2016

The Clinical Significance of Single Features of Borderline Personality Disorder: Anger, Affective Instability, Impulsivity, and Chronic Emptiness in Psychiatric Outpatients

William D. Ellison
Trinity University, wellison@trinity.edu

Lia Rosenstein

Iwona Chelminski

Kristy Dalrymple

Mark Zimmerman

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William D. Ellison, Lia Rosenstein, Iwona Chelminski, Kristy Dalrymple, and Mark Zimmerman

Brown University

William D. Ellison, Lia Rosenstein, Iwona Chelminski, Kristy Dalrymple, and Mark

Zimmerman, Department of Psychiatry and Human Behavior, Alpert Medical School of Brown

University, Providence, Rhode Island, and Rhode Island Hospital, Providence, Rhode Island.

Correspondence concerning this article should be addressed to William D. Ellison, Rhode

Island Hospital, 593 Eddy St., Providence, Rhode Island 02903. Email: wellison@lifespan.org

Abstract

Although dimensional models of borderline personality disorder (BPD) are consistent with findings showing that minimal levels of pathology are associated with substantial increases in psychosocial impairment, it is still unclear whether different individual BPD criteria are each clinically significant on their own. The current study uses semi-structured interview data from 1,870 adults presenting for outpatient psychiatric treatment to investigate whether the BPD criteria of impulsivity, affective instability, emptiness, and anger are each related to psychosocial morbidity when met in the absence of the other eight criteria. Analyses showed that each of these criteria was associated with dysfunction in comparison with a control group meeting zero BPD criteria, but only the emptiness criterion was a marker of impairment on all indices of psychosocial morbidity: suicidality, history of suicide attempts and psychiatric hospitalizations, social and work dysfunction, Axis I comorbidity, and global functioning. Implications for the study of borderline pathology are discussed.

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In the past few decades, there have been frequent calls for a dimensional

conceptualization of borderline personality pathology (e.g., Clark, 2007; Frances, 1993; Tyrer &

Alexander, 1979; Widiger & Simonsen, 2005) rather than the categorical model contained in the

DSM (American Psychiatric Association, 2013). These calls led to the initial proposal of a

dimensional model for *DSM-5* by the Personality and Personality Disorder Work Group (Skodol

et al., 2011). Although the categorical model was eventually retained, the trait-based system is

listed as an alternative, and dimensional models retain substantial empirical support from

taxometric studies of borderline personality (Arntz et al., 2009; Conway, Hammen, & Brennan,

2012; Edens, Marcus, & Ruiz, 2008; Rothschild, Cleland, Haslam, & Zimmerman, 2003), studies

of the convergence of personality structure in clinical and non-clinical populations (e.g., Morey,

Krueger, & Skodol, 2013; Wright et al., 2012) and studies of reliability (Krueger, Derringer,

Markon, Watson, & Skodol, 2012) and clinical utility (Glover, Crego, & Widiger, 2012; Samuel

& Widiger, 2006; Morey, Skodol, & Oldham, 2014; Mullins-Sweatt & Widiger, 2011).

Consistent with this view, a number of studies suggest that subclinical manifestations of

borderline personality are associated with impairments in functioning among those not seeking

psychiatric treatment. Findings cover several diverse domains of functioning, such as marital

and romantic relationships (Daley, Burge, and Hammen, 2000; Hill et al., 2011; Selby,

Braithwaite, Joiner, & Fincham, 2008; Whisman & Schonbrun, 2009), employment (Sansone,

Leung, & Wiederman, 2012; Sansone & Wiederman, 2013), physical health (Powers &

Oltmanns, 2012) and academic, interpersonal, and social pursuits (Bagge et al., 2004; Oltmanns,

Melley, & Turkheimer, 2002; Powers, Gleason, & Oltmanns, 2013).

