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CHILDHOOD MALTREATMENT ASSOCIATED WITH ADULT PERSONALITY DISORDERS: FINDINGS FROM THE COLLABORATIVE LONGITUDINAL PERSONALITY DISORDERS STUDY

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Adverse childhood experiences such as abuse and neglect are frequently implicated in the development of personality disorders (PDs); however, research on the childhood histories of most PD groups remains limited. In this multisite investigation, we assessed self-reported history of abuse and neglect experiences among 600 patients diagnosed with either a PD (borderline, schizotypal, avoidant, or obsessive-compulsive) or major depressive disorder without PD. Results indicate that rates of childhood maltreatment among individuals with PDs are generally high (73% reporting abuse; 82% reporting neglect). As expected, borderline PD was more consistently associated with childhood abuse and neglect than other PD diagnoses. However, even when controlling for the effect of borderline PD, other PD diagnoses were associated with specific types of maltreatment.

Personality disorders (PDs) are conceptualized as enduring, character-based patterns of pathology that first appear during adolescence or early adulthood (American Psychiatric Association, 1994). Theorists from diverse camps (Millon & Davis, 1996; Pretzer & Beck, 1996) frequently point to childhood experiences as being central to the development of PDs. In particular, adverse events such as abuse, neglect, prolonged separations, and early losses have been identified as risk factors with etiological significance (Johnson et al., 1999; Laporte & Guttman, 1996). In spite of the putative sa-

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lience of adverse childhood experiences in the development of PDs, relatively little empirical research has investigated the role of childhood maltreatment in the majority of PDs (Paris, 2000; Torgersen & Alnaes, 1992). A better understanding of the childhood events linked with specific forms of personality pathology may contribute to more effective treatments or early interventions to help prevent these disorders.

CHILDHOOD MALTREATMENT AND BORDERLINE PD

The diagnostic group that has received the majority of research attention with regard to adverse childhood experiences is borderline PD (BPD) (Gunderson & Sabo, 1993; Ruegg & Frances, 1995). Although a full summary is beyond the scope of this article, Zanarini (2000) provides a comprehensive review of empirical findings and an analysis of research trends of the past three decades. In general, research indicates that BPD patients report higher rates of both childhood abuse (Herman, Perry, & van der Kolk, 1989; Ogata et al., 1990; Soloff, Lynch & Kelly, 2002; Zanarini et al., 1989, 1997) and childhood neglect (Johnson et al., 2000; Zanarini et al., 1989, 1997) than individuals with other PDs (Zanarini et al., 1989) or other Axis I psychiatric disorders (Ogata et al., 1990).

Although there are discrepancies across studies regarding the types of abuse and neglect most salient in the childhood histories of BPD patients, childhood sexual abuse has often been identified as a factor that discriminates patients with BPD from those diagnosed with other PDs or other psychiatric disorders (Weaver & Clum, 1993). Studies examining multiple adverse childhood events have typically found that sexual abuse is common among BPD patients and that it often occurs within a context of multiple forms of abuse and neglect from both parents (Ogata et al., 1990; Zanarini et al., 1997, 2000a).

CHILDHOOD MALTREATMENT AND OTHER PDs

The substantial literature on the childhood histories of individuals with BPD contrasts with the relatively limited information regarding childhood maltreatment associated with other PD groups. Although some investigators have included patients with a variety of PD diagnoses to serve as Axis II controls in studies of childhood antecedents of BPD, data from these participants are typically collapsed into an "other PD" category. It is difficult to discern which, if any, adverse childhood experiences are common among individuals with specific PDs other than BPD. In existing research that has investigated the childhood histories of other distinct PD groups, typically three approaches have been used. First, a small number of studies have examined the childhood maltreatment histories reported by adult psychiatric patients with a nonborderline PD diagnosis (e.g., Arbel and Stravynski's [1991] examination of the childhood histories of individuals diagnosed with avoidant PD; Grilo and Masheb's [2002] investigation of childhood maltreatment and PDs among adults with binge eating disorder). Using a different approach, a few published studies assessed for personality pathology among individuals with documented childhood

maltreatment histories. For example, Luntz and Widom (1994) assessed antisocial PD traits and diagnosis among adults with documented child abuse or neglect histories and among a matched group of controls. Finally, a third set of studies assessed for childhood maltreatment history and current PD features among individuals in a college-based or community sample. An example is Gibb, Wheeler, Alloy and Abramson's (2001) study of PD features and self-reported sexual, physical, and emotional maltreatment history in a sample of undergraduates selected for cognitive vulnerability to depression. In general, these studies indicate that other PD groups, in addition to BPD, report or have documented histories of childhood maltreatment, and that differential patterns of abuse and neglect may exist for specific PD groups.

RATIONALE FOR CURRENT STUDY

This emerging body of research on childhood maltreatment associated with adult PDs has several limitations. First, as noted earlier, relatively few investigations have targeted distinct PD groups other than BPD, and consistent findings have not emerged from these studies. Second, investigations often rely on self-report measures of PD features, rather than a more stringent approach such as structured diagnostic interviews. Third, a comparison group is often not included, or the comparison group is a heterogeneous group of Axis II controls. Fourth, when diagnostic interviews have been used, the study often focused narrowly on one PD group (Luntz & Widom, 1994), or a comparison between two PD groups (Zanarini et al., 1989). Comparing findings across these studies is difficult given the variability in how pathological childhood experiences are conceptualized and assessed.

