Chapter 4
Is Borderline Personality Disorder Underdiagnosed and Bipolar Disorder Overdiagnosed?

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Introduction

Borderline personality disorder (BPD) is widely considered one of the most severe and chronic of the mental disorders [1, 2] and is associated with high public health costs [3], functional impairment, and clinical severity [4, 5]. Patients with BPD report heavy utilization of psychiatric services (including inpatient and partial hospitalizations, psychotherapy, and psychopharmacology management visits), criminal services due to violence or unlawful sexual behavior, nonpsychiatric medical services, and legal services such as divorce, libel, and child-related lawsuits [6].

BPD is diagnosed polythetically, and patients must meet threshold for 5 of 9 equally weighted diagnostic descriptors. These criteria include impulsivity, self-injurious behavior, stress-related psychosis, chronic emptiness, and instability with respect to interpersonal relationships, self-image, anger, and affect [7]. BPD is also the most commonly diagnosed personality disorder in clinical settings and is reported to occur in approximately 10 % of psychiatric outpatients and 15–20 % of psychiatric inpatients [1]. Community samples typically yield prevalence estimates around 1–2 % [1], though some studies report rates as high as 5–6 % [8]. Although the specific causes of BPD have yet to be identified, it is believed that a combination of multiple psychosocial and biological factors leads to maladaptive personality trait features characteristic of BPD [9].

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Is BPD Underdiagnosed?

The problem of underrecognition of personality pathology has been known for some time. Indeed, it was largely concern about underrecognition of personality disorders that originally led to the placement of these diagnoses on Axis II in DSM-III, to "ensure that consideration is given to the possible presence of disorders that are frequently overlooked when attention is directed to the usually more florid Axis I disorder" [10]. Despite the caution raised about underdiagnosing personality disorders, and their placement on Axis II, studies documented that clinicians use personality disorder diagnoses relatively infrequently [11, 12].

To be sure, due to the reliance on retrospective reporting and the ego-syntonic nature of personality disorders, diagnosing BPD in a clinical setting can be difficult. Westen noted that clinicians tend to rely on longitudinal perspectives to diagnose personality disorders, basing judgments on patients' descriptions, behavior, and attitudes during treatment sessions over time [11]. By extension, personality disorder diagnoses are rarely made during intake interviews, which tend to be time limited. Intake interviews tend to emphasize diagnosing Axis I disorders, which have a more immediate effect on treatment planning. Consequently, diagnostic rates tend to be much lower when BPD is diagnosed by clinicians using unstructured assessments than by interviewers using standardized interviews. For example, Oldham and Skodol examined the rate of DSM-III personality disorders in nearly 130,000 patients in the New York state hospital system [13]. Results showed that personality disorders were not being systematically diagnosed in this sample. Similar findings were reported in heterogeneous psychiatric samples from non-state hospitals [14].

Zimmerman and colleagues were the first group to directly compare BPD diagnostic rates using standard clinical interviewing, semi-structured clinical interviewing, and a combination condition where clinicians were presented with results from the semi-structured interview but did not conduct the interview themselves [12]. Rates of BPD were significantly higher in the structured interview group (14.4 %) than the clinical intake interview group (0.4 %). Frequency of BPD diagnoses also significantly increased when clinicians were provided the results from structured interviewing (9.2 %). Taken together, these findings suggest that even though they are not part of a regular intake interview, clinicians find value in and utilize diagnostic information provided by structured interviewing. Thus, the issue in diagnosing personality disorder appears to be more related to having sufficient time to conduct a thorough interview than to the need to rely on longitudinal observation.

Reasons for Underdiagnosis of BPD

There are many possible reasons for the underdiagnosis of BPD, one of which is lack of confidence in the construct. Personality disorder diagnoses are viewed by some as unreliable, lacking validity, and of secondary importance (see Clark [15] for a review). The structure of the BPD diagnosis has also resulted in much

disagreement among researchers and clinicians, with several authors proposing alternative, trait-based, or prototype-based approaches to the current categorical model [16, 17]. The polythetic criteria used to diagnose BPD also may lead to confusion. Because patients need only to meet 5 of 9 possible criteria, individuals who meet threshold for BPD may present very differently clinically which can be confusing. Indeed, there are 151 different ways to diagnose BPD using the "5 of 9" criteria met rule [1]. Even efforts to clarify the structure of BPD through factor modeling yield mixed results, with proposed models consisting of one to four factors [18]. These and other controversies regarding the validity of BPD can be confusing for clinicians and serve to dilute the perceived validity of the diagnosis.

