NIH-PA Author Manuscript

Emotions and Suicidal Ideation among Depressed Women with Childhood Sexual Abuse Histories

SUNGEUN YOU, PHD,
Department of Psychology, Chungbuk National University, Cheongju, Chungbuk, South Korea

NANCY L. TALBOT, PHD,
Department of Psychiatry, University of Rochester Medical Center, Rochester, NY, USA

HUA HE, PHD, and
Department of Biostatistics and Computational Biology, University of Rochester Medical Center, Rochester, NY, USA

KENNETH R. CONNER, PSYD, MPH
Department of Psychiatry, University of Rochester Medical Center, Rochester, NY, and Canandaigua Veterans Administration Center of Excellence, Canandaigua, NY, USA

Abstract

Depressed women with sexual abuse histories have a heightened risk of suicidal ideation (SI), which may be only in part attributable to psychiatric symptoms of depression and posttraumatic stress disorder (PTSD). Emotions and SI were studied among 106 women with histories of childhood sexual abuse enrolled in treatment trials for major depression. Assessments were conducted at baseline, 10, 24, and 36 weeks. Sadness, guilt, and shame-proneness were associated with self-reported and observer-rated SI across time after adjusting for depressive and PTSD symptoms, suicide attempt history, and sociodemographic characteristics associated with SI. These findings highlight the need for clinical attention to self-directed negative emotions to potentially reduce suicide-related risk.

The co-occurrence of major depression and childhood sexual abuse is common among women (Kendler et al., 2000; MacMillan et al., 2001) and is particularly prevalent among women obtaining psychiatric treatment (Pribor & Dinwiddie, 1992). Childhood sexual abuse has consistently been shown to be associated with increased risk of suicidal thoughts and behavior (Molnar, Berkman, & Buka, 2001; Romans, Martin, Anderson, Herbison, & Mullen, 1995). Among women with major depression, those who have been sexually abused as a child are at greater risk for suicidal behavior than those who have not (Gladstone et al., 2004). Although suicidal ideation (SI) does not carry the acute risk for injury or death that accompanies suicide attempts, SI is of great clinical significance because it is a potent risk factor for subsequent suicide attempts (Prinstein et al., 2008) and suicide (Brown, Beck, Steer, & Grisham, 2000). Moreover, experiences of SI may serve to increase one's capability for suicidal behavior (Joiner, 2005). Because SI precedes suicidal behavior and may increase the capability for suicidal behavior, the identification of modifiable risk factors for SI is critical to the development of effective treatments to prevent or reduce SI, and to prevent transitions from SI to suicidal behavior (Kessler, Borges, & Walters, 1999; Mann et al., 2005).

Address correspondence to Nancy Talbot, Department of Psychiatry, University of Rochester Medical Center, Rochester, NY 14620; nancy_talbot@urmc.rochester.edu.

The role of psychiatric symptoms, including depression and posttraumaticstress disorder (PTSD), in the etiology of SI and suicidal behavior among depressed women and other high-risk groups has been intensively examined (Kessler et al., 1999; Oquendo et al., 2003; Oquendo et al., 2005; Rudd, Dahm, & Rajab, 1993). However, psychiatric symptoms of depression, PTSD, and related disorders alone do not fully account for the elevated risk for suicidal behavior among high-risk populations (Mann, Waternaux, Haas, & Malone, 1999), including sexually abused women (Molnar et al., 2001). Thus, additional factors require investigation to better understand the occurrence of SI among women experiencing major depression, those with sexual abuse histories, and other high-risk groups.

Suicide theorists have suggested the central role of emotions in suicidal thoughts and behavior (Baumeister, 1990; Lester, 1997; Lewis, 1992; Mokros, 1995; Shneidman, 1993). Baumeister (1990) emphasized the role of emotions when he postulated that escape from aversive self-awareness and negative emotional states is a central motive for suicide. Shneidman (1993) viewed suicide as a consequence of a range of negative emotions such as despair, grief, shame, guilt, hopelessness, loneliness, fear, humiliation, and disgrace. Other theorists have more pointedly focused on the role of shame in suicidal behavior (Lester, 1997; Lewis, 1992; Mokros, 1995). Interestingly, shame and guilt among other negative emotions are associated with elevated psychological distress among sexually abused women (Gamble et al., 2006; Kallstrom-Fuqua, Weston, & Marshall, 2004; Talbot, Talbot, & Tu, 2004; Whiffen & MacIntosh, 2005), yet the role of emotions in the SI of women with sexual abuse histories has not been systematically investigated.

Empirical research on the role of emotions in suicidal thoughts and behavior is scant. A few previous studies in other populations have retrospectively examined the links between emotions and past suicidal behavior, and found associations between suicide attempts and anger-hostility, guilt, and lack of positive emotions (Seidlitz, Conwell, Duberstein, Cox, & Denning, 2001). Associations have also been found between SI and a range of negative emotions about the self such as despair, shame, and self-loathing (Everall, Bostik, & Paulson, 2006). However, measurements of emotions in these studies were somewhat limited because they were obtained with subscales of a personality measure (Seidlitz et al., 2001) or subjective self-descriptions (Everall et al., 2006). Thus, the use of a more refined measure tied to emotion theory is needed. Another important consideration that has not been examined in previous studies is potential confounding effects of psychiatric symptoms in the association between emotions and SI. Because certain emotions may be more likely than others to co-occur with symptoms of depression (Carey, Carey, & Kelly, 1997; Carey, Finch, & Carey, 1991) and anxiety (Etkin & Wager, 2007), it is potentially more informative to examine the relationships of emotions with SI over and above the severity of psychiatric symptoms.

