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Mad Men or Bad Men? How Gender Stereotypes, Individual Symptoms, and Participant Gender Affect Non-Expert's Evaluations of People with Borderline Personality Disorder

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Mad Men or Bad Men? How Gender Stereotypes, Individual Symptoms, and Participant Gender Affect Non-Expert's Evaluations of People with Borderline Personality Disorder

Senior Project Submitted to
The Division of Science, Mathematics and Computing
of Bard College

by
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Abstract

Gender-role stereotypes affect how people with mental disorders are perceived and judged. People with a gender-stereotype congruent mental disorder (i.e., men with alcohol use disorder) are viewed as less mentally ill and more to blame for their disorder than people with a gender stereotype-incongruent disorder (i.e., women with alcohol use disorder, Wirth & Bodenhausen, 2009). Borderline personality disorder (BPD) symptoms and comorbidities often vary between men and women along gendered lines (i.e., explosive anger is more common in men with BPD and compulsive buying is more common in women). These different presentations may cause men and women with BPD to be differently perceived. These differential perceptions may contribute to the under-representation of men with BPD in mental health care. Vignettes depicting a person with BPD were adapted to vary the sex (male or female) and symptoms (explosive anger or compulsive buying) of the vignette subject. These vignettes and a survey of participants' attitudes towards the vignette subject were hosted on MTURK to test the hypotheses that compared to gender-stereotype incongruent vignette subjects, the subjects of gender stereotype-congruent vignettes would be (1) seen as needing less psychological help, (2) more blamed for their symptoms, and (3) less disliked. These hypotheses were unsupported. However, these data revealed that male participants disliked female vignette subjects less than male vignette subjects, but female participants disliked all vignette subjects equally. This pattern also suggests that men and women may use gendered information about people with BPD differently.

SEX, SYMPTOMS, AND STEREOTYPE CONGRUENCE OF BPD

Although clinical psychology strives to create reliable, adaptive criteria for diagnosing and treating mental health problems (American Psychiatric Association, 2013), the constructs of mental disorders and their applications to real-life people are inescapably subjective. To diagnose patients, clinicians rely on heuristic reasoning (O'Neill, 1995), sex and race-based stereotyping (Robertson & Fitzgerald, 1990, DeJong et al., 1993), and both explicit and implicit biased attitudes (Snowden, 2003, Deans & Meocovic, 2006, Robertson & Fitzgerald, 1990, Servais et al., 2007, Peris et al., 2008). These factors influence how mental health practitioners from hospital staff to clinical psychologists perceive and judge people with mental disorders. For example, mental health care practitioners have mental "prototypes" of particular mental illnesses, and compare a particular patient to that prototype in order to diagnose them (O'Neill, 1995). To diagnose depression, psychiatric nurses under-utilize both base rates and the individual characteristics of a patient and instead compare that patient to the prototype of a depressed person to assess their "goodness-of-fit" with that prototype (O'Neill, 1995). Patients who fit the model more closely will be more likely to be diagnosed with depression—regardless of whether they actually have that specific mood disorder (O'Neill, 1995).

Gender stereotypes in particular can strongly affect clinical judgments. Clinicians in civil psychiatric facilities were found to rate male patients as more dangerous than female patients with comparable symptoms (Elbogen et al., 2001). An extensive review by Garb (1997) revealed that given identical symptoms, clinicians were more able to accurately diagnose a hypothetical woman with histrionic personality disorder than a hypothetical man with identical symptoms. The reverse pattern was found for antisocial personality disorder (ASPD) (Garb, 1997). Robertson & Fitzgerald (1990) found that gender-nontraditional men (more feminine, less masculine according to Bem's sex role inventory) exhibiting symptoms of major depressive

disorder (MDD) were perceived as more severely depressed than men who adhered to traditional masculine roles given identical symptoms. It has even been argued that the criteria for some mental illnesses themselves are inherently gender stereotyped (Kaplan, 1983), and that social values and definitions of "normal" behaviors for specific genders can confound empirical support for diagnostic criteria (Wakefield, 1992, Hartung & Widiger, 1998). Wakefield in particular argues that the construct of a "mental disorder" in the Diagnostic and Statistical Manual of Mental Disorders (DSM) should be updated more refined concepts due to these flaws (Wakefield, 2007). These arguments have often focused on the specific criteria for diagnosing one particular disorder: borderline personality disorder (BPD).