BPD in particular has also been heavily criticized for high comorbidity rates with other disorders, which some authors suggest indicate the diagnosis is vague, improperly applied, or redundant [19, 20]. Others argue that the high comorbidity is better viewed as an index of clinical severity rather than being an indicator of low diagnostic independence [21, 22]. Thus, high comorbidity in BPD patients can be viewed as indicative of BPD's status as a heterogeneous disorder affecting multiple symptom dimensions. Practically, comorbidity in patients who have BPD may lead clinicians to overlook the disorder and only diagnose these comorbid disorders that are often the reason for seeking treatment. Indeed, although BPD is among the most commonly diagnosed of the Axis II disorders, clinicians frequently defer diagnosis on Axis II altogether.

Other possible reasons for underdiagnosis are more overtly clinical. Diagnosis with BPD is widely considered stigmatizing among mental healthcare providers [23], with one author describing the perception of BPD patients as "doomed to chronicity" [24]. Clinicians may thus be reluctant to give the diagnosis to reduce stigma for patients and potentially increase their likelihood of acceptance in the larger mental health system [25]. Many of the symptoms typical of BPD such as self-mutilating behavior, recurrent suicidal gestures and threats, and intense anger can be difficult for clinicians to manage. For these reasons the term "borderline personality disorder" is sometimes used in a pejorative, diminutive, or dismissive manner by clinicians to identify interpersonally difficult patients who may or may not actually meet criteria for BPD [26, 27]. Misuse of the term as an adjective rather than a proper noun may diminish the importance of assessing the BPD criteria in a clinical setting. Indeed, Morey and Ochoa showed that in a national sample of clinicians, personality disorder diagnoses were given without documentation of whether or not patients met specific diagnostic criteria [28].

Patients with BPD are also notoriously difficult to treat. Gunderson and colleagues reported that the typical BPD patient uses multiple service providers, switches therapists, and terminates treatment within the first 3 months [29]. BPD patients also account for approximately 15 % of psychiatric hospitalizations [30] and receive significantly more psychosocial treatments and more medication changes than do patients with other personality disorders or major depression [3]. For these reasons, clinicians may wish to spare patients from diagnosing a disorder with this unfavorable prognosis in ambiguous cases.

Underdiagnosis of BPD may also be linked to the disorder's phenomenological overlap and high comorbidity with impulse control disorders, mood disorders, anxiety disorders, and substance and alcohol use disorders, among others. In particular, BPD has been commonly studied with respect to bipolar disorders, and some researchers consider the disorders to exist along the same spectrum [31].

Overdiagnosis of Bipolar Disorder and BPD

Like BPD, bipolar disorder is also associated with clinical severity, chronicity, high public health costs, and functional impairment [32]. Much has been written about the underdiagnosis of bipolar disorder, and the underrecognition of bipolar disorder has been identified as a significant clinical problem [33–35]. Indeed, for patients who are ultimately diagnosed with bipolar disorder, the time between initial treatment seeking and the diagnosis of bipolar disorder is frequently more than 10 years [36, 37]. These and other researchers also suggest that the misdiagnosis of bipolar disorder as unipolar depression is particularly concerning, primarily due to the subsequent ineffective overuse of antidepressants and underuse of mood stabilizers [38].

