

# Psychosocial impairment and treatment utilization by patients with borderline personality disorder, other personality disorders, mood and anxiety disorders, and a healthy comparison group

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## Abstract

This study compared psychosocial functioning and treatment utilization in 130 participants who were diagnosed with a borderline personality disorder (BPD), a non-BPD personality disorder (OPD), a mood and/or anxiety disorder (MAD), or had no current psychiatric diagnosis and served as a healthy comparison group. *Diagnostic and Statistical Manual of Mental Disorders (4th Edition)* diagnoses, psychosocial functioning, and treatment utilization were determined by using well-established semistructured research interviews conducted by trained doctoral-level clinicians. Analysis of variance revealed the most severe deficits in functioning characterized the BPD group across areas of global functioning with more moderate impairments in functioning occurring in OPD and MAD groups. The BPD group was characterized by significantly greater psychiatric and nonpsychiatric treatment utilization than the other groups. These findings indicate that BPD as well as other personality disorders are a source of considerable psychological distress and functional impairment equivalent to, and at times exceeding, the distress found in mood and anxiety disorders. The public health impact of BPD diagnosis is highlighted by the high rates of psychiatric and nonpsychiatric treatment utilization.

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## 1. Introduction

Impairment in psychosocial functioning is a generic requirement for assigning psychiatric diagnoses and is considered an integral aspect of diagnosing personality disorders (PDs). The *Diagnostic and Statistical Manual of Mental Disorders (4th Edition)* [1] states that symptoms must cause “clinically significant distress or impairment in social, occupational, or other important areas of functioning” to make a psychiatric diagnosis. A few studies have examined psychosocial functioning in PDs relative to other psychiatric disorders, and even fewer have examined whether specific areas of impairment differ between personality disorder groups, particularly between groups with borderline personality disorder (BPD) and other PD diagnoses or healthy controls. In particular, it remains unknown whether there are areas of psychosocial impairment *specific* to PD or whether impaired functioning is similar to that observed for other psychiatric disorders, relative to psychiatrically healthy controls.

Research suggests that patients with any PD are more functionally impaired than those without a PD [2]. Recent research has documented that individuals with BPD exhibit considerable functional impairment in relation to other diagnoses. A controlled comparison of functional impairment in patients with PDs revealed that individuals with BPD have greater impairment than individuals with other PD diagnoses [3], and substantially greater impairment than patients with major depressive disorder without coexisting PD [4]. Other research suggests that schizoid, antisocial, histrionic, and avoidant along with borderline PDs predict lower functioning even when controlling for axis I disorders [5]. Psychosocial impairment, particularly with social relationships, also seems relatively stable over time [6]. Research has also examined the impact that PD diagnoses have on psychiatric and medical treatment utilization. Previous studies on individuals with PD diagnoses demonstrated that BPD individuals differ in usage of outpatient, inpatient, and psychopharmacologic treatments when compared to other PD groups [7,8] and when compared to major depression groups without PD [9]. Patients with BPD also receive more psychotropic medications when compared to all other non-PD diagnostic groups [10,11]. Such findings,

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Table 1

Marital, educational, occupational, and treatment status of participants in the MAD, OPD, and BPD groups relative to healthy control comparison group