In this study, we approached the study of emotional experiences within the framework of differential emotions theory (DET; Izard, 1977, 1989), which postulates twelve basic emotions that are either innate or learned: joy, enjoyment, surprise, sadness, anger, disgust, contempt, fear, guilt, shame, shyness, and inner-directed hostility. According to this theory, each discrete emotion is linked to a unique motivational state that influences a pattern of cognition and behavior. For example, joy motivates affiliation and sharing; fear motivates escape or avoidance; anger enhances defensive motives that may trigger aggressive thoughts and behavior toward the source of frustration or provocation; and shame motivates negative self-awareness and acts of concealment. In DET, emotions are either temporal states in the face of a specific situation or, if frequently recurring, temporally stable trait-like schemas (Izard, 2009).

Although basic emotions in DET were mostly derived from empirical studies of facial expressions, this theory, along with other those of emotion theorists (e.g., Tangney, Stuewig, & Mashek, 2007), posits that certain emotions are acquired through socialization and closely related to self-concept. Tangney et al. referred to shame and guilt as "self-conscious emotions" and anger, contempt, and disgust as "other-focused moral emotions." While the discrete emotion of guilt focuses on negative evaluations of one's behavior, shame is characterized by pervasive, painful, negative evaluations of the self and the desire to hide the self from others (Lewis, 1971; Morrison, 1989; Nathanson, 1987). Previous research showed that a combination of shame, shyness, and innerdirected hostility comprised a common factor, which was compatible with the conceptualization of shame as "global negative emotions about the self." We have labeled this "shame-proneness" (Talbot et al., 2004).

Using multiwave longitudinal data, the present study we examined the association of SI and emotions derived from the DET among treatment-seeking women with major depression and childhood sexual abuse histories. Consistent with the conceptualization of emotions into basic and more general domains (Izard, Libero, Putnam, & Haynes, 1993; Watson & Clark, 1997), we examined the association between SI and discrete emotions as well as two general factors of positive and negative emotionality. Given the high potential for sexual abuse to induce shame-related emotions (Feiring & Taska, 2005), we also examined shame-proneness (Talbot et al., 2004), a combination of the three discrete emotions of shame, shyness, and innerdirected hostility. We were particularly interested in the strength of these associations after adjusting for psychiatric symptoms of depression and PTSD. Along with these psychiatric symptoms, we also adjusted for suicide attempt history and sociodemographic variables associated with SI, including age, education, and live-in partner–marital status (Kessler, Berglund, Borges, Nock, & Wang, 2005; Nock et al., 2008). We hypothesized that emotions closely related to self-consciousness or self-concept ("self-conscious emotions"), such as guilt and shame-proneness, a composite of shame, shyness, and inner-directed hostility, would be associated with SI. We also hypothesized that general factors of negative emotions and lack of positive emotions would be associated with SI after controlling for psychiatric symptoms.

METHODS

Procedure

All study procedures were approved by the institutional review board of the University of Rochester Medical Center. Participants were recruited for an uncontrolled pilot study (N = 36) of interpersonal psychotherapy (IPT; Klerman, Weissman, Rounsaville, & Chevron, 1984; Stuart & Robertson, 2003) and a randomized controlled trial (N = 70) of IPT compared to treatment as usual among depressed women with a history of childhood sexual abuse. Participants from the two trials were combined because our aim was to examine the association of SI and emotions within and across subjects over time rather than to examine associations that are specific to a particular treatment modality. Women who sought treatment in a community mental health center from 2003 to 2006 were screened for study eligibility on the basis of two major criteria: a history of childhood sexual abuse and presence of depressive symptoms. Of the 1,080 women screened, 163 (15.1%) met criteria for possible study eligibility, and 133 women agreed to be contacted by research study staff, representing 81.6% of eligible subjects.

Following an informed consent procedure, a trained research assistant administered the Structured Clinical Interview for *DSM-IV-TR* Axis I Disorders (SCID-I/P; First, Spitzer, Gibbon, & Williams, 2002) and Characteristics of Childhood Sexual Abuse Interview (Talbot et al., 1999) to determine whether the participant met *DSM-IV* (APA, 1994) criteria

for major depressive disorder and had a history of childhood sexual abuse. A history of childhood sexual abuse was determined by the presence of any unwanted sexual contact, any sexual contact with a family member 5 or more years older than the patient, or physical contact of a sexual nature. Participants with SCID-based assessments of psychosis, schizophrenia, bipolar disorder, and active substance abuse or dependence were excluded from the study. Among the 133 participants, 23 (17.3%) did not meet the inclusion criteria and 4 (3.0%) failed to complete the baseline assessment. The remaining 106 women were assessed at baseline, 10, 24, and 36 weeks.

