

## WHY ARE WOMEN DIAGNOSED BORDERLINE MORE THAN MEN?

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DSM-IV-TR states that borderline personality disorder (BPD) is "diagnosed predominantly (about 75%) in females." A 3:1 female to male gender ratio is quite pronounced for a mental disorder and, consequently, has led to speculation about its cause and to some empirical research. The essential question is whether the higher rate of BPD observed in women is a result of a sampling or diagnostic bias, or is it a reflection of biological or sociocultural differences between women and men? Data to address these issues are reviewed. The differential gender prevalence of BPD in clinical settings appears to be largely a function of sampling bias. True prevalence by gender is unknown. The modest empirical support for diagnostic biases of various kinds would not account for a wide difference in prevalence between the genders. Biological and sociocultural factors provide potentially illuminating hypotheses, should the true prevalence of BPD differ by gender.

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**KEY WORDS:** borderline personality disorder; gender ratio; gender bias; gender-related risk factors.

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DSM-IV-TR states that borderline personality disorder (BPD) is "diagnosed predominantly (about 75%) in females (1) (p.708). A 3:1 female to male gender ratio is quite pronounced for a mental disorder and, consequently, has led to considerable debate and speculation about its cause, and to some empirical research. The essential question is whether the clinical observation that women are more likely to be diagnosed borderline than men is a result of a sampling or diagnostic bias, or is a reflection of biological or sociocultural differences between women and men that lead to the development of traits and behaviors indicative of BPD more often in women?

Borderline personality disorder (BPD) is one of three DSM-IV-TR personality disorders (PDs) said to occur more often in women; the other two are histrionic personality disorder and dependent personality disorder. BPD is one of only two PDs purported to have such a large gender ratio difference. DSM-IV-TR also states that antisocial personality disorder (ASPD) has a 3:1 gender ratio, but ASPD occurs three times more commonly in men than in women. In this paper, we review theories of gender bias in the diagnosis of BPD, as well as data on sampling and diagnostic biases and on gender differences in biological and sociocultural risk factors.

### THEORIES OF GENDER BIAS

The issue of gender bias in DSM psychiatric diagnoses was first raised by Kaplan in an influential article in the *American Psychologist* (2). She argued that the diagnostic experts (mostly men) who served on the DSM-III Task Force had codified certain masculine-based assumptions about what behaviors were healthy and what were crazy, such that women who over-conformed to certain sex role stereotypes would be labeled as pathological (3). Her two primary examples of gender-biased diagnoses were histrionic and dependent PDs, but she also noted that BPD was potentially biased.

Widiger (4) has described six ways in which differential gender prevalence rates in the diagnosis of personality disorders could reflect sex biases. These are 1) biased sampling of persons with the disorder, 2) biased diagnostic constructs, 3) biased diagnostic criteria, 4) biased diagnostic thresholds, 5) biased application of diagnostic criteria, and 6) biased instruments of assessment.

Biased sampling refers to the possibility that the perception of a higher rate of a disorder among women in a clinical setting may simply reflect a higher rate of women receiving treatment in that setting.

This may be the case, because in most instances, women are more likely than men to seek help for psychological problems. True gender prevalence may only be discerned from epidemiologic studies of representative samples of the general population. Biased diagnostic constructs refer to sexist characterizations or stereotyping of women's behavior patterns as pathological. Biased diagnostic criteria refer to the possibility that behaviors consistent with one's gender role may be viewed as less pathological, the opposite of the sexual stereotyping argument. The threshold for diagnosis may be biased if there is a different point at which a diagnosis would be given to women vs. men, perhaps reflected in a different assumption about the degree of impairment associated with the personality traits or behaviors in women as compared to men. Even if concepts, criteria, and thresholds for diagnosis are not inherently biased, clinicians may be prone to misdiagnose certain personality disorders more often in women than in men. Finally, an item from a self-report inventory or a semistructured interview could reflect sex bias if it generally applied more to one sex than the other, or did not reflect dysfunction in one sex vs. the other.

### RESEARCH ON GENDER BIAS IN BPD

Although most of the research on gender biases in the personality disorders has focused on histrionic and dependent PDs, a number of studies have examined most of these potential sources of bias for BPD.