Status	BPD (n = 46)			OPD (n = 24)			MAD (n = 28)			Healthy % (n = 32)
	%	Odds ratio <sup>a</sup>	99% CI	%	Odds ratio <sup>a</sup>	99% CI	%	Odds ratio <sup>a</sup>	99% CI	
<b>Marital</b>										
Married/living together	23.9	0.60	0.16–2.22	33.3	0.96	0.22–4.16	21.4	0.52	0.11–2.39	34.4
Never married	56.5	0.89	0.27–2.96	50.0	0.68	0.17–2.78	60.7	1.06	0.27–4.13	59.4
Separated/divorced	19.6	3.65	0.44–30.12	16.7	3.00	0.29–31.50	17.9	3.26	0.34–31.57	6.3
<b>Educational</b>										
High school or less	31.8	4.04	0.68–23.9	13.6	1.37	0.15–12.9	23.0	2.60	0.36–18.8	10.3
Partial college	45.5	0.78	0.23–2.67	68.1	2.00	0.44–9.13	34.6	0.49	0.12–2.06	51.7
College or more	22.7	0.48	0.12–1.86	18.2	0.36	0.06–2.06	42.3	1.20	0.29–4.97	37.9
<b>Occupational</b>										
Currently employed	44.4	0.70	0.21–2.37	43.5	0.67	0.16–2.83	70.3	2.08	0.49–8.75	53.3
Unemployed	6.7	2.07	0.01–43.25	8.7	2.76	0.11–70.52	11.1	3.63	0.17–77.16	3.3
Disabled	28.9	11.78	0.75–184.92	17.4	6.11	0.31–120.0	7.4	2.32	0.09–58.77	3.3
Other (homemaker, student)	20.0	0.43	0.11–1.70	30.4	0.76	0.11–1.70	11.1	0.22	0.03–1.38	36.7

CI indicates confidence interval.

<sup>a</sup> Likelihood of endorsing status variable relative to that of a participant in the healthy control group.

which require replication, would be further enhanced by comparisons to a broader axis I psychiatric diagnosis group as well as to a nonpsychiatric, healthy group.

Although research has differentiated impairment in BPD patients relative to other PDs and to major depression, research has not examined the clinical significance of dysfunction between these groups when compared to a healthy group. A healthy comparison group is advantageous in providing a context for specific psychosocial impairment while elucidating areas of general psychosocial impairment. A psychiatric comparison group composed of mood and anxiety disorders would extend previous investigations comparing patients with PDs to patients with major depression [4,9]. The inclusion of a variety of anxiety and mood disorders would accurately reflect the increased rates of comorbidity of these disorders in patients with BPD [12,13] and would expand upon understanding of the specific psychosocial impairments present in patients with PDs above and beyond patients with a variety of mood or anxiety disorders (MADs). The identification of specific areas of impaired functioning may be useful in providing areas for focused evaluation, intervention, and distinguishing the profile of impairment of PDs distinct from affective or anxiety disorder groups without personality pathology.

This study compared psychosocial functioning and treatment utilization in 4 groups: individuals diagnosed with BPD, individuals diagnosed with 1 or more non-BPD personality disorder diagnosis (OPD), individuals diagnosed with a current MAD with no PD diagnosis, and a group of healthy individuals with no PD diagnoses and no current or recent MAD (healthy control).

## 2. Methods

Participants were respondents to broad media advertisements posted in newspapers, online, and on public notice boards for men and women between the age of 18 and 50 to

participate in studies on personality, emotion, and mood being conducted at a medical school in an urban setting. Participants were excluded from participation if there were psychiatric contraindications (eg, acute psychosis or a schizophrenia spectrum diagnosis indicative of thought disorder) or mental status issues (eg, substantial cognitive impairments, acute substance intoxication or withdrawal) that would preclude a valid assessment. This study was reviewed by the institutional review board and approved by the human investigation committee at the Yale School of Medicine. Written informed consent was obtained from all participants before their entry in the study.

Of the 130 participants, 41 (31.5%) men and 84 (64.6%) were women. The mean age was 34 years (SD, 11.16) and the age range was 19 to 56 years old. Seventy-five percent of the participants were white, 10% were African American, 5% were Hispanic or Latino, and 3% were Asian.