More recently, there have also been some reports of overdiagnosis of bipolar disorder. For example, Hirschfeld and colleagues administered the SCID to 180 outpatients on antidepressant medication [39]. Of this sample, 43 patients (23.8 %) reported a prior diagnosis of bipolar disorder, of whom 32.6 % did not have the diagnosis confirmed by the SCID. In contrast, only 21.9 % of patients reporting no history of bipolar disorder were diagnosed with bipolar disorder on the SCID. Stewart and El-Mallakh evaluated 21 patients in residential treatment for substance use who reported a previous diagnosis with bipolar disorder [40]. After SCID interviewing, only 9 (43 %) of these patients were diagnosed with bipolar disorder. Goldberg and colleagues evaluated 85 patients admitted to a dual-diagnosis inpatient unit who had previously been diagnosed with bipolar disorder by an outpatient psychiatrist [41]. Similar to Stewart and El-Mallakh, only 28 patients (33 %) had the diagnosis of bipolar disorder confirmed.

In the process of conducting clinical assessments, one group observed an increasing number of patients reporting a history of being diagnosed with bipolar disorder [42]. The authors subsequently assessed a large sample of psychiatric outpatients using semi-structured diagnostic interviewing for DSM-IV Axis I disorders, 20.7 % of whom reported a previous diagnosis with bipolar disorder. Less than half of these patients (43.4 %) ultimately met criteria for bipolar disorder, an overdiagnosis rate of more than 50 %. The authors validated their diagnostic methodology by finding a significantly higher morbid risk of bipolar disorder in the first-degree relatives of patients diagnosed with bipolar disorder compared to patients who were overdiagnosed with bipolar disorder.

The same authors speculated that bipolar overdiagnosis would be most common in patients diagnosed with borderline personality disorder. A subsequent report

from their study confirmed this hypothesis, showing that approximately 25 % of patients who had been overdiagnosed with bipolar disorder were diagnosed with BPD. Similarly, nearly 40 % of the patients ultimately diagnosed with BPD reported a history of overdiagnosis with bipolar disorder [43].

In a third report from this group, Ruggero and colleagues examined whether specific symptoms of BPD increased the odds of bipolar disorder misdiagnosis [44]. The authors compared two groups: 82 patients reporting previous diagnosis of bipolar disorder but who did not have bipolar disorder after SCID interviewing and 528 patients who had never been diagnosed with bipolar disorder. With the exception of transient dissociation, all BPD criteria were associated with increased odds of a previous misdiagnosis with bipolar disorder. Interestingly, patients endorsing more than six BPD criteria were less likely to have a history of misdiagnosis, raising the intriguing possibility that the diagnosis became more clear as the number of criteria met increased.

Somewhat similar results were reported by Meyerson [45]. Here, 70 patients were identified as having BPD using clinical research methodology for DSM-IV. Nearly three quarters of these patients denied a history of diagnosis with BPD, and the majority of these reported being given one or more additional Axis I diagnoses. The most common "false-positive" diagnoses were mood disorders, particularly bipolar disorder (17 %) and major depressive disorder (13 %). These results are particularly surprising given that the patients also reported an average of 10.4 years since their first psychiatric encounter and presumably had multiple contacts with treatment professionals during this time. These data replicated those documenting overdiagnosis of bipolar disorder in patients with BPD [42].

Reasons for Misdiagnosis

Emerging research clearly suggests a pattern of overdiagnosis of bipolar disorder in patients with BPD. Reasons for this pattern vary, but the primary cause appears to be phenomenological similarities between the disorders. For example, both BPD and bipolar disorder are characterized by mood fluctuations. However, the intense emotionality that occurs in patients with BPD is typically time-limited and reactive to external influences, such as interpersonal cues. In bipolar disorder, mood dysregulation is sustained (at least 1 week for mania and 4 days for hypomania) and less contingent on the environment. Patients with BPD also commonly experience shifts from euthymia to anger or anxiety, whereas in bipolar disorder, the shift is more commonly described as euthymia to elation or depression (or from elation directly to depression [46]). Similarly, patients with BPD frequently report potentially harmful impulsivity, including in the areas of gambling, excessive spending, sexual promiscuity, theft, eating binges, reckless driving, and excessive alcohol and substance use. Patients with bipolar disorder will also report these behaviors. However, in bipolar patients potentially dangerous impulsivity is typically limited to episodes of mania or hypomania, whereas in patients with BPD, impulsivity is

trait-like and thus consistent across mood states [47]. Other shared clinical features include high rates of depression, comorbidity (particularly anxiety and substance use disorders), early age of onset, and suicidality. Insufficient diagnostic rigor—due to inattention, lack of time, or lack of available resources to conduct a thorough interview—may lead to misdiagnosis based on these shared characteristics.