There is also important evidence that subclinical levels of borderline personality pathology relate to impairment in treatment-seeking individuals. For example, a recent report from the Rhode Island Methods to Improve Diagnostic Assessment and Services (MIDAS) project suggested that outpatients meeting only one BPD criterion have significantly greater impairment in several domains than those meeting no criteria for the disorder (Zimmerman, Chelminski, Young, Dalrymple, & Martinez, 2012). In that study, nearly one-fifth of the 3,069 individuals presenting for outpatient psychiatric treatment ($n = 589$, 18.4%) met only one *DSM-IV* BPD criterion. These patients were twice as likely to meet criteria for three or more Axis I disorders, twice as likely to have a history of suicide attempts, over four times more likely to have made three or more suicide attempts, and three times more likely to have a history of three or more psychiatric hospitalizations than those meeting no criteria for BPD. They also had lower Global Assessment of Functioning (GAF) scores and were more likely to have had serious recent disruptions in employment. Thus, this large portion of those individuals presenting for outpatient treatment had substantially elevated psychosocial morbidity in several domains, despite not meeting full criteria for BPD or indeed being near the diagnostic threshold for it.

Given these large increases in dysfunction with a single BPD criterion, it is important to specify which criteria, when met in isolation, confer elevated risk for which negative outcomes. The *DSM-IV* BPD criteria describe a very diverse set of affective, cognitive, and behavioral experiences, and research has suggested that they are not equal in terms of their implications for an individual's level of borderline personality pathology and level of functioning. In fact, Gunderson (1998) reports that the criteria were arranged in rank order of diagnostic efficiency by the *DSM-IV* Work Group on Personality Disorders. Empirical research has continued to show that some criteria are more indicative of the disorder than others, with unstable relationships,

affective instability, frantic efforts to avoid abandonment, and recurrent suicidal behavior generally most associated with the disorder or with a dimensional BPD score (Blais, Hilsenroth, & Fowler, 1999; Grilo et al., 2001; Grilo et al., 2007).

The same variability in pathology indicated by the nine BPD criteria is seen at strictly low levels of severity. For example, in another report from the MIDAS project using item-response theory, Cooper, Balsis, and Zimmerman (2010) found that the difference in latent borderline personality pathology represented by the most pathological and least pathological BPD criterion, when only one criterion was present, was relatively large (0.75 *SD* units; Cooper, Balsis, & Zimmerman, Fig. 3). This suggests that, even at low levels of pathology, different BPD criteria are associated with quite different levels of pathology. However, these psychometric studies relate these criteria solely to the BPD construct or diagnosis itself and not to the real-world psychosocial outcomes that are likely of most interest to clinicians and patients.

The current report extends previous findings from the MIDAS project to consider which single BPD criteria confer risk of psychosocial morbidity among treatment-seeking outpatients in several real-world domains, including Axis I pathology, global and social functioning, suicidality, likelihood of hospitalization, and employment history. Because some BPD criteria were very unlikely to be met in isolation in the sample of 3,089 (e.g., frantic efforts to avoid abandonment; $n = 7$) and would thus not provide stable estimates of the morbidity associated with these symptoms, the current analyses focus on the four criteria that occurred alone in at least one in 50 outpatients: impulsivity, affective instability, chronic feelings of emptiness, and inappropriate, intense anger. In line with prior research showing that different criteria are associated with different levels of BPD pathology, we hypothesized that these criteria would also differ in terms of their relationships with psychosocial morbidity.

Method

Three thousand sixty-nine individuals presenting for outpatient psychiatric care at the Department of Psychiatry at Rhode Island Hospital were evaluated with semi-structured diagnostic interviews. Almost all of these patients were insured (including Medicare, but not Medicaid) and received fee-for-service care from this private-practice group, which is distinct from the hospital's outpatient residency training clinic that predominantly serves lower income, uninsured, and medical assistance patients. All participants were 18 years of age or older and provided informed, written consent to participate. Participants with a history of developmental disabilities or difficulty communicating in the English language were excluded. After diagnostic interviews, participants were selected into five groups based on their interview responses: individuals meeting no criteria for BPD ($n = 1387$) and those meeting criteria for one of the following four criteria in isolation: impulsivity ($n = 114$), affective instability ($n = 86$), emptiness ($n = 170$), or inappropriate, intense anger ($n = 113$).

The diagnostic assessment protocol for the MIDAS project has been described in detail elsewhere (e.g., Zimmerman et al., 2012). Briefly, all participants were interviewed by a trained diagnostic rater and completed the Borderline Personality Disorder section of the Structured Interview for DSM-IV Personality (SIDP-IV; Pfohl, Blum, & Zimmerman, 1997) and a modified version of the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID; First, Spitzer, Gibbon, & Williams, 1995). Additional interview items were taken from the Schedule for Affective Disorders and Schizophrenia (SADS; Endicott & Spitzer, 1978) relating to the amount of time missed from work due to psychiatric reasons during the past 5 years (rated on a 0 to 9 scale), current suicidality (rated on a 0 to 6 scale and ranging from absence of suicidal ideation to the presence of a recent high-lethality suicide attempt), current social functioning (rated on a 0 to

7 scale), history of prior psychiatric hospitalizations, and lifetime history of suicide attempts.