Participants were interviewed by experienced doctoral-level research clinicians with the Structured Clinical Interview for DSM-IV Axis I Disorders—Patient Edition [14] and the Diagnostic Interview for DSM-IV Personality Disorders [15]. Psychosocial functioning was assessed with the Longitudinal Interval Follow-up Evaluation—Baseline Version [16], which includes assessment of functioning in employment, household duties, student work; interpersonal relationships with parents, siblings, spouse/mate, children, other relatives, and friends, and recreation. The Longitudinal Interval Follow-up Evaluation generates 3 ratings of global functioning: global satisfaction, global social adjustment, and allows for determination of the DSM-IV axis V global assessment of functioning (GAF) score. Most areas of functioning were rated on a 5-point scale (1, no impairment, high level; 2, no impairment, satisfactory level; 3, mild impairment; 4, moderate impairment; 5, severe impairment) and GAF was measured on a 100-point scale with 100 indicating the highest possible level of functioning. Ratings were made for typical functioning within the

Table 2  
Psychosocial impairment in month before assessment

	BPD		OPD		MAD		Healthy		F value	P	Posthoc <sup>a</sup>
	Mean	SD	Mean	SD	Mean	SD	Mean	SD			
Employment	1.70	1.74	1.29	1.40	1.54	1.20	0.78	0.87	2.92	.04	H < M, B
Household duties	2.96	1.17	2.29	0.86	2.04	1.14	1.63	0.83	11.28	.00	H < O < B; M < B
Student work	0.46	1.05	0.29	0.55	0.32	0.67	0.56	0.80	0.66	.58	
Interpersonal relationships											
Parents	3.02	2.43	2.33	1.99	2.57	2.01	2.13	1.85	1.26	.29	
Siblings	3.50	2.46	3.21	2.17	2.86	2.24	2.09	1.86	2.65	.05	H < B
Spouse/mate	1.02	1.48	0.79	1.22	0.46	0.99	0.66	0.83	1.38	.25	
Children	1.39	2.13	0.79	1.22	0.68	1.19	0.41	0.76	2.93	.04	H < B
Relatives	0.57	1.15	0.71	1.04	0.79	0.88	0.63	0.91	0.31	.82	
Friends	3.04	1.19	2.38	1.10	1.93	1.05	1.75	1.14	10.09	.00	H < O < B; M < B
Recreation	2.87	1.29	2.21	1.18	2.25	1.08	1.66	0.94	7.21	.00	H, M, O < B
Global satisfaction	3.24	1.04	2.67	0.96	2.50	0.92	1.63	0.71	19.23	.00	H < M, O < B
Global social adjustment	3.80	0.86	3.08	1.18	2.93	0.90	1.75	0.80	31.42	.00	H < M, O < B
Global assessment of functioning	56.09	11.49	61.63	12.76	64.39	12.30	80.25	8.60	29.78	.00	B < M < H; O < H

H indicates healthy group; M, MAD; O, OPD; B, BPD.

<sup>a</sup> Duncan posthoc comparisons were performed on significant univariate effects ( $P < .05$ ).

last month as well as the best 6 months of functioning reported by the participant over the past 2 years.

Study group assignment was determined by information obtained in the assessment interviews and was congruent with DSM-IV guidelines. Participants in the BPD group ( $n = 46$ ) could meet the criteria for axis I diagnoses as well as other PDs along with a BPD diagnosis. Participants in the OPD group ( $n = 24$ ) represent a broad spectrum of non-BPD personality diagnoses with many comorbid PD diagnoses. The most frequent PD diagnoses or features were avoidant ( $n = 12$ ) and obsessive-compulsive ( $n = 7$ ) PD. Participants in the MAD group ( $n = 28$ ) met criteria for a current mood or an anxiety disorder. The majority ( $n = 20$ ) met criteria for some type of depressed mood disorder (major depressive episode, dysthymic, or depressive disorder NOS) and many met criteria for an anxiety disorder ( $n = 16$ ). Participants in the MAD group did not meet full criteria for any PD. Participants in the healthy group ( $n = 32$ ) did not meet criteria

for any current DSM-IV disorder. Lifetime history of psychiatric disorders in the healthy group was determined, but any lifetime diagnoses needed to be fully remitted before assessment. The heterogeneous patient study groups enhance the generalizability of this study by allowing for the well-known comorbidity that is characteristic of patients with mood, anxiety, and personality disorders [12].