Participants

The mean age of the 106 participants was 35.0 years (SD = 9.8). Of the sample, 50 (47.2%) subjects identified themselves as White, 44 (41.5%) as African American, and 12 (11.0%) as Hispanic origin. About half of the participants (51.9%) had children under age 17. Of the sample, 42 (39.6%) individuals were single-never married and 21 (19.8%) lived with a partner or spouse. Thirty-two participants (30.2%) reported having less than 12 years of education.

Measures

Suicidal Ideation—SI was assessed using two modes of administration: a self-report measure of SI, the suicide item from the Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996), and an interviewer-administered measure of SI, the suicide item from the Hamilton Rating Scale for Depression (HRSD; Hamilton, 1960). Because SI is rarely observed even in high-risk populations and is frequently conceptualized as a categorical variable (e.g., Conner, Li, Meldrum, Duberstein, & Conwell, 2002), the SI items used in the present study were categorized. The BDI-II suicide item was treated as a binary variable of no ideation (0 = "I don't have any thoughts of killing myself") versus ideation (1/2/3 = "I have thoughts of killing myself but I would not carry them out"/"I would like to kill myself"/"I would kill myself if I had the chance"). Because the HRSD suicide item includes both death ideation and SI, we treated SI from the HRSD as an ordinal variable with three levels of no ideation (0 = absent), death ideation (1 = "Feels life is not worth living"), and SI (2/3/4 = "Wishes she were dead or any thoughts of possible death to self"/"Suicidal ideas or gestures"/" "Attempt at suicide"). Our categorizations of the SI items were guided by Brown's (2000) report that psychiatric patients who scored above 1 on the BDI-II item and above 2 on the HRSD item were 6.9 and 4.9 times, respectively, more likely to commit suicide, demonstrating good predictive validity of both SI items using such cut-offs. Prior research has shown that both items had good concurrent validity, showing moderate to high correlations with other SI measures, such as the Beck Scale for Suicide Ideation (Beck, Brown, & Steer, 1997; Beck & Steer, 1991). The correlation between the BDI-II and HRSD SI items in the present study was high, $r = 0.80$, $p < .01$. The use of SI measures derived using alternative formats (self-report vs. interview) and structures (dichotomous vs. ordinal) in the present sample provided a means to test the robustness of the results.

Emotions—The Differential Emotions Scale-IV (DES-IV; Izard et al., 1993), a 36-item self-report measure, was used to assess basic emotional experiences that are based on DET (Izard, 1977, 1989). The DES-IV includes 12 emotion scales that assess interest, enjoyment, surprise, sadness, anger, disgust, contempt, fear, guilt, shame, shyness, and inner-directed hostility. Each emotion is assessed with three questions on a 5-point scale (0 = *rarely or never*, 1 = *hardly ever*, 3 = *sometimes*, 4 = *often*, and 5 = *very often*). The DES-IV items inquire about the frequency of emotional experiences in the respondent's daily life. As an example, one item on the inner-directed hostility subscale is as follows: "In your daily life, how often do you feel sick about yourself?" The DES-IV has shown good reliability and validity (Izard et al., 1993). Internal consistency coefficients of the DES-IV subscales in the

present study were comparable to Izard and colleagues' findings, ranging from .74 to .82. Izard and colleagues also derived two DES-IV composite scales of positive emotionality (a sum of interest, enjoyment, and surprise) and negative emotionality (a sum of anger, contempt, disgust, fear, guilt, and inner-directed hostility) that were calculated for the current study. A measure of shame-proneness (a sum of shame, shyness, and inner-directed hostility scales) was also derived consistent with the procedures described by Talbot et al. (2004). The positive emotionality scale, however, was not used in the analyses because of low reliability (a .43). Internal consistency coefficients (a) for the negative emotionality and shame-proneness scales in the present sample were .88 and .78, respectively.

Depressive Symptoms—Depressive symptoms were assessed using the BDI-II (Beck et al., 1996), a 21-item self-report measure of the severity of depressive symptoms, and the HRSD (Hamilton, 1960), a 17-item clinical interviewer-rated measure of depressive symptoms. Total sum scores of the BDI-II and HRSD excluding suicidal items were used as covariates in data analysis. Internal consistency coefficients of the BDI-II and HRSD in the present sample were .89 and .64, respectively.

PTSD Symptoms—The Modified PTSD Symptom Scale–Self-Report (MPSS-SR; Falsetti, Resnick, Resick, & Kilpatrick, 1993), a 17-item self-report measure, was used to assess frequency and severity of posttraumatic stress symptoms in the previous 2 weeks. Falsetti et al. reported good reliability and concurrent validity of the MPSS-SR. A total sum score of frequency and severity was used as a covariate in data analysis. Internal consistency of the MPSS-SR in the present sample was .97.

Suicide Attempt History—The lifetime Suicide Attempt Self-Injury Interview (SAS-II; Linehan, Comtois, Brown, Heard, & Wagner, 2006) was administered to assess suicide attempt history. Suicide attempt history was determined by the presence of at least one self-harming behavior with intent to die or ambivalence about intent to die.

Sociodemographic Variables—Analyses were adjusted for age (continuous), living with a spouse–partner (dichotomous), and years of education (dichotomous; <12 years of education vs. other).