A related issue is familiarity with diagnosis and treatment of a disorder. Diagnosing BPD accurately requires experience with the phenomenology of the disorder, as well as ready knowledge of the nine diagnostic criteria associated with BPD. Providers may be more comfortable treating bipolar disorder than BPD, which could affect their tendency to overdiagnose bipolar disorder in patients with ambiguous symptoms. Prescribing clinicians in particular may err on the side of diagnosing a disorder that is responsive to medication (bipolar) versus diagnosing BPD, which is typically treated psychotherapeutically. Moreover, BPD is notoriously difficult to treat, and patients report frequent changes to treatment providers, inpatient and partial hospitalizations, and suicide attempts [48]. Probably due to the difficulties in treating such patients, BPD is also widely stigmatized among treatment professionals [23]. Although bipolar patients also report high clinical severity and impairment, they generally lack the interpersonal difficulties inherent in treating patients with BPD, resulting in comparatively less stigma associated with bipolar disorder. For these reasons, providers may be reluctant to deliver a diagnosis of BPD to their patients when presenting symptoms are ambiguous. Patients themselves may also be motivated to retain a diagnosis of bipolar disorder once it is delivered, possibly due to secondary gain such as disability payments [49].

Also relevant is the increasing availability of medications to treat bipolar disorder, as well as marketing efforts to promote these medications that are aimed at both clinicians and patients. Direct-to-consumer advertising in particular may lead consumers to screening questionnaires that, although helpful, tend to maximize sensitivity (thus increasing false-positives) in the presumption of follow-up with a clinical evaluation. As noted in Zimmerman et al. [42], many continuing medical education programs on bipolar disorder include a summary of research on under-recognition of bipolar disorder. There is no such ground force promoting BPD engineered by pharmaceutical companies, and presentations are rarely balanced by a concordant discussion of research showing that bipolar disorder is overdiagnosed or detailing the risks of overdiagnosis. As such, medical doctors may not receive a balanced education with respect to diagnostic patterns and consequently may err on the side of overdiagnosis without giving full consideration to the risks of this bias. Of course diagnostic confusion could result in overdiagnosis of either bipolar disorder or BPD. However, we would hypothesize a bias towards more bipolar disorder overdiagnosis due to the reasons detailed in this section, specifically clinicians' greater familiarity with the diagnosis and treatment of bipolar disorder, the stigma associated to the BPD diagnosis due to interpersonal conflict, and the greater promotion and availability of medications for the treatment of bipolar disorder.

Should BPD Be Considered to Be Part of the Bipolar Spectrum?

The sharing of features and high comorbidity of BPD and bipolar disorder have led some to suggest that BPD is on the "bipolar spectrum." These researchers suggest that the DSM-IV criteria for bipolar disorder are overly narrow and should be expanded to include milder forms of the disorder, which would include BPD [31, 50, 51]. For example, several studies criticize the DSM-IV duration criteria for manic and hypomanic episodes as being too long, suggesting that individuals with hypomanic episodes lasting 2 days should also be included in the bipolar disorder diagnosis [52]. Broadening the diagnosis to include subthreshold cases would decrease the rate of overdiagnosis simply by increasing diagnostic rates overall, particularly in the case of depressed patients with comorbid borderline personality disorder who also report intense affective experiences that may be reinterpreted as bipolar disorder [53]. However, several recent reviews of the BPD and bipolar disorder literature do not support the inclusion of BPD as a bipolar spectrum disorder [54, 55], and the disorders remain distinct in the recent revision to the diagnostic and statistical manual [7].