### 3. Results

#### 3.1. Demography

Table 1 summarizes the differences in demographic characteristics of the study groups. Logistic regression analyses were used to test the likelihood that groups differed in marital status, educational attainment, and employment status. Odds ratios with 99% CIs were calculated comparing each of the study groups to the healthy comparison group.

Table 3  
Psychosocial impairment for 6 months during which subject was functioning at best within the past 2 years

	BPD		OPD		MAD		Healthy		F value	P	Posthoc <sup>a</sup>
	Mean	SD	Mean	SD	Mean	SD	Mean	SD			
Employment	1.91	1.58	1.42	1.29	1.57	1.07	0.91	0.64	4.23	.01	H < M, B
Household duties	2.65	1.27	2.13	0.80	1.82	0.98	1.38	0.55	11.24	.00	H < O < B; M < B
Student work	0.46	0.69	0.58	1.02	0.39	0.57	0.66	0.94	0.69	.56	
Interpersonal relationships											
Parents	3.17	2.47	2.25	1.70	2.71	2.11	2.16	1.83	1.77	.16	
Siblings	3.46	2.52	3.04	2.16	2.75	2.14	2.09	1.86	2.44	.07	
Spouse/mate	0.85	1.32	0.67	1.05	0.43	0.79	0.69	0.86	0.90	.44	
Children	1.50	2.26	0.79	1.22	0.50	0.75	0.41	0.76	4.13	.01	H, M < B
Relatives	0.65	1.29	0.71	1.04	0.82	0.95	0.66	0.87	0.17	.92	
Friends	2.76	1.34	2.42	1.14	1.89	0.99	1.69	1.18	6.16	.00	H < O, B; M < B
Recreation	2.41	1.15	2.25	0.99	2.07	1.09	1.47	0.92	5.35	.00	H < M, O, B
Global satisfaction	2.43	1.07	2.50	0.98	1.93	0.86	1.41	0.62	10.09	.00	H < M < O, B
Global social adjustment	3.57	0.89	2.96	1.12	2.64	1.10	1.59	0.76	27.41	.00	H < M, O < B
Global assessment of functioning	58.65	10.58	63.29	12.09	67.54	13.53	81.81	8.31	28.65	.00	B < M < H; O < H

<sup>a</sup> Duncan posthoc comparisons were performed on significant univariate effects ( $P < .05$ ).

As summarized in Table 1, logistic regression analyses revealed no significant differences between groups in these demographic features.

### 3.2. Psychosocial functioning

Table 2 summarizes differences in psychosocial functioning between study groups for the month before assessment and Table 3 summarizes differences in psychosocial functioning between study groups for the 6 months within the past 2 years during which subjects were functioning at their best. An analysis of covariance was used to determine multivariate effects while controlling for sex and ethnicity. No significant effects for sex ( $F = 1.22, P = .22$ ) or ethnicity ( $F = 1.06, P = .40$ ) were found. However, a significant effect was found for study group ( $F = 1.42, P = .01$ ).

Univariate analyses of variance revealed significant effects for 9 of 13 assessed areas of functioning during the month before assessment and 8 of 13 assessed areas of functioning during the best 6 months in the past 2 years. Therefore, Duncan posthoc tests were performed to determine specific differences. Differences between study groups were found during both periods for the following areas: employment, household duties, relationships with children, relationships with friends, recreation, global satisfaction, global social adjustment, and global assessment of functioning. Significant differences in relationships with siblings were also found for the month before assessment.

Posthoc analyses between study groups on the 3 global measures of functioning identified a similar pattern across scales. Ratings of global satisfaction for the month before assessment revealed that the BPD group was significantly more dissatisfied than the MAD or OPD groups, which were significantly more dissatisfied than the healthy group. Ratings of global satisfaction for the best 6 months within the past 2 years revealed that the BPD and OPD groups were significantly more dissatisfied than the MAD group, which was significantly more dissatisfied than the healthy group.