Data Analysis—Repeated measures data analysis was conducted using generalized estimating equations (GEE; Liang & Zeger, 1986). Like repeated measures analysis of variance, the GEE takes into account the correlations among multiple observations from the same subject when estimating the effects of the predictors on the outcome variable. In addition, the GEE does not require any distribution assumptions (e.g., normality), making it the optimal approach for the data. We examined whether the missing values are missing completely at random, in which case the observations with missing values can be ignored (Diggle, Heagerty, Liang, & Zeger, 2002). The data met the criteria. Thus, only completely observed responses were used in the analysis.

Each SI variable was regressed on each of the twelve discrete emotion scales and the two composite scales first in unadjusted models, and second in multivariate models adjusting for sociodemographic variables, symptoms of depression and PTSD, and suicide attempt history, yielding fourteen unadjusted and fourteen adjusted models for each SI outcome. Logistic regression was used for the dichotomous BDI-II suicide ideation variable, and ordered logistic regression was used (McCullagh & Nelder, 1989) in which the cumulative category probabilities were modeled with the logit link function for the ordinal HRSD suicide ideation variable. To ensure the independence of measurement between depressive symptoms and SI, when the BDI-II SI item served as the outcome, depressive symptoms

assessed by the HRSD were used as a covariate; when the HRSD SI item served as the outcome, the BDI-II was used as a covariate.

RESULTS

Attrition Analysis

Over the course of four waves (baseline, 10, 24, and 36 weeks), attrition rates were 12.3% (n = 93) at 10 weeks, 17.2% (n = 77) at 24 weeks, and 5.2% (n = 73) at 36 weeks. Women who dropped out of the study before the final assessment (n = 33) were younger as compared to women who completed all four assessments (n = 73), F (1, 104) = 7.72, p < .01. The two groups did not differ in ethnicity, marital status, having a minor child, and years of education. Also, the two groups did not differ at baseline on the severity of depressive symptoms measured by the BDI-II and HRSD, or on PTSD symptoms measured by the MPSS-SR.

Frequency of SI

Frequency data of the BDI-II suicide item indicate that 46.23% (n = 49) of the 106 women at baseline scored 0 (no ideation); 49.06% (n = 52) scored 1 (mild ideation); 4.72% (n = 5) scored 2 (moderate ideation); and none scored 3 (severe ideation). Frequency distributions were similar across the four assessment points. Few women scored more than 2 on the BDI-II item (n = 4 at 10 weeks, 3 at 24 weeks, and 4 at 36 weeks). Frequency data on the HRSD suicide item indicate that 50.94% (n = 54) of the 106 women at baseline scored 0 (no ideation); 27.36% (n = 29) scored 1 (death ideation); 20.75% (n = 22) scored 2 (mild ideation); 0.94% (n = 1) scored 3 (ideation or gestures); and none scored 4 (suicide attempt). Few women scored more than 3 on the HRSD suicide item (n = 2 at 10 weeks, 1 at 24 weeks, and 1 at 36 weeks).

Emotions and SI: Unadjusted Models

As seen in Table 1, unadjusted models show that higher scores on the emotion scales of sadness, anger, disgust, fear, guilt, shame, shyness, and inner-directed hostility increased the odds of having SI as measured by the BDI-II item, while higher scores on the emotion scales of interest and enjoyment decreased the odds of having SI. Higher scores on the composite scales of negative emotionality and shame-proneness significantly increased the odds of having SI. A compatible pattern of statistically significant findings was obtained when SI was measured by the HRSD item.

Emotions and SI: Adjusted Models

Higher scores on the discrete emotion scales of sadness, guilt, shyness, and innerdirected hostility and a composite scale of shame-proneness increased the odds of having SI, after adjustment, as measured by both the BDI-II and the HRSD (Table 1). The discrete emotions of anger and shame and a composite scale of negative emotionality were associated with SI when SI was measured by the BDI-II only. In contrast, disgust, contempt, and fear, as well as interest, enjoyment, and surprise, were not associated with SI after adjustment. For consistency, we used the same covariates in all of the statistical models including three sociodemographic covariates (age, education, and residing with a relationship partner) and three clinical covariates (history of suicide attempt, PTSD symptoms, and depressive symptoms). The percentage of time that a covariate was associated with an outcome at a statistically significant level was as follows: depressive symptoms (93%), history of suicide attempt (32%), PTSD (18%), education (7%), age (0%), and living arrangement (0%). Among these covariates, depressive symptoms generally had the greatest influence on the multivariate results.

DISCUSSION

The study highlights relationships between specific types of emotions and SI among treatment-seeking women with major depression and sexual abuse histories. The novel and clinically significant finding of this study is that certain negative emotions, specifically sadness, and self-conscious emotions were tied to SI. These relationships remained significant even after adjusting for the effects of depression and PTSD symptom severity, suicide attempt history, and sociodemographic characteristics associated with SI. Other types of negative emotions, such as fear, contempt, and disgust, and lack of positive emotions, in contrast, did not have associations with SI after adjustment. Overall, the findings provide strong support for clinical attention to self-conscious negative emotions when working with depressed women with childhood sexual abuse histories presenting with SI.