To date, no published studies have compared the childhood maltreatment experiences of patients from a large sample of multiple PD groups. Without such a comparison, it is difficult to determine the specific associations of abuse and neglect experiences among different PD groups and whether findings regarding childhood histories of BPD patients hold when multiple groups are examined concurrently. Thus, the primary goal of the present investigation is to expand the body of knowledge regarding adverse childhood experiences that precede adult PDs by examining not only BPD, but also other PD groups and a psychiatric comparison group.

We addressed the following three questions in this study. First, what is the frequency of childhood maltreatment among individuals with four common PDs: borderline (BPD), schizotypal (STPD), avoidant (AVPD), and obsessive-compulsive (OCPD), and how does this compare to those with a psychiatric comparison condition, major depressive disorder without PD (MDD)? We hypothesized that PD patients will, as a group, report higher rates of abuse and neglect compared with MDD patients. Second, do individuals with BPD report more childhood maltreatment than those with other PD diagnoses? Based on the literature, we hypothesized that patients with BPD will report more childhood maltreatment, particularly sexual abuse, compared with patients with other PDs. Third, are particular types of childhood maltreatment associated with other, non-BPD diagno-

ses? On a more exploratory basis, we examined whether unique associations exist between other PD diagnoses and specific adverse childhood experiences.

METHOD

The present study uses baseline data from the Collaborative Longitudinal PDs Study (CLPS), which involves four U.S. research sites: Boston, New Haven, New York, and Providence. The overall design and methodology have been described in detail earlier (Gunderson et al., 2000; McGlashan et al., 2000); the following is an overview of the sample, assessment procedures, and analyses relevant to this investigation. Earlier related work from the CLPS has examined risk factors and early manifestations of AVPD (Rettew et al., 2002) and the relation between lifetime traumatic experiences, PTSD, and BPD (Yen et al., 2002). The present analyses are the first to evaluate comprehensively multiple types of childhood maltreatment reported by patients in all four PD groups.

PARTICIPANTS

Participants were patients aged 18 through 45 years who were seeking treatment at clinics affiliated with the four CLPS sites; some additional participants were recruited from advertisements targeting individuals who had sought psychiatric treatment elsewhere. Participants were screened to exclude individuals with (a) acute substance intoxication/withdrawal, (b) active psychosis, (c) an IQ less than or equal to 85, (d) cognitive impairment, and (e) a history of schizophrenia, schizophreniform, or schizoaffective disorders. In addition, individuals had to meet inclusion criteria for one or more of the PDs targeted in the CLPS (STPD, BPD, AVPD, OCPD), as assessed by the Diagnostic Interview for DSM-IV PDs (DIPD-IV; Zanarini, Frankenburg, Sickel, & Yong, 1996), or for the comparison group, major depressive disorder without PD (MDD), as assessed by the Structured Clinical Interview for DSM-IV Disorders (SCID-I/P: First, Gibbon, Spitzer, & Williams, 1996). To promote validity of PD diagnoses, raters' diagnoses had to be confirmed by at least one other method of Axis II assessment, either the self-report Schedule for Adaptive and Nonadaptive Personality (SNAP; Clark, 1993) or the clinician-rated Personality Assessment Form (PAF; Shea, Glass, Pilkonis, Watkins, & Docherty, 1987). Although participants were selected for inclusion based on having one of the PDs targeted in the CLPS, many had other Axis II diagnoses as well; overall, the mean number of co-occurring PD diagnoses was 1.4 (McGlashan et al., 2000). The majority of PD patients also had comorbid Axis I disorders, with a mean number of Axis I lifetime diagnoses of 3.4 (McGlashan et al., 2000).

The total CLPS sample consisted of 668 participants, 63% of whom were women and 76% of whom were Caucasian. Before participation, all patients were provided with a full explanation of study procedures and signed a written informed consent form. Childhood experiences data were available for 600 of 668 participants. The final sample included in the present investigation consisted of 600 individuals, including 517 who were diag-

nosed with one or more of the targeted PDs (BPD [n = 214], STPD [n = 84]; AVPD [n = 298], OCPD [n = 242]) and 83 who were diagnosed with MDD without PD.

ASSESSMENT

This investigation used DIPD-IV and SCID-I/P data collected at the CLPS baseline assessment and Childhood Experiences Questionnaire-Revised data (CEQ-R; Zanarini et al., 1989), typically collected at the 6-month time point.

Diagnostic Interview for DSM-IV PDs (DIPD-IV). The DIPD-IV is a semistructured interview that consists of questions that target criteria of the 10 DSM-IV PDs. Clinicians rate participants' responses on a scale ranging from 0 (*not present*) to 1 (*present but clinically insignificant*) to 2 (*definitely present*). To be counted toward a diagnosis, personality traits had to be reported as characteristic of the respondent for the majority of his or her adult life. In the CLPS, interrater and test-retest reliability (κ) of the four-study PDs were .68 and .69 for BPD, .68 and .73 for AVPD, and .71 and .74 for OCPD, respectively. The reliability sample was too small to calculate interrater κ for STPD (Zanarini et al., 2000b); test-retest κ for STPD was .64 (Zanarini et al., 2000b).

