Published in final edited form as:

Personal Ment Health. 2014 August ; 8(3): 169–177. doi:10.1002/pmh.1258.

The 16-Year Course of Shame and Its Risk Factors in Patients with Borderline Personality Disorder

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Abstract

The current study had two aims. The first was to examine the course of shame over 16 years of prospective follow-up among borderline patients and axis II comparison subjects. The second was to determine risk factors associated with feelings of shame among borderline patients. Two hundred and ninety borderline inpatients and 72 axis II comparison subjects were assessed using a series of semi-structured interviews and self-report measures at baseline and 87% of surviving patients were reassessed at eight waves of follow-up. Borderline patients reported significantly higher levels (2.6 times) of shame (assessed with one item) across 16 years of follow-up than axis II comparison subjects. However, the severity of shame decreased (78% relative decline) significantly over time for both groups. Regarding risk factors, four lifetime adversity risk factors were found to be significantly associated with feelings of shame. Two of these factors (severity of childhood sexual abuse and severity of childhood neglect) remained significant in multivariate analyses. Taken together, the results of this study suggest that borderline patients struggle with intense but decreasing feelings of shame. They also suggest that childhood adversities are significant risk factors for this dysphoric affective state.

Keywords

borderline personality disorder; shame; longitudinal course; risk factors

Introduction

Clinical experience suggests that shame is a common feeling among people with borderline personality disorder (BPD) (Linehan, 1993). Shame, a highly self-conscious, evaluative

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The authors report no conflicts of interest.

emotion, is defined as a painful sense of having done something wrong, improper, or immodest (Lewis, 1971). It can be evoked in either an interpersonal context or when alone (Tangney, Miller, Flicker, & Barlow, 1996). It is associated with feelings of powerlessness, worthlessness, and incompetence as well as cognitions of being exposed and having an unlovable self (Kaufman, 2004).

Despite the suffering caused by feelings of shame, relatively little research on this dysphoric state has been conducted. A recent study found a shame-specific emotional reactivity and delayed emotional recovery among patients with BPD (Gratz, Rosenthal, Tull, Lejuez, & Gunderson, 2010). On a computerized stressor task, patients with BPD reported higher levels of shame, but not anxiety, hostility, or irritability in response to negative, but not general, feedback compared to patients without personality disorders. Furthermore, the severity of shame required longer to return to baseline in the BPD group. Another study found that women with BPD report higher levels of shame proneness (i.e., the propensity to feel shame across different situations) and state shame (i.e., the specific, transient emotion elicited by events) than women with social phobia and healthy comparison subjects (Rusch et al., 2007).

Clinicians often report several risk factors for elevated levels of shame in patients with BPD. These risk factors include adversities occurring in childhood and adulthood. Given that shame may be a response to experiences of abuse, neglect, or invalidation (Linehan, 1993), lifetime adversities may be a significant risk factor for feelings of shame.

The current study focuses on the course of shame as well as its associated risk factors in borderline patients. First, the study examined the severity and the course of shame among borderline patients and axis II comparison subjects over 16 years of prospective follow-up. Second, we examined whether adversities across the lifespan are clinically meaningful risk factors for shame among borderline patients.

Methods

The current study is part of a multifaceted longitudinal study of the course of borderline personality disorder--the McLean Study of Adult Development (MSAD). The methodology of this study was reviewed and approved by the McLean Hospital Institutional Review Board (Zanarini, Frankenburg, Hennen, & Silk, 2003). All subjects were initially inpatients at McLean Hospital in Belmont, Massachusetts. Each patient was first screened to determine that he or she: i) was between the ages of 18–35; ii) had a known or estimated IQ of 71 or higher; iii) had no history or current symptoms of an organic condition that could cause serious psychiatric symptoms, schizophrenia, schizoaffective disorder, or bipolar I disorder; and iv) was fluent in English.

After the study procedures were explained, written informed consent was obtained. Each patient then met with a masters-level interviewer blind to the patient's clinical diagnoses for a thorough psychosocial/treatment history and diagnostic assessment. Four semistructured interviews were administered. These semistructured interviews were: i) the Background Information Schedule (BIS) (Zanarini, Frankenburg, Khera, & Bleichmar, 2001), ii) the

Structured Clinical Interview for DSM-III-R Axis I Disorders (SCID-I) (Spitzer, Williams, Gibbon, & First, 1992), iii) the Revised Diagnostic Interview for Borderlines (DIB-R) (Zanarini, Gunderson, Frankenburg, & Chauncey, 1989), and iv) the Diagnostic Interview for DSM-III-R Personality Disorders (DIPD-R) (Zanarini, Frankenburg, Chauncey, & Gunderson, 1987). The inter-rater and test-retest reliability of the BIS (Zanarini et al., 2001) and of the three diagnostic measures (Zanarini, Frankenburg, & Vujanovic, 2002; Zanarini & Frankenburg, 2001) have all been found to be good-excellent.