Our findings provide consistent support for the relevance of shame-proneness to SI, a composite measure that includes content related to shyness and inner-directed hostility, in addition to shame. In contrast, the discrete shame scale was associated with SI when measured by the BDI-II, but not associated with SI when measured by the HRSD, after adjustment for covariates. The inconsistent findings regarding the relation of the discrete subscale of shame to SI in the present study may be because the DES-IV shame subscale alone does not capture the scope of what has been theoretically understood as shame (Lewis, 1971; Morrison, 1989; Nathanson, 1987). In fact, the shame subscale alone may tap into one dimension of shame, which is associated with embarrassment in front of others (e.g., "Feel embarrassed when anybody sees you make a mistake"). Our findings on the role of shame-proneness in SI are consistent with those of a retrospective study (Everall et al., 2006) in which shame, self-loathing, alienation, and personal isolation were associated with SI among adolescents. The importance of a treatment focus on shame-related issues among women who have been sexually abused as children has been discussed, along with difficulty recognizing the issue in therapy sessions because of various disguised manifestations (Talbot, 1996). The results highlight the importance of identifying and addressing shame-related emotions in therapy when working with suicidal women with childhood sexual abuse histories and other shame-inducing traumatic experiences.

Consistent with our findings, guilt has been shown to differentiate depressed patients who died by suicide from depressed controls (McGirr et al., 2007). These data suggest that recognizing and processing guilt is important in reducing suicidal risk among depressed patients. Experiences of guilt are derived from mutual concerns and thoughts related to one's behavior in interpersonal relationships (Baumeister, Stillwell, & Heatherton, 1994), and guilt in the context of traumatic life events can be associated with beliefs related to one's role in the events (Kubany & Watson, 2003). Therapeutic intervention for guilt in the context of interpersonal relationships among women with childhood sexual abuse histories, especially the perception of their role in the abuse, could be a vital focus of treatment when working with this population.

Contrary to our hypotheses, lack of positive emotions, such as interest and enjoyment, were associated with SI in unadjusted models, but not after adjustment for covariates. Inconsistent findings on the association between SI and emotions of anger and general negative emotionality were found depending on whether SI was measured by the BDI-II versus the HRSD. The reason for these inconsistent findings is not clear. It may be due to the discrepancy derived from two different methods of assessing SI and depressive symptoms—self-reported versus observer-rated. At this early stage of study, further investigation of these relationships is required to confirm or disconfirm the relevance of other-directed

negative emotions or low positive emotions to SI or other suicide-related outcomes among depressed women with sexual abuse histories or other high-risk populations.

According to DET, each discrete emotion has a function of motivating specific thoughts or actions (Izard, 1977). The results of our study suggest that intense negative emotions directed at the self are associated with thoughts of taking one's own life. These findings are consistent with the theory that intense negative emotions about the self could lead to ideas of concealing one's self through suicidal acts. Directionality of effect cannot be assumed from these correlational data. An alternative explanation could be that the presence of suicide ideation provoked negative emotions about the self.

The current study has notable strengths. First, emotions and SI were assessed at multiple time points, and thus the data represent within and between subject variations. The multiwave data, along with the use of the GEE, provide evidence for the persistence of the relationship of emotion to SI over time. Second, the study focuses on women with major depression and sexual abuse histories, a group whose high risk for suicide and suicidal behavior could have been ascribed solely to psychiatric symptoms, especially depression and trauma-related symptoms. By examining the association between emotions and SI after controlling for psychiatric factors, we were able to ascertain a critical role for self-conscious negative emotions in relation to suicide risk. Finally, this is the first study examining the role of emotions in SI using a theoretically based measure of discrete emotions, which strengthens our assessment.

Limitations of the study should be acknowledged. Assessments of SI were based on single items. However, excepting the discrete scale of shame of the DES-IV, results converged across two different measures of SI, self-report and interview-based assessment, thereby strengthening our confidence in the reliability of the outcomes. The generalizability of findings to other clinical populations or men is unclear. The predictive validity of the emotion measures for suicide attempts or suicide is also unclear. The spacing between assessments was longer than is optimal for the study of emotions, which may change rapidly. Limited statistical power because of the moderate sample size rules out examining variables that may moderate the association of emotions and SI and requires caution in the interpretation of statistically nonsignificant results. We chose not to make a correction for multiple tests; available procedures can be overly conservative (Benjamini & Hochberg, 1995). Given the sparse research on emotions in suicide ideation, we view this study as novel and exploratory rather than confirmatory. The statistical approach that we selected is appropriate for hypothesis generation, which is critical at this early state of research. Further studies with larger samples, the use of more closely spaced assessments, inclusion of more detailed measures of SI that would allow for assessment on a continuum of severity, and examinations of suicidal behavior are needed.

This study provides unique insights into the relationships of emotions and SI after adjusting for psychiatric symptoms among depressed women with sexual abuse histories, which have clinical implications for the treatment of these high-risk patients. In the course of psychotherapy with this patient population, episodic suicide ideation is a not uncommon and troubling clinical challenge that appears to be specifically linked to patients' negative emotions about the self. Accordingly, patients' shame-proneness and guilt may be a signal linked to suicide ideation, and should be considered as an important therapeutic target to avert suicidal behavior.

Acknowledgments

REFERENCES

American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 4th ed.. Author; Washington, DC: 1994.