Multiple review articles have summarized the evidence in support of and in opposition to the hypothesis that BPD belongs in the bipolar spectrum [25, 54, 55]. These reviews report that relatively few studies have directly compared individuals diagnosed with BPD and bipolar disorder. Importantly, those studies that do provide this comparison are generally based on small samples and examine a limited number of variables. For example, Atre-Vaidya and Hussain compared personality traits in 10 patients with BPD to 13 patients with bipolar disorder [56]. Results showed differences on 3 of 7 dimensions of the Temperament and Character Inventory. Similarly, Berrocal and colleagues [57] compared 25 BPD patients without a history of mood disorders, 16 patients with bipolar disorder without a history of BPD, and 19 patients with comorbid MDD and BPD on a self-report measure of mood phenomenology. Results showed no significant differences between BPD and bipolar disorder. A comparison of female outpatients with bipolar I disorder ($n=25$) and BPD ($n=31$) showed significantly higher cyclothymic, depressive, irritable, and anxious temperament in BPD patients [58]. BPD patients also scored higher on 14 of 18 measured indices of maladaptive self-schemas in this study. A final study comparing BPD ($n=10$) and bipolar II disorder ($n=9$) showed differences in types of psychodynamic conflicts reported, but not on defense mechanisms used [59].

Henry and colleagues compared four groups: 29 patients with BPD (no bipolar disorder), 14 patients with bipolar II disorder (no BPD), 12 patients with BPD and bipolar II disorder, and a control group of 93 patients with another PD (but no bipolar disorder or BPD) [46]. Results showed that both BPD and bipolar disorder were characterized by affective lability and that lability in BPD groups was associated with greater impulsivity and hostility as compared to patients without BPD.

Another study also compared four slightly different groups: 72 patients with comorbid BPD and MDD, 15 depressed patients with bipolar II (no BPD), 15 depressed patients with comorbid bipolar II and BPD, and a control group of 71 MDD patients (no BPD) [60]. As was previously reported [46], patients with BPD reported significantly higher levels of impulsiveness and hostility, as well as cognitive and anxious symptoms. However, both these studies report two-way analyses of variance with the presence/absence of BPD and bipolar II as the primary factors. Thus, the significant differences may be due to differences with patients without either BPD or bipolar [46] or to differences with the MDD only group [60].

Finally, Zimmerman and colleagues compared 62 patients with bipolar II depression (no BPD) and 206 with comorbid MDD and BPD (no bipolar disorder) on a wide number of clinical and family history variables [61]. Results showed that the MDD-BPD patients were significantly more likely to be diagnosed with posttraumatic stress disorder, a current substance use disorder, somatoform disorder, and other (non-BPD) personality disorders. The MDD-BPD group also reported significantly higher ratings of recent anger, anxiety, paranoid ideation, and somatization. The MDD-BPD group also was rated lower on several functioning variables (particularly social functioning) and reported a higher number of suicide attempts. In contrast, patients with bipolar II depression had a significantly higher morbid risk for bipolar disorder in first-degree relatives than did MDD-BPD patients.

Although the majority of these studies are limited by a small sample size and small number of variables studied, the studies are consistent in finding symptom and personality trait differences that distinguish BPD from bipolar disorder. Thus, these findings provide support for the continued conceptualization of BPD and bipolar disorder as valid and distinct diagnoses.

It is important to note that changing the diagnostic threshold for bipolar disorder would have a significant effect on the prevalence of this diagnosis, as well as that of diagnoses that share features of bipolar disorder (such as BPD). Zimmerman provides an in-depth discussion of this issue, including the important point that while broadening the bipolar spectrum would decrease the rate of false-negatives (underdiagnosis), it would also result in an increased rate of false-positives (overdiagnosis) [62].

Thus, although it is clear that bipolar disorder is commonly misdiagnosed in cases involving BPD, it is also possible that bipolar disorder is underdiagnosed in certain situations. Indeed, underdiagnosis of bipolar disorder was a consensus among researchers for many years [31, 37, 38, 63]. However, more recent reports show a shift in this trend, with rate of bipolar diagnosis doubling in adults and becoming nearly 40 times more common in children and adolescents [64]. We believe the sudden rise in bipolar diagnosis combined with findings from our lab and others showing the misdiagnosis of bipolar disorder in certain cases more strongly suggests a trend towards overdiagnosis.