Because of the presence of a few extreme outliers who had made numerous suicide attempts,

participants' number of prior attempts was grouped into categories representing no attempts, one

attempt, and multiple attempts. Approximately midway through the project, questions were

added to assess whether patients had received either permanent or temporary disability payments

due to psychiatric illness during the five years prior to the evaluation. However, too few

individuals in the sample had received permanent disability payments to provide an adequately

powered test of hypotheses with this outcome variable, and so only temporary disability

payments were used as an outcome in the current study.

Diagnostic raters were highly trained and monitored throughout the project and were

required to show exact, or near exact, reliability with a senior rater on five consecutive

evaluations at the end of the training period. A portion of interviews were also coded for

reliability by a second rater. All written diagnostic reports and item ratings were reviewed by the

senior author. Reliability of interview items was examined in 47 patients. A joint-interview

design was used in which one rater observed another conducting the interview and both made

ratings independently. Of note, the interrater reliability coefficients for the four BPD criteria

considered in this report were substantial and similar: impulsivity, $\kappa = .67$; affective instability, κ

$= .79$; chronic feelings of emptiness, $\kappa = .78$; and inappropriate, intense anger, $\kappa = .65$.

Results

Demographic characteristics of the five subgroups (those meeting zero BPD criteria and

those meeting each of the four single BPD criteria) can be found in Table 1. Age, gender,

marital status, and education level differed between groups. Table 2 shows the five groups'

status on psychosocial morbidity indices. Table 3 shows results of groupwise comparisons on

these variables via multiple regression analyses, controlling for age, gender, and education level. Controlling for these differences, individuals with each of the four single BPD criteria were diagnosed with a significantly higher number of Axis I disorders than those meeting no BPD criteria. Each group also showed lower GAF scores than the comparison group except the group meeting the affective instability criterion, whose GAF scores were marginally lower. The impulsivity and emptiness groups had missed more work in the five years prior to the evaluation than those meeting no BPD criteria. Individuals with the emptiness or anger criterion had lower levels of social functioning.

In addition, ordinal regression analyses showed that those meeting the affective instability ($OR = 1.56$, Wald $= 4.05$, p $= .04$) or emptiness ($OR = 1.89$, Wald $= 16.46$, p $< .001$) criterion had higher marginal levels of suicidality, even when controlling for demographic differences, and those in the emptiness ($OR = 1.88$, Wald $= 7.4$, p $= .006$) and anger ($OR = 2.56$, Wald $= 13.3$, p $< .001$) groups had a greater marginal likelihood of suicide attempts than the no-criterion group. Multiple logistic regression analyses, controlling for demographic differences, showed that those meeting the affective instability ($OR = 2.75$, Wald $= 4.79$, p $= .03$) or emptiness ($OR = 2.08$, Wald $= 5.55$, p $= .02$) criterion were more likely to have received temporary disability payments in the prior 5 years, and those meeting the emptiness ($OR = 1.68$, Wald $= 7.14$, p $= .008$), anger ($OR = 1.69$, Wald $= 4.87$, p $= .02$), or impulsivity ($OR = 1.67$, Wald $= 4.23$, p $= .04$) criterion had a greater prior likelihood of psychiatric hospitalization than those meeting no BPD criteria. In all, controlling for differences in age, gender, and educational level between groups, those in the emptiness group had worse psychosocial functioning on all eight outcome measures than those meeting no BPD criteria. Those meeting the anger criterion had worse functioning on five outcomes, those in the impulsivity group had worse functioning

on four outcome measures, and those meeting affective instability showed psychosocial impairment on three outcomes compared to controls.

