Adaptive Functioning and Psychiatric Symptoms in Adolescents With Borderline Personality Disorder

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Objective: To examine adaptive functioning and psychopathology in adolescents with DSM-IV borderline personality disorder.

Method: 177 psychiatric outpatients (derived from 2 samples collected between March 1998 and July 1999 and between November 2000 and September 2002) aged 15 to 18 years were assessed using a structured interview for personality disorder diagnoses. Three groups, namely (1) those with a borderline personality disorder, (2) those with a personality disorder other than borderline personality disorder ("other personality disorder"), and (3) those without any personality disorder ("no personality disorder"), were compared on measures of psychiatric symptoms and psychosocial functioning. Primary outcome measures were Axis I diagnoses, Youth Self-Report, Young Adult Self-Report, Health of the Nation Outcome Scales for Children and Adolescents, Social and Occupational Functioning Assessment Scale, and sociodemographic variables.

Results: The borderline personality disorder group (N = 46) had the most severe psychiatric symptoms and functional impairment across a broad range of domains, followed by the other personality disorder (N = 88) and no personality disorder (N = 43) groups, respectively. Borderline personality disorder was a significant predictor over and above Axis I disorders and other personality disorder diagnoses for psychopathology, general functioning, peer relationships, self-care, and family and relationship functioning.

Conclusions: The borderline personality disorder diagnosis should not be ignored or substituted by Axis I diagnoses in adolescent clinical practice, and early intervention strategies need to be developed for this disorder.

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It is increasingly evident that personality pathology is an important form of psychopathology in adolescence.[1–4] A growing body of evidence suggests that, prior to age 18 years, personality disorders can be reliably diagnosed,[5,6] have good concurrent[4,7] and predictive validity,[1,3] have adequate internal consistency[8] and similar stability to adult personality disorders,[7,9–11] and have serious psychosocial consequences.[1,3,7] Despite this, little is known about adaptive functioning and psychiatric symptoms for specific personality disorders in adolescence, apart from antisocial personality disorder.

As borderline personality disorder is the most severe and common personality disorder in adult psychiatric practice,[12] the paucity of phenomenological data for this disorder in adolescence is striking. Borderline personality disorder is diagnosable in adolescents and has similar phenomenology and etiology to adult borderline personality disorder and similar rates of adverse childhood experiences.[13] Prevalence estimates for borderline personality disorder in community samples of teenagers range from 0.9%[14] to 3%[7] for severe cases and up to 10.8% if moderate cases are also included.[7] Retrospective studies of adult inpatients[15] and outpatients[16] have found the mean age of first psychiatric contact to be 18 years (SD = 6 years) and 17 years (SD not reported), respectively. Yet, the common failure to make the diagnosis at first presentation means opportunities for early intervention are missed.

The strong association between the personality disorders and diminished quality of life[17] and impaired functioning (for a brief review see Skodol and colleagues[18])

has been well documented in adult samples across a variety of settings, with considerable functional impairment associated with the personality disorder diagnosis in general and borderline personality disorder in particular.[18–20] Moreover, this functional impairment appears to be more stable than the DSM-IV diagnostic criteria for many personality disorders,[18] and for borderline personality disorder, it appears to be related to the number of borderline personality disorder criteria met.[20] Findings such as these have spawned debate about whether personality style and functioning might constitute separate but related constructs.[21]

Hitherto, studies of adolescent personality disorder in clinical samples have typically examined the global personality disorder construct or clusters of disorders. Rey and colleagues[22] reported that 17- to 23-year-olds with personality disorders were more often in trouble with the law, unemployed, and friendless or did not go out socially; had problems in their relationships; and felt that their life situation was bad. The Yale Adolescent Follow-Up Study[4] found that 12- to 18-year-olds with personality disorders (50% were diagnosed with borderline personality disorder) had significantly more impairment and distress than those without personality disorders. They reinterviewed 71% of the sample at 2-year follow-up and found these same adolescents used more drugs and required more inpatient treatment, although their impairment and distress scores became more similar to adolescents without personality disorders. They did not report data on sociodemographic, interpersonal, or occupational measures in their sample.

Community-based studies of adolescent personality disorder, such as the Toronto Adolescent Longitudinal Study,[23] found that DSM-III-R personality disorders in adolescents were associated with high levels of distress and impairment. The Children in the Community Study[7] reports on specific personality disorders, using a representative community sample of 9- to 19-year-olds (N = 733), followed over 2 years, using multiple observers. The main limitations to this study are the use of lay interviewers and the somewhat low reliability (Cronbach $\alpha = 0.42–0.70$) of the personality disorder diagnostic algorithm. When compared with adolescents without personality disorders, even those with personality disorders of moderate severity were more likely to experience interpersonal difficulties, poor school and work performance, more contacts with police, and increased symptoms of Axis I disorders. Those with borderline personality disorder had the broadest range of functional impairment, having significantly elevated odds ratios on 11 of the 12 measures of social impairment, school or work problems, psychopathology, and antisocial behavior.[7]

Studies of adaptive functioning in personality disorder are especially important, as they help validate the personality disorder construct and underscore the clinical and social significance of these conditions. This study examines adaptive functioning across a broad range of sociodemographic, interpersonal, and occupational measures of functioning along with psychiatric symptoms in a rigorously diagnosed adolescent clinical sample consisting of patients with borderline personality disorder, those with other personality disorders, and those without a personality disorder diagnosis.