As defined by DSM-5, BPD is a pervasive pattern of unstable self-image, moods, interpersonal relationships, and high impulsivity beginning in adolescence or early adulthood (APA, 2013). This pattern manifests in multiple ways. Listed symptoms of BPD include self-injury, recurrent suicidal ideation, intense fear of abandonment (real and imagined) and efforts to avoid it, shifting between idealizing and devaluing close relationships, unstable moods (affective instability), paranoid episodes, irritability and explosive anger (APA, 2013). These symptoms are accompanied by impulsive, reckless behaviors like unprotected promiscuous sex, gambling, uncontrollable shopping sprees, and substance use problems (APA, 2013). The co-occurrence of any five of these symptoms with a general pattern of instability in self-image and relationships constitutes grounds for a BPD diagnosis, provided that no other explanations for these symptoms are available (i.e., major depression, type I bipolar disorder, severe substance use disorders, schizophrenia). These symptoms are thought to originate when a biological predisposition to emotional dysregulation and high impulsivity is combined with a history of abandonment and invalidating experiences (Linehan, 1993, Linehan et al., 2006). Thus, a history of neglect,

abandonment, and abuse (particularly sexual abuse) during childhood are listed as supporting features for a diagnosis (APA, 2013). The prevalence estimates range from 1.6% (APA, 2013) to 5.9% (Grant et al., 2008) of the population in the U.S., making BPD a relatively common mental disorder.

BPD in Clinical Practice

      Clinician Stigma. BPD belongs to a controversial group of disorders called "personality disorders" (PDs) that have historically been stigmatized by mental health care providers. In a 1988 experiment by Lewis and Appleby using a sample of 173 experienced therapists, those that read a vignette describing a depressed person stated that they felt sympathetic to the vignette subject and generally described them in positive terms. However, the therapists that read an identical vignette, but with a prior diagnosis of an unspecified personality disorder added, openly described the vignette subjects as "annoying", "[do] not merit [the practitioner's] time", "attention-seeking" , "manipulative", "unlikely to improve", "not mentally ill", and accountable for their actions (Lewis & Appleby, 1988). These therapists also stated that they did not feel sympathy for the vignette subject. This experiment demonstrated that the label of a PD alone was sufficient to elicit openly stigmatizing reactions from experts in the field at the time (Lewis & Appleby, 1988). People with BPD in particular have historically been regarded as "intractable" by therapists (Houck, 1972) due to their "manipulative," "deceitful," and "acting-out" behaviors (Gunderson, 2009).

      With respect to BPD, time has not attenuated this stigma. To this day, mental health care professionals, from psychiatrists to psychotherapists to psychiatric nurses, harbor pervasive negative attitudes towards people with BPD, characterizing them as attention-seeking, manipulative, dishonest, and undeserving of care (Fallon, 2003; Brooke & Horn 2010, King,

2014). Mental hospital staff members report less empathy for people with BPD than for people with either depression or schizophrenia (Markham, 2003). Another study found that across psychiatrists, psychiatric nurses, psychologists, and social workers in the United States ($N =706$), nearly half preferred to avoid patients with BPD when possible (Black et al., 2011). Further, many professionals who work with people with BPD continue report pessimism about their potential outcomes (Rossiter 2008). These data indicate that the belief that people with BPD are untreatable and undeserving of care is still prevalent among clinicians.

These attitudes persist despite emerging evidence that both PDs in general and BPD specifically are treatable. A systematic outcomes review of fifteen studies found that, on average, 25.8% of people with PDs in these studies achieved recovery with dedicated psychotherapy (Perry et al., 1999). A detailed meta-analysis by Leichsenring and Leibing also showed a large positive effect for multiple psychotherapy methods (including cognitive-behavioral therapy (CBT), psychodynamic therapy, and dialectical behavioral therapy (DBT), discussed below) for reducing the severity of symptoms for BPD, ASPD, and avoidant personality disorder (AVPD), according to both self-reported and observer-rated measures (Leichsenring & Leibing, 2003). The studies reviewed in these analyses indicate that beliefs that people with BPD are untreatable are inaccurate.

Challenges of Treating BPD. The persistence of these stigmatizing beliefs may be linked to the difficulty of treating people with BPD. While far from impossible, treating BPD is a challenging process that can exhaust and frustrate clinicians. People with BPD can be difficult to work with because they can be very demanding of therapists, particularly if they become dependent on the therapist for emotional support (Horsfall 1999, Koekkoek et al. 2009). Further, patients with BPD often become hostile towards therapists during sessions and can be prone to

emotional outbursts (Aviram et al., 2006). This hostility can also extend to hospital staff (Markham & Trower, 2003). Such behaviors can lead professionals to attribute these outbursts to attention-seeking or general aggressiveness (King, 2014), and often make therapists feel that they, personally, are insufficiently trained to work with people with BPD (Deans & Meocovic, 2006). Indeed, even people that are specifically trained to treat BPD often report high stress and emotional burnout when first working with these people (Perseius et al., 2007). Such stressors in the therapeutic relationship, combined with the stigmatization of BPD that permeates the field, can lead even experienced and empathetic therapists to conclude that people with BPD are intractable (Schulze, 2007).

