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The Relationship between Childhood Adversity and Dysphoric Inner States among Borderline Patients Followed Prospectively for 10 Years

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Abstract

Childhood experiences of abuse and neglect were assessed in relation to dysphoric states among patients with borderline personality disorder (BPD) over a 10-year course of prospective follow-up. The Revised Childhood Experiences Questionnaire was administered at baseline to 290 patients meeting DIB-R and DSM-III-R criteria for BPD. The Dysphoric Affect Scale – a 50-item self-report measure of affective and cognitive states thought to be common among and specific to borderline patients – was administered at five waves of prospective follow-up. Significant predictors of dysphoric states included: emotional abuse, verbal abuse, physical abuse, sexual abuse, emotional withdrawal, inconsistent treatment, denial of patient's feelings, lack of a real relationship, placing patient in parental role, and failure to protect patient. This suggests that abusive and neglectful childhood experiences are significant risk factors for severe affective and cognitive difficulties reported by borderline patients and that sexual abuse is neither necessary nor sufficient for the development of these troubling inner states.

Introduction

Affective and cognitive difficulties experienced by borderline patients have been well documented. The intense, negative affective states reported by borderline patients include emptiness (Conte et al., 1980; Zanarini et al., 1990), depression and anxiety (Barrash et al., 1983; Conte et al., 1980; Grinkler et al., 1968; Zanarini et al., 1990), anger (Frances et al., 1984; Grinkler et al., 1968; Gunderson et al., 1975; Gunderson & Kolb, 1978; Hongfeld et al., 1970; Perry & Klerman, 1980; Snyder et al., 1982; Zanarini et al., 1990), loneliness (Grinkler et al., 1968; Perry & Klerman, 1980; Zanarini et al., 1990), boredom (Zanarini et al., 1990), as well as anhedonia (Gunderson and Kolb, 1978; Perry and Kerman, 1980; Sheehy et al., 1980; Stern, 1938). Cognitive states include dissociation (Chopra & Beatson, 1986; Gunderson, Carpenter, & Strauss, 1975; Perry & Klerman, 1980), odd thinking (mostly overvalued ideas) (Zanarini et al., 1990), suspiciousness (Zanarini et al., 1990), and mild psychotic-like experiences (Gunderson & Kolb, 1978; Zanarini et al., 1990).

The course of these dysphoric states over time has also been documented, suggesting that borderline patients, on average, experience these difficulties throughout the course of the disorder, although with significantly declining severity (Reed, Zanarini, & Fitzmaurice, in press; Gunderson et al., 2011; Zanarini et al., 1997). In addition to their heavy psychological burden, it has been suggested that the severity of these dysphoric states may affect recovery (Reed, Zanarini, & Fitzmaurice, in press) as well as social and vocational functioning (Gunderson, et al., 2011; Zanarini et al., 2010a). Despite this noted importance, there have been no studies which have focused on early risk factors associated with the severity of dysphoric affective and cognitive states present in adult borderline patients.

There have been multiple studies, however, focusing on adverse childhood experiences related to the diagnosis of BPD. In terms of chronological order, early separations (Akiskal, et al., 1985; Bradley, 1979; Soloff & Millward, 1983; Walsh, 1977), prolonged separations (Akiskal, 1981), and a lack of protectiveness (Feldman & Guttman, 1984) have all been found to be common in and discriminating for BPD. Studies of family dynamics have noted the importance of conflictual, distant, or uninvolved parental relationships in the pathogenesis of BPD (Frank & Hoffman, 1986; Frank & Paris, 1981; Goldberg, Mann, Wise, & Segall, 1985; Grinker, Werble, & Drye, 1968; Gunderson, Kerr, & Englund, 1980; Paris & Frank, 1989; Soloff & Millward, 1983; Walsh, 1977). Studies of abuse have highlighted experiences of both physical and sexual abuse (Herman, Perry, van der Kolk, 1989; Links, Steiner, Offord, Eppel, 1988; Ogata, Silk, Goodrich, Lohr, Westen, & Hill, 1990; Paris, Zweig-Frank, Guzder 1994a; 1994b; Salzman, Salzman, Wolfson, Abanese, Looper, et al., 1993; Shearer, Peters, Quaytman, & Ogden, 1990; Westen, Ludolph, Mistle, Ruffins, & Block, 1990; Zanarini, Gunderson, Marino, Schwartz, Frankenburg, 1989; Zanarini et al., 1997) as well as verbal and emotional abuse (Zanarini et al., 1997). It is possible that, in addition to predicting the presence of BPD, childhood experiences of abuse and neglect may also be predictive of the severity of dysphoric states reported by borderline patients.