In the current study, shame was assessed using the one item “full of shame” from the Dysphoric Affect Scale (DAS) at baseline and each of the eight waves of follow-up (Zanarini & Deluca, 1993). The DAS is a self-report measure, which consists of 50 items that describe dysphoric inner states (affective and cognitive states) found to be common and discriminating for borderline personality disorder. Participants are asked to report the percentage of the time that they have experienced each dysphoric affect and cognition over the past month and thus, scores can range from 0–100% of the time. The psychometric properties of the DAS are excellent, with very high internal consistency (Cronbach's $\alpha = 0.97$) (Zanarini, Frankenburg, Deluca, Hennen, & Khera, 1998). The 1-week test-retest reliability of the DAS was found to be 0.97 when examined in a sample of 15 nonpsychotic outpatients. In addition, the current study assessed the test-retest reliability of the item “full of shame” which was found to be 0.95 in the same sample of 15 nonpsychotic outpatients.

Childhood experiences were assessed using the Revised Childhood Experiences Questionnaire (CEQ-R) (Zanarini et al., 1997) and adult experiences of emotional, verbal, physical, and sexual abuse were assessed using the Abuse History Interview (AHI) (Zanarini et al., 1999). The inter-rater reliability of these interviews has also been found to be good-excellent (Zanarini, Frankenburg, Reich, Hennen, & Silk, 2005).

At each of eight follow-up waves, separated by 24 months, axis I and II psychopathology was reassessed via interview methods similar to the baseline procedures by staff members blind to baseline diagnoses. After informed consent was obtained, our diagnostic battery was readministered (a change version of the SCID-I, the DIB-R, and the DIPD-R). The follow-up inter-rater reliability (within one generation of follow-up raters) and follow-up longitudinal reliability (from one generation of raters to the next) of these three measures have been found to be good-excellent (Zanarini et al., 2002; Zanarini & Frankenburg, 2001). Additionally, the DAS (Zanarini et al., 1998) was re-administered at each follow-up wave to assess the severity of shame over time.

Statistical Analyses

Descriptive statistics were used to report the means, SD, and range of our outcome variable and the risk factors. Data that pertain to the levels of shame assessed by DAS were assembled in panel format (i.e., multiple records per patient, with one record for each assessment period for which data are available). Given that the levels of shame were negatively skewed, this continuous measure was logarithmically transformed prior to analyses in order to achieve a distribution that was more symmetric. The generalized estimating equations (GEE) approach, implemented in Stata 11.2 (StataCorp, 2009) was

used in longitudinal analyses of the feeling of shame and determining its associated risk factors.

The GEE approach appropriately accounts for the correlation among the repeated measures of the levels of shame over the prospective follow-up periods. In all analyses, assessment period was controlled for via the inclusion of a quadric time trend to allow for the discernible non-linear decline in the mean over time. Because the GEE analyses are based on logarithmically transformed scores, the results have interpretations in terms of relative differences (RD), rather than absolute differences. Specifically, results of the GEE analyses are reported as relative difference (RD) and 95% confidence interval (95% CI) for the association with a given predictor.

The GEE method was initially used to compare diagnostic groups (BPD vs. axis II comparison subjects) in terms of the course of shame over time. This analysis included the effects of diagnostic group, quadratic time trends (time, time²), and their interaction. Next, in analyses restricted to the BPD subjects, the GEE method was used to assess the role of baseline risk factors (i.e., lifetime adversities) of feelings of shame. We first assessed the relationship between baseline factors (e.g., severity of childhood sexual abuse) and the levels of shame in a bivariate fashion, while controlling for assessment period (with a quadratic time trend). Subsequently, we entered all the significant variables from the bivariate analyses simultaneously to select the subset of risk factors to be retained in the most parsimonious multivariate model predicting shame. Specifically, we followed a backward deletion procedure, eliminating one predictor at a time until all variables remaining were statistically significant at $p < 0.05$, two-tailed.