BPD is also challenging to treat because BPD rarely occurs in isolation (APA, 2013). The co-occurrence of multiple mental disorders, called *comorbidity*, is common across all people with mental illnesses: approximately 45% of patients diagnosed with one disorder meet criteria for at least one other disorder (Kessler et al., 2005). However, people with BPD are especially likely to have multiple comorbid mental disorders: 69.5 % of a treatment-seeking sample of people with BPD was found to have 3 comorbid disorders *in addition* to BPD, and 47.5% had 4 or more (Zimmerman & Mattia, 1999). For comparison, only 31.1% of patients with MDD from the same clinical population had two or more disorders in addition to MDD, and only 13.7% had three or more comorbid conditions (Zimmerman & Mattia, 1999). BPD is particularly associated with posttraumatic stress disorder (PTSD), social phobia, mood disorders, avoidant and histrionic personality disorders, and substance use disorders (Zanarini et al., 1998, Zimmerman & Mattia, 1999, McGlashan et al., 2000, Zanarini et al., 2004, Grant et al., 2008). Substance use disorders, particularly alcohol and nicotine dependencies, are present in 50% of people with BPD in the general population over a one-year timespan (Grant et al., 2008), and lifetime rates of substance

use disorder among people with BPD may be as high as 66.7% (Sansone & Sansone, 2011a).

Across both clinical samples and the general community, 35.6%-46.9% of people with BPD also

have PTSD (Zimmerman & Mattia, 1999, McGlashan et al., 2000, Grant et al., 2008). The sheer

number of possible comorbidities in and of itself makes treating BPD a case-by-case affair; one

patient with BPD's symptoms can barely resemble those of another patient (NICE, 2009).

The Prognosis for BPD is Positive. Nevertheless, compounding evidence over the past

two decades suggests that not only can BPD be treated, the overall prognosis of the disorder is

positive. In the early 1990's, Dr. Marsha Linehan developed an intensive one-year treatment

called "Dialectical Behavioral Therapy (DBT)" specifically for improving treatment,

hospitalization, self-harm, and suicide outcomes for people with BPD (Linehan, 1993, Dimeff &

Linehan, 2001). DBT is now established as the first-line treatment for BPD because it is

significantly more effective than psychodynamic treatments, CBT, or unstructured talk therapy at

reducing self-harm, suicide attempts, and treatment dropouts (O'Connell & Dawling, 2014). DBT

focuses on improving behavioral outcomes and accepting dialectical contradictions (i.e.,

accepting that they are a person with worth as they are while also accepting that they need to

change) over a period of one year, aiming to increase emotional regulation abilities, treatment

compliance, and behavior during sessions so that future treatments can be more effective

(Linehan 1993). Moreover, compared to general psychotherapy, studies have suggested that DBT

is significantly more effective (moderate to large effect size) at treating explosive anger (Stoffers

et al., 2012). Further, DBT's effects on patients with BPD may exhibit a bidirectional effect on

therapists, shifting their pessimism about BPD outcomes to optimism and helping to establish a

patient-practitioner rapport that supports future improvements (O'Connell & Dawling, 2014).

While DBT is now established as an evidence-based treatment for BPD, a meta-analysis of studies over the past decade and a half has found that unstructured, adaptive community expert treatment may be equally effective for treating impulsivity and affective dysregulation (Binks et al., 2006, McMain et al., 2012). Comparative work by Linehan across multiple samples suggests a key role for individual therapeutic relationships in the effectiveness of non-DBT treatments; unstructured treatment by experts was equally effective as DBT in some (a minority) communities, but not in others (Linehan et al., 2006). Regardless of whether DBT is uniquely effective or not, both lines of study suggest that people with BPD can improve greatly so long as they can maintain benign therapeutic relationships.

There is evidence that these improvements endure across time. Data on the long-term course of BPD further supports optimism about people with BPD's prospects for improvement. Two longitudinal studies of people with BPD, the McLean Study of Adult Development (MSAD) and the Collaborative Longitudinal Personality Disorders Study (CLPS), have demonstrated that across two-decade periods, a majority of participants had achieved at least a 1-year period of remission and that the lifelong trajectory of BPD generally involved reductions in symptom severity (Zanarini et al., 2005, Skodol et al., 2005, for a review see Biskin, 2015). The MSAD in particular revealed that 78% of participants achieved at least an 8 year period of remission (Zanarini et al., 2012). BPD's 10 year course is also characterized by low relapse rates (11%) (Gunderson et al., 2011).