The study posed 2 main hypotheses: (1) that adaptive functioning and psychopathology in adolescents with categorically defined DSM-IV borderline personality disorder is worse than that of adolescents with other personality disorders and those with no personality disorder and (2) that the borderline personality disorder diagnosis in adolescence will have explanatory value over and above Axis I disorders and other personality disorders in predicting current psychosocial functioning. The results of the present study will also allow comparisons to be made with the pattern of psychosocial dysfunction found in studies of adult borderline personality disorder.

METHOD

Participants

Participants were drawn from attendees at ORYGEN Youth Health, the government-funded, adolescent outpatient service for Western metropolitan Melbourne, Australia. Two samples were collected. Sample 1 was a convenience sample comprising 101 participants (of 147 patients approached) collected between March 1998 and July 1999 and is detailed elsewhere.[10] Sample 2 comprised 76 participants (of 106 consecutive referrals approached) and was collected from a longitudinal treatment trial for adolescent borderline personality disorder between November 2000 and September 2002. For both samples, participants were included if they were 15 to 18 years old and sufficiently fluent in English. They were excluded if they met DSM-IV[24] criteria for mental retardation, psychotic disorder, or psychiatric disorder due to a general medical condition. Furthermore, for Sample 2, participants were required to have at least 3 DSM-IV criteria for borderline personality disorder.

Measures

Axis I diagnoses were obtained using the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I)[25] and the disruptive behavior disorders section of the Kiddie Schedule for Affective Disorders and Schizophrenia–Present and Lifetime Version (K-SADS-PL).[26] For sample 1, the SCID-I drug and alcohol module was omitted and drug and alcohol diagnoses were made using the Composite International Diagnostic Interview-Auto (CIDI-Auto),[27] a self-administered computerized interview.

The Structured Clinical Interview for DSM-IV Axis II disorders (SCID-II)[28] is a 120-item semistructured interview that assesses for all DSM-IV personality disorders. In the present study, the screening questionnaire was used prior to the semistructured interview. However, in keeping with the SCID-II manual, interviewers were encouraged to ask items that had not been endorsed, if they believed them to be relevant, in order to guard against false negatives. In addition, for Sample 2, the borderline personality disorder items were always administered, regardless of their endorsement or not on the screening questionnaire. In the SCID-II, each DSM-IV personality disorder item is scored on a 3-point scale (1 = absent, 2 = subthreshold, or 3 = present). Categorical diagnoses were made by counting the number of items scored as 3 in each personality disorder. Criterion A of antisocial personality disorder (age ≥ 18 years) was ignored in making a categorical diagnosis. Personality disorder not otherwise specified (NOS) was defined as 9 positive personality disorder features across any personality disorder domains or if the participant fell 1 feature short of "caseness" for a specific personality disorder diagnosis but had 2 additional features from any other personality disorder domain. In common with Bernstein et al.,[29] a personality disorder feature was scored positive if it was present for 2 years and did not occur exclusively during an Axis I disorder. This is 1 year longer than that required for adolescents in the DSM-IV.[24]

The Youth Self-Report (YSR)[30] is a self-report questionnaire of behavioral and emotional functioning for 11- to 18-year-olds. It has 112 problem items rated 0 (not true), 1 (somewhat or sometimes true), and 2 (very true or often true). The present study used the internalizing scale (comprising the withdrawn, somatic complaints, and anxious/depressed syndrome scales) and the externalizing scale (comprising the delinquent behavior and aggressive behavior syndrome scales).

The Young Adult Self-Report (YASR)[31] is an analog of the YSR for 18- to 30-year-olds, which contains 116 problems rated using the same response format as for the YSR on the internalizing scale (withdrawn and anxious/depressed syndrome scales) and the externalizing scale (intrusive behavior, delinquent behavior, and aggressive behavior syndrome scales). For the purpose of these analyses, the mean scores for YSR and YASR scales were calculated to ensure comparability between the instruments, as the resulting score always ranges from 0 to 2, irrespective of how many items are involved in computing the mean.

The Health of the Nation Outcome Scales for Children and Adolescents (HoNOSCA)[32] rate 13 clinical features and contain 2 additional questions assessing parental comprehension on a 5-point severity scale. Field trials suggest that HoNOSCA has satisfactory validity and interrater reliability.[33,34] The present study utilized HoNOSCA items 10 (peer relationships), 11 (self-care and independence), 12 (family life and relationships), and 13 (school attendance). HoNOSCA was completed by 170 participants.