Thus, the aim of the current study was to examine the relation between reported childhood experiences of adversity and the severity of dysphoric affective and cognitive states in borderline patients. In this, we compared the severity of affective and cognitive states thought to be common in and specific to BPD among borderline patients who did and did not report adverse childhood experiences of abuse and neglect.

Method

All subjects were initially inpatients at McLean Hospital in Belmont, MA recruited for a study of the longitudinal course of BPD (Zanarini et al., 2003)—the McLean Study of Adult Development or MSAD. 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 schizophrenia, schizoaffective disorder, bipolar I disorder, or an organic condition that could cause psychiatric symptoms; and iv) was fluent in English.

Measures

Axis I and axis II Disorders—Diagnostic information regarding axis I and axis II disorders was obtained via the Structured Clinical Interview for DSM-III-R Axis I Disorders (Spitzer, Williams, Gibbon, & First, 1990), the Revised Diagnostic Interview for Borderlines (DIB-R; Zanarini, Gunderson, Frankenburg, & Chauncey, 1989) and the Diagnostic Interview for DSM-III-R Personality Disorders (Zanarini, Frankenburg, Chauncey, & Gunderson, 1987). Good to excellent inter-rater and test-retest reliability were found for all three of these measures (Zanarini & Frankenburg, 2001; Zanarini, Frankenburg, & Vujanovic, 2002).

Childhood Experiences—Information concerning childhood experiences reported to have occurred before the age of 18 were assessed with the Revised Childhood Experiences Questionnaire (CEQ-R; Zanarini et al., 1997). The CEQ-R is a semistructured interview whose psychometric properties have been described elsewhere (Zanarini et al., 1997). Briefly, this instrument inquires about four forms of abuse and seven forms of neglect by full-time caretakers, sexual abuse by noncaretakers, and 12 types of separations from full-time caretakers that lasted 1 month or more. Items were dichotomously recorded and coded, given either a negative (absent) or positive (present) rating. For an item to be given a positive rating, detailed information concerning the event in question had to be provided.

Dysphoric Affective States and Cognitions—The severity of dysphoric affective states and cognitions of borderline patients was assessed using the Dysphoric Affect Scale (DAS; Zanarini & Deluca, 1993). The DAS is a self-report measure containing 50 items selected specifically by our group to assess dysphoric affective and cognitive states thought to be characteristic of and discriminating for BPD. With the DAS, subjects are asked to report the percentage of time that he or she has experienced each affective state or cognition during the past month. The DAS has been used in previous reports describing dysphoric states specific to and common in borderline personality disorder (Zanarini & DeLuca, 1998) as well as the longitudinal course of dysphoric inner states among patients with borderline personality in comparison to patients with other personality disorders (Reed, Fitzmaurice, & Zanarini, in press). The psychometric properties of the DAS are excellent, with very high internal consistency (Cronbach's $\alpha = 0.97$). In addition, the 1-week-test-retest reliability of the DAS was found to be 0.97 when examined in a sample of 15 nonpsychotic outpatients.

Subjects

Two hundred and ninety patients met both DIB-R and DSM-III-R criteria for BPD. In terms of baseline demographic data, 80.3% ($N=233$) of the subjects were female and 87.2% ($N=253$) were white. The average age of the borderline subjects was 26.9 years ($SD=5.8$), their mean socioeconomic status was 3.4 ($SD=1.5$) (where 1=highest and 5=lowest), and their mean GAF score was 38.9 ($SD=7.5$) (indicating major impairment in several areas, such as work or school, family relations, judgment, thinking, or mood).