Costs of Failure to Treat BPD

Monetary. Because the evidence reviewed suggests that BPD is treatable, it is critical that treatment be available for people with BPD for two broad reasons. On the pragmatic, societal level, BPD presents significant costs both in terms of lost work-hours and public health

expenses; further, individuals with BPD are saddled with high financial burdens as a result of their symptoms (van Asslet et al., 2007, Wagner et al., 2014). In the Netherlands alone, the annual health-care expenditures related to BPD in 2007 was valued at 482 million euros, or $515,689,390 (van Asslet et al., 2007). The monetary value of lost work-hours and other productivity costs was 650 million-1.1 billion euros ($695,431,750-$1,176,884,500), while costs related to suicide and other deaths was 87.5 million euros ($93,615,813) (van Asslet et al 2007). The aggregate national "price" of BPD per patient in the Netherlands amounted to 21,120 euros ($22,596.18). Only 22% of these costs were health-related; the majority was associated with out-of-pocket expenses, criminal justice fees, informal care, and productivity losses (van Asslet et al, 2007). A German study replicated the high annual cost of BPD (Wagner et al., 2014). However, this study also found evidence that treatment of BPD with DBT on a large scale significantly reduces the direct and indirect societal costs of BPD (Wagner et al, 2014). This study suggests that one year of DBT can reduce the cost of BPD from 19,038 euros ($20,368.66) per patient to 6549 euros ($7,006.74) per patient (Wagner et al., 2014). Therefore, connecting people with BPD to adequate treatment is a public health priority because (a) extensive financial resources can be saved by doing so and (b) the financial burdens unsuccessfully treated BPD places upon people with it may prevent these people from obtaining security and stability.

Human costs. More pressing than financial figures are the existential risks and threats that people with untreated BPD face. People with BPD experience significant psychological, social, and physical difficulties in their lives that can have severe, deleterious outcomes. Psychiatric hospitalizations are frequent compared to other disorders (APA, 2013); an estimated 20% of psychiatric inpatients have BPD (Lieb et al., 2004). People with BPD experience intense, chronic psychological distress (Ebner-Priemer et al., 2007, Stiglmayr et al., 2008; Zanarini et al.,

1998) that is strongly associated with their dysregulated emotional processing and identity dissociation (Ebner-Priemer et al., 2007). Biosocial developmental models of BPD (Linehan, 1993, Crowell et al., 2009) posit that high rates of recurrent, non-suicidal self-harm among people with BPD (70-75%, Kerr et al., 2010) arise as a way to temporarily alleviate these stressors (Kemperman et al., 1997). Reactions to the distress can be fatal: 60-70% of people with BPD attempt suicide at least once (Gunderson, 2001) and 8-10% of people with BPD die by suicide (Black et al., 2004, Oldham et al 2001). This rate is fifty times greater than that of the general population (Oldham, 2006).

Compared to people with MDD and to the general population, people with BPD are likely to have lower levels of education, to be disabled, and to report discomfort and difficulty in interpersonal relationships of any kind, particularly romantic relationships (Skodol et al., 2002, Skodol et al., 2005), although contrary to prevailing psychiatric opinion (see APA, 2013), romantic dysfunction is common among PD's in general and is not strongly modeled by BPD symptoms as predictors (Daley et al., 2000). People with BPD also struggle with employment and with the justice system. Unemployment is high among people with BPD, with 20-45% subsisting off of some sort of disability subsidies and 25%-50% classified as unemployed (Sansone & Sansone, 2012, Zimmerman et al., 2012). High rates of incarceration (29.5 % overall) have been found for both men and women with BPD in intake samples, with the disorder being twice as common in female inmates (23.2%- 54.5%) than in male inmates (12.7% -26.8%) (Black et al., 2007, Trestman et al., 2007, Sansone & Sansone, 2009). Given these data, connecting people with BPD to proper treatment can be described, quite literally, as a matter of life and death.

Because connecting people with BPD to effective treatment options is critical for their survival and well-being, and because the long-term prognosis for treatment-seeking people with BPD is positive, it is alarming that a large proportion of people with BPD in the community evidently do not seek treatment. The DSM-5's estimate of 1.6% prevalence for BPD is based on the number of people with BPD that enter the mental health care system seeking treatment (APA, 2013); Grant et al.'s estimate of 5.9% is based on a general population sample of 34,653 adults (2008), suggesting that a large number of people with BPD are unaccounted for in the mental health system and are at risk because they are not receiving treatment. One group in particular appears to be under-represented in the mental health care system: men with BPD.

The Gender Gap in BPD

BPD has historically been labeled a "woman's disease" (Gunderson, 2009) and three consecutive editions of the DSM have maintained that "borderline personality disorder is diagnosed predominantly in females (75%)" (APA, 1980, APA, 2000, APA, 2013). These statistics have been based almost entirely on treatment seeking samples, most of which replicate the 3:1 female: male ratio (Skodol & Bender, 2003, Gunderson, 2009, APA, 2013). However, empirical tests of the gap have been rare, and a review of that literature found that only one study out of five found that BPD replicated the "gender gap," and another study found that BPD was more common in men (Skodol & Bender, 2003). Further, the Wave 2 National Epidemiologic Survey on Alcohol and Related Conditions, a broad diagnostic interview study with 34,653 participants, found no significant differences whatsoever in the prevalence of BPD between men and women (Grant et al, 2008). Even when strict exclusion criteria are applied to these data, the difference in BPD prevalence by gender (3.0% prevalence of females, 2.4% prevalence for males, ratio 5:4, Tomko et al., 2014) is far smaller than the 3:1 gap described in the DSM-5

(APA, 2013). These community data suggest that men with BPD are far more common than the

DSM-III, DSM-IV, and DSM-5 indicate, and are either not diagnosed accurately by mental

health professionals, or do not, for whatever reason, enter into the mental health system. Given

the dangers associated with having untreated BPD described above, it is crucial to understand

why men with BPD are not being diagnosed.