The Social and Occupational Functioning Assessment Scale (SOFAS)[35] was used to measured global functioning. Socioeconomic status was assessed using a social disadvantage scale[36] (comprising measures of unemployment, income, low birth weight infants, child maltreatment, childhood injuries, education, psychiatric admissions, crime, and emergency relief) ranking every postcode in the states of Victoria and New South Wales, Australia. This ranking was divided into tertiles (low, middle, and high socioeconomic status). Reasons for referral, general health, sexual health, current living arrangement, and financial support, along with service involvement and days out of role were all assessed by semistructured interview, developed by the investigators and available on request. *Days out of role* was defined as days unable to pursue one's usual daily activities or occupation over the past 6 to 12 months, whether that was employment, studies, or job seeking.

Procedure

The study was approved by the Northwestern Mental Health Behavioral and Psychiatric Research and Ethics committees. After complete explanation of the study procedures, written informed consent was obtained from all participants and, where appropriate, from their parents or guardians. A psychiatrist (A.M.C.) and 3 graduate research assistants, trained by the principal investigator, conducted the interviews.

Data Analysis

All data analysis was conducted using the Statistical Package for the Social Sciences (SPSS), version 12 (Chicago, Ill.). The borderline personality disorder, other personality disorder, and no personality disorder groups (defined in Results) were firstly compared on measures of psychopathology and psychosocial functioning. Categorical data were analyzed using χ^2 tests. For continuous variables involving comparison between 3 groups, univariate analysis of variance and planned contrasts (pairwise comparisons between borderline personality disorder, other personality disorder, and no personality disorder) were used. Two-tailed tests were used throughout the analysis. Hierarchical regression analyses were run to examine whether the borderline personality disorder diagnosis was an independent predictor of psychosocial functioning over and above Axis I disorders and other personality disorders. A series of separate regression analyses were run predicting general functioning (SOFAS), domain-specific functioning (HoNOSCA peer relationships, self-care, and family relationships), days out of role (due to physical health, mental health, truancy, school refusal, and expulsion/sacking), and externalizing and internalizing problems (YSR/YASR).

RESULTS

A total of 177 individuals, 56 male (31.6%) and 121 female (68.4%), participated in the study. They ranged from 15 to 18 years old (mean age = 16.24, SD = 0.94 years). One hundred fifty-seven participants (88.7%) were born in Australia; 8 (4.5%), in Europe; 5 (2.8%), in New Zealand; 5 (2.8%), in Asia; 1 (0.6%), in North America; and 1 (0.6%), in Latin America. Socioeconomic status analysis indicated that 100 participants (56.5%) were from low; 44 (24.9%), from middle; and 32 (18.1%), from high socioeconomic areas. No significant difference was found between the 3 groups on socioeconomic status (p > .10).

Seventy-three participants (41.2%) met the DSM-IV[24] criteria for a mood disorder; 66 (37.3%), for substance abuse or dependence; 61 (34.5%), for an anxiety disorder; 10 (5.6%), for an eating disorder; and 30 (16.9%), for a disruptive behavior disorder. The mean number of diagnoses in the sample was 1.97 (SD = 1.63) for Axis I disorders and 1.15 (SD = 0.97) for Axis II disorders. The most prevalent categorical Axis II diagnosis in the sample was personality disorder NOS (27.1%), followed by borderline personality disorder (26.9%), depressive personality disorder (14.1%), passive-aggressive personality disorder (14.1%), and antisocial personality disorder (13.6%). Each of the other personality disorders had a prevalence of less than 5% in the sample.

The sample was divided into 3 groups on the basis of each participant's primary categorical Axis II diagnosis, allowing comparison between (1) the borderline personality disorder group (N = 46), (2) those with a personality disorder other than borderline personality disorder (the "other personality disorder" group) (N = 88), and (3) those without any personality disorder (the "no personality disorder" group) (N = 43). No significant differences were found between the 3 groups for gender (p > .10) or age (p > .10). The other personality disorder group contained 20 people (23%) with no DSM-IV borderline personality disorder criteria and 68 (77%) with 4 or fewer borderline personality disorder criteria (12 with 1 criterion, 7 with 2 criteria, 29 with 3 criteria, and 20 with 4 criteria). The no personality disorder group contained 26 people (60%) with no borderline personality disorder criteria and 17 (40%) with 4 or fewer borderline personality disorder criteria (8 with 1 criterion, 6 with 2 criteria, 2 with 3 criteria, and 1 with 4 criteria). As expected, deliberate self-harm was a significantly more common reason for referral in the borderline personality disorder group compared with the other personality disorder and no personality disorder groups (χ^2 = 8.70, df = 2, p = .01).