Ratings of global social adjustment revealed that the BPD group was significantly more socially impaired than the MAD and OPD groups, which were significantly more socially impaired than the healthy group. This pattern was true for global social adjustment during the month before assessment and the best 6 months over the past 2 years. Ratings of GAF scores revealed that the BPD group had greater functional impairment than the MAD group, which had greater functional impairment than the healthy group. The OPD group had greater functional impairment than the healthy group with a mean GAF score between, but not significantly different from, the BPD group or the MAD group. This pattern was true for functional impairment during the month before assessment and the best 6 months over the past 2 years.

Posthoc analyses between study groups were examined for 10 specific areas of impairment. Employment ratings revealed that the BPD and the MAD groups were significantly more impaired than the healthy group in work performance during the month before assessment and for the best 6 months. Interestingly, the OPD group was not significantly different from the healthy group in terms of work functioning. Household ratings revealed that the BPD group was significantly more impaired in performing household duties than the MAD or the OPD group, and the OPD group was significantly more impaired in performing household duties than the healthy group. There were no significant differences between groups in impairment of student work although this finding may be accounted for by a low frequency of students across groups. Recreation ratings revealed that the BPD group was significantly more impaired in recreational activities than all the other study groups for the month before assessment. However, recreation ratings for the best 6 months revealed that the BPD, the OPD, and the MAD groups were significantly more impaired in recreational activities than the healthy group. Ratings for relationships with siblings and children for the month before assessment revealed more dysfunction in the BPD group compared to the healthy group. Ratings of relationships with

Table 4  
Treatment utilization by subjects within the past 6 months

	BPD		OPD		MAD		Healthy		F value	P	Posthoc <sup>a</sup>
	Mean	SD	Mean	SD	Mean	SD	Mean	SD			
Individual psychotherapy (mo)	3.83	4.11	1.88	2.51	0.96	2.13	0.75	4.24	6.16	.00	H, M, O < B
Group psychotherapy (mo)	1.50	2.40	0.13	0.61	0.21	1.13	0.00	0.00	8.09	.00	H, M, O < B
Family therapy (mo)	0.22	0.99	0.04	0.20	0.21	0.96	0.00	0.00	0.77	.51	
Self-help groups (mo)	1.65	2.61	0.42	1.32	0.50	1.60	0.00	0.00	6.05	.00	H, M, O < B
Day treatment (wk)	3.13	9.72	0.42	1.53	0.00	0.00	0.00	0.00	2.66	.05	H, M, O < B
Psychiatric hospitalization (wk)	1.10	3.04	0.13	0.61	0.07	0.38	0.00	0.00	3.16	.03	H, M, O < B
Half-way house (wk)	2.09	5.89	0.08	0.41	0.00	0.00	0.00	0.00	3.40	.02	H, M, O < B
Hospital (nonpsychiatric)											
No. of admissions	0.07	0.33	0.04	0.20	0.00	0.00	0.06	0.25	0.47	.70	
Total days	0.11	0.61	0.04	0.20	0.00	0.00	0.16	0.72	0.54	.65	
Outpatient visits (nonpsychiatric)	6.35	8.53	2.92	4.12	1.61	3.04	2.59	2.71	5.06	.00	H, M, O < B
Current no. of psychiatric medications	2.02	1.89	0.83	1.55	0.82	1.52	0.13	0.34	10.92	.00	H, M, O < B

<sup>a</sup> Duncan posthoc comparisons were performed on significant univariate effects ( $P < .05$ ).