BPD as a Gendered Construct

The BPD gender gap in clinical settings may exist because the construct of BPD has been

formed and refined primarily based on data from near-exclusively female, treatment seeking

populations (reviewed in Gunderson, 2009). The BPD diagnosis in the three most recent editions

of the DSM is ultimately derived from the construct of "borderline personality organization"

coined by Adolph Stern in 1938 to describe women he perceived as exhibiting thoughts and

behaviors on the "borderline" between "neurotic" and "psychotic" (Stern, 1938). At the time, this

meant that these women were viewed as being on the "borderline" between "curable" (neuroses)

and "incurable" (psychosis; i.e., schizophrenia; Knight, 1953). The disorder was therefore

associated with "incurable," "intractable," "dependent," "manipulative," "attention seeking,"

women and was evaluated in context of gender stereotypes about women, to the point that some

researchers drew spurious correlations between symptoms of the disorder and abnormalities in

the menstrual cycle (Houck, 1972, reviewed in Gunderson, 2009).

The gendered nature of the BPD construct at its inception in the DSM-III was not lost on

the Feminist movement, which accused the construct of reflecting institutional sexism and the

pathologization of women's behavior, with many claiming BPD represented a "female" form of

PTSD (Stiver, 1991, Henry, 1983). At the time, there was data to suggest this. Many prominent

case studies had demonstrated histories of physical, sexual, and emotional abuse in patients with

BPD, and BPD and PTSD are often comorbid in women (reviewed in Gunderson, 2009); however, the discovery that such traumas were present only in a minority of BPD cases and the emergence of BPD-diagnosed men without PTSD necessitated revisions to this theory. In particular, subsequent findings of how BPD symptoms are pathologized suggest that a violation of gender norms may be an important factor in the labelling of BPD symptoms as abnormal. College women who meet criteria for BPD are labeled as more masculine than women without BPD both by themselves and by their peers; the reverse pattern holds for male college students (such that male students with BPD are viewed as more feminine) (Klonsky et al., 2002).

With respect to the patients themselves, there is some evidence that men may be less comfortable admitting to having certain symptoms (i.e., feelings of emptiness or abandonment fears) than women, even if they cause men the same level of distress. Women with BPD admit to having most BPD symptoms more readily than men with BPD, the exceptions being impulsiveness and explosive anger, which men with BPD admit to more easily (Sharp et al., 2014). Thus, the construction of BPD appears to not pathologize femininity so much as it pathologizes deviations from femininity (such as masculine-stereotyped outbursts of anger and impulsivity), in addition to being filled with internalizing items that are more easily admitted to by women than by men (see **Gender Role and Internalizing/Externalizing Symptoms** for information on internalizing/externalizing items). Men may therefore not be diagnosed with BPD because men do not admit to having BPD criteria (many of which deal with concealable feelings) as easily as women do.

Clinician Bias

A second possible reason for the observed ratio is clinician bias in diagnosing men exhibiting BPD symptoms. Clinician bias is defined as bias in clinician's application of diagnostic criteria or perceptions of symptoms. With respect to BPD and gender, this would take the form of psychiatrists, psychotherapists, psychiatric nurses, and other diagnostic clinicians for mental disorders being more likely assign a diagnosis of BPD to a woman than to a man given equivalent symptoms. While some studies have found small, but significant, tendencies for clinicians to suggest BPD as a diagnosis for a hypothetical patient exhibiting BPD symptoms less frequently when the hypothetical patient is male (Becker & Lamb, 1994, Liebman & Burnette, 2013), the majority of studies on identification of BPD do not find any such effect (Eubanks-Carter & Goldfried, 2006, Markham, 2003, Deans & Meocevic, 2006, Woodward et al., 2009, Skodol & Bender, 2003). Therefore, there are not sufficient data to conclude that clinician bias is a driving factor of the discrepancy in sex ratios between clinical samples and community samples.