Structured Clinical Interview for DSM-IV Axis I Disorders/Patient Version (SCID-I/P). The SCID-I/P (First et al., 1996), a widely used diagnostic interview, was used to assess for major Axis I disorders. Reliability of SCID-I/P diagnoses in the CLPS study ranged from .57 to 1.00, with a median κ of .76 (Zanarini et al., 2000b). Test-retest reliability ranged from .35 to .78, with a median κ of .64. Interrater reliability of the MDD diagnosis was .80; test-retest κ was .61 (Zanarini et al., 2000b).

Childhood Experiences Questionnaire - Revised (CEQ-R). The CEQ-R (Zanarini et al., 1989) is a semistructured interview that was used to assess retrospectively for a variety of childhood experiences, including five types of abuse (e.g., emotional, verbal, physical, caretaker sexual abuse, noncaretaker sexual abuse) and seven types of neglect (e.g., physical neglect, emotional withdrawal, inconsistent treatment, denial of feelings, lack of real relationship, parentification, failure to protect). The following sample item from the CEQ-R probes for physical abuse. "Before the age of 18, did either of your parents physically abuse you (e.g., often slap you around, throw things at you, or beat you until you had bruises)?" Respondents are asked to indicate whether the given event took place during three circumscribed childhood periods (e.g., between birth and five years, between 6 and 12 years, between 13 and 17 years) and whether the perpetrator was the male or female caretaker (or when applicable, a male or female noncaretaker). Interviewers did not assign a positive rating for an item unless detailed information regarding the event could be provided by the participant. A categorical rating (presence/absence) is given for each type of abuse or neglect at each time period. The CEQ-R has demonstrated solid psychometric properties: interrater reliability κs range from .64 to 1.00, with a median κ of .88 (Zanarini et al., 1989). Before analysis, relevant individual items were collapsed to create combined variables indicating a spe-

cific type of abuse or neglect that took place during the respondent's childhood. For example, the six items assessing for physical abuse from a male or female caretaker during the ages 0 to 5 years, 6 to 12 years, and 13 to 17 years were combined into a single physical abuse variable indicating presence or absence of the experience. This procedure for combining CEQ-R items has been used in prior research (Zanarini et al., 1997).

DATA ANALYSES

First, we examined the frequency of each type of childhood maltreatment reported by participants in our sample with STPD, those with BPD, those with AVPD, those with OCPD, and those with MDD. We used χ^2 tests to compare childhood maltreatment rates among participants with one or more PD diagnoses versus those with MDD only, and between PD participants with and without comorbid MDD. Next, because of the high degree of Axis II comorbidity in this sample (McGlashan et al., 2000), we conducted a series of logistic regressions to determine which DIPD-IV diagnoses were most strongly associated with each type of childhood maltreatment. These regression equations examined the extent to which an individual's diagnostic status on the four study PDs (i.e., dichotomous variables indicating presence/absence of diagnosis) was linked to a given form of maltreatment (i.e., a dichotomous variable indicating presence/absence of the experience). In the first step of each equation, we entered covariates of age, sex, and education in one block. In the second step, we entered all PD diagnostic variables. This second step included those PDs that were the primary focus of this study (i.e., BPD, STPD, OCPD, AVPD) as well as six additional nonstudy PDs (antisocial, dependent, depressive, paranoid, passive-aggressive, narcissistic). We included these nonstudy PDs given the relatively high frequency with which they appear as comorbid diagnoses ($n \geq 30$). We did not include two other comorbid PD diagnoses (i.e., schizoid [$n = 18$], histrionic [$n = 13$]) because they were not sufficiently represented in this sample ($n \leq 30$).

RESULTS

OVERALL RATES OF CHILDHOOD MALTREATMENT

As seen in Table 1, rates of reported childhood abuse and neglect among PD participants were generally high: nearly three-quarters (73%) reported a history of some form of childhood abuse, including 34% reporting sexual abuse by either a caretaker or noncaretaker. In addition, 82% indicated that they had experienced one or more of the seven types of childhood neglect assessed. Participants in the MDD comparison group also reported relatively high rates of abuse (51%) and neglect (68%). However, χ^2 analyses indicated that PD participants reported significantly higher rates of all types of abuse and higher rates of four of the seven types of neglect, when compared with participants with MDD but no PD diagnosis.

