwards I prefer to be alone and not see anyone. ___

Appendix G - Affect Intensity Measure (AIM)

Directions: The following questions refer to the emotional reactions to typical lifeevents. Please indicate how YOU react to these events by placing a number from the following scale in the blank space preceding each item. Please base your answers on how YOU react, not on how you think others react or how you think a person should react.

Never	Almost Never	Occasionally	Usually	Almost Always	Always
1	2	3	4	5	6

1. ____ When I accomplish something difficult I feel delighted or elated.

2. ____ When I feel happy it is a strong type of exuberance.

3. ____ I enjoy being with other people very much.

4. ____ I feel pretty bad when I tell a lie.

5. ____ When I solve a small personal problem, I feel euphoric.

6. ____ My emotions tend to be more intense than those of most people.

7. ____ My happy moods are so strong that I feel like I'm "in heaven."

8. ____ I get overly enthusiastic.

9. ____ If I complete a task I thought was impossible, I am ecstatic.

10. ____ My heart races at the anticipation of some exciting event.

11. ____ Sad movies deeply touch me.

12. ____ When I'm happy it's a feeling of being untroubled and content rather than being zestful and aroused.

13. ____ When I talk in front of a group for the first time my voice gets shaky and my heart races.

14. ____ When something good happens, I am usually much more jubilant than others.

15. ____ My friends might say I'm emotional.

16. ____ The memories I like the most are of those times when I felt content and peaceful rather than zestful and enthusiastic.

17. ____ The sight of someone who is hurt badly affects me strongly.

18. ____ When I'm feeling well it's easy for me to go from being in a good mood to being really joyful.

19. ____ "Calm and cool" could easily describe me.

20. ____ When I'm happy I feel like I'm bursting with joy.

21. ____ Seeing a picture of some violent car accident in a newspaper makes me feel sick to my stomach.

22. ____ When I'm happy I feel very energetic.

23. ____ When I receive an award I become overjoyed.

24. ____ When I succeed at something, my reaction is calm contentment.

25. ____ When I do something wrong I have strong feelings of shame and guilt.

26. ____ I can remain calm even on the most trying days.

27. ____ When things are going good I feel "on top of the world."

28. ____ When I get angry it's easy for me to still be rational and not overreact.

29. ____ When I know I have done something very well, I feel relaxed and content rather than excited and elated.

30. ____ When I do feel anxiety it is normally very strong.

31. ____ My negative moods are mild in intensity.

32. ____ When I am excited over something I want to share my feelings with everyone.

33. ____ When I feel happiness, it is a quiet type of contentment.

34. ____ My friends would probably say I'm a tense or "highstrung" person.

35. ____ When I'm happy I bubble over with energy.

36. ____ When I feel guilty, this emotion is quite strong.

37. ____ I would characterize my happy moods as closer to contentment than to joy.

38. ____ When someone compliments me, I get so happy I could "burst."

39. ____ When I am nervous I get shaky all over.

40. ____ When I am happy the feeling is more like contentment and inner calm than one of exhilaration and excitement.

7. Traumatic Life Events Questionnaire (TLEQ)

The purpose of this questionnaire is to identify important life experiences that can affect a person's emotional well-being or later quality of life. The events listed below are far more common than many people realize. Please read each question carefully and mark the answers that best describe your experience.

1. **Have you ever experienced a natural disaster (a flood, hurricane, earthquake, etc.)?**

   never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____

   If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no
   Were you seriously injured? yes / no
   Was someone you cared about or close by seriously injured or killed? yes / no
   Did you think you or a loved one was in danger of being killed by the disaster? yes / no

2. **Were you involved in a motor vehicle accident for which you received medical attention or that badly injured or killed someone?**

   never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____

   If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no
   Were you seriously injured? yes / no

3. **Have you been involved in any other kind of accident where you or someone else was badly hurt?**
   (examples: a plane crash, a drowning or near drowning, an electrical or machinery accident, an explosion, home fire, chemical leak, overexposure to radiation or toxic chemicals)

   never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____

   If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no
   Were you seriously injured? yes / no

4. **Have you lived, worked, or had military service in a war zone?** yes / no
   If yes, were you ever exposed to warfare or combat? (for example: in the vicinity of a rocket attack or people being fired upon; seeing someone get wounded or killed)

   never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____

   If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no
   Were you seriously injured or wounded? yes / no

5. **Have you experienced the sudden and unexpected death of a close friend or loved one?**

   never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____

   due to **accident**? yes / no **illness**? yes / no **suicide**? yes / no **murder**? yes / no

   If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no

6. **Has a loved one ever survived a life threatening or permanently disabling accident, assault, or illness?**
   (examples: spinal cord injury, rape, cancer, life threatening virus)

   never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____

   If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no

7. **Have you ever had a life threatening illness?**

   never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____

   If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no

8. **Have you been robbed or been present during a robbery--where the robber(s) used or displayed a weapon?**

   never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____

   If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no
   Were you seriously injured? yes / no

9. **Have you ever been hit or beaten up and badly hurt by a stranger or by someone you didn't know very well?**
never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____
If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no
Were you seriously injured? yes / no