Given that the development of the DAS was completed and the measure was introduced into our assessment battery about halfway through recruitment of the baseline MSAD sample, shame data for 174 of 362 subjects (140 with borderline personality disorder and 34 with non-BPD axis II diagnoses) were collected at baseline. A multiple imputation procedure was used to fill in the missing data at baseline. The imputation model incorporated both diagnostic group and follow-up shame data as predictors of the missing baseline shame data. Specifically, the missing baseline values were replaced by a set of 10 plausible values randomly drawn from the imputation model. Results from the 10 imputed datasets were then appropriately combined to provide a single estimate of the regression parameters of interest, together with standard errors and test statistics that reflect the uncertainty inherent in the imputation of the unobserved data. It should also be noted that these imputations were only conducted for shame data that were missing at baseline. To assess the sensitivity of the results to this imputations procedure, all analyses were re-run without imputed baseline data.

Results

Two hundred and ninety patients met both DIB-R and DSM-III-R criteria for BPD and 72 met DSM-III-R criteria for at least one non-borderline axis II disorder (and neither criteria set for BPD). Of these 72 comparison subjects, 4% met DSM-III-R criteria for an odd cluster personality disorder, 33% met DSM-III-R criteria for an anxious cluster personality disorder, 18% met DSM-III-R criteria for a non-borderline dramatic cluster personality

disorder, and 53% met DSM-III-R criteria for personality disorder not otherwise specified (which was operationally defined in the DIPD-R as meeting all but one of the required number of criteria for at least two of the 13 axis II disorders described in DSM-III-R).

Baseline demographic data have been reported elsewhere (Zanarini et al., 2003). Briefly, 77.1% (N=279) of the subjects were female and 87% (N=315) were white. The average age of the subjects was 27 years (SD=6.4), the mean socioeconomic status was 3.3 (SD=1.5) (where 1=highest and 5=lowest) and their mean GAF score was 39.8 (SD=7.8) (indicating major impairment in several areas, such as work or school, family relations, judgment, thinking, or mood).

With respect to continuing participation, 87.5% (N=231/264) of surviving borderline patients (13 died by suicide and 13 died of other causes) were reinterviewed at all eight follow-up waves. A similar rate of participation was found for axis II comparison subjects, with 82.9% (N=58/70) of surviving patients in this study group (one died by suicide and one died of other causes) being reassessed at all eight follow-up waves.

Table 1 details mean shame scores over time for patients with BPD and axis II comparison subjects. The mean score for shame among patients with BPD was 50.7 (SD= 34.0) at baseline and 17.8 (SD=28.8) at 16-year follow-up. In comparison, the mean score for shame among axis II comparison subjects was 27.0 (SD=28.7) at baseline and 8.6 (SD=20.0) at 16-year follow-up. Table 1 also presents the results of the GEE longitudinal regression analysis. No significant diagnostic group by time interaction was found, implying a similar pattern of change over time in the two groups. Since no significant interaction was found, relative differences for diagnostic group can be interpreted as the order of magnitude by which patients with BPD differ from the axis II comparison subjects over 16-years of follow-up, while relative differences for time can be interpreted as the order of magnitude by which both groups taken together have changed over time. As shown in Table 1, the relative difference of 2.6 for diagnostic group indicates that the mean shame score among subjects in the BPD group was 2.6 times higher than the corresponding mean score among axis II comparison subjects. Based on the quadratic time trend reported in Table 1, the relative differences for time (0.02) and for time-squared (11.06) indicate that the relative change from baseline to 16-year follow-up resulted in a 78% $[1-(11.06*0.02)]$ decline in the mean shame score for subjects in both groups taken together.

Next, we considered potential risk factors associated with feelings of shame among borderline patients. The mean score for childhood sexual abuse at baseline was 1.8 (SD=2.2, range=0–12). BPD patients' average score on a composite variable aggregating childhood verbal, emotional, and physical abuse was 7.3 (SD=5.3, range=0–18). The mean baseline score for an aggregate childhood neglect score was 14.8 (SD=10.7, range=0–42). In addition, the mean score for adult adversity (emotional, verbal, physical and/or sexual abuse) at baseline was 2.1 (SD=1.2, range=0–4).

Table 2 details the results of bivariate analyses of the risk factors of the severity of shame across 16-years of prospective follow-up period. Separate analyses were conducted for each risk factor, controlling for assessment period using quadratic time trends. All four of the risk

factors were found to be significant at the 0.05 significance level: severity of childhood sexual abuse, severity of other forms of childhood abuse, severity of childhood neglect (which was mostly emotional in nature), and severity of adult abuse or adversity. The results in Table 2 have interpretations in terms of the percent relative differences in mean shame score for a single unit change in the risk factor and indicate the size of effects. For example, the results indicate that each one point (or approximately $\frac{1}{2}$ SD) increase in our childhood sexual abuse scale resulted in a 17% increase in the severity of reported shame among BPD subjects.