Reduced Male Help-Seeking

A more likely explanation for the underrepresentation of men with BPD in clinical settings is that men with BPD are less willing or able than women to enter such settings in the first place (a form of biased sampling). Men in general are less likely than women to seek help of any kind for either physical or mental distress, including depression, substance use problems, physical injury or disability, or elevated life stress (Husaini, Moore, & Cain, 1994; McKay et al., 1996; Weissman & Klerman, 1977, reviewed in Addis & Mahalik, 2003 & Möller-Leimkuhler, 2002, & Galdas et al., 2005). Male-role socialization and identification with traditional masculinity appear to mediate these differences in psychological help-seeking. Seeking help for

psychological problems, particularly those that are construed as women's problems, is therefore problematic for men. Seeking or accepting help indicates "weakness," under this model (Addis & Mahalik, 2003). Furthermore, men and boys have traditionally been socialized so as to be inexpressive and stoic; men who fail to meet these criteria are characterized negatively as whiny, weak, or failures, and often face social penalties, particularly among male peer groups (Berger et al., 2005, Möller-Leimkuhler, 2002, Pattyn et al., 2015).

Gender Role and Internalizing/Externalizing Symptoms

Such gender-role constraints on emotional expression likely contribute to sex differences in the epidemiology of mental disorders. Men and women are equally likely to have a mental disorder (Kessler et al., 2005). However, women are more likely to be diagnosed with "internalizing" disorders (i.e., disorders in which internal thoughts and emotional states cause distress and disability) such as MDD, dysthymia, and generalized anxiety disorder (GAD), while men are more frequently diagnosed with externalizing disorders (i.e., disorders based on outwardly-directed maladaptive behaviors) such as ASPD, substance use disorders (with the exception of sedative use disorders), and various disorders of impulse control (Hartung & Widiger, 1998, Kessler et al., 2005, Eaton et al., 2011, Grant et al, 2004).

Further, men and women with the same disorder often present different suites of symptoms along internalizing/externalizing patterns. Recent research has demonstrated that men who exhibit depressive symptoms engage in less rumination and catastrophizing (internalizing reactions) than women do (Garnefski et al., 2004), but instead react to negative emotions and depressed moods with externalizing symptoms like irritability, aggressive behaviors, and angry outbursts (Genuchi & Valdez, 2015, Genuchi, 2015, Nadeau et al., 2016). Men with an anxiety disorder are less likely than women to have other anxiety disorders or comorbid depression, but

are more likely to be diagnosed with comorbid substance use disorder or intermittent explosive disorder (a disorder characterized by inappropriate, explosive bouts of irrational, uncontrollable anger) (McLean et al., 2011). Similar patterns exist among people with BPD. In both community and clinical samples of people with BPD, men show higher rates of impulsiveness and explosive anger, while feelings of emptiness, self-injury, suicidal ideation, and labile moods are more common in women (Hoertel et al., 2014, Sharp et al., 2014). The general sample (Hoertel et al., 2014), but not the inpatient sample, found that efforts to avoid abandonment were more common in men with BPD. In other words, men with BPD show increased externalizing symptoms, while women with BPD show increased internalizing symptoms. The frequencies of comorbidities also vary between men and women with BPD along externalizing/internalizing lines. Men with BPD are more likely to have comorbid ASPD and substance use disorders, while women with BPD are more likely to have comorbid histrionic personality disorder, dependent personality disorder, MDD, GAD, and PTSD (Zanarini et al., 1998, Tadic et al., 2009).

Some of the internalizing symptoms that are more common in women with BPD than in men (i.e., self-injury and suicidality) are likely to lead to hospitalization. Their increased presence in women with BPD may therefore be a driving reason why women with BPD appear more frequently in psychiatric settings than men do. Meanwhile, men with BPD exhibit comorbid ASPD and illegal substance use disorders more often than women with BPD (Tadic et al., 2009, Sansone & Sansone, 2011). These activities and characteristics could make men with BPD more likely to become incarcerated or to seek help exclusively from drug rehabilitation centers, rather than psychiatrists. That BPD is common among male criminal offenders (averages: 19.8% in a Swedish national study, Wetterborg et al., 2015, 26.8% of 198 male offenders in a U.S. sample, Black et al. 2007) supports this possibility.

Gender Congruence and Perceived Pathology of Mental Disorders

Because of these differences in externalizing/internalizing symptom presentation, it is possible that men with BPD symptom patterns that are primarily "masculine" stereotyped (i.e., externalizing) may be perceived as less abnormal or in need of help than women with identical symptoms. Common comorbidities of BPD in men (e.g., ASPD, intermittent explosive disorder, and all substance use disorders except those involving sedatives or tranquilizers) are highly male stereotyped (Boysen et al. 2014). Anger as an emotional state is similarly stereotyped as heavily masculine (Plant et al., 2000), and the inappropriate, explosive type of anger associated with BPD has been rated as less abnormal for men than for women (Sprock, 1996). Moreover, anger is viewed as more appropriate and socially acceptable when expressed by men (Brody & Hall, 2000, Fischer, 1993). Studies of how people interpret facial expressivity have found both that angry expressions on men's faces are perceived as more angry than matched expressions on women's faces and that angry faces in general (male, female, or ambiguous) are more rated as masculine than smiles or sad faces (Hess et al., 2004, Becker et al., 2007). These findings suggest that anger not only is stereotyped as masculine, but in some contexts may increase someone's perceived masculinity.