A significant difference between the groups was observed in relation to the number of Axis I diagnoses (F = 37.35, df = 2,177; p < .01). The contrast comparison indicated that the borderline personality disorder group

had a significantly higher number of Axis I diagnoses (mean = 3.30, SD = 1.46) than the other personality disorder group (mean = 1.84, SD = 1.48) and the no personality disorder group (mean = 0.81, SD = 1.01). The contrast comparisons also indicated a significant difference between the other personality disorder group and the no personality disorder group (p < .01). The borderline personality disorder group also had a significantly higher mean number of personality disorder diagnoses (mean = 2.17, SD = 0.97) in comparison with the other personality disorder group (mean = 1.18, SD = 0.47), with F = 63.61, df = 1,133 (p < .01).

Table 1 shows that the borderline personality disorder group had significantly more individuals diagnosed with mood disorders, substance abuse/dependence, disruptive behavior disorders, and anxiety disorders than the no personality disorder group (all p < .05). No significant difference was observed between the 3 groups for the prevalence of eating disorders (p > .10).

Table 1 also shows higher rates of current romantic partnership, current sexual activity, and lifetime sexually transmitted infections in the borderline personality disorder group. There was no significant difference between the 3 groups for age of first sexual intercourse or number of sexual partners (all p > .05). In relation to other health risk behaviors, significant differences between the groups were observed in the age at onset of smoking (F = 3.89, df = 2,107; p = .02). The contrast comparison indicated that the borderline personality disorder group had significantly earlier age at onset of smoking (mean = 12.03, SD = 2.78 years) than the other personality disorder group (mean = 13.32, SD = 1.81 years), but no difference was observed in comparison with the no personality disorder group (mean = 13.00, SD = 1.71 years) (p > .05). Over half of the participants in the borderline personality disorder group met criteria for nicotine-related disorders, which was significantly more than individuals in the other personality disorder group and no personality disorder group, respectively (see Table 1).

Table 2 shows that, in general, the borderline personality disorder group and the other personality disorder group had poorer scores on general psychosocial functioning (SOFAS scores) and peer relationships, self-care, and family domains (HoNOSCA domain scores) compared with the no personality disorder group. It is noteworthy that a score of around 60 on the SOFAS scale represents moderate difficulty in functioning, whereas a score of around 70 represents some difficulty but generally adequate functioning.

Table 2 also shows that the borderline personality disorder group had more internalizing and externalizing problems (YSR/YASR scores), followed by the other personality disorder group and no personality disorder group, respectively (all p < .05). The borderline personality disorder group also had more days out of role due to

Table 1. Current Axis I Diagnosis, Past Admissions, Self-Harm, and General and Sexual Health in Adolescents With Borderline Personality Disorder Compared With Other Groups

Variable	Borderline Personality Disorder (BPD)		Other Personality Disorder (OPD)		No Personality Disorder (NPD)		χ^2	p	Comparisons
	N	%	N	%	N	%			
Current Axis I diagnosis									
Mood disorders	27	58.7	36	40.9	10	23.3	11.53	< .01*	BPD > OPD > NPD
Substance dependence/abuse	16	34.8	15	17.0	1	2.3	15.93	< .01*	BPD > OPD > NPD
Anxiety disorders	21	45.7	32	36.4	8	18.6	7.48	.02*	BPD > NPD; OPD > NPD
Eating disorders	3	6.5	3	3.4	4	9.3	1.97	.37	N/A
Disruptive behavior disorders	32	69.6	25	28.4	6	14.0	33.92	< .01*	BPD > OPD; BPD > NPD
Nicotine-related disorders	28	52.8	22	41.5	3	5.7	32.81	< .01*	BPD > OPD > NPD
Previous psychiatric admissions	12	26.1	15	17.0	3	7.0	5.77	.06	BPD > NPD
Self-harm (lifetime)	42	91.3	71	80.7	21	48.8	24.15	< .01*	BPD > NPD; OPD > NPD
Health									
History of significant medical illness	41	89.1	64	72.7	30	71.4	5.41	.07	BPD > OPD; BPD > NPD
Current sexual partner	28	63.6	32	38.1	12	30.0	11.24	< .01*	BPD > OPD; BPD > NPD
Currently sexually active	31	70.5	31	36.9	11	26.2	19.65	< .01*	BPD > OPD; BPD > NPD
Sexually transmitted infections	6	13.6	3	3.4	0	0.0	9.30	< .01*	BPD > OPD; BPD > NPD

*Significant effect at $\alpha = 0.05$.
Abbreviation: N/A = not applicable.