10. **Have you seen a stranger (or someone didn't know very well) attack or beat up someone and seriously injure or kill them?**
never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____
If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no

11. **Has anyone threatened to kill you or cause you serious physical harm?**
never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____
stranger? yes / no **friend or acquaintance**? yes / no **relative?** yes / no **intimate partner**? yes / no
If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no

12. While growing up: **Were you physically punished in a way that resulted in bruises, burns, cuts, or broken bones?**
never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____
If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no

13. While growing up: **Did you see or hear family violence?** (such as your father hitting your mother; or any family member beating up or inflicting bruises, burns or cuts on another family member)
never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____
If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no

14. **Have you ever been slapped, punched, kicked, beaten up, or otherwise physically hurt by your spouse (or former spouse), a boyfriend/girlfriend, or some other intimate partner?**
never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____
If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no
Were you seriously injured? yes / no
Has more than one intimate partner physically hurt you? Yes ___ no ___
If yes, how many hurt you? _____

15. Before your 13th birthday: **Did anyone--who was at least 5 years older than you-- touch or fondle your body in a sexual way or make you touch or fondle their body in a sexual way?**
never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____
Was the person a **stranger?** yes / no **friend or acquaintance?** yes / no
parent or caregiver? yes/ no **other relative?** yes / no
Was threat or force used? yes / no **Were you seriously injured**? yes / no
Was there oral, anal, or vaginal penetration? yes / no
If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no

16. Before your 13th birthday: **Did anyone close to your age touch sexual parts of your body or make you touch sexual parts of their body--against your will or without your consent?**
never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____
Was this person a **stranger?** yes / no **friend or acquaintance?** yes / no **relative?** yes / no
Was threat or force used? yes / no **Were you seriously injured?** yes / no
Was there oral, anal, or vaginal penetration? yes / no
If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no

17. After your 13th birthday and before your 18th birthday: **Did anyone touch sexual parts of your body or make you touch sexual parts of their body--against your will or without your consent?**
never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____
stranger? yes / no **friend or acquaintance**? yes / no **relative?** yes / no **intimate partner**? yes / no
Was threat or force used? yes / no **Were you seriously injured**? yes / no
Was there oral, anal, or vaginal penetration? yes / no
If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no

18. After your 18th birthday: **Did anyone touch sexual parts of your body or make you touch sexual parts of their body--against your will or without your consent?**
never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____
stranger? yes / no **friend or acquaintance**? yes / no **relative?** yes / no **intimate partner**? yes / no
Was threat or force used? yes / no **Were you seriously injured**? yes / no
Was there oral, anal, or vaginal penetration? yes / no
If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no

19. **Were you ever subjected to uninvited or unwanted sexual attention?**
(***other than*** sexual contact covered by items 15, 16, 17, or 18)
(examples: touching, cornering, pressure for sexual favors, verbal remarks) Yes / No
never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____
stranger? yes / no **friend or acquaintance**? yes / no **relative?** yes / no **supervisor/coworker**? yes / no
If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no

20. **Has anyone stalked you--**in other words: **followed you or kept track of your activities--causing you to feel intimidated or concerned for your safety?**
never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____
stranger? yes / no **friend or acquaintance**? yes / no **relative?** yes / no **intimate partner**? yes / no
If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no

21. **Have you or a romantic partner ever had a miscarriage?**
never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____
If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no
Did it (ever) happen after you were physically injured? yes / no

22. **Have you or a romantic partner ever had an abortion?**
never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____
If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no

23. **Have you experienced (or seen) any other events that were life threatening, caused serious injury, or were highly disturbing or distressing?** (examples: lost in the wilderness; a serious animal bite; violent death of a pet; being kidnapped or held hostage; seeing a mutilated body or body parts)
never____ once____ twice____ 3 times____ 4 times____ 5 times____ more than 5 times____
Please describe:_____
_____
If this happened: Did you experience intense fear, helplessness, or horror when it happened? yes / no
Were you seriously injured? yes / no

24. **The events listed below correspond to items #1 to #23 on this questionnaire. If any of these events happened to you, CIRCLE the number of the *ONE* event (only 1) that CAUSES YOU THE MOST DISTRESS?**

1. Natural disaster	9. Assaulted by acquaintance/stranger	17. As a teen: unwanted sexual contact
2. Motor vehicle accident	10. Witnessed severe assault to acquaintance/stranger	18. As an adult: unwanted sexual contact
3. "Other" kind of accident	11. Threatened with death/serious harm	19. Sexual harassment
4. Combat or warfare	12. Growing up: witnessed family violence	20. Stalked
5. Sudden death friend/loved one	13. Growing up: physically punished	21. Miscarriage
6. Life-threatening/disabling event to loved one	14. Physically hurt by intimate partner	22. Abortion
7. Life threatening illness	15. Before 13: sexual contact--someone 5 years older	23. Some "other" traumatic event
8. Robbery/weapon used	16. Before 13: unwanted sexual contact	24. None of these events happened to me