In terms of continuing participation, 275 borderline patients were reinterviewed at two years, 269 at four years, 264 at six years, 255 at eight years, and 249 at ten years. At the ten-year assessment, 41 borderline patients were no longer in the study: 12 had committed

suicide, seven died of other causes, nine discontinued their participation, and 13 were lost to follow-up. All told, 91.9% (N=249/271) of surviving borderline patients were reinterviewed at all five follow-up waves.

Statistical Analyses

Data obtained from the DAS were assembled in panel format (i.e., multiple records per subject, with one record for each follow-up period for which data on the DAS were available). Random effects regression modeling methods assessing the role of predictor variables, time, and their possible interaction, was used in analyses of the DAS scale. The inclusion of random subject effects in these analyses accounts for the correlation among the repeated measures of the DAS over time. As DAS scores were skewed, a logarithmic transformation was applied to the scores prior to analyses in order to achieve distributions that were more symmetric. Because these analyses are based on logarithmically transformed scores, the results from the regression models have interpretations in terms of relative, rather than absolute, differences on the DAS scale. That is, effects are expressed in terms of ratios of means and have interpretations in terms of relative increases or decreases rather than of absolute increases or decreases.

Results

Table 1 presents the bivariate baseline predictors of DAS score across the five follow-up periods. Separate analyses were conducted for each predictor including both time and interaction effects. (Analyses with non-significant interaction effects were re-run excluding the interaction term.) As can be seen, 10 of these predictors were found to be significant in these analyses. These 10 predictors were: four forms of abuse (emotional abuse, verbal abuse, physical abuse, sexual abuse) and six forms of neglect (emotional withdrawal, inconsistent treatment, denial of patient's feelings, lack of real relationship with caretaker, placing patient in parental role, and failure to protect).

Given the complex nature of these analyses, we believe that examples would be helpful for interpreting the results in Table 1. For analyses with no significant interaction, the relative difference associated with a predictor can be interpreted as the order of magnitude by which DAS scores are higher at all times. Additionally, relative differences for time can be interpreted as the order of magnitude by which DAS scores changed over time (for subjects who did and did not report the predictor variables). For example, DAS scores are 1.30 times higher over time for subjects who reported a caregiver's emotional withdrawal (relative to those who did not). In addition the relative difference of 0.51 for time suggests that DAS scores decrease by nearly half by end of follow-up (for both those who did and did not report caregiver emotional withdrawal). Similarly, DAS scores are 1.36 times higher over time for subjects who reported inconsistent treatment from caregivers (relative to those who did not). In addition the relative difference of 0.51 for time suggests that DAS scores decrease by nearly half for both those who did and did not report caregiver inconsistent treatment.

A significant interaction changes the interpretation of the predictor and time effects. For analyses with a significant interaction, relative differences for the predictor can be

interpreted as the order of magnitude by which DAS scores differ at the initial (2-year) follow-up. Relative differences for time can now be interpreted as the order of magnitude by which the DAS scores changed over time for those who did not report the predictor variable, while relative differences for the interaction can be interpreted as the comparison of the change over time between subjects who did and did not report the predictor. Using caregiver failure to protect as an example, the relative difference of 2.50 for this predictor indicates that the DAS scores were 2.5 times greater at baseline for those who reported caregiver failure to protect at baseline (relative to those who did not). The relative difference of 0.70 for time indicates that the relative change from 2-year follow-up to 10-year follow-up resulted in a 30% [or $(1 - 0.70) \times 100\%$] decline among subjects who did not report caregiver failure to protect. In contrast, the significant interaction of 0.58 between predictor and time indicates that the relative decline from 2-year follow up to 10-year follow-up is approximately 59% [or $(1 - 0.70 \times 0.58) \times 100\%$] for subjects who reported caregiver failure to protect.