Table 3 details the results from the multivariate regression model obtained after the backwards deletion procedure. In this model, two of the original risk factors remain statistically significant. The significant risk factors were severity of childhood sexual abuse and severity of childhood neglect. The relative differences reported in Table 3 indicate the increases in severity of feelings of shame due to each of the aforementioned risk factors. Each ten-point (or approximately 1 SD) increase in the severity of neglect and one-point (or approximately $\frac{1}{2}$ SD) increase in severity of childhood sexual abuse increase the severity of feelings of shame by 31% and 10% respectively.

Finally, as discussed in the Methods section, there was a substantial amount of missing data for shame at baseline due to the introduction of the DAS halfway through baseline data collection. To assess the sensitivity of the reported results to the multiple imputation procedure, the main analyses were re-run excluding the imputed baseline data. These additional analyses yielded very similar estimates of effects and produced the same subject-matter conclusions (data not shown). That is, the reported results do not appear to be sensitive to the imputation of missing baseline data.

Discussion

Three main findings have emerged from this study. The first is that BPD patients experienced significantly higher levels of shame when compared to axis II comparison subjects across eight two-year follow-up periods. The levels of shame that were experienced by BPD patients were approximately $2\frac{1}{2}$ times more severe when compared to axis II comparison subjects. This is in line with initial baseline findings of self-reported shame reported by Zanarini and colleagues (Zanarini et al., 1998) and emphasizes the significance of specific dysphoric affective states among BPD patients. Although our results add further support to the centrality of shame in BPD patients (Linehan, 1993; Gratz et al., 2010; Rusch et al., 2007), they also underline the importance of shame in patients with other personality disorders. It is important to note that the affect of shame as well as the regulation of shame has previously been implicated in the development and maintenance of personality pathology in general (Schoenleber & Berenbaum, 2012).

The second main finding is that the severity of shame declined significantly over time for both BPD and axis II comparison subjects with a 78% relative decrease over the 16-years of follow-up. This significant decline is consistent with the findings of studies on the course of shame among children with childhood trauma histories (Feiring, Taska, & Lewis, 2002; Feiring & Taska, 2005). Furthermore, our results are in line with the findings of Reed and

colleagues (Reed, Fitzmaurice, & Zanarini, 2012), who found a significant decline for the overall severity of dysphoric inner states among borderline patients and axis II comparison subjects. The similar degree of improvement for both groups of patients in our study further suggests that improvement in negative affect states is not specific to borderline patients. Additionally, the results are consistent with the earlier studies of Zanarini et al. (2010; 2012) and Gunderson et al. (2011), which reported overall symptomatic improvement among borderline patients over time. It is important to note that although affective symptoms have been reported as the slowest to remit (Zanarini et al., 2007), our results suggest a relatively benign prognosis for the severity of shame in BPD patients over a substantial period of time.

It is not clear why both groups of subjects report an almost 80% decrease in the severity of their level of shame over time. Maturation may play an important role (Roberts & Mroczek, 2008; Charles, Reynolds, & Gatz, 2001). It is also possible that treatment may play a role, although it should be noted that most subjects received treatment as usual in the community rather than a BPD-specific empirically based form of psychotherapy. In addition, social learning may have played an important role. More specifically, subjects with BPD or another personality disorder may have been able to determine the situations that triggered their shame. They may also have learned to avoid these situations. Of course, it is likely that many of these factors were operative simultaneously and that different subjects were more influenced by one factor than another.

It is also important to note that the greatest reductions in shame reported by those in both groups occurred between baseline and two-year follow-up. This may well have been due to the fact that shame was initially assessed during each subject's index admission, while the vast majority of subjects were outpatients or nonpatients two years later.

The third main finding is that a range of lifetime adversity risk factors was associated with the severity of shame among BPD patients when examined over 16-years of prospective follow-up. Specifically, bivariate analyses showed that all life adversity risk factors were associated with the severity of shame over time. However, when examined in a multivariate fashion, only two of these four variables were unique predictors of shame. These were the severity of childhood sexual abuse and the severity of childhood neglect.

It is not surprising that these childhood experiences are associated with elevated rates of shame in adults with BPD (Linehan, 1993; Holm, Berg, & Severinsson, 2003; Chan, Hess, Whelton, & Yonge, 2005). Both being sexually abused and emotionally neglected are inherently shaming experiences. Sexual abuse may involve force or manipulation that results in feelings of shame at being weak or used. Repeated experiences of emotional neglect may be associated with feelings of shame because borderline patients may have taken their parents' limitations personally and mistakenly believe that many of their feelings and needs are unacceptable to others. Importantly, this is the first study to confirm the link between childhood adversity and adult shame over an extended prospectively assessed period of time.