Consequently, it is possible that the symptoms of men with BPD who present with BPD in stereotypically "masculine" ways may not be recognized as indications of a mental illness by either the people with BPD themselves, their peers, or the general public because displays of anger and general impulsivity are seen as more normative and appropriate for males. However, gender stereotype congruent symptom patterns being seen as more "normal" may have negative outcomes. While masculine stereotyped mental disorders are generally more stigmatized than feminine stereotyped disorders (primarily because strongly masculine stereotyped disorders

include paraphilias, ASPD, alcohol use disorder, pyromania, and sadism; "drunks," "pedophiles," and "sociopaths," do not generate public sympathy, see Boysen et al., 2014) gender congruent cases of mental illness may be stigmatized more than gender incongruent cases in terms of perceived responsibility for their behavior, ability to control their behavior, dangerousness, and personal attributions. A national U.S. survey discovered that a hypothetical woman with alcohol use disorder was perceived as less responsible for her condition and more in need of psychiatric help than a hypothetical man with identical symptoms (Wirth & Bodenhausen, 2009). In the same study, a man with depression was perceived as less responsible for his symptoms and more mentally ill than a woman with depression. The gender congruity of stereotyped disorder and a hypothetical person's sex interacted to determine how pathological or psychiatrically "abnormal" their symptoms were perceived as (Wirth & Bodenhausen, 2009).

Even within specific disorders, the gender differences in symptom patterns can cause one gender to be perceived as ill while another's symptoms are ignored or unrecognized. A known case is attention deficit hyperactivity disorder (ADHD) in women and girls. Girls with ADHD, while inattentive, often do not exhibit the disruptive or hyperactive (externalizing) behaviors common in boys with ADHD (Quinn, 2005). Further, girls with diagnosed ADHD demonstrate consistent anxiety symptoms while boys demonstrate more breaches of conduct (Skogli et al., 2013). These differences may cause a referral bias such that teachers and parents refer or demand that boys be assessed for ADHD much more frequently than girls are (Skogli et al., 2013). Teachers in schools (who are often responsible for recommending that a child to be tested for ADHD) will recommend boys more frequently than girls to be tested for ADHD even given identical symptoms (Sciutto et al., 2004). Due to the social evaluations and gender expectations

of teachers, a male child exhibiting identical symptoms to a female child may be accurately diagnosed and treated while the female child may not be.

These findings on girls and ADHD highlight a possible driver of the underrepresentation of men with BPD in clinical samples that has not been investigated. Whether a child is diagnosed with ADHD or not largely depends whether a lay person (a teacher) refers the child to a clinical professional qualified to diagnose them (Sciutto et al., 2004, Skogli et al., 2013). The influence of non-experts' evaluations of people with mental disorders on the stigma people with BPD face and people's construals of their own mental health symptoms must not be ignored. The attitudes and beliefs of the general public inform the social environment in which people with BPD find themselves, and the prevailing beliefs and social pressures they create can be key barriers to help-seeking and treatment (Corrigan, 2004, Sirey et al., 2001, Vogel et al., 2006).

The Current Study

In light of the evidence reviewed, it is possible that, like teacher's perceptions of girls with inattentive-type ADHD, gendered perceptions of BPD symptoms may result in men with BPD whose symptoms are male-stereotyped (i.e., more explosive anger, more substance use, antisocial features) being perceived as more masculine, more responsible for their actions and less in need of professional help. Therefore, such men will be less likely to have their symptoms attributed to mental illness compared to women with BPD who express similar symptoms. Women with BPD, who express anger may, conversely, be more likely to be recognized as mentally ill than women who do not express anger because their symptoms violate gender stereotypic behavior norms (Plant et al., 2000, Brody & Hall, 2000, Fischer, 1993, Sprock, 1996). An experimental evaluation of these non-expert perceptions is particularly important because very few studies have investigated non-expert attitudes and beliefs about BPD at all

(Furnham et al., 2012, Furnham et al., 2014), let alone how they may vary depending on gender congruency. Assessing how attitudes towards BPD symptoms in the general public may shift based on gender-symptom congruence in a hypothetical (unlabelled) case can shed light on how these factors affect elements of stigma and recognition of psychiatric distress.

These hypotheses can be tested empirically by recruiting non-expert participants, presenting them with depictions of "gender stereotype congruent" and "gender stereotype incongruent" cases of BPD, and assessing their perceptions of that person's mental health needs. This conceptual design can be realized by adapting validated vignettes already used in diagnostic and perceptual studies of BPD (e.g., those used in Furnham et al., 2012, Liebman & Burnette, 2013, Furnham et al., 2014). The exact symptoms and the sex of the vignette subject can be varied to create different vignette conditions. Participants can then be randomly assigned to a vignette condition and presented with a survey about whether they think the vignette subject needs psychological help.