Table 5  
Treatment utilization by subjects in the past

	BPD		OPD		MAD		Healthy		F value	P	Posthoc <sup>a</sup>
	Mean	SD	Mean	SD	Mean	SD	Mean	SD			
Individual psychotherapy (mo)	82.33	87.28	22.42	38.60	28.68	49.04	5.41	12.49	12.37	.00	H, M, O < B
Group psychotherapy (mo)	18.80	42.12	4.63	15.88	2.82	11.48	0.00	0.00	3.98	.01	H, M, O < B
Family therapy (mo)	6.13	19.89	1.00	2.70	5.54	12.38	0.44	1.52	1.67	.18	
Self-help groups (mo)	16.73	35.55	12.79	42.69	8.14	25.52	12.50	70.71	0.20	.90	
Day treatment (wk)	23.04	34.72	3.92	11.49	3.29	10.96	0.00	0.00	9.13	.00	H, M, O < B
Psychiatric hospitalization (wk)	14.47	26.04	1.42	4.15	5.54	26.41	0.00	0.00	4.15	.01	H, O < B
Half-way house (wk)	16.20	41.17	0.08	0.41	0.64	2.50	0.00	0.00	4.16	.01	H, M, O < B
Hospital (nonpsychiatric)											
No. of admissions	2.78	6.20	0.87	1.25	1.00	1.44	0.97	1.79	2.16	.10	
Total days	32.44	87.39	5.79	13.0	5.81	12.47	3.53	6.09	2.66	.05	H, M, O < B
Outpatient medical visits											
In past year	12.15	14.66	4.58	6.30	3.79	5.22	5.13	5.73	5.98	.00	H, M, O < B
Psychiatric medications											
Total no. in the past	3.58	4.74	1.58	2.52	1.07	2.09	0.03	0.18	8.59	.00	H, M, O < B

<sup>a</sup> Duncan posthoc comparisons were performed on significant univariate effects ( $P < .05$ ).

children for the best 6 months revealed more dysfunction in the BPD group than the MAD or the healthy group. Ratings of friendships for the month before assessment revealed that the BPD group had significantly more dysfunction in friendships than the OPD group or the MAD group, and both the BPD and OPD groups were significantly more dysfunctional in relations with friends than the healthy group. Ratings of friendships for the best 6 months in the past 2 years revealed that the BPD and OPD groups had significantly more dysfunction in friendships than the healthy group and the BPD group had significantly more dysfunction in friendships than the MAD group.

### 3.3. Treatment utilization

Table 4 summarizes differences between groups on treatment utilization variables (both psychiatric and nonpsychiatric) for the 6 months before assessment and Table 5 summarizes differences between groups on treatment utilization variables for the lifetime history of the participants. Univariate analyses of variance revealed significant effects between study groups for 7 of 8 assessed areas in psychiatric treatment and 1 of 3 areas in nonpsychiatric treatment within the 6-month period before assessment, and 6 of 8 assessed areas in psychiatric treatment and 2 of 3 areas in nonpsychiatric treatment within the lifetime history of the participants. Therefore, Duncan posthoc tests were performed to determine specific differences. Differences between study groups were found during both periods for the following areas of psychiatric and nonpsychiatric treatment utilization: individual psychotherapy, group psychotherapy, day treatment, psychiatric hospitalization, half-way house, outpatient medical visits, and number of psychiatric medications. Differences between study groups were also found for self-help groups within the past 6 months and for days spent in the hospital for nonpsychiatric admissions.

Duncan posthoc tests indicate that members of the BPD group use more individual and group psychotherapy, day

treatment, half-way house programs, outpatient (nonpsychiatric) medical visits, and psychiatric medications than the OPD, the MAD, or the healthy group for both the past 6 months and their lifetime. The BPD group was also significantly different from the healthy, the MAD, or the OPD group in time spent in self-help groups over the past 6 months. The BPD group spent more time inpatient for psychiatric hospitalizations in the past 6 months than the OPD, the MAD, or the healthy group, and spent more time inpatient for psychiatric hospitalizations in their lifetime compared to the OPD or the healthy group. Although there was no difference in number of hospital admissions for nonpsychiatric reasons, the BPD group spent more total days in the hospital for physical health reasons in their lifetime than the OPD, the MAD, or the healthy group.

