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## Borderline Personality Disorder and the Misdiagnosis of Bipolar Disorder

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### Abstract

Recent reports suggest bipolar disorder is not only under-diagnosed but may at times be over-diagnosed. Little is known about factors that increase the odds of such mistakes. The present work explores whether symptoms of borderline personality disorder increase the odds of a bipolar misdiagnosis. Psychiatric outpatients ( $N = 610$ ) presenting for treatment were administered the Structured Clinical Interview for DSM-IV (SCID) and the Structured Interview for DSM-IV Personality for DSM-IV axis II disorders (SIDP-IV), as well as a questionnaire asking if they had ever been diagnosed with bipolar disorder by a mental health care professional. Eighty-two patients who reported having been previously diagnosed with bipolar disorder but who did not have it according to the SCID were compared to 528 patients who had never been diagnosed with bipolar disorder. Patients with borderline personality disorder had significantly greater odds of a previous bipolar misdiagnosis, but no specific borderline criteria was unique in predicting this outcome. Patients with borderline personality disorder, regardless of how they meet criteria, may be at increased risk of being misdiagnosed with bipolar disorder.

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For years, a consensus had emerged that bipolar disorder was being underdiagnosed (e.g., Akiskal et al. 2000, Bowden. 2001, Ghaemi et al. 1999, Ghaemi et al. 2000, Hirschfeld. 2001, Lish et al. 1994, Manning et al. 1997, Perugi et al. 1998). A recent report, however, showed a dramatic shift in this trend, with the rate of bipolar diagnosis among outpatient office-based visits doubling in the last decade among adults and rising nearly 40-fold among children and adolescents (Moreno et al. 2007). A subsequent study from our group provided evidence of potential misdiagnosis of bipolar disorder (Zimmerman et al. 2008).

Little work has considered factors associated with the possible overdiagnosis of bipolar disorder. One source of error may involve confusing symptoms of borderline personality disorder with bipolar disorder. Although the disorders are clearly distinct as defined by the *Diagnostic and Statistical Manual of Mental Disorders* (4<sup>th</sup> ed.; *DSM-IV*; American Psychiatric Association 2000), a number of shared phenomenological features make the latter hypothesis plausible. Affective instability is a core feature of both disorders, albeit the nature and course of this instability may differ (Henry et al. 2001, Koenigsberg et al. 2002). The difficulty controlling anger often seen in patients with borderline personality disorder might be confused

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with the irritability of a manic episode (American Psychiatric Association 2000). Impulsivity is a hallmark of borderline personality disorder, but is also common in patients with bipolar disorder even outside of episodes (Links et al. 1999, Swann et al. 2003, Zanarini. 1993). Both disorders are also often characterized by recurrent suicide attempts (Fyer et al. 1988, Ruggero et al. 2007, Zanarini et al. 2008) and problematic social functioning (American Psychiatric Association 2000, Bauwens et al. 1991, Dion et al. 1988, Fagiolini et al. 2005, Weinstock & Miller. 2008). Similarities between the two disorders have even prompted some to question whether they belong to the same spectrum, although evidence for this hypothesis remains mixed (Akiskal et al. 1985, Akiskal 2002, Benazzi. 2008, Deltito et al. 2001, Gunderson et al. 2006, Koenigsberg et al. 2002, Mackinnon & Pies 2006, Magill 2004, Paris et al. 2007, Smith et al. 2004, Wilson et al. 2007).

In this report from the Rhode Island Methods to Improve Diagnostic Assessment and Services (MIDAS) project (Zimmerman. 2003) we assess the extent to which specific features of borderline personality disorder may put a patient at risk of being misdiagnosed with bipolar disorder. Based on the similar phenomenological features discussed above, we hypothesized that the borderline criteria reflecting affective instability, anger, impulsivity, recurrent suicidal behavior, and interpersonal instability would be most associated with bipolar misdiagnosis.

## Methods

### Participants

The present report extends previous work from our lab, where the sample and methods are described more fully (Zimmerman et al. 2008). Briefly, participants for this study ( $N = 610$ ) had originally enrolled in the Rhode Island MIDAS project, a larger, ongoing clinical study that integrates research methodology into standard clinical care at a community-based outpatient practice located in Rhode Island. Each participant provided written, informed consent according to procedures approved by the Institutional Review Board of Rhode Island Hospital.

The practice predominantly serves individuals with medical insurance on a fee-for-service basis, with patients mostly referred from primary care physicians and psychotherapists. The majority of the 610 patients were white (88.5%,  $n = 540$ ), female (58.8%,  $n = 359$ ), married (44.4%,  $n = 271$ ) or single (30.8%,  $n = 188$ ), and graduated high school (92.9%,  $n = 567$ ). The mean age of the sample was 40.0 years ( $SD = 12.8$ ).