#### Biased Sampling

It should first be established whether the perceived gender difference in the prevalence of BPD is an artifact of sampling in clinical settings. If the observed rate of BPD in women is no different from the base rate of women in the setting, then no significance can be attached to the rate, even if it is elevated. An exception would be taken in the case of a clinic that specialized in the treatment of disorders (e.g., eating disorders) that are actually more common among women. Of the five empirical studies that have employed semistructured diagnostic interviews to test for gender differences in DSM-III-R or DSM-IV PDs (5-9), only one found that the rate of BPD differed by gender. In fact, however, in Carter and colleagues (8) study of 225 depressed outpatients, BPD was one of several PDs found to occur more often among *men*. Thus, the elevated base rate of women in clinical settings may be the reason why clinicians perceive more women to have BPD.

A difference in the rates of BPD between men and women may only be determined accurately from samples from the general population. Although there have been several studies of the prevalence of PDs in nonclinical (e.g., relatives, students) populations (10,11), there has been only one representative population-based study, by Torgersen and colleagues (12) in Norway. The prevalence of BPD in a representative sample of 2053 people in that study was low (weighted % = 0.7), perhaps because of effects of culture on the expression of psychopathology in Norway, but no difference was found in the prevalence by gender. Clearly, other epidemiological studies of BPD in diverse populations of the world will be needed before the true prevalence by gender can be determined.

### **Biased Diagnostic Constructs or Criteria**

An early study of DSM-III BPD by Henry and Cohen (13) set out to determine whether women would be more likely than men to be diagnosed with BPD, given an equivalent number of symptoms, and whether "normal" women have more BPD characteristics than "normal" men. First, a case study of BPD from the DSM-III Case Book (14) was rated by 65 psychiatrists; half received the original version of the case with its feminine pronouns and half had the pronouns changed to refer to a male patient. There was no difference in the rate of BPD diagnosed in the female vs. the male versions of the case. In the second part of this study, a questionnaire based on BPD criteria was given to 277 students, who were asked to describe themselves with respect to these traits. The authors found that male students (presumed to be normal) exhibited more BPD characteristics than female students. The authors concluded that the labeling of certain behaviors as pathological only when they occur in women may contribute to an increased rate of BPD in women.

Sprock and colleagues (15) examined whether traits and behaviors described by the criteria for BPD varied along a male-female dimension (i.e., gender weighting). Undergraduate students sorted 142 DSM-III-R PD criteria into those most characteristic of men or of women. Almost all BPD criteria were rated slightly more characteristic of women. The only exception was the criterion referring to inappropriate, intense anger, which was rated strongly masculine. The authors raised the question of whether men and women with BPD might present with different symptom patterns.

This question was recently addressed in the NIMH-funded Collaborative Longitudinal Personality Disorder Study (CLPS) (16). The CLPS sample included 175 females and 65 males, between the ages of 18

and 45, who were treatment-seeking or treated patients diagnosed with BPD according to the Diagnostic Interview for DSM-IV Personality Disorders (17). The authors examined the gender distribution of BPD criteria and of comorbid Axis I and Axis II disorders. Only one criterion—identity disturbance—was found to differ by gender; it was significantly more common among women. On Axis I, women received more diagnoses of PTSD and eating disorders, and men received more diagnoses of substance use disorders. On Axis II, men with BPD received more comorbid diagnoses of schizotypal, narcissistic, and antisocial personality disorders. Despite some suggestion in these results that women and men with BPD may express impulsivity differently, the authors concluded that women and men with BPD were more similar than different.

Also recently, Klonsky and colleagues (18) studied whether college students who were rated masculine or feminine by themselves and their peers more often met criteria for personality disorders, according to self- and peer ratings. Prevalence rates of BPD did not differ between the sexes, although men tended endorse slightly more BPD criteria. Self-reported masculinity correlated positively with self-reported BPD in women and both self-reported and peer reported femininity correlated positively with similarly rated BPD in men. Contrary to Kaplan's (2) original concern that BPD criteria would overpathologize feminine women, these results suggested that students who behaved contrary to their normative gender roles were perceived by themselves (and others, in the case of men) as having more borderline psychopathology.

### **Biased Diagnostic Thresholds**

To determine whether PD criteria for disorders that were rated as more characteristic of one gender than the other were perceived as more abnormal when observed in the opposite gender, Sprock (19) had 60 undergraduates rate PD criteria for abnormality in men vs. in women vs. in an unspecified gender condition. Inappropriate, intense anger was rated more abnormal for a woman than for a man. In addition, men rated women with the criteria as more abnormal than men with the same criteria. Thus, among the general public, a difference in the threshold for abnormality of BPD criteria between men and women seemed to exist.