TABLE 1. Pathological Childhood Experiences Reported by Participants with Schizotypal, Borderline, Avoidant and Obsessive–Compulsive Personality Disorders, and Major Depressive Disorder Without Personality Disorder

Childhood Experience	STPD *N* = 84 *n* (%)	BPD *N* = 214 *n* (%)	AVPD *N* = 298 *n* (%)	OCPD *N* = 242 *n* (%)	Any study PD *N* = 517 *n* (%)	MDD without PD *N* = 83 *n* (%)	χ (1)	*p*
Caretaker's emotional abuse	45 (54)	141 (66)	166 (56)	121 (50)	277 (54)	25 (30)	15.74	0.000
Caretaker's verbal abuse	55 (66)	140 (65)	172 (58)	124 (51)	287 (56)	32 (39)	8.26	0.004
Caretaker's physical abuse	40 (48)	93 (44)	118 (40)	75 (31)	191 (37)	17 (21)	8.62	0.003
Caretaker's sexual abuse	9 (11)	39 (18)	34 (11)	16 (7)	56 (11)	2 (2)	5.85	0.016
Non–caretaker's sexual abuse	25 (30)	84 (39)	90 (30)	80 (33)	156 (30)	13 (16)	7.49	0.006
Any sexual abuse	30 (36)	94 (44)	103 (35)	86 (36)	176 (34)	14 (17)	9.81	0.002
Any type of abuse	67 (80)	174 (81)	226 (76)	174 (72)	377 (73)	42 (51)	16.91	0.000
Caretaker's physical neglect	20 (24)	72 (34)	64 (22)	43 (18)	106 (21)	11 (13)	2.40	0.122
Caretaker's emotional withdrawal	50 (60)	149 (70)	172 (58)	131 (54)	290 (56)	39 (47)	2.40	0.122
Caretaker's inconsistent treatment	44 (52)	114 (53)	130 (44)	92 (38)	226 (44)	26 (31)	4.51	0.034
Caretaker's denial of feelings	52 (62)	152 (71)	182 (61)	139 (57)	305 (59)	28 (34)	18.57	0.000
Lack of real relationship	42 (50)	126 (59)	153 (51)	119 (49)	263 (51)	30 (36)	6.21	0.013
Parentification of patient	25 (30)	140 (65)	106 (36)	89 (37)	189 (37)	29 (35)	0.08	0.776
Caretaker's failure to protect	33 (39)	97 (43)	99 (33)	66 (27)	171 (33)	17 (21)	5.24	0.022
Any type of neglect	71 (85)	193 (90)	257 (86)	195 (81)	425 (82)	56 (68)	9.76	0.002

Note. The first four columns (STPD, BPD, AVPD, OCPD) do not reflect mutually exclusive groups, as many study participants met criteria for more than one PD. The last two columns do reflect mutually exclusive groups: PD participants with one or more PD diagnosis versus MDD participants without a PD. Chi–square analyses compared the frequency of each childhood experience variable across these two groups (Any study PD vs. MDD without PD). STPD = schizotypal personality disorder; BPD = borderline personality disorder; AVPD = avoidant personality disorder; OCPD = obsessive compulsive personality disorder; MDD = major depressive disorder.

TABLE 2. Summary of Logistic Regression Analyses for DIPD Diagnosis Predicting Presence/Absence of Childhood Abuse History (Emotional Abuse, Verbal Abuse, Physical Abuse, Caretaker and Noncaretaker Sexual Abuse)

	Emotional Abuse			Verbal Abuse			Physical Abuse			Caretaker Sexual Abuse			Noncaretaker Sexual Abuse		
DIPD–IV Personality Disorder Diagnosis	***B***	***SE***	***OR***	***B***	***SE***	***OR***	***B***	***SE***	***OR***	***B***	***SE***	***OR***	***B***	***SE***	***OR***
Schizotypal (*N*=84)	–0.08	.28	0.92	0.35	.29	1.42	0.24	.28	1.27	–0.09	.48	0.91	0.48	.32	1.61
Borderline (*N*=214)	0.64*	.22	1.90	0.57*	.22	1.77	0.48	.22	1.62	1.13*	.36	3.08	0.96**	.24	2.61
Avoidant (*N*=298)	0.07	.20	1.08	0.20	.21	1.22	0.29	.21	1.34	–0.02	.34	0.98	0.18	.23	1.20
Obsessive–Compulsive (*N*=242)	–0.05	.21	0.95	–0.03	.21	0.97	–0.25	.21	0.78	–0.52	.36	0.60	0.84**	.23	2.32
Antisocial (*N*=43)	0.57	.38	1.77	1.39*	.46	4.01	0.68	.36	1.98	1.44*	.51	4.24	0.51	.40	1.67
Dependent (*N*=43)	0.34	.37	1.40	–0.44	.36	0.65	–0.23	.36	0.80	–0.57	.61	0.56	–0.08	.38	0.92
Depressive (*N*=163)	0.24	.22	1.28	0.25	.22	1.28	–0.24	.23	0.79	0.37	.35	1.44	–0.05	.24	0.95
Paranoid (*N*=76)	0.27	.29	1.31	0.25	.29	1.28	0.40	.29	1.49	0.81	.44	2.24	–0.49	.33	0.61
Passive–Aggressive (*N*=50)	–0.15	.36	0.86	–0.43	.37	0.65	–0.15	.37	0.86	–0.67	.61	0.51	–1.06	.45	0.35
Narcissistic (*N*=34)	–0.24	.40	0.79	0.06	.41	1.06	0.19	.40	1.21	–7.05	15.62	0.00	–0.83	.54	0.44
Gender	0.44	.20	1.55	0.27	.21	1.31	–0.09	.21	.91	1.45*	.44	4.27	0.81	.24	2.25
Age	0.02	.01	1.02	0.03*	.01	1.03	0.04**	.01	1.04	0.9**	.02	1.09	0.02*	.01	1.02
Education	–0.07	.05	0.93	–0.09	.05	0.91	–0.10	.06	.90	0.2	.09	1.02	–0.18*	.06	0.83

Note. Demographic variables were entered in the first block of each equation, and PD variables were entered in the second block. The four targeted study PDs (schizotypal, borderline, avoidant, and obsessive–compulsive) appear above other PD diagnoses. DIPD–IV = Diagnostic Interview for DSM–IV Personality Disorders; OR = odds ratio. *$p < .01$; ** $p < .001$.