Baumeister RF. Suicide as escape from self. Psychological Review. 1990; 97:90–113. [PubMed: 2408091]

Baumeister RF, Stillwell AM, Heatherton TF. Guilt: An interpersonal approach. Psychological Bulletin. 1994; 115:243–267. [PubMed: 8165271]

Beck AT, Brown GK, Steer RA. Psychometric characteristics of the Scale for Suicide Ideation with psychiatric outpatients. Behavior Research and Therapy. 1997; 35:1039–1046.

Beck, AT.; Steer, RA. Manual for the Beck Scale for Suicide Ideation. Psychological Corporation; San Antonio, TX: 1991.

Beck, AT.; Steer, RA.; Brown, GK. Manual for Beck Depression Inventory-II. Psychological Corporation; San Antonio, TX: 1996.

Benjamini Y, Hochberg Y. Controlling the false discovery rate: A practical and powerful approach to multiple testing. Journal of the Royal Statistical Society: Series B. 1995; 57:289–300.

Brown, GK. A review of suicide assessment measures for intervention research with adults and older adults. National Institute of Mental Health; Bethesda, MD: 2000. Technical report submitted to NIMH under Contract No. 263-MH914950

Brown GK, Beck AT, Steer R, Grisham JR. Risk factors for suicide in psychiatric outpatients: A 20-year prospective study. Journal of Consulting and Clinical Psychology. 2000; 68:371–377. [PubMed: 10883553]

Carey TC, Carey M, Kelly ML. Differential emotions theory: Relative contribution of emotion, cognition, and behavior to the prediction of depressive symptomatology in non-referred adolescents. Journal of Clinical Psychology. 1997; 53:25–34. [PubMed: 9120029]

Carey TC, Finch AJ, Carey M. Relation between differential emotions and depression in emotionally disturbed children and adolescents. Journal of Consulting and Clinical Psychology. 1991; 59:594–597. [PubMed: 1918564]

Conner KR, Li Y, Meldrum S, Duberstein PR, Conwell Y. The role of drinking in suicidal ideation: Analyses of Project MATCH data. Journal of Studies on Alcohol. 2002; 64:402–408. [PubMed: 12817830]

Diggle, PJ.; Heagerty, P.; Liang, KY.; Zeger, SL. The analysis of longitudinal data. 2nd ed.. Oxford University Press; Oxford: 2002.

Etkin A, Wager TD. Functional neuroimaging of anxiety: A meta-analysis of emotional processing in PTSD, social anxiety disorder, and specific phobia. American Journal of Psychiatry. 2007; 164:1476–1488. [PubMed: 17898336]

Everall RD, Bostik KE, Paulson BL. Being in the safety zone: Emotional experiences of suicidal adolescents and emerging adults. Journal of Adolescent Research. 2006; 21:370–392.

Falsetti SA, Resnick HS, Resick PA, Kilpatrick DG. The Modified PTSD Symptom Scale: A brief self-report measure of posttraumatic stress disorder (MPSS-SR). The Behavior Therapist. 1993; 16:161–162.

Feiring C, Taska LS. The persistence of shame following sexual abuse: A longitudinal look at risk and recovery. Child Maltreatment. 2005; 10:337–349. [PubMed: 16204736]

First, MB.; Spitzer, RL.; Gibbon, M.; Williams, JBW. Structured Clinical Interview for DSM-IV Axis I Disorders, Research Version, Patient Edition (SCID-I/P). Biometrics Research, New York State Psychiatric Institute; New York: 2002.

Gamble SA, Talbot NL, Duberstein PR, Conner KR, Franus N, Beckman A, et al. Childhood sexual abuse and depressive symptom severity: The role of neuroticism. Journal of Nervous and Mental Disease. 2006; 194:382–385. [PubMed: 16699389]

Gladstone GL, Parker GB, Mitchell PB, Malhi GS, Wilhelm K, Austin M-P. Implications of childhood trauma for depressed women: An analysis of pathways from childhood sexual abuse to deliberate

self-harm and revictimization. American Journal of Psychiatry. 2004; 161:1417–1425. [PubMed: 15285968]

Hamilton M. A rating scale for depression. Journal of Neurology, Neurosurgery and Psychiatry. 1960; 23:56–61.

Izard, CE. Human emotions. Plenum Press; New York: 1977.

Izard, CE. The structure and functions of emotions: Implications for cognition, motivation, and personality. In: Cohen, IS., editor. The G. Stanley Hall lecture series. Vol. 9. American Psychological Association; Washington, DC: 1989. p. 35-73.

Izard CE. Emotion theory and research: Highlights, unanswered questions, and emerging issues. Annual Review of Psychology. 2009; 60:1–25.

Izard CE, Libero DZ, Putnam P, Haynes OM. Stability of emotion experiences and their relations to traits of personality. Journal of Personality and Social Psychology. 1993; 64:847–860. [PubMed: 8505713]

Joiner, TE. Why people die by suicide. Harvard University Press; Cambridge MA: 2005.