Two studies by Funtowicz and Widiger (20,21) also addressed the question of bias in the threshold for the diagnosis of BPD. In the first study (20), 431 college students completed two self-report personality disorder questionnaires and three inventories that assessed 30 aspects

of dysfunction in the domains of social and occupational functioning and personal distress. There was no indication that the degree of impairment was lower for persons who were at the diagnostic threshold for PDs that are usually said to occur more often in women than for persons at the threshold for "male-type" PDs. In fact, the level of dysfunction for "male-type" PDs was lower in some instances, suggesting that it might be relatively easier to obtain a "male-type" than a "female-type" PD diagnosis.

In a second study, Funtowicz and Widiger (21) had 134 clinical psychologists rate the degree of impairment and distress associated with the criteria for BPD and for several other PDs. Again, there were no significant differences in average overall impairment associated with BPD or other "female-type" PDs and the "male-type" PDs. Somewhat more emphasis was given, however, to social and occupational impairment in the case of PDs believed to be more common in men and to distress in PDs believed to be more common in women.

In some preliminary work from the CLPS study, Boggs and colleagues (personal communication) have investigated the relationship of PD diagnostic criteria to functional impairment in women vs. men. In a sample of 175 patients with a primary PD diagnosis of BPD, regression analyses were used to examine the contributions of each criterion, sex, and the sex by criterion interaction in predicting social, occupational, and leisure impairments, as well as scores on the Global Assessment of Functioning Scale (GAFS). No overall gender differences were found on any of seven measures of functioning. Stress-related paranoia was the only BPD criterion significantly more related to functioning by gender—in men. Eight of nine BPD criteria had higher levels of dysfunction in women, but only as measured by the GAFS. Thus, there was some evidence for differential impairment by gender in global functioning in BPD, but since the GAFS includes symptom severity ratings, as well as ratings of functioning, the differences may be related to Axis I comorbidity.

### **Biased Application of Criteria**

Morey and Ochoa (22) set out to test clinician adherence to diagnostic criteria in making PD diagnoses. One hundred and one clinicians rated randomly arranged PD criteria on one or more of their patients who had a PD and indicated which PD they believed the patient had. Agreement between the ratings of the DSM-III criteria for BPD and the clinicians' own diagnoses of BPD was modest. Most interestingly, female patients received unwarranted diagnoses of BPD more often when the clinician

was also a woman, suggesting less acceptance of borderline-like traits and behaviors in women by women. These results were replicated in a study by Blashfield and Herkov (23), using DSM-III-R criteria.

Finally, Morey and colleagues (24) had 101 college students complete a questionnaire based on DSM-IV criteria to describe themselves and to rate the degree to which each criterion would cause difficulty in functioning for women vs. men. There were no gender differences in the self-ratings of BPD criteria and the criteria were rated equally problematic for each gender.

To summarize the empirical data on gender bias as an explanation for why women may be diagnosed borderline more than men, it appears that the differential prevalence rates commonly observed in clinical settings are largely a function of sampling bias. Due to the paucity of data from representative general population studies, the true prevalence of BPD—and its true gender ratio—are unknown. Some modest empirical support for diagnostic biases of various kinds exists, but not of the magnitude that would be necessary to account for a wide difference (e.g., a 3:1 ratio) in prevalence between the genders.

### GENDER AND RISK FACTORS FOR BPD

If it is found in community-based epidemiological studies that more women have BPD than men, and diagnostic biases remain insufficient to account for the difference, then attention should be turned to risk factors for BPD that might have a differential prevalence between women and men (25). Perhaps, biological differences between women and men, or differences in their rearing or other life experiences, account for the different prevalence rates.

In order to approach the issue of risk factors, a model for how personality disorders develop is necessary. A simple explanation for how personality develops would involve the interaction of temperament (i.e., fundamental behavioral predispositions, such as emotionality, activity level, and sociability, which are present at birth) and character (i.e., complex organizing and integrative systems, including cognitive and motivational components, that result from experience). Personality disorders result when particular temperaments, or their derivative personality traits, interact repeatedly with negative experiences, such that a person's characteristic way of perceiving, thinking about, and relating to him- or herself and others (i.e., personality) becomes inflexible and maladaptive, resulting in functional impairment or subjective distress.