## 4. Discussion

This study examined psychosocial functioning and treatment utilization in 4 groups: individuals diagnosed with BPD, individuals diagnosed with 1 or more OPD, individuals diagnosed with a current MAD with no PD diagnosis, and a group of healthy individuals with no current psychiatric diagnoses. Although several studies have documented functional impairment in patients with PDs compared to patients with axis I disorders, none have documented the clinical impairment of these groups in relation to each other and a healthy comparison group. The use of heterogeneous diagnostic groups enhances the generalizability of these results by allowing for well-known comorbidities that are characteristic of patients with mood, anxiety, and PDs. The inclusion of a healthy comparison group allows for more definitive statements on psychosocial impairment and treatment patterns within psychiatric groups.

The results from this study support several conclusions. First, analyses revealed differences between groups for both global and specific areas of psychosocial functioning.

Individuals in the BPD group were characterized by substantially lower psychosocial functioning levels for global and specific areas than healthy individuals, and frequently significantly more impairment than either the OPD or the MAD group. Individuals in the OPD and MAD groups were also characterized by lower psychosocial functioning in global and specific areas than healthy individuals. These findings match similar patterns of severe impairment in BPD identified by Skodol et al [4] and Zanarini et al [3]. In addition, the healthy comparison group elucidates clinically significant differences in patients with OPD that were undifferentiated in previous research from axis I comparison groups. Second, these differences followed relatively similar [patterns between groups in the extent of impairment each group exhibited. GAF scores, a frequent basis for determining psychiatric services, typify the pattern found between these groups. In general, the BPD group exhibited significantly more impaired functioning than the MAD group, which exhibited more moderate, but still significant, impaired functioning than the healthy group. The OPD group exhibited significantly impaired functioning from the healthy group with functioning ratings between, but not significantly different from, the BPD group and the MAD group. Third, these deficits in psychosocial functioning were, in general, present in both the month before the assessment and the best 6 months within the past 2 years, suggesting a longer-term dysfunction not accounted for by any acute symptomatic pattern.

Specific areas of functioning identify interesting differences in impairment between diagnostic groups. The OPD group was characterized by significant impairment over healthy groups in specific areas of household duties, recreation, friendships and global areas of satisfaction, social adjustment, and GAF. This suggests that, in general, PD diagnoses are characterized by detrimental impacts on daily functioning and lower quality of life than healthy individuals. However, the OPD group does not differ from healthy individuals in impairment at the workplace. This may be attributable to several factors, including the possibility that individuals with OPDs may be choosing forms of employment that are congruent with their dysfunction. For example, the avoidant individual may be working at a solitary occupation, performing the job well, but may be refusing other opportunities that would include more social contact. This limited area of adaptation contrasts with the overall impaired functioning demonstrated within other areas of functioning. Further identification of employment differences across diagnostic groups may be worthy of future investigation to determine how individuals in the OPD group accommodate their interpersonal difficulties in the workplace, and whether specific areas of adequate functioning act as a path to resiliency or recovery. Although the OPD group does not display the same levels of impairment that the BPD group does, the similarities of OPD to BPD at the best 6-month interval for friendship impairment and global satisfaction indicate a sense of

stability in the impairment for all PD groups. The BPD group is uniquely characterized by impairment in relations with children. Although this finding may partly be an artifact of restricted range in frequency of children across groups, it is supported by recent findings that parental BPD diagnosis impacts a child's mental health [17].

Based on GAF scores, it is likely that the subjects recruited in this study were slightly less severely impaired than subjects in other examinations of PD and psychosocial functioning [3,4]. These subjects were not treatment seeking, nor were they recruited from inpatient units. It is nonetheless interesting that community samples meeting diagnostic criteria for these disorders demonstrate similar patterns of psychosocial functioning between groups as well as significantly different clinical impairment from healthy groups.

Results indicate that patients with BPD diagnoses use more psychiatric and nonpsychiatric treatment than any of the other study groups. Psychiatric treatment with significant differences included psychotherapy, day treatment, and psychiatric medications. The BPD group reported increased time spent inpatient for psychiatric hospitalization. This is consistent with the suicidal ideation, suicidal gestures, and impulsivity that characterize the disorder. Individuals with BPD also reported significantly more outpatient medical visits than any other group and differences in the total number of days spent in the hospital for nonpsychiatric reasons. These findings match the results of previous investigations of treatment utilization by patients with BPD [9,18].