Due to the correlation and potential overlap of bivariate predictors of DAS score, we were interested in finding the smallest significant subset of predictors of DAS score. Using a backward selection method, three predictors were found to significantly predict DAS scores across the five follow-up periods in this joint analysis: verbal abuse, placing patient in parental role, failure to protect; in addition, there was a significant interaction between failure to protect and time (see Table 2). The magnitudes of the effects for verbal abuse and placing patient in parental role indicate that the mean DAS scores are approximately 50% and 40% higher for subjects who reported these two risk factors. The effect for failure to protect indicates that mean DAS scores is approximately twice as large at baseline but only 20% larger by end of follow-up.

Discussion

Three main findings have emerged from this study. The first is that childhood experiences of abuse and neglect were prevalent within our sample. In terms of specific forms of abuse, 71% reported a childhood history of emotional abuse, 75% reported a childhood history of verbal abuse, 58% reported a childhood history of physical abuse, and 62% reported a childhood history of sexual abuse. Regarding specific forms of neglect, 27% reported a childhood history of physical neglect, 47% reported a history of emotional withdrawal, 46% reported a history of inconsistent treatment, 71% reported denial of patient's feelings, 66% reported lack of real relationship with caretaker, 62% reported placing patient in parental role, and 59% reported failure to protect patient. These data further lay the foundation regarding the importance of abusive and neglectful experiences among borderline patients.

The second main finding is that numerous childhood experiences were related to the course of dysphoric affect among borderline patients over time in bivariate analyses. More specifically, experiences of sexual, physical, verbal, and emotional abuse were related to higher DAS scores over time. These results dovetail nicely with those of studies demonstrating an association between borderline pathology and history of abuse in childhood (Zanarini et al., 1997). Regarding experiences of physical neglect, emotional withdrawal, inconsistent treatment, denial of patient's feelings, lack of real relationship with

caretaker, placing patient in parental role, and failure to protect were related to higher DAS scores over time. Thus, these experiences may be critical in both the development and course of BPD. Furthermore, patients reporting physical abuse, sexual abuse, and failure to protect showed significantly greater decreases in dysphoric inner states in comparison to patients who did not report these types of adversity. Specifically, the magnitude of the effects of these specific adverse events decline over time. Interestingly, physical neglect was only marginally related to DAS scores over time, likely reflecting its lower prevalence within the sample.

The third main finding is that three of the childhood experience predictors of dysphoric inner states remained significant when considered jointly in multivariate analyses: verbal abuse, placing patient in parental role, and failure to protect. Importantly, the magnitude of these effects (40 – 50% for two of these factors) suggests clinical significance. These results are particularly interesting in light of previous findings regarding the relation between childhood abuse and neglect with self-destructive behaviors (i.e. suicide attempts and self-mutilation) over time (van der Kolk et al., 1991). This set of risk factors also make clinical sense. Borderline patients with more severe dysphoric inner states over time reported at baseline that they were likely to be verbally abused by one or both parents. This experience may well have left them feeling hurt and angry. They also experienced their parents as unable or unwilling to protect them from harm. Additionally, they felt compelled to protect their parents in a manner that was age-inappropriate.

A number of limitations to this study must be taken into account when interpreting its findings. First, the study was conducted on inpatients with BPD. As such, the results may not generalize to less severely ill patients with BPD. Future research focusing on borderline patients in outpatient clinical and primary care settings may reveal differences with less severe levels of borderline psychopathology. Additionally, about 90% of the patients who participated in the current study were in individual therapy and taking psychotropic medication at baseline. Furthermore, about 70% were participating in each of these outpatient modalities during each follow-up period (Horz et al., 2010). It remains possible that the relationship between childhood experiences and dysphoric states investigated in the current study may differ over time among untreated individuals. Finally, all of the information concerning pathological childhood experiences was obtained through retrospective self-report. Despite our strenuous efforts to assess the validity of reports of childhood experiences of childhood adversity through the use of detailed case vignettes, the possibility remains that our reports reflect the heightened sensitivity present in borderline patients to perceived failures in parenting. Future longitudinal research might benefit from administering both measures of childhood adversity and inner states concurrently over time to determine whether these recollections are sensitive to current severity of affective and cognitive states.