(a) When did this event (first) occur? (your age or date): _____

(b) When did this event last occur? (try to be precise e.g., year, month, day): _____

(c) **How much distress** (anxiety, worry, sadness, frustration, or grief) **does this event cause you?** (*Circle the best answer*)

None happened to me	No Distress	Slight Distress	Moderate Distress	Considerable Distress	Extreme Distress

8. **Childhood Trauma Questionnaire (CTQ)**

Instructions: Next to each event listed below, please **circle** the number that corresponds to how often that event occurred or was true when you were growing up.
Use the following scale to choose your answers:

1	2	3	4	5
Never True	Rarely True	Sometimes True	Often True	Very Often True

When I was growing up…

1. I didn't have enough to eat.	1 2 3 4 5
2. I knew that there was someone to take care of me and protect me.	1 2 3 4 5
3. People in my family called me things like "stupid," "lazy," or "ugly."	1 2 3 4 5
4. My parents were too drunk or high to take care of the family.	1 2 3 4 5
5. There was someone in my family who helped me feel that I was important or special.	1 2 3 4 5
6. I had to wear dirty clothes.	1 2 3 4 5
7. I felt loved.	1 2 3 4 5
8. I thought that my parents wished I had never been born.	1 2 3 4 5
9. I got hit so hard by someone in my family that I had to see a doctor or go to the hospital.	1 2 3 4 5
10. There was nothing I wanted to change about my family.	1 2 3 4 5
11. People in my family hit me so hard that it left me with bruises or marks.	1 2 3 4 5
12. I was punished with a belt, a board, a cord, or some other hard object.	1 2 3 4 5
13. People in my family looked out for each other.	1 2 3 4 5
14. People in my family said hurtful or insulting things to me.	1 2 3 4 5
15. I believe that I was physically abused.	1 2 3 4 5
16. I had the perfect childhood.	1 2 3 4 5

CTQ (continued)

1	2	3	4	5
Never True	Rarely True	Sometimes True	Often True	Very Often True

When I was growing up…

17. I got hit or beaten so badly that it was noticed by someone like a teacher, neighbor, or doctor.	1 2 3 4 5
18. I felt that someone in my family hated me.	1 2 3 4 5
19. People in my family felt close to each other.	1 2 3 4 5
20. Someone tried to touch me in a sexual way, or tried to make me touch them.	1 2 3 4 5
21. Someone threatened to hurt me or tell lies about me unless I did something sexual with them.	1 2 3 4 5
22. I had the best family in the world.	1 2 3 4 5
23. Someone tried to make me do sexual things or watch sexual things.	1 2 3 4 5
24. Someone molested me.	1 2 3 4 5
25. I believed that I was emotionally abused.	1 2 3 4 5
26. There was someone to take me to the doctor if I needed it.	1 2 3 4 5
27. I believe that I was sexually abused.	1 2 3 4 5
28. My family was a source of strength and support.	1 2 3 4 5

9. PTSD Checklist (PCL)

PCL-C

INSTRUCTIONS: Below is a list of problems and complaints that people sometimes have in response to stressful life experiences. Please read each one carefully, then circle one of the numbers to the right to indicate how much you have been bothered by that problem in the past month.

		Not at all	A little bit	Moderately	Quite a bit	Extremely
1.	Repeated, disturbing *memories, thoughts,* or *images* of a stressful experience from the past?	1	2	3	4	5
2.	Repeated, disturbing *dreams* of a stressful experience from the past?	1	2	3	4	5
3.	Suddenly *acting* or *feeling* as if a stressful experience *were happening again* (as if you were reliving it)?	1	2	3	4	5
4.	Feeling *very upset* when *something reminded you* of a stressful experience from the past?	1	2	3	4	5
5.	Having *physical reactions* (e.g., heart pounding, trouble breathing, sweating) when *something reminded you* of a stressful experience from the past?	1	2	3	4	5
6.	Avoiding *thinking about* or *talking about* a stressful experience from the past or avoiding *having feelings* related to it?	1	2	3	4	5
7.	Avoiding *activities* or *situations* because *they reminded you* of a stressful experience from the past?	1	2	3	4	5
8.	Trouble *remembering important parts* of a stressful experience from the past?	1	2	3	4	5
9.	*Loss of interest* in activities that you used to enjoy?	1	2	3	4	5
10.	Feeling *distant* or *cut off* from other people?	1	2	3	4	5
11.	Feeling *emotionally numb* or being unable to have loving feelings for those close to you?	1	2	3	4	5
12.	Feeling as if your *future* will somehow be *cut short*?	1	2	3	4	5
13.	Trouble *falling* or *staying asleep*?	1	2	3	4	5
14.	Feeling *irritable* or having *angry outbursts*?	1	2	3	4	5
15.	Having *difficulty concentrating*?	1	2	3	4	5
16.	Being "*super-alert*" or watchful or on guard?	1	2	3	4	5
17.	Feeling *jumpy* or easily startled?	1	2	3	4	5

PCL-C for DSM-IV (11/1/94) Weathers, Litz, Huska, & Keane National Center for PTSD - Behavioral Science Division