These treatment utilization findings extend previous research on the relationships between psychiatric diagnoses and increased medical care utilization, and have important ramifications for the economic and social costs of a BPD diagnosis. Previous research indicated that depression has a significant economic impact on medical care costs [19] and worker productivity [20], although such studies do not typically control for personality pathology. Given the significant increase in treatment utilization by patients in the BPD group over utilization by patients in the MAD group, the economic impact of a BPD diagnosis is likely considerable. Furthermore, given the typically high rates of diagnostic co-occurrence of depressive disorders with BPD [21], this suggests areas for future research. These possibilities include whether current treatments are inadequate for BPD, whether different or longer treatments are needed for BPD, and the impact of BPD on medical costs over the long term.

Of note is that the OPD group differed little in treatment utilization from the comparison group. This finding differs from that of previous studies, which found that patients with OPD were more likely to use specific types of treatment than patients with major depression [18]. Although psychosocial functioning for the OPD group is significantly impaired relative to healthy and sometimes MAD groups, the frequency of treatment use is not commensurately

increased. Perhaps, patients with other forms of PDs besides BPD are not seeking treatment (eg, the avoidant PD avoids unnecessary social contacts, including psychologic help), are not being referred for treatment, or are not staying in treatment (eg, lack of training in assessment of other PD diagnoses or lack of treatments for specific non-BPD PDs).

We note several potential limitations as a context for interpreting our findings. One potential limitation is the relatively small sample size, which may limit our ability to detect small effects or differences. This may be an issue in some areas where no differences were found. However, ample power was present to allow detection of clinically meaningful differences between groups in global and specific areas of functioning as well as treatment utilization. Nonetheless, larger sample sizes may prove useful in identifying differences between groups previously found, observable in the tendencies of the group means, but not replicated in the present study (eg, differences in treatment utilization between healthy groups and OPD and MAD [18]). A second potential limitation involves the sampling methods used in recruitment of the study groups. Participants in this study were community-based individuals who were not treatment seeking, although rates of diagnostic co-occurrence among the PD groups was reflective of clinical samples [12,22,23]. The results presented here may differ for participants recruited from psychiatric samples that are treatment seeking or from samples in the community that are more resistant or reluctant to become involved in a research study. Future research may want to compare psychosocial functioning between community-recruited participants and treatment-seeking participants to determine whether any differences exist. A further limitation is that the psychosocial functioning levels were solely based on participant report. Although informant reports also have limitations, future research may want to compare informant reports on psychosocial functioning and relationships as well as objective, performance-based measures to investigate sources of bias in reporting associated with PD status [24]. Nonetheless, levels of satisfaction reported by subjects remain an important indicator.

The cross-sectional nature of this design should be expanded upon by replication in a prospective study with healthy controls. Other prospective PD research suggests that a level of stability is present in functional impairment, particularly for problems in social relating [6]. The course of global and specific functional impairment in BPD, OPD, and MAD would be particularly meaningful when compared to the course of functioning in healthy controls. Other psychiatric contrast groups (eg, eating disorders, substance abuse) with high comorbidities to PD diagnoses might further highlight the differences in functional impairment found in PD groups.

In summary, these findings suggest that PDs are a source of considerable psychologic distress and functional impairment equivalent to, and at times exceeding, the distress found in mood and anxiety disorders. Although functional

impairment in the BPD group was significantly different from the MAD group, the presence of the healthy group proved useful in determining the significance of functional impairment in the OPD and MAD groups. These differences exist in both recent (month prior) and chronic (best 6 months) levels of psychosocial functioning. The BPD group was also characterized by increased treatment utilization, emphasizing the economic impact that PDs have on society. Further research examining prospective assessments of diagnosis and functional impairment and PD assessment and treatment utilization may assist in helping this impaired population.

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