Discussion

Results from the current study suggest that the four BPD criteria considered (impulsivity, affective instability, chronic feelings of emptiness, and inappropriate anger) were each associated with decrements in psychosocial functioning when occurring alone. However, each criterion was not related to each negative outcome; for example, emptiness was associated with all eight indices of psychosocial morbidity when controlling for demographic differences between groups, whereas affective instability was only related to three of these variables. In addition, the amount of impairment associated with these different BPD criteria was not always similar. This finding suggests that, although a minimal level of BPD symptomatology is clinically significant in general (Zimmerman et al., 2012), it is important to consider what specific symptom is present. The current findings also support the idea that the validity of diagnostic systems (whether categorical or dimensional) for research and practice can be improved by weighting different features of PD constructs differently based on their implications for an individual's functioning (e.g., Cooper & Balsis, 2009; Evans, Herbert, Nelson-Gray, & Gaudiano, 2002).

It is noteworthy that chronic feelings of emptiness was the criterion most consistently associated with psychosocial morbidity among those considered in the current study. This overall finding was likely not solely the result of the greater power provided by the relatively large size of the emptiness group, as effect sizes generally suggested that impairment was as high, or higher, when the emptiness criterion was met as when other BPD criteria were present instead. Although the emptiness criterion is generally little researched and poorly understood, a study among college students (Klonsky, 2008) suggested that feelings of emptiness were

associated with depression, anxiety, history of suicidal ideation, and history of suicide attempts. The current study adds support to the notion that this BPD symptom is a good marker of poor psychological functioning, but further research on its relation to these variables is needed.

One important and unanswered question concerns the direction of association. In the current study, emptiness was rated by a semi-structured intake interview, and most of the psychosocial morbidity variables related to past events. This raises the possibility that chronic emptiness is the result, and not the cause, of dysfunction in these psychosocial domains. Interestingly, a recent prospective study (Powers, Gleason, & Oltmanns, 2013) suggested that emptiness *negatively* predicted stressful life events (e.g., loss of relationship, being fired from a job, or major financial crisis) in a community sample of older adults. This result can be interpreted by positing that emptiness relates to wholesale lack of engagement with valued activities, such as relationships and employment, and thus may protect against later disruptions in these domains. If this is the case, emptiness might predict low social and work functioning once this withdrawal has taken place. Further research will be needed to disentangle the causal patterns underlying the associations in the current study.

These findings also echo several reports showing that affective instability and impulsivity are detrimental to overall wellbeing. For example, Bagge and colleagues (Bagge et al., 2004; Bagge, Stepp, & Trull, 2005) showed that these elements of BPD were consistently associated with poor academic and social functioning among college freshmen. The current study extends these findings to show that these criteria are also associated with poorer social functioning, unemployment, and disability status among psychiatric outpatients. On the other hand, several studies (both prospective and retrospective) have also suggested that affective instability (Glenn, Bagge, & Osman, 2013; Wedig et al., 2012; Yen et al., 2004) and impulsivity (Brodsky et al.,

1997) are associated with suicide attempts, whereas in the current study, the presence of the

affective instability or impulsivity criterion was not associated with suicide attempts *per se*,

although affective instability was associated with suicidality more broadly. This discrepancy

may be due to methodological or sample differences, but it is also possible that the presence of

affective instability and impulsivity is not a risk factor for suicide attempts when it occurs in the

absence of other BPD criteria. Further research will be needed to clarify this picture. Further

research will also be needed to corroborate the findings of the current study with respect to the

anger criterion, which was related to the majority of the indices of psychosocial morbidity but

the correlates of which have generally received little empirical attention.

A number of limitations of the current study deserve mention. First, we were unable to

investigate the psychosocial morbidity associated with 5 of the 9 BPD criteria because they were

very unlikely to be met on their own, occurring in 1% or less of the outpatient sample. Thus, our

power to investigate the clinical implications of meeting one of these other 5 criteria in isolation

was limited, and this topic awaits further study. Second, the sample consisted of treatment-

seeking psychiatric outpatients with insurance, so the results may not generalize to other

populations with minimal borderline personality pathology (e.g., college students) or to

outpatients in other settings. Finally, psychosocial morbidity data relied on the retrospective

report of interviewees and interviewer ratings. Other sources of information (e.g., hospital

records, reports from close others) may be more objective and could potentially provide tests of

more specific hypotheses regarding the causal patterns underlying these associations.