Table 2. Differences Between the 3 Groups on Measures of Psychosocial Functioning

Measure	Borderline Personality Disorder (BPD)		Other Personality Disorder (OPD)		No Personality Disorder (NPD)		F	p	Contrast Comparisons
	Mean	SD	Mean	SD	Mean	SD			
SOFAS score	60.04	10.80	59.50	22.06	75.81	13.01	13.48	< .01*	BPD < NPD; OPD < NPD
Days out of role due to									
Mental health	18.52	29.24	19.10	32.88	19.12	28.26	0.01	.99	N/A
Physical health	7.21	11.19	13.25	39.97	11.81	14.16	0.60	.55	N/A
Truancy	14.95	21.89	6.53	14.58	7.81	20.55	3.14	.05	BPD > OPD
School refusal	2.48	6.35	2.17	8.51	0.53	1.87	1.05	.35	N/A
Expulsion/suspension/sacking	4.07	14.59	2.05	9.80	1.19	3.45	0.92	.40	N/A
Other	2.31	10.60	1.14	5.89	3.02	15.27	0.54	.58	N/A
YSR/YASR score									
Internalizing	1.12	0.32	0.87	0.39	0.63	0.33	20.71	< .01*	BPD > OPD > NPD
Externalizing	1.00	0.35	0.65	0.35	0.50	0.23	26.50	< .01*	BPD > OPD > NPD
HoNOSCA score									
Peer relationships	1.53	0.98	1.30	1.21	0.38	0.71	13.84	< .01*	BPD > NPD; OPD > NPD
Self-care	0.63	0.91	0.31	0.68	0.10	0.38	5.43	.01*	BPD > NPD; OPD > NPD
Family	2.23	1.11	1.60	1.17	1.22	1.23	6.88	< .01*	BPD > NPD; OPD > NPD
School attendance	1.22	1.41	1.37	1.60	1.28	1.63	0.12	.89	N/A

*Significant effect at $\alpha = 0.05$.
Abbreviations: HoNOSCA = Health of the Nation Outcome Scores for Children and Adolescents, N/A = not applicable, SOFAS = Social and Occupational Functioning Assessment Scale, YSR/YASR = Youth Self-Report/Young Adult Self-Report.

truancy compared with the other personality disorder group (p = .05).

Results of the sociodemographic analyses show that both personality disorder groups had a significantly lower percentage residing in an intact family of origin, compared with the no personality disorder group (p < .01) (Table 3). The individuals in the borderline personality disorder group were more likely to live in residential placement or with other nonrelatives, less likely to receive financial support from their parents, and more likely to rely on social security for financial assistance. Justice system and statutory child protective service involvement were also markedly more prevalent in the borderline personality disorder group.

Regression Analyses

A series of hierarchical regression analyses predicting psychopathology and psychosocial functioning were performed entering disruptive behavior disorders into step 1 and adding other Axis I disorders (mood, anxiety, and substance use) into step 2, other personality disorder into step 3, and borderline personality disorder into step 4. The results, presented in Table 4, show that the borderline personality disorder diagnosis was a significant predictor of both psychopathology (YSR/YASR internalizing and externalizing) and general psychosocial functioning (SOFAS) over and above disruptive behavior disorders, Axis I disorders, and other personality disorders (all p < .05). Together with the borderline personality

Table 3. Living Environment, Financial Support, and Service Involvement

Variable	Borderline Personality Disorder (BPD)		Other Personality Disorder (OPD)		No Personality Disorder (NPD)		χ^2	p	Comparisons
	N	%	N	%	N	%			
Living arrangements									
Both biological parents	15	32.6	40	45.5	29	67.4	11.10	< .01*	OPD < NPD; BPD < NPD
Biological parent and stepparent	4	8.7	11	12.5	3	7.0	1.11	.57	N/A
One biological parent	10	21.7	28	31.8	7	16.3	4.12	.13	N/A
Relatives or siblings without either parent	0	0.0	4	4.6	2	4.7	2.18	.34	N/A
Other nonrelatives	12	26.1	7	8.0	5	11.6	8.66	.01*	BPD > OPD
Residential placement	5	10.9	1	1.1	1	2.3	7.93	.02*	BPD > OPD
Adoptive/foster parents	1	2.2	2	2.3	0	0.0	0.98	.61	N/A
Other	1	2.2	1	1.1	0	0.0	0.94	.64	N/A
Current financial support									
Parents	21	45.7	74	84.1	38	88.4	29.22	< .01*	BPD < OPD; BPD < NPD
Employed (full- or part-time)	14	30.4	26	29.6	17	39.5	1.41	.49	N/A
Government educational assistance	6	12.0	12	13.6	5	11.6	0.10	.95	N/A
Social security	14	30.4	12	13.6	5	11.6	7.26	.03*	BPD > OPD; BPD > NPD
Other	4	8.7	6	6.8	2	4.7	0.58	.75	N/A
Service involvement									
Juvenile justice system	17	37.0	19	21.6	6	14.0	6.94	.03*	BPD > NPD
Child protection	16	34.8	6	6.8	1	2.3	26.61	< .01*	BPD > OPD; BPD > NPD

*Significant effect at α = 0.05.
Abbreviation: N/A = not applicable.