In light of research indicating that women (Brown, Cohen, Johnson, & Salzinger, 1998) and individuals with major depression (Bifulco, Moran, Baines, Bunn, & Stanford, 2002) are more likely to have histories of certain types of abuse, we conducted additional χ^2 tests to examine whether rates of maltreatment differed between PD participants with versus without comorbid MDD and between male versus female PD participants. Because of the large number of statistical comparisons conducted, we report only those findings significant at a level of $p < .01$. Analyses comparing rates of childhood maltreatment among PD participants with a current or lifetime diagnosis MDD (74% of the PD sample) versus those without this comorbid diagnosis did not reveal significant differences. The rates of maltreatment reported by those with vs. without comorbid MDD were very similar, and in many cases identical. Chi-square analyses examining gender differences indicated that although most maltreatment rates were similar regardless of gender, female PD patients were more likely than their male counterparts to report certain types of experiences. Women with STPD were more likely to report some form of childhood sexual abuse ($\chi^2 = 6.69$, $p < .01$). More women than men with AVPD reported noncaretaker sexual abuse ($\chi^2 = 6.58$, $p < .01$), any form of sexual abuse ($\chi^2 = 11.49$, $p < .01$), and emotional denial ($\chi^2 = 6.34$, $p < .01$). OCPD women had higher rates of noncaretaker sexual abuse ($\chi^2 = 11.28$, $p < .01$), any form of sexual abuse ($\chi^2 = 13.29$, $p < .01$) and any form of abuse ($\chi^2 = 8.26$, $p < .01$).

ASSOCIATIONS BETWEEN BPD, STPD, AVPD, OCPD AND SPECIFIC TYPES OF ABUSE AND NEGLECT

To examine our hypotheses regarding the relative frequency of childhood maltreatment reported by patients with different PDs, we examined the association between PD diagnostic status and each abuse or neglect experience (Tables 2 and 3a, b). In each table, the odds ratio (OR) reflects the increased or decreased likelihood that a patient will report a given type of maltreatment if he or she has the PD diagnosis, relative to those without the diagnosis. An α level of $p < .01$ was used to indicate significance due to the large number of analyses.

Table 2 presents a summary of the logistic regression analyses for PD diagnoses predicting the presence or absence of the five types of childhood abuse. Several demographic variables were significantly associated with childhood abuse: (a) females reported more caretaker sexual abuse than males; (b) age was positively associated with verbal abuse, physical abuse, caretaker and noncaretaker sexual abuse; and (c) education level was negatively associated with noncaretaker sexual abuse. After controlling for these effects, two study PD diagnoses (BPD and OCPD) and one nonstudy PD (antisocial) were still significantly associated with one or more types of abuse. Having a diagnosis of BPD predicted whether emotional abuse, verbal abuse, caretaker sexual abuse, and noncaretaker sexual abuse were endorsed, above and beyond variance predicted by demographic variables and other PD diagnoses. OCPD diagnosis was a significant predictor of sexual abuse by a noncaretaker while controlling for other variables. Finally, al-

TABLE 3(a). Summary of Logistic Regression Analyses for PD Diagnosis Predicting Presence/Absence of Childhood Neglect History (Physical Neglect, Emotional Withdrawal, Inconsistent Treatment, Denial of Feelings)

DIPD–IV Personality	Physical Neglect			Emotional Withdrawal			Inconsistent Treatment			Denial of Feelings		
Disorder Diagnosis	***B***	***SE***	***OR***	***B***	***SE***	***OR***	***B***	***SE***	***OR***	***B***	***SE***	***OR***
Schizotypal ($N = 84$)	0.16	.34	1.18	0.31	.28	1.37	0.44	.28	1.55	0.24	.29	1.28
Borderline ($N = 214$)	1.29**	.27	3.65	0.92**	.22	2.52	0.53	.21	1.70	0.83**	.23	2.28
Avoidant ($N = 298$)	0.02	.25	1.02	0.17	.21	1.19	–0.02	.20	0.98	0.26	.21	1.29
Obsessive–Compulsive ($N = 242$)	0.85	.25	1.09	0.13	.21	1.14	–0.25	.20	0.78	0.19	.21	1.21
Antisocial ($N = 43$)	0.62	.39	1.85	0.32	.38	1.38	0.74	.36	2.10	0.67	.40	1.95
Dependent ($N = 43$)	0.65	.37	1.92	0.53	.39	1.70	0.18	.35	1.20	0.16	.38	1.18
Depressive ($N = 163$)	0.05	.26	1.05	0.03	.22	1.03	–0.10	.22	0.91	0.21	.22	1.23
Paranoid ($N = 76$)	0.14	.34	1.15	0.04	.29	1.04	0.02	.28	1.02	0.15	.29	1.16
Passive–Aggressive ($N = 50$)	0.03	.40	1.03	–0.15	.37	0.86	–0.19	.36	0.83	–0.32	.37	0.73
Narcissistic ($N = 34$)	–0.41	.51	0.66	–0.11	.40	0.90	0.30	.39	1.35	0.15	.41	1.16
Gender	0.22	.27	1.24	0.30	.20	1.35	0.45	.21	1.57	0.51	.21	1.66
Age	0.04*	.02	1.04	0.02	.01	1.02	0.02	.01	1.02	0.03	.01	1.03
Education	–0.08	.07	0.92	0.03	.06	1.03	0.00	.05	1.00	0.02	.06	1.02