### Procedures and Measures

The core component of the MIDAS project is a comprehensive diagnostic evaluation administered to all patients at the start of treatment. Specifically, participants were administered a modified version of the Structured Clinical Interview for DSM-IV (SCID) (First et al. 1995) and the Structured Interview for DSM-IV Personality (SIDP-IV) (Pfohl et al. 1997). Diagnostic raters were highly trained, mostly Ph.D. clinical psychologists and monitored throughout the project to minimize rater drift. Reliability was examined in 48 patients using a joint-interview design, where one rater observed the other and both made independent ratings. The reliability of diagnosing bipolar disorder was  $\kappa = 0.85$ . Too few patients were diagnosed with borderline personality disorder in this subsample to calculate the kappa coefficients for presence or absence of the disorder. However, intraclass correlation coefficients (ICC) of the dimensional borderline scores on the SIDP-IV was high (0.96).

Originally, a subset of participants ( $n = 700$ ) in the MIDAS project were administered a questionnaire asking whether they had ever been diagnosed by a mental health care professional with bipolar or manic-depressive disorder (information regarding any previous diagnosis of

borderline personality disorder was not collected). Among them, 145 reported having been previously diagnosed with bipolar disorder. Yet, over half of these patients ( $n = 82$ ) did not have their diagnosis confirmed by a SCID. Another 528 patients had never been diagnosed with bipolar disorder and were not diagnosed with this disorder by the SCID.

The present report compares these two groups (i.e., those reporting a previous misdiagnosis to those who had never been misdiagnosed,  $n = 610$ ) to determine if specific borderline criteria increase the odds of having had a misdiagnosis. We began by assessing whether having borderline personality disorder in general increased the odds of reporting a previous misdiagnosis. We then assessed whether this outcome was more likely depending on the total number of borderline criteria endorsed. Analyses shifted to considering each of the nine borderline criteria, with the odds of reporting a previous diagnosis calculated for each of them. The significance of these odds was tested using the chi-square statistic.

## Results

Demographic characteristics of the patients who report having been previously diagnosed with bipolar disorder did not significantly differ from the patients who had not been previously diagnosed with bipolar disorder (Zimmerman et al. 2008). Close to 9% of the sample ( $n = 52$ ) met DSM-IV criteria for borderline personality disorder. As hypothesized, patients who reported previous misdiagnosis were significantly more likely to have borderline personality disorder than patients who were not misdiagnosed (24.4% vs. 6.1%; OR = 5.0, CI: 2.7 – 9.3;  $\chi^2 = 30.6, p < .001$ ). Looking at this another way, nearly 40% (20/52) of the patients diagnosed with DSM-IV borderline personality disorder report having been misdiagnosed with bipolar disorder compared to slightly more than 10% (62/558) of the patients without borderline personality disorder.

With respect to borderline personality disorder criteria, the average number of criteria met was significantly higher in the patients reporting a previous bipolar diagnosis ( $M = 2.4, SD = 2.5$ ) compared to patients not reporting they had been given this diagnosis ( $M = 1.0, SD = 1.7; t = 6.4, p < .001$ ). The data in table 1 shows that the likelihood of being misdiagnosed with bipolar disorder increased with the number of borderline personality disorder criteria a patient met. Regarding specific symptoms, table 2 shows that with the exception of transient dissociation, each of the borderline criteria was associated with a history of a bipolar misdiagnosis, though the strength of association varied.

All of the significant criteria identified in table 2 were entered into a logistic regression to determine if any were independently associated with the odds of a misdiagnosis, after controlling for the others. With only one exception (chronic emptiness, OR = 1.9, CI = 1.1 – 3.3,  $p = .03$ ), symptoms were not independently associated with having been misdiagnosed.

## Discussion

The present report is the first study that we are aware of to consider whether borderline criteria place patients at risk for being misdiagnosed with bipolar disorder. Patients reporting they had been previously diagnosed with bipolar disorder but who did not have it according to a SCID were compared to those who had never been diagnosed with bipolar disorder.

Patients with borderline personality faced significantly higher odds of having been misdiagnosed, with almost 40% of them reporting a previous misdiagnosis compared to only 10% of patients with other disorders. As hypothesized, borderline criteria reflecting affective instability, anger, impulsivity, recurrent suicidal behavior, and interpersonal instability all increased the odds of this outcome. These criteria, however, were not unique in doing so, since almost all the borderline criteria (with the exception of transient dissociation) were associated

with increased odds of a previous misdiagnosis. Chronic emptiness was independently associated with the outcome, but the association was not particularly strong, with the odds being statistically but not meaningfully different from other criteria. Interestingly, the link between the number of borderline criteria and misdiagnosis was not linear (see table 1). Participants endorsing six criteria had higher odds of reporting a misdiagnosis compared to those endorsing seven or more criteria. This may indicate that as patients endorse more symptoms of borderline personality disorder they become less diagnostically ambiguous, and hence less likely to have been misdiagnosed. Overall, results suggest that having borderline personality disorder, as opposed to any particular set of criteria, increases the odds that a person may at one time or another be misdiagnosed with bipolar disorder.