In summary, these findings suggest that childhood adversity may be a risk factor for the severe dysphoric inner states reported by borderline patients over time. However, other factors, such as aspects of temperament, may also be involved (Widiger, 1989).

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Table 1
CEQ-R Predictors of Mean DAS Score Over 10-Years of Prospective Follow-Up for Patients with Borderline Personality Disorder

Variable	N	%	Coeff	SE	z	p	Relative Difference	95% CI
Reported Caretaker Abuse								
Caretaker's emotional abuse	207	71.38	0.38	0.15	2.63	0.009	1.47	1.10 – 1.95
Time			–0.67	0.10	–6.87	<.001	0.51	0.42 – 0.62
Caretaker's verbal abuse	220	75.86	0.57	0.16	3.47	0.001	1.77	1.28 – 2.45
Time			–0.67	0.10	–6.87	<.001	0.51	0.42 – 0.62
Caretaker's physical abuse	170	58.62	0.61	0.17	3.56	<.001	1.84	1.31 – 2.58
Time			–0.42	0.17	–2.48	0.013	0.66	0.48 – 0.92
Interaction			–0.43	0.20	–2.11	0.035	0.65	0.44 – 0.97
Any sexual abuse	181	62.41	0.76	0.17	4.39	<.001	2.14	1.52 – 3.01
Time			–0.39	0.17	–2.23	0.026	0.68	0.48 – 0.95
Interaction			–0.45	0.21	–2.15	0.032	0.64	0.42 – 0.96
Reported Caretaker Neglect								
Caretaker's physical neglect	79	27.24	0.28	0.14	1.96	0.050	1.32	1.00 – 1.74
Time			–0.67	0.10	–6.87	<.001	0.51	0.42 – 0.62
Caretaker's emotional withdrawal	154	53.10	0.26	0.13	2.04	0.041	1.30	1.01 – 1.68
Time			–0.67	0.10	–6.87	<.001	0.51	0.42 – 0.62
Caretaker's inconsistent treatment	154	53.10	0.36	0.13	2.79	0.005	1.43	1.11 – 1.84
Time			–0.67	0.10	–6.88	<.001	0.51	0.42 – 0.62
Caretaker's denial of patient's feelings	207	71.38	0.43	0.15	2.83	0.005	1.54	1.14 – 2.07
Time			–0.67	0.10	–6.87	<.001	0.51	0.42 – 0.62
Lack of real relationship with caretaker	193	66.55	0.30	0.14	2.15	0.032	1.35	1.03 – 1.79
Time			–0.67	0.10	–6.87	<.001	0.51	0.42 – 0.62
Caretaker's placing patient in parental role	179	61.72	0.57	0.13	4.27	<.001	1.77	1.36 – 2.30
Time			–0.67	0.10	–6.88	<.001	0.51	0.42 – 0.62
Caretaker's failure to protect patient	172	59.31	0.92	0.17	5.5	<.001	2.50	1.80 – 3.47
Time			–0.36	0.15	–2.32	0.02	0.70	0.52 – 0.95
Interaction			–0.55	0.20	–2.77	0.006	0.58	0.39 – 0.85

Table 2

Multivariable CER-Q Predictors of Mean DAS Score Over 10 Years of Prospective Follow-Up for Patients with Borderline Personality Disorder

Variable	Coeff	SE	z	p	Relative Difference	95% CI
Caretaker's verbal abuse	0.73	0.17	4.28	<.001	2.07	1.48 – 2.90
Caretaker's placing patient in parental role	0.35	0.17	2.15	0.032	1.43	1.03 – 1.97
Caretaker's failure to protect	0.32	0.15	2.22	0.026	1.38	1.04 – 1.84
Caretaker's failure to protect by Time Interaction	–0.55	0.20	–2.76	0.006	0.58	0.39 – 0.85
Time	–0.36	0.15	–2.32	0.020	0.70	0.52 – 0.95