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Table 1

Participant Characteristics

	No BPD criteria		Impulsivity		Affective Instability		Emptiness		Anger		χ^2	p
	N	%	N	%	N	%	N	%	N	%		
Gender											22.49	<.001
Male	553	39.9	66	57.9	46	53.5	68	40.0	57	50.4		
Female	833	60.1	48	42.1	40	46.5	102	60.0	56	49.6		
Education											24.50	.002
Less than HS	92	6.6	11	9.6	6	7.0	9	5.3	14	12.4		
HS grad	784	56.6	75	65.8	57	66.3	118	69.4	61	54.0		
College grad	510	36.8	28	24.6	23	26.7	43	25.3	38	33.6		
Marital status											87.39	<.001
Married/cohabitating/ widowed	817	58.9	27	23.7	52	60.5	71	41.8	57	50.4		
Separated/divorced	235	17.0	22	19.3	13	15.1	49	28.8	26	23.0		
Never married	334	24.1	65	57.0	21	24.4	50	29.4	30	26.5		
Race											8.87	.064
White	1282	92.5	102	89.5	81	94.2	152	89.4	97	85.8		
Nonwhite	104	7.5	12	10.5	5	5.8	18	10.6	16	14.2		
	M	SD	M	SD	M	SD	M	SD	M	SD	F	p
Age	41.84	13.9	30.76	9.8	37.06	12.0	42.10	11.7	37.40	11.5	22.30	<.001

Table 2

Estimates of Psychosocial Morbidity by Group

	No BPD criteria		Impulsivity		Affective Instability		Emptiness		Anger	
	N	%	N	%	N	%	N	%	N	%
Suicide Attempts										
0	1257	90.6	101	88.6	78	90.7	143	84.1	91	80.5
1	98	7.1	8	7.0	6	7.0	18	10.6	14	12.4
>1	32	2.3	5	4.4	2	2.3	9	5.3	8	7.1
Inpatient History										
No	1168	84.2	90	78.9	72	83.7	129	75.9	87	77.0
Yes	219[a]	15.8[a]	24	21.1	14	16.3	41	24.1	26	23.0
Temporary Disability										
No	509	88.2	38	88.4	22	75.9	60	77.9	28	93.3
Yes	68	11.8	5	11.6	7	24.1	17	22.1	2	6.7
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
GAF	56.70[a]	9.23[a]	55.32	9.19	55.06	7.73	51.86	7.55	54.70	9.73
Social Functioning	2.68	1.05	2.66	1.03	2.72	1.05	3.42	1.23	3.13	1.15
Axis I disorders	1.40[a]	1.14[a]	1.86	1.46	1.76	1.21	2.09	1.31	1.81	1.34
Work Missed	1.98[a]	1.56[a]	2.46	1.74	2.23	1.75	2.50	1.93	2.20	2.03

Note. Suicide Attempts = number of lifetime suicide attempts; Inpatient History = lifetime history of inpatient psychiatric hospitalization; Temporary Disability = receipt of short-term disability payments in previous five years; GAF = Global Assessment of Functioning. Social Functioning is rated on a 0 to 7 scale, with higher numbers indicating worse functioning. Work Missed = amount of work missed in the past 5 years for psychiatric reasons, rated on a 0 to 9 scale.
[a]Statistic also reported in Zimmerman, Chelminski, Young, Dalrymple, & Martinez (2012).

Table 3

Predictors of Psychosocial Morbidity among BPD Criteria in Multiple Regression Analyses

	No. of current Axis I disorders			GAF			Social Functioning (past 5 years)			Time unemployed (past 5 years)		
	b	*SE*	*t*	*b*	*SE*	*t*	*b*	*SE*	*t*	*b*	*SE*	*t*
Impulsivity	.414***	.119	3.49	-1.77*	.896	1.98	.041	.106	.385	.641***	.174	3.68
Affective Instability	.331*	.133	2.49	-1.78	1.00	1.78	.059	.118	.498	.325	.193	1.68
Emptiness	.664***	.097	6.86	-4.60***	.730	6.30	.727***	.086	8.42	.506***	.140	3.63
Anger	.391**	.117	3.35	-2.17*	.882	2.46	.460***	.104	4.42	.272	.171	1.59

Note. Regression coefficients (*b*) represent differences between those meeting each criterion and those meeting 0 criteria, controlling for group differences in age, gender, and educational attainment. Higher coefficients on the Social Functioning variable represent worse levels of social functioning. GAF = Global Assessment of Functioning.
*p < .05. **p < .01. ***p < .001.