Note. Demographic variables were entered in the first block of each equation, and PD variables were entered in the second block. The four targeted study PDs (schizotypal, borderline, avoidant, and obsessive–compulsive) appear above other PD diagnoses. DIPD–IV = Diagnostic Interview for DSM–IV Personality Disorders; OR = odds ratio.
*$p < .01$; **$p < .001$

TABLE 3(b). Summary of Logistic Regression Analyses for DIPD Diagnosis Predicting Presence/Absence of Childhood Neglect History (Lack of Real Relationship, Parentification, Failure to Protect)

DIPD–IV Personality	Lack of Real Relationship			Parentification of Patient			Failure to Protect		
Disorder Diagnosis	***B***	***SE***	***OR***	***B***	***SE***	***OR***	***B***	***SE***	***OR***
Schizotypal ($N = 84$)	–0.34	.28	0.71	–0.16	.29	0.86	0.42	.30	1.52
Borderline ($N = 214$)	0.46	.22	1.58	0.35	.22	1.42	0.90**	.23	2.47
Avoidant ($N = 298$)	–0.05	.20	0.95	–0.09	.21	0.91	–0.07	.22	0.94
Obsessive–Compulsive ($N = 242$)	0.00	.20	1.00	0.08	.21	1.09	–0.16	.22	0.86
Antisocial ($N = 43$)	0.66	.38	1.93	0.56	.36	1.75	0.58	.38	1.79
Dependent ($N = 43$)	0.60	.36	1.82	0.16	.35	1.18	0.23	.36	1.26
Depressive ($N = 163$)	–0.01	.21	0.99	0.23	.22	1.26	0.18	.23	1.20
Paranoid ($N = 76$)	0.54	.28	1.71	–0.15	.29	0.86	0.06	.30	1.06
Passive–Aggressive ($N = 50$)	–0.30	.36	0.74	–0.22	.36	0.80	–0.70	.40	0.50
Narcissistic ($N = 34$)	–0.09	.40	0.92	–0.01	.41	0.99	–0.48	.46	0.62
Gender	–0.16	.20	0.86	0.58*	.21	1.78	0.67*	.23	1.95
Age	0.03	.01	1.03	0.01	.01	1.01	0.05**	.01	1.05
Education	–0.08	.05	0.93	0.09	.06	1.10	–0.08	.06	0.92

Note. Demographic variables were entered in the first block of each equation, and PD variables were entered in the second block. The four targeted study PDs (schizotypal, borderline, avoidant, and obsessive–compulsive) appear above other PD diagnoses. DIPD–IV = Diagnostic Interview for DSM–IV Personality Disorders; OR = odds ratio.
*$p < .01$; **$p < .001$

though the CLPS was not specifically examining antisocial PD, results indicate that this comorbid diagnosis was associated with a reported verbal abuse and caretaker sexual abuse.

Tables 3a and b summarize analyses relevant to the seven childhood neglect variables. Again, several demographic variables were significant: (a) female participants were more likely to report parentification as a child and lack of protection by caretakers and (b) age was positively associated with reported physical neglect and lack of protection. Beyond these demographic predictors, only one PD diagnosis, BPD, predicted whether any of the seven childhood neglect experiences were reported. Specifically, BPD diagnosis was associated with caretakers' physical neglect, emotional withdrawal, denial of patient's feelings, and caretaker's failure to protect the patient from harm.

DISCUSSION

The present investigation examined the childhood histories of 600 adult PD patients to determine (a) the rate of childhood maltreatment reported by PD participants relative to those with MDD; (b) whether BPD patients have the highest rates of childhood maltreatment when other PD groups are examined concurrently; and (c) whether certain adverse childhood experiences are uniquely associated with other non-BPD diagnoses.

This study has three primary findings. First, results indicate that a very large proportion of PD patients report exposure to abuse or neglect while growing up: 73% of PD patients in this study disclosed prior abuse and 82% of PD patients reported childhood neglect. Compared with individuals with MDD and no PD diagnosis (who themselves had a relatively high rate of abuse and neglect, 51% and 68%, respectively), PD participants were significantly more likely to report several types of childhood maltreatment. Second, this investigation found that, when multiple PD diagnoses were examined concurrently, BPD was the Axis II diagnosis that was most strongly associated with childhood maltreatment. Third, our findings suggest that two other PD groups (OCPD, antisocial PD) may have elevated rates of certain forms of mistreatment. Below we elaborate on the specific findings relevant to BPD and those related to other Axis II diagnoses and non-PD variables.