Treatment Implications

The question of whether a patient has bipolar disorder, BPD, or comorbid bipolar and BPD has important implications for treatment. The efficacy of pharmacological treatments for bipolar disorder is well established [65]. In contrast, no medications have been approved for the treatment of BPD, although some medications show efficacy for aspects of the disorder [66]. Also relevant is the robust finding that medication for depression is less effective in patients with comorbid personality disorder [67]. Moreover, only mixed evidence suggests that medications used to treat bipolar disorder are effective treatments for BPD. In a review of this literature, Binks and colleagues concluded that randomized control trials of pharmacological treatment for BPD in general do not provide clear evidence for medication use in BPD patients [68].

In contrast, a preponderance of evidence also shows that patients with BPD benefit most from focused therapeutic interventions such as Dialectical Behavior Therapy [69, 70], Cognitive Behavioral Therapy [71, 72], Schema-Focused Therapy [73], adjunctive group psycho-education with systems based therapy [74, 75], and Mentalization-Based and Transference-Focused Therapies [76, 77]. Because these therapies were designed for features unique to BPD, their effectiveness at improving symptoms of bipolar disorder is unknown. Diagnosing bipolar disorder in patients who actually have BPD could result in failure to recommend the most appropriate treatment, which at best could minimally effect symptoms and impairment and at worst could result in the patient and/or the clinician becoming disillusioned, disengaged, or frustrated with treatment generally. One study documented that among patients diagnosed with BPD, prior misdiagnoses were significantly associated with higher medication rates [45]. The unnecessary prescription of mood stabilizers—the treatment of choice for bipolar disorder—could expose patients to serious medication side effects [42].

Given the superficial overlap in phenomenology, it is important to identify additional clinical markers to differentiate bipolar disorder and BPD. One such clinical indicator is the presence or absence of a family history of bipolar disorder. Family history may be used to identify BPD, and one study reported 63 % heritability for BPD [78]. However, family history data often relies on the accurate retrospective reporting by the patient, and a small number of outpatients with BPD also report a family history of bipolar disorder (3 % per one article [79]). Another indicator that is commonly used to identify BPD is the presence of childhood trauma, which is reported in 30–90 % of BPD patients [80]. However, a high number of bipolar disorder patients also describe some form of abuse or neglect in childhood [81]. Similarly, although BPD is frequently characterized by interpersonal problems, a high number of interpersonal difficulties are also reported by bipolar patients [82]. Thus, although indicators such as family history and childhood trauma can point in a particular direction, they are not, in themselves, diagnostic. Paris suggested that differential diagnosis of BPD and other disorders will ultimately come to rely on clinical indictors such as biological testing, imaging, and genetic information [21]; however, these markers have yet to be identified.

Conclusions

Recent reports suggest that bipolar disorder is often misdiagnosed or overdiagnosed. A pattern to this misdiagnosis has also emerged, showing that bipolar disorder is particularly likely to be misdiagnosed in patients who after careful diagnostic interviewing ultimately meet criteria for BPD (among other disorders). The pattern of misdiagnosis in no way diminishes the import of the bipolar diagnosis. Rather, we believe these findings further serve to underscore the need for careful, clinical assessment at intake across settings. Indeed, it would appear that psychiatric care providers agree as, even when they do not conduct semi-structured interviews themselves, clinicians trust the information from these interviews [83].

Taken together, our findings underscore some of the difficulties inherent not only to diagnosis of BPD and bipolar disorder specifically but of psychiatric phenomena generally. At present, the vast majority of psychiatric disorders are diagnosed based on clinical phenomenology and patient self-report. These sources of information are frequently inconsistent, unclear, or limited in scope, which renders diagnostic decisions even more difficult, particularly under time pressure. Nonetheless, chronic underdiagnosis of BPD has significant, real-world consequences in terms of treatment planning and implementation. The same implications apply for bipolar disorder. As such, it will be important for future clinical researchers to better delineate these disorders conceptually and for this information to be disseminated into clinical practice as seamlessly as possible.

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