Table 4. Hierarchical Regression Analysis Predicting Psychopathology and General Psychosocial Functioning From Axis I Disorders, Other Personality Disorders, and Borderline Personality Disorder

Step	Disorder	YSR-Internalizing			YSR-Externalizing			SOFAS		
		Beta	t	p	Beta	t	p	Beta	t	p
1	Disruptive behavior disorders	0.14	1.89	.06	0.57	9.05	< .01*	0.08	−1.00	.32
2	Disruptive behavior disorders	0.04	0.59	.56	0.52	8.03	< .01*	−0.30	−0.39	.70
	Mood disorders	0.28	3.97	< .01*	0.02	0.37	.71	−0.07	−0.97	.33
	Substance use disorders	0.11	1.51	.13	0.18	2.71	.01*	−0.11	−1.45	.15
	Anxiety disorders	0.29	4.18	< .01*	0.03	0.49	.62	−0.12	−1.60	.11
3	Disruptive behavior disorders	0.40	1.55	.58	0.51	7.78	< .01*	−0.07	−0.85	.40
	Mood disorders	0.28	3.97	< .01*	0.03	0.40	.69	−0.07	−0.95	.34
	Substance use disorders	0.11	1.51	.13	0.18	2.74	.01*	−0.10	−1.26	.21
	Anxiety disorders	0.29	4.17	< .01*	0.03	0.52	.60	−0.11	−1.50	.14
	Other personality disorder	−0.01	−0.21	.84	−0.07	−1.12	.27	−0.22	−3.04	< .01*
4	Disruptive behavior disorders	−0.07	−0.96	.34	0.42	6.38	< .01*	0.03	1.32	.75
	Mood disorders	0.22	3.28	< .01*	−0.02	−0.32	.75	−0.03	−0.38	.71
	Substance use disorders	0.05	0.78	.44	0.14	2.14	.03*	−0.05	−0.65	.52
	Anxiety disorders	0.24	3.53	< .01*	−0.01	−0.17	.87	−0.07	−0.96	.34
	Other personality disorder	0.22	2.65	.01*	0.11	1.50	.14	−0.41	−4.48	< .01*
	Borderline personality disorder	0.43	4.62	< .01*	0.33	3.96	< .01*	−0.34	−3.27	< .01*

*Significant effect at α = 0.05.
Abbreviations: SOFAS = Social and Occupational Functioning Assessment Scale, YSR = Youth Self-Report.

disorder and other personality disorder diagnoses, mood and anxiety disorders were also found to be significant predictors of internalizing problems (p < .05). The borderline personality disorder diagnosis was a significant predictor of externalizing problems, along with both substance use and disruptive behavior disorders. Notably, only the 2 personality disorder variables were significant predictors of SOFAS scores.

Table 5 shows results for the regression analyses pertaining to the HoNOSCA domains of functioning. The borderline personality disorder diagnosis was found to be a significant predictor of functioning in the peer rela-

tionships and self-care domains, over and above disruptive behavior disorders, Axis I disorders, and other personality disorders (all p < .05). In fact, borderline personality disorder was the only significant predictor of self-care problems. Although anxiety disorders were a significant predictor of "peer relationships" in steps 2 and 3 (p < .05), the addition of borderline personality disorder in step 4 suppressed this effect (p > .05). Together with disruptive behavior disorders, mood disorders continued to be a predictor of functioning in the "family and relationships" domain (all p < .05).

Table 5. Hierarchical Regression Analysis Predicting Specific Domain Functioning From Axis I Disorders, Other Personality Disorders, and Borderline Personality Disorder