Misdiagnosis of borderline personality disorder as bipolar disorder has serious clinical implications. A wave of effective new therapies has been developed for the treatment of borderline personality disorder that is distinct from those that would be used to treat bipolar disorder. These include long and short versions of dialectal behavior therapy (Linehan et al., 2006; Lynch et al., 2006; Stanley et al., 2007), short and long term cognitive behavioral therapy tailored for borderline personality disorder (Davidson et al., 2006; Weinberg et al., 2006), mentalization-based and transference-focused therapy (Bateman & Fonagy, 2008; Clarkin et al., 2007), schema-focused therapy (Giesen-Bloo et al., 2006; Young, 1999) and adjunctive group psychoeducation (Blum et al., 2008). Misdiagnosis would presumably delay the use of these more appropriate psychotherapies. Furthermore, there is mixed evidence that medications used to treat bipolar disorder are effective for borderline personality disorder, with a Cochrane review (Binks et al., 2006) of available randomized controlled trials concluding that pharmacological treatment of BPD in general is not based on good evidence. Given promising new data showing that borderline personality disorder often remits with appropriate treatment (Gunderson et al., 2000; Zanarini et al., 2003), the need to accurately diagnose the condition becomes even more critical.

Findings in the present study are robust, but they must be interpreted in light of the study's limitations. Among them, we were limited in our ability to collect information about previous clinical care. So while current diagnoses were based on semistructured, reliable assessments administered by highly trained, mostly Ph.D. clinicians and were validated by family psychiatric history, the history of previous diagnoses was based on patients' self-report. This raises the possibility of reporting errors. In other words, a certain proportion of patients reporting a previous diagnosis may have been mistaken, either by errors in recollection or because they misinterpreted past consultations. It is difficult to know the extent of this problem, but its effects on the current findings will be mitigated if such reporting errors occur equally across groups (there is no evidence to suggest this is not the case). Moreover, even if some of these self-reports are in error, it is unlikely that this is true for all or even most cases. Nevertheless, findings must be replicated using studies that better document diagnostic histories.

A second potential limitation is that we cannot rule out the possibility that some patients we deemed as not having bipolar disorder according to the SCID may in fact have had the disorder, despite the SCID diagnosis. This may be particularly true if one widens the concept of bipolar disorder to include softer forms of the spectrum (e.g., Akiskal 2002). As a result, some past clinicians may have made the diagnosis based on this wider, non-DSM-IV concept of bipolar disorder. It is important to note, however, that the concept of the spectrum remains uncertain and that the SCID diagnoses in the present study were validated by family psychiatric history data (Zimmerman et al. 2008).

In summary, results from the present report highlight that patients with borderline personality disorder, regardless of how they meet criteria, may be at risk of being misdiagnosed with bipolar

disorder. This finding suggests the need for clinicians to carefully attend to differential diagnoses between these disorders (Bolton & Gunderson. 1996) and for future research to identify markers that better differentiate patients with bipolar disorder from those with borderline personality disorder.

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**Table 1**

Likelihood of an Overdiagnosis of Bipolar Disorder as a Function of the Number of DSM-IV Borderline Personality Disorder Criteria Met in 610 Psychiatric Outpatients

Number of Borderline Criteria Met	n	Overdiagnosed with Bipolar Disorder, % (n)	OR	OR CI	<i>p</i> -value
1	113	12.4 (14)	0.9	0.5 – 1.6	ns
2	52	17.3 (9)	1.4	0.6 – 3.0	ns
3	36	16.7 (6)	1.3	0.5 – 3.2	ns
4	25	24.0 (6)	2.1	0.8 – 5.4	ns
5	20	25.0 (5)	2.2	0.8 – 6.2	ns
6	19	52.6 (10)	8.0***	3.1 – 20.3	<.001
7 or more	13	38.5 (5)	4.2*	1.3 – 13.1	<.01

\* *p* < .05.

\*\*\* *p* < .01.



**Table 2**  
 Frequency of DSM-IV Borderline Personality Disorder Criteria in Psychiatric Outpatients Without Bipolar Disorder Who Were and Were Not Previously Diagnosed with Bipolar Disorder (N = 610)

DSM Borderline Criteria	Prior Bipolar (n = 82) % (n)	Never Bipolar (n = 528) % (n)	OR	OR CI	p-value
Abandonment Fear	12.2 (10)	3.4 (18)	3.9**	1.7 – 8.8	<.001
Interpersonal Instability	24.4 (20)	10.2 (54)	2.8**	1.6 – 5.0	.002
Identity Disturbance	19.5 (16)	8.5 (45)	2.6**	1.4 – 4.8	<.001
Impulsive Behavior	28.0 (23)	11.7 (62)	2.9**	1.7 – 5.0	<.001
Suicidal/Self-Injurious Behavior	20.7 (17)	6.6 (35)	3.7**	1.9 – 6.9	<.001
Affective Instability	40.2 (33)	17.0 (90)	3.3**	2.0 – 5.3	<.001
Chronic Emptiness	42.7 (35)	21.2 (112)	2.7**	1.7 – 4.5	<.001
Excessive Anger	39.0 (32)	17.6 (93)	3.0**	1.8 – 4.9	<.001
Transient Dissociation	12.2 (10)	6.3 (33)	2.1	1.0 – 4.4	ns

\*  $p < .05$ .

\*\*  $p < .01$ .