CHILDHOOD EXPERIENCES REPORTED BY BPD PARTICIPANTS

Our finding that BPD is significantly associated with multiple types of childhood maltreatment confirms empirical findings noted earlier regarding the high rate of adverse childhood experiences associated with this diagnostic group (Ogata et al., 1990; Zanarini et al., 1997). After controlling for demographic variables and other PD diagnoses, BPD diagnosis was a predictor of several types of both abuse (e.g., emotional, verbal, caretaker and non-caretaker sexual abuse) and neglect (e.g., physical neglect, emotional withdrawal, emotional denial, and lack of protection). Consistent with our second hypothesis, these findings suggest that childhood maltreatment is indeed very common among individuals with BPD,

more so than among individuals with the other PDs examined in this study (STPD, AVPD, OCPD). Although our findings regarding nonstudy PDs (e.g., antisocial, dependent, depressive, paranoid, passive-aggressive, narcissistic) should be considered preliminary, our results suggest that BPD is associated with more types of abuse and neglect than those disorders.

The rates of specific childhood abuse and neglect experiences in our BPD sample were comparable to those documented in Soloff et al.'s (2002) recent study with a mixed sample of BPD inpatients and outpatients (e.g., 45.9% of their participants endorsed some form of past sexual abuse, whereas 44.1% of participants did in this study). Rates of the five types of abuse in this study were slightly lower compared with those documented in Zanarini et al.'s (1997) study of BPD inpatients, an investigation which used the same measure of childhood experiences (e.g., 72.6% of their BPD participants reported emotional abuse, whereas 65.9% of participants did in this study). The rates of neglect were not consistently lower in the present study and were in some cases the same or slightly higher. One possible explanation for the slightly lower rates of abuse in the CLPS compared with Zanarini et al.'s (1997) findings is that the BPD participants in the current study, mostly recruited as outpatients, were a less severely impaired sample than those recruited on inpatient units and might have experienced less childhood maltreatment than the more impaired inpatient sample. Alternatively, BPD participants in the current study may have been less likely to over-report (or more likely to under-report) negative childhood experiences because they were not in acute distress at the time of the interview, as some inpatients may have been.

Although the etiological significance of these early adverse events cannot be discerned from retrospective studies such as this one, the high proportion of BPD patients reporting abuse and neglect does support the notion that childhood maltreatment plays a role in the development of BPD and suggests that theories conceptualizing BPD as a trauma-spectrum disorder (Gunderson & Sabo, 1993; Herman et al., 1989) warrant further investigation. It should also be noted that, although our findings strengthen evidence for the frequency of childhood abuse and neglect among BPD patients, not all individuals who develop BPD report these types of adverse experiences.

CHILDHOOD EXPERIENCES REPORTED BY OTHER PD GROUPS

In addition to the strong association we found between BPD and several types of childhood maltreatment, other PD diagnoses were also associated with certain maltreatment experiences. One interesting and, to our knowledge, new finding was that OCPD diagnosis was associated with noncaretaker sexual abuse, above and beyond BPD and all relevant demographic characteristics. A total of 33% of the OCPD participants in this study disclosed that they had experienced this type of abuse during their childhood. A number of these participants also met criteria for BPD (40%), however the majority did not. Although it is difficult to discern whether this finding represents a true association versus merely a chance finding, fur-

ther research will be important in replicating and elucidating the association between noncaretaker sexual abuse and OCPD found in this dataset.

In addition, one of the PDs not explicitly targeted by this study, antisocial PD, was also associated with significant childhood maltreatment. Meeting diagnostic criteria for antisocial PD predicted whether caretaker sexual abuse and verbal abuse had been reported, above and beyond the variance accounted for by all other PDs and demographic characteristics. High rates of childhood abuse have been reported in prior studies involving adults with antisocial PD (Luntz & Widom, 1994); the present study extends those findings by identifying some specific types of childhood abuse that appear to be common among these individuals.

ASSOCIATIONS BETWEEN OTHER NON-PD VARIABLES AND REPORTED ABUSE AND NEGLECT

Demographic Variables. Although it was not the primary focus of this investigation, our analyses revealed several associations between demographic variables and childhood maltreatment that warrant brief comment. First, female PD participants were, across diagnostic groups, more likely than males to report caretaker sexual abuse and two types of childhood neglect (parentification, lack of protection). An elevated rate of sexual abuse among female PD patients was also observed specifically for patients with STPD, AVPD and OCPD. The finding of increased rates of caretaker sexual abuse in females is consistent with prior research (Finkelhor, Hotaling, Lewis, & Smith, 1990; Gorey & Leslie, 1997; Brown, Cohen, Johnson, & Salzinger, 1998). We also found that older PD participants were more likely to report a history of several types of abuse and neglect. Although we know of no literature documenting a relation between age and maltreatment history, there are several possible interpretations of this finding. One is that there was a cohort difference (i.e., older participants actually suffered more adverse experiences). Another is that actual maltreatment rates did not differ, but younger participants were less likely to disclose abuse and neglect due to greater emotional discomfort and less of a sense of resolution associated with these experiences, compared with their older counterparts. A third is that those who have PDs associated with significant childhood maltreatment are more apt to persist in seeking or needing psychiatric treatment. Finally, participants with less education were more likely to report noncaretaker sexual abuse. While this finding could be due to chance association, a possible interpretation is that experiencing sexual abuse as a child interferes with completion of academic goals and results in lower educational achievement, as suggested by Caffaro-Rouget, Lang, & van Santen (1989).