Step	Disorder	Peer Relationships			Self-Care			Family and Relationships			School Attendance		
		Beta	t	p	Beta	t	p	Beta	t	p	Beta	t	p
1	Disruptive behavior disorders	0.16	2.12	.04*	0.14	1.82	.07	0.33	4.49	< .01*	0.03	0.36	.72
2	Disruptive behavior disorders	0.12	1.51	.13	0.12	1.49	.14	0.28	3.73	< .01*	−0.01	−1.06	.95
	Mood disorders	0.09	1.22	.23	0.05	0.64	.52	0.21	2.86	< .01*	0.08	0.89	.37
	Substance use disorders	0.07	0.84	.40	0.03	0.34	.73	0.08	1.10	.28	−0.03	−0.36	.72
	Anxiety disorders	0.19	2.48	.01*	0.08	0.97	.33	−0.07	−0.98	.33	0.11	1.30	.19
3	Disruptive behavior disorders	0.14	1.81	.07	0.12	1.42	.16	0.27	3.59	< .01*	0.01	0.10	.92
	Mood disorders	0.09	1.17	.24	0.05	0.65	.52	0.21	2.87	< .01*	0.08	0.86	.38
	Substance use disorders	0.06	0.81	.42	0.03	0.35	.73	0.08	1.11	.27	−0.03	−0.37	.71
	Anxiety disorders	0.18	2.44	.02*	0.08	0.98	.33	−0.07	−0.95	.35	0.11	1.28	.20
	Other personality disorder	0.17	2.26	.03*	−0.03	−0.37	.71	−0.06	−0.83	.41	0.04	0.42	.68
4	Disruptive behavior disorders	0.02	0.30	.76	0.03	0.32	.75	0.23	2.83	< .01*	0.03	0.34	.74
	Mood disorders	0.04	0.58	.56	0.01	0.11	.91	0.19	2.55	.01*	0.09	0.99	.33
	Substance use disorders	0.01	0.18	.86	−0.02	−0.23	.82	0.06	0.79	.43	−0.02	−0.26	.79
	Anxiety disorders	0.14	1.92	.06	0.04	0.50	.62	−0.09	−1.19	.23	0.12	1.33	.19
	Other personality disorder	0.36	3.88	< .01*	0.15	1.53	.13	0.03	0.30	.77	0.00	−0.04	.97
	Borderline personality disorder	0.34	3.32	< .01*	0.32	2.97	<.01*	0.16	1.54	.13	−0.08	−0.66	.51

*Significant effect at α = 0.05.

In a further hierarchical regression analysis, using the same steps as above, borderline personality disorder was not a significant predictor of any of the days out of role variables (p > .05). Anxiety disorders continued to be the only significant predictor of days out of role due to mental health problems in steps 2, 3, and 4 (all p = .01), while substance use was the only significant predictor of school refusal in steps 2, 3, and 4 (all p < .05). No variable predicted days out of role due to physical health in any step of the model (all p > .05).

The data were reanalyzed substituting dimensional scores for other personality disorder and borderline personality disorder categories. These were calculated by summing the SCID II scores for all personality disorder items other than borderline personality disorder and summing the borderline personality disorder items, respectively. The pattern of results remained largely unchanged from that obtained using categorical diagnoses. However, unlike the categorical borderline personality disorder diagnosis, the dimensional borderline personality disorder score was not a significant predictor of SOFAS or peer relationships (all p > .05). Also, substance use disorders were no longer a significant predictor of externalizing problems (p > .05), but the total other personality disorder score became a significant predictor (p = .01) of externalizing problems.

DISCUSSION

This study examined psychiatric symptoms and psychosocial functioning in adolescents with categorically defined borderline personality disorder, those with personality disorders other than borderline personality disorder, and those without a personality disorder diagnosis. It fills a gap in the existing literature by specifically examining borderline personality disorder in adolescence, along with using a large outpatient sample from a real-world treatment service, standardized diagnoses, self- and interviewer-rated assessments, and a broad range of sociodemographic, interpersonal, and occupational measures of functioning. The study also examined whether borderline personality disorder predicted these variables independent of Axis I disorders. The major findings emerging from this study support our 2 hypotheses: (1) that adaptive functioning and psychopathology in adolescents with categorically defined DSM-IV borderline personality disorder is worse than that of adolescents with other personality disorders and those with no personality disorder and (2) that the borderline personality disorder diagnosis in adolescence will have explanatory value over and above Axis I disorders and other personality disorders in predicting current psychosocial functioning. Our findings are also consistent with the pattern of psychosocial dysfunction found in studies of adult borderline personality disorder.

Borderline Personality Disorder and Psychosocial Functioning

Participants with borderline personality disorder had the most severe psychiatric symptoms and functional impairment across a broad range of domains, followed by those participants with other personality disorders and then those without personality disorder. Borderline personality disorder patients were conspicuous, even when compared with those with other personality disorders, in regard to the degree and breadth of impairments found.

The data in relation to health are striking. Not only did borderline personality disorder patients have higher lifetime rates of sexually transmitted infections and medical problems, but they also had greater risks for future health

problems through earlier onset of smoking, higher rates of nicotine dependence, and other forms of substance abuse or dependence. Interestingly, the increased rates of sexually transmitted infection in the borderline personality disorder group appear to relate more to higher rates of current sexual partnership and current sexual activity (and perhaps to attributes of their chosen partner[s] not measured in this study), rather than earlier onset of sexual intercourse or greater numbers of sexual partners.

It is possible that contact with a clinical service at this age might indicate a more severe form of borderline personality disorder and/or a poorer prognosis. In one study,[37] the majority of borderline personality disorder patients commenced deliberate self-harm in childhood or adolescence, and the earlier the onset, the more malignant the course for this problem. However, it is not clear from this study whether they sought help at the onset of self-harm. Alternatively, it is also possible that delay in help-seeking and treatment is associated with a worse prognosis, as is the case in first-episode psychosis.[38] Therefore, the extent to which the above findings generalize to clinical samples outside the age range studied is unclear, as it is possible that there is a relationship between the age at help-seeking for the features of borderline personality disorder and the severity and course of the disorder.