The study has several limitations. One limitation of this study is that all participants were initially inpatients and were thus seriously ill at the start of the study. Similarly, the majority of participants were in treatment during each study period (Horz, Zanarini, Frankenburg,

Reich, & Fitzmaurice, 2010). Thus, it is difficult to know if the results generalize to less severely disturbed patients or people not in treatment. Another limitation is that shame was assessed with one item, (“full of shame”) of the DAS. However, the current study assessed the reliability of the item and it was found to be adequate. Nonetheless, it would be preferable to have used a well-developed shame scale with good psychometric properties. However, to the best of our knowledge, none existed in 1993 when we first began to use the DAS in this study.

In terms of directions for future research, none of the five comprehensive treatments of BPD emphasize shame (Linehan, Armstrong, Suarez, Allmon, & Heard, 1991; Bateman & Fonagy, 1999; Giesen-Bloo et al., 2006; Clarkin, Levy, Lenzenweger, & Kernberg, 2007; McMain et al., 2009). And clinicians in the community tend to focus on rage and affective volatility in their treatment of the affective symptoms of patients with BPD. However, one preliminary study used a specific intervention for shame and demonstrated favorable results (Rivzi & Linehan, 2005). The widespread adoption of this treatment module and/or the development of others that focus on this quiet but often devastating inner state are needed. And it would be clinically useful for shame to be an outcome in any treatment study of BPD—whether psychosocial or pharmacological in nature.

Taken together, the results of this study suggest that borderline patients struggle with intense but decreasing feelings of shame. They also suggest that childhood adversities are significant risk factors for this dysphoric affective state.

Acknowledgments

This study was supported by NIMH grants MH47588 and MH62169.

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Table 1
Percentage of Time Borderline Patients and Axis II Comparison Subjects Reported Feeling Shame (Mean and SDs)

	BL*	2 YR FU	4 YR FU	6 YR FU	8 YR FU	10 YR FU	12 YR FU	14 YR FU	16 YR FU	Rel. Diff Diagnosis Time Time ²	95% CI Diagnosis Time Time ²
Shame											
BPD	50.7 (34.0)	33.1 (34.4)	28.7 (16.2)	24.3 (30.8)	20.8 (29.9)	19.9 (29.6)	21.7 (30.0)	16.3 (25.4)	17.8 (28.8)	2.55 0.02 11.06	1.84, 3.54 0.01, 0.04 6.44, 19.00
OPD	27.0 (28.7)	13.6 (19.9)	8.31 (33.3)	7.3 (14.8)	6.7 (18.1)	8.8 (19.1)	8.0 (18.7)	7.5 (18.9)	8.6 (20.0)		

Note: *P*-value for diagnosis was <0.001. *P*-values for time and time² were both <0.001.

* Baseline mean and SD values based on observed (N=140) and imputed (N=150) values for borderline patients and observed (N=34) and imputed (N=38) values for axis II comparison subjects.

Table 2

Bivariate Risk Factors for Shame Reported by Borderline Patients over 16 Years of Prospective Follow-up

Risk Factors	Percent Relative Difference (RD-1) ×100%	Z	p	95% Confidence Interval for RD
Severity of Childhood Sexual Abuse (range=0–12)	17%	4.83	<0.001	1.10, 1.25
Severity of Childhood Verbal, Emotional, and/or Physical Abuse/5* (range=0–18)	36%	4.47	<0.001	1.19, 1.56
Severity of Childhood Neglect/10* (range=0–42)	45%	5.40	<0.001	1.26, 1.65
Severity of Adult Adversity (range=0–4)	33%	4.40	<0.001	1.17, 1.50

* The scales were rescaled. Each ten-point increase in the Severity of Childhood Neglect and five-point increase in severity of Childhood Verbal, Emotional, and/or Physical Abuse resulted in the percent relative differences in mean shame score.

Table 3

Multivariate Model of Significant Risk Factors for Shame over 16 Years of Prospective Follow-up

Risk Factors	Percent Relative Difference (RD-1) $\times 100\%$	Z	p	95% Confidence Interval for RD
Severity of Childhood Sexual Abuse	10%	2.54	0.011	1.02, 1.18
Severity of Childhood Neglect/10	31%	3.52	<0.001	1.13, 1.53