Kallstrom-Fuqua AC, Weston R, Marshall LL. Childhood and adolescent sexual abuse of community women: Mediated effects on psychological distress and social relationships. Journal of Consulting and Clinical Psychology. 2004; 72:980–992. [PubMed: 15612845]

Kendler KS, Bulik CM, Siberg J, Hettema JM, Myers J, Prescott CA. Childhood sexual abuse and adult psychiatric and substance use disorders in women: An epidemiological and cotwin control analysis. Archives of General Psychiatry. 2000; 57:953–959. [PubMed: 11015813]

Kessler RC, Berglund P, Borges G, Nock M, Wang PS. Trends in suicide ideation, plans, gestures, and attempts in the United States, 1990-1992 to 2001-2003. JAMA. 2005; 293:2487–2495. [PubMed: 15914749]

Kessler RC, Borges G, Walters EE. Prevalence of and risk factors for lifetime suicide attempts in the National Comorbidity Survey. Archives of General Psychiatry. 1999; 56:617–625. [PubMed: 10401507]

Klerman, GL.; Weissman, MM.; Rounsaville, BJ.; Chevron, ES. Interpersonal psychotherapy for depression. Basic Books; New York: 1984.

Kubany ES, Watson SB. Guilt: Elaboration of a multidimensional model. The Psychological Record. 2003; 53:51–90.

Lester D. The role of shame in suicide. Suicide and Life-Threatening Behavior. 1997; 27:352–361. [PubMed: 9444730]

Lewis, HB. Shame and guilt in neurosis. International Universities Press; New York: 1971.

Lewis, M. Shame: The exposed self. Free Press; New York: 1992.

Liang KY, Zeger SL. Longitudinal data analysis using generalized linear models. Biometrika. 1986; 73:13–22.

Linehan MM, Comtois KA, Brown MZ, Heard HL, Wagner A. Suicide Attempt Self-Injury Interview (SASII): Development, reliability, and validity of a scale to assess suicide attempts and intentional self-injury. Psychological Assessment. 2006; 18:303–312. [PubMed: 16953733]

Macmillan HL, Fleming JE, Streiner DL, Lin E, Boyle MH, Jamieson E, et al. Childhood abuse and lifetime psychopathology in a community sample. American Journal of Psychiatry. 2001; 158:1878–1883. [PubMed: 11691695]

Mann JJ, Apter A, Bertolote J, Beaturais A, Currier D, Haas A, et al. Suicide prevention strategies: A systematic review. JAMA. 2005; 294:2064–2074. [PubMed: 16249421]

Mann JJ, Waternaux C, Haas GL, Malone KM. Toward a clinical model of suicidal behavior in psychiatric patients. American Journal of Psychiatry. 1999; 156:181–189. [PubMed: 9989552]

Mccullagh, P.; Nelder, JA. Generalized Linear Models. 2nd ed.. Chapman and Hall/CRC; Boca Raton: 1989.

Mcgirr A, Renaud J, Seguin M, Alda M, Benkelfat C, Lesage A, et al. An examination of DSM-IV depressive symptoms and risk for suicide completion in major depressive disorder: A psychological autopsy study. Journal of Affective Disorders. 2007; 97:203–209. [PubMed: 16854469]

Mokros HB. Suicide and shame. American Behavioral Scientist. 1995; 38:1091–1103.

Molnar BE, Berkman LF, Buka SL. Psychopathology, childhood sexual abuse and other childhood adversities: Relative links to subsequent suicidal behaviour in the US. Psychological Medicine. 2001; 31:965–977. [PubMed: 11513382]

Morrison, AP. Shame: The underside of narcissism. Analytic; Hillsdale, NJ: 1989.

Nathanson, DL. The many faces of shame. Guilford; New York: 1987.

Nock MK, Borges G, Bromet EJ, Alonso J, Angermeyer M, Beautrais A, et al. Cross-national prevalence and risk factors for suicidal ideation, plans and attempts. The British Journal of Psychiatry. 2008; 192:98–105. [PubMed: 18245022]

Oquendo MA, Brent DA, Birmaher B, Greenhill L, Kolko D, Stanley B, et al. Posttraumatic stress disorder comorbid with major depression: Factors mediating the association with suicidal behavior. American Journal of Psychiatry. 2005; 162:560–566. [PubMed: 15741474]

Oquendo MA, Friend JM, Halberman B, Brodsky BS, Burke AK, Grunebaum MF, et al. Association of comorbid posttraumatic stress disorder and major depression with greater risk for suicidal behavior. American Journal of Psychiatry. 2003; 160:580–582. [PubMed: 12611845]

Pribor EF, Dinwiddie SH. Psychiatric correlates of incest in childhood. American Journal of Psychiatry. 1992; 149:52–56. [PubMed: 1728185]

Prinstein MJ, Nock MK, Simon V, Aikins JW, Cheah CSL, Spirito A. Longitudinal trajectories and predictors of adolescent suicidal ideation and attempts following inpatient hospitalization. Journal of Consulting and Clinical Psychology. 2008; 76:92–103. [PubMed: 18229987]

Romans SE, Martin JL, Anderson JC, Herbison GP, Mullen PE. Sexual abuse in childhood and deliberate self-harm. American Journal of Psychiatry. 1995; 152:1336–1342. [PubMed: 7653690]

Rudd MD, Dahm PF, Rajab MH. Diagnostic comorbidity in persons with suicidal ideation and behavior. American Journal of Psychiatry. 1993; 150:928–934. [PubMed: 8494071]

Seidlitz L, Conwell Y, Duberstein P, Cox C, Denning D. Emotion traits in older suicide attempters and non-attempters. Journal of Affective Disorders. 2001; 66:123–131. [PubMed: 11578664]

Shneidman ES. Suicide as psychache. Journal of Nervous and Mental Disease. 1993; 181:145–147. [PubMed: 8445372]

Stuart, S.; Robertson, M. Interpersonal psychotherapy: A clinician's guide. Arnold; London: 2003.