**TABLE 1**  
**Candidate Risk Factors for Antisocial and**  
**Borderline Personality Disorders**

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Genes
Childhood temperament or predispositions
Autonomic nervous system arousal and reactivity
Neurotransmitter responsivity
Brain structure and functioning
Perinatal factors
Hormones
Environmental toxins
Cognitive and other neuropsychological factors
Antecedent childhood or adolescent psychopathology
Personality structure or traits
Parenting
Child abuse or neglect
Peer influences
Socioeconomic status
Family and community disintegration

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The investigation of risk factors in BPD is relatively recent and has focused primarily on adverse experiences (i.e., abuse, neglect) during childhood, to the exclusion of other possible contributing factors. More attention has been paid to risk factors for antisocial personality disorder (ASPD), and since it appears to have a gender ratio that is exactly the reverse of that presumed for BPD (i.e., 3:1 males to females), risk factors for ASPD may provide fruitful leads for the study of BPD.

Table 1 shows a list of candidate risk factors for ASPD or BPD. These are not mutually exclusive; some are different levels of conceptualization of similar processes or phenomena.

Until recently, genetic studies of BPD have been flawed (26,27). Torgersen and colleagues (28), however, have published a study of 221 Norwegian twin pairs. The concordance rate for "definite" BPD was 35% in monozygotic (MZ) twins and 7% in dizygotic (DZ) twins. Concordance for subthreshold BPD was 38% and 11%, respectively. The most parsimonious genetic model yielded an additive genetic effect of .69, which suggests a rather strong genetic component for BPD (27). Genetic studies of behavioral or trait dimensions thought to underlie BPD have found heritability for neuroticism (29), negative emotionality (30), novelty or stimulus seeking (31,32), and the component traits



of emotional dysregulation (33,34). Neuroticism is a personality trait that includes anxiety, depression, poor psychological defenses, impulsivity, and vulnerability to stress. It captures two of the three major behavioral dimensions of BPD, i.e., emotional or affective dysregulation and impulsivity. More evidence has been found to support genetic effects on the negative affectivity and vulnerability aspects of neuroticism than on the aggressive aspects. Women have been shown to score higher than men on neuroticism and its facets of impulsiveness, anxiety, self-consciousness, vulnerability, and depression (35).

The genetic findings on BPD-related traits are consistent with an etiologic model in which there is a constitutional predisposition to stress vulnerability, with resultant anxiety and depression, and an adverse family environment that leads to increased aggression. Physical or emotional abuse could constitute unique environmental effects in the genesis of BPD (26).

Childhood maltreatment in the form of abuse or neglect has been linked to the development of internalizing symptoms, depression, suicide attempts, and alcohol abuse in women (36). Epidemiologic studies have found that sexual abuse is 10 times more common in females than in males (37). The percentage of female patients with BPD reporting childhood sexual abuse is higher (70%) than in male patients with BPD (50%) (38,39).

Other biological differences between boys and girls may help explain why boys show more aggression and externalizing behavior patterns and disorders and girls show more behavioral inhibition and internalizing problems. Compared with females, males have lower levels of autonomic arousal (40), less serotonin responsivity (41), and reduced frontal activity in the brain (42,43). All of these would contribute to poorer socialization, less behavioral inhibition, and weaker verbal problem-solving skills in boys vs. girls. Girls, in turn, would be more likely than boys to experience fear, develop stronger consciences, experience guilt and depression, and consequently have an affective component to any impulse-control problem.

Differential socialization plays a role, as well. Girls are reinforced to be less aggressive than boys (44) and girls who develop delinquent behavior patterns have probably been exposed to harsher environmental experiences than have delinquent boys (45). An uninhibited, aggressive girl may have a greater chance of exposure to adverse environments than a more inhibited one (25). Thus, girls may be more biologically and socially influenced toward internalizing problems, such as anxiety and depression, but with increasing doses of biological and/or

social influences toward impulsive aggression, they may develop BPD.

### CONCLUSION

If the true prevalence of BPD is found to differ by gender, then biological and sociocultural differences between women and men offer potentially illuminating hypotheses as to the causes of the difference. Future research should continue to investigate causal pathways for BPD in prospective, longitudinal studies of at-risk children, in which methods and measures from both biological and social perspectives are simultaneously employed.

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