Our findings both support and extend the findings of 2 community-based studies. The Toronto Adolescent Longitudinal Study[23] found that DSM-III-R personality disorders in adolescents were associated with high levels of distress and impairment. Bernstein and colleagues'[7] findings indicate that those with borderline personality disorder had the most widespread impairments, but unlike our findings, those with borderline personality disorder were not universally the most impaired in each domain. These differences might be due to the low levels of caseness for some personality disorders in the present study, which prevented specific comparisons to borderline personality disorder. Also, the reliability of diagnostic data for individual personality disorders was low in the Bernstein et al. study, with considerable diagnostic overlap, making conclusions at the individual personality disorder level doubtful, whereas the present study used a more conventional diagnostic procedure, although not eliminating diagnostic overlap by any means.

The present findings are also consistent with large follow-along studies in adults, such as the Collaborative Longitudinal Study of Personality Disorders[18] and the McLean Study of Adult Development,[20] which report that borderline personality disorder patients have significantly poorer functioning in comparison with other Axis II groups. Also, Jackson and Burgess[19] have reported that borderline personality disorder is more strongly associated than other personality disorders with having 1 or more Axis I conditions, along with greater mental disability and impairments in role functioning. Their findings

also indicate that borderline personality disorder is the most disabling of the personality disorders. They found that the addition of other co-occurring personality disorders did not lead to a significant increase in disability above that already associated with the borderline personality disorder diagnosis.

Global Personality Disorder Diagnosis and Psychosocial Functioning

The findings in relation to the 2 personality disorder groups compared with the no personality disorder group are also broadly in accord with studies of adolescent inpatients,[4] adolescent outpatients,[22] and community-dwelling adolescents,[7,23] along with adult inpatients, adult outpatients, and community-dwelling adults.[18] Moreover, the present study extends the evidence for greater psychopathology and functional impairment in adolescent personality disorder across a broader range of variables than previously measured.

Borderline Personality Disorder as a Predictor Over and Above Axis I Disorders and Other Personality Disorders

Borderline personality disorder remained a significant independent predictor of several important domains of functioning, over and above Axis I disorders and other personality disorder diagnoses. The borderline personality disorder and other personality disorder diagnoses were independent predictors of psychopathology and global and domain-specific psychosocial functioning, over and above common Axis I disorders, including disruptive behavior disorders. In fact, both personality disorder diagnoses were the only significant predictors of global psychosocial functioning and peer relationships. Moreover, borderline personality disorder was a significant independent predictor of 5 of the 7 domains reported in Tables 4 and 5 and was the only independent predictor of self-care. Disruptive behavior disorders were found to be a significant predictor of externalizing pathology and family and relationship functioning, whereas mood disorders were found to be a significant predictor of internalizing pathology and family and relationship functioning.

Limitations

This is a cross-sectional study, and the differences observed on broad measures of functioning might not be maintained over time. The use of categorical diagnoses, while clinically useful, can be problematic, as members of the other 2 groups were permitted to have borderline personality disorder features at a subsyndromal level. While the presence of subsyndromal borderline personality disorder features in the other personality disorder and no personality disorder groups makes the present findings all the more remarkable, the loss of information through the use of categorical data might have resulted in a failure

to detect other important differences. For the regression analyses, the use of dimensional personality disorder scores did not change the overall pattern of results substantially. Also, although a large number of statistical analyses were used in this study, leading to the possibility of inflated type I error, the overall pattern of the results is consistent. In this study, the SOFAS and personality disorder diagnoses were made by the same rater, based on the same interview session. Consequently, these variables might be more highly related due to the shared method variance.

Clinical Implications

This study found that the borderline personality disorder diagnosis in adolescence defines a group of patients with the highest levels of psychopathology and the most severe psychosocial dysfunction and that these problems are not reducible to Axis I diagnoses. Moreover, this pattern of psychosocial dysfunction is similar to that found in adults with borderline personality disorder. These findings underscore the clinical and social importance of the borderline personality disorder diagnosis in adolescence and suggest that the construct is sufficiently valid for current use, a point of view also supported by recent structural analyses of the DSM-IV criteria in adolescent outpatients.[39] The clinical practice of ignoring the borderline personality disorder diagnosis in adolescence or substituting Axis I diagnoses to describe phenomena that resemble borderline personality disorder cannot be justified on the grounds of explaining psychopathology and psychosocial functioning. It is important that clinicians endeavor to diagnose borderline personality disorder. Better recognition of adolescent borderline personality disorder might lead to the development of specific interventions designed to avert the damaging psychosocial sequelae of borderline personality disorder during this critical developmental period, prevent further deterioration in psychosocial functioning, and promote recovery.

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