Abuse and Neglect Reported by Patients with MDD and Those With Comorbid PD/MDD. Although our primary emphasis was examining childhood maltreatment histories of individuals with PDs, it is notable that individuals in our MDD comparison group—comprised of patients who did not meet diagnostic criteria for any Axis II diagnosis - also reported relatively high rates of maltreatment. Over one-half of the MDD participants reported

some type of childhood abuse, and over two-thirds reported some form of childhood neglect. These findings are consistent with a burgeoning body of research examining childhood adversity as a precursor to adult depression. Although targeting a different clinical outcome in adulthood, this line of research may be important in establishing etiological pathways by which stressful experiences can lead to psychopathology. For example, Penza and colleagues have explored neurobiological pathways such as hypothalamic-pituitary-adrenal (HPA) axis dysfunction that may link early adverse experiences with later susceptibility to mood and anxiety disorders (Penza, Heim, & Nemeroff, 2003).

In this dataset, those PD participants who had comorbid MDD did not report significantly more childhood maltreatment than those without MDD. In fact, rates were nearly identical between the two groups. Although this negative finding could be accurate, it is also possible that an effect of MDD comorbidity could not be detected in this study because such a large proportion of this treatment-seeking PD sample had current or lifetime MDD (78% of the overall CLPS sample, 74% in the sample included in the present analyses). Also, as noted in a previous report from this study (McGlashan et al., 2000), although the overall rate of MDD comorbidity among CLPS PD participants was high, these rates did not differ by specific PD group; having comorbid MDD was equally likely regardless of PD group. To tease out more carefully the association between childhood maltreatment and the development of various PDs and MDD, it would be important to have a sample with sufficient numbers of individuals with PDs who did not have a comorbid MDD diagnosis.

LIMITATIONS

This research has several limitations. Most importantly, assessment of childhood maltreatment was based on retrospective reporting by adult patients, an approach that is often accurate (Brewin, Andrews, & Gotlib, 1993), yet is inherently less precise than prospective studies with multiple informants (Maughan & Rutter, 1997). Although the validity of the patient report of childhood abuse and neglect was likely strengthened by use of a structured interview approach that included follow-up questioning to identify examples of each experience, there may still be reporting biases limiting the accuracy of the information obtained. PD patients may over-report experiences of childhood maltreatment to elicit sympathy, justify symptoms, or because of memory problems, or they may under-report such experiences due to shame or failure to recall negative childhood events (Williams, 1994). Conversely, abuse and neglect experiences were typically obtained 6 months following the diagnostic interview, thus minimizing the potential effects from acute distress suffered at entry into the study (recall that most participants were recruited from treatment sites).

Another limitation is that only four PD groups were targeted during recruitment. Although several other PDs were ultimately represented, findings regarding these PD groups must be considered preliminary because these individuals may not be representative. Future studies are needed to

identify specific childhood antecedents of other PD groups not included in the present study. Our sample was also largely treatment seeking, which likely limits the generalizability of findings. Individuals who are not in treatment may be higher functioning, less symptomatic, and may have experienced fewer adverse events during childhood. The high rate of abuse and neglect among PD patients found in the present study may only apply to PD patients with symptoms and impairment that warrant psychiatric treatment.

CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH

The present investigation is the first to compare the childhood abuse and neglect histories of a large number of patients from multiple, distinct PD groups, and extends existing research that is predominantly limited to the adverse childhood experiences reported by BPD patients. Primary findings are that rates of abuse and neglect are high across all four CLPS PD groups. Although BPD was most consistently associated with multiple forms of childhood maltreatment, other PD groups were uniquely associated with specific adverse events. Further research addressing the specificity suggested by our results, in addition to prospective longitudinal designs (e.g. following children with known histories of abuse and neglect, such as the work conducted by Johnson et al., [1999, 2000]) will help clarify these associations and may help to provide discriminant validity for various PDs. In addition, because not all children exposed to abuse and neglect develop personality pathology or Axis I disorders in adulthood (McGloin & Widom, 2001), it is important for future studies to examine not only negative childhood experiences such as abuse and neglect, but also protective factors that may serve as buffers (e.g. positive relationships with parents, other adults, or peers), reducing risk for pathology. Moreover, the inclusion of other psychological and biological correlates (e.g. changes in HPA axis associated with exposure to traumatic events) may clarify mediating and modifying factors in the developmental psychopathology of PDs (Cicchetti & Rogosch, 2001). This more contextualized perspective should provide a clearer understanding of the developmental pathways that lead to adult psychopathology, and inform both early intervention efforts to prevent maltreated children from developing these disorders, and new treatments designed to help adults already diagnosed.

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