Talbot NL. Women sexually abused as children: The centrality of shame issues and treatment implications. Psychotherapy. 1996; 33:11–18.

Talbot NL, Houghtalen RP, Duberstein PR, Cox C, Giles DE, Wynne LC. Effects of group treatment for women reporting histories of childhood sexual abuse. Psychiatric Services. 1999; 50:686–692. [PubMed: 10332907]

Talbot JA, Talbot NL, Tu X. Shame-proneness as a diathesis for dissociation in women with histories of childhood sexual abuse. Journal of Traumatic Stress. 2004; 17:445–448. [PubMed: 15633925]

Tangney JP, Stuewig J, Mashek DJ. Moral emotions and moral behavior. Annual Review of Psychology. 2007; 58:345–372.

Watson D, Clark LA. Measurement and mismeasurement of mood: Recurrent and emergent issues. Journal of Personality Assessment. 1997; 68:267–296. [PubMed: 16370781]

Whiffen VE, Macintosh HB. Mediators of the link between childhood sexual abuse and emotional distress: A critical review. Trauma, Violence, & Abuse. 2005; 6:24–39.

TABLE 1

Logistic Regression Analyses of Emotions on Suicidal Ideation

| Predictors | BDI-II SI[a] | | HRSD SI[b] | |
| | Unadjusted | Adjusted for sociodemographic variables[c], depressive symptoms[d], PTSD symptoms, and suicide attempt history | Unadjusted | Adjusted for sociodemographic variables[c], depressive symptoms[d], PTSD symptoms, and suicide attempt history |
	Odds ratio (95% CI)	Odds ratio (95% CI)	Odds ratio (95% CI)	Odds ratio (95% CI)
DES-IV emotions				
Interest	0.79 (0.69, 0.90)*	0.92 (0.79, 1.07)	0.76 (0.67, 0.86)*	0.96 (0.83, 1.12)
Enjoyment	0.75 (0.65, 0.86)*	0.93 (0.79, 1.10)	0.70 (0.61, 0.80)*	0.95 (0.82, 1.09)
Surprise	1.05 (0.93, 1.18)	1.06 (0.94, 1.20)	1.03 (0.92, 1.16)	0.99 (0.88, 1.11)
Sadness	1.56 (1.40, 1.75)*	1.41 (1.25, 1.60)***	1.55 (1.55, 1.38)*	1.19 (1.03, 1.38)*
Anger	1.27 (1.15, 1.41)*	1.12 (1.00, 1.25)*	1.30 (1.18, 1.44)*	1.03 (0.93, 1.15)
Disgust	1.28 (1.15, 1.42)*	1.10 (0.97, 1,25)	1.26 (1.13, 1.40)*	0.98 (0.87, 1.10)
Contempt	1.14 (1.01, 1.28)	1.10 (0.96, 1.27)	1.12 (1.00, 1.27)	1.04 (0.93, 1.15)
Fear	1.24 (1.12, 1.37)*	1.06 (0.92, 1.22)	1.24 (1.14, 1.36)*	1.01 (0.90, 1.13)
Guilt	1.42 (1.27, 1.59)*	1.24 (1.10, 1.40)***	1.43 (1.27, 1.60)*	1.16 (1.00, 1.33)*
Shame	1.25 (1.12, 1.40)*	1.13 (1.00, 1.28)*	1.21 (1.10, 1.33)*	1.02 (0.91, 1.14)
Shyness	1.30 (1.18, 1.43)*	1.16 (1.03, 1.31)*	1.30 (1.19, 1.43)*	1.12 (1.01, 1.24)*
Inner-directed hostility	1.34 (1.20, 1.49)*	1.18 (1.05, 1.32)**	1.41 (1.29, 1.53)*	1.14 (1.03, 1.27)*
DES-IV composites				
Negative emotionality[e]	1.06 (1.04, 1.08)*	1.04 (1.01, 1.06)**	1.06 (1.04, 1.08)*	1.02 (0.10, 1.05)
Shame-proneness[f]	1.13 (1.08, 1.17)*	1.08 (1.02, 1.13)**	1.13 (1.09, 1.17)*	1.05 (1.00, 1.09)*

Note. Each of the twelve discrete emotion scales and two composite scales were separately regressed on each Suicide ideation outcome. BDI-II, Beck Depression Inventory-II; HRSD, Hamilton Rating Scale for Depression; SI, suicidal ideation; PTSD, posttraumatic stress disorder; CI, confidence interval.

[a] SI measured by the BDI-II.

[b] SI measured by HRSD.

[c] Adjusted for age, living with a spouse–partner, years of education.

[d] Adjusted for depressive symptoms excluding the suicide items of the HRSD and BDI-II, respectively.

[e] Negative emotionality includes anger, contempt, disgust, fear, guilt, inner-directed hostility, sadness, shame, and shyness.

[f] shame-proneness includes shame, shyness, and inner-directed hostility.

*
$p < .05$

**
$p < .01$

***
$p < .001.$