There are, however, factors that complicate the matter. While men with BPD are more likely to exhibit explosive anger and are less likely to self-harm than women with BPD (Hoertel et al., 2014, Sharp et al., 2014), the majority of sex differences associated with BPD are in differential comorbidities (Tadic et al., 2009). The specific comorbidities men with BPD are especially prone to, substance use disorder and ASPD, each invoke masculine and negative stereotypes independently of BPD (Boysen et al, 2014). Therefore, these comorbidities, while highly typical of actual men with BPD, cannot be included as "masculine" symptoms in this particular study because they would confound any effects specific to differences in BPD symptomatology. Thus, explosive intermittent anger remains as a single, controllable option that is viable as an experimental variable. Explosive anger serves well as a "masculine" symptom to

systematically vary because not only is anger stereotypically "masculine" both within and outside of BPD (Plant et al., 2000, Sharp et al., 2014), but also because it may endow otherwise neutral or feminine stimuli with perceived "masculinity" (Becker et al., 2007). Many impulsive behaviors associated with BPD carry feminine stereotypes and are therefore suitable as "feminine" symptoms to serve as a contrasting symptom to explosive anger. Compulsive buying (CB; purchasing items beyond one's means impulsively and in sprees) is implicated in 8-9% of BPD cases (Sansone et al, 2013) and is viewed as stereotypically feminine and as more normative of women (Black, 2007). Therefore, in order to circumvent the problem of comorbidities while still creating believable vignettes, "explosive anger" and "compulsive buying" can be used as masculine-stereotyped and feminine-stereotyped symptoms, respectively, and can be varied along with the sex of the vignette subject. Thus, two "gender stereotype congruent" (male subject with explosive anger and female subject with CB) and two "gender stereotype incongruent" (male subject with CB, female subject with explosive anger) vignettes can be designed. These considerations were taken into account to design the current study.

In this study, either "gender stereotype congruent" and "gender stereotype incongruent" vignette description of a man or a woman with BPD was presented to participants recruited from MTURK. After reading their vignettes, participants were given a survey about their beliefs about the vignette subject. This survey assessed participants' perceptions of the vignette subject's need for psychiatric help. Further, to confirm whether altering explosive anger and compulsive buying created "gender stereotype congruent" and "gender stereotype incongruent" conditions, items on the survey asked participants to rate the masculinity and femininity of the vignette subject. Participants were also asked how much they blamed the vignette subject or held them responsible for their symptoms, because blame is an important component of stigma against BPD

among clinicians (Aviram et al., 2006). Lastly, in order to investigate the possibility that

participants had different dispositions to particular vignette conditions, participants were directly

asked how much they liked the vignette subject. I specifically predicted that gender stereotype

incongruent cases (men with compulsive buying and women with explosive anger) would be

seen as more in need of psychiatric help and blamed more than gender congruent cases (men

with explosive anger and women with compulsive buying). I further hypothesized that gender

congruent cases would be liked more than gender incongruent cases and that the more

participants believed the vignette subject needed psychiatric help, the less they would like them.

Method

Participants

110 participants ($N = 110$, 56 Female, 54 Male) were recruited through Amazon's

Mechanical Turk (MTURK) service, a web-based platform for fast task completion from internet

workers commonly used in psychology studies. Participants were presented with an informed

consent on MTURK and were then directed to a survey hosted on Qualtrics, a web-based data

collection software platform used across multiple fields to host surveys and collect responses.

Upon completion, this survey randomly generated a unique code to for each participant that

served as their subject ID. Participants were paid $0.50 for completion of the survey if they

passed a single attention check. This attention check required participants to correctly identify

the sex of the subject of the vignette they were assigned to read. Participants who failed this

check were rejected from the study and replaced with new participants.

Participants were also asked, "What do you think the purpose of this study was," in order

to determine whether they were aware that the study involved attitudes towards mental illness or

stereotyping because this awareness could potentially create demand characteristics. If

participants guessed that the purpose of the study was either to evaluate stereotype based judgments of mental illness or correctly identified BPD, they were excluded from analysis (examples, "opinion on whether a person needs psychiatric help, and whether they're responsible for their actions," "I think the purpose of this study is to find out general opinions regarding people who may have a mental illness. Also, to see if people can identify someone that may have a mental illness."). Participants were also excluded from analysis if they had taken four or more formal psychology courses because such individuals are not representative of the general public (Furnham et al., 2012, Furnham et al., 2014). Twelve participants were excluded because they guessed the purpose of the study, 13 were excluded because they had taken four or more psychology courses, and one participant was excluded for meeting both criteria.

Before exclusion criteria were applied, the sample identified ethnically as 78.1 % White, 7.9 % Hispanic or Latino/a, 6.1% East Asian, 1.8 % Black or African American, and 0.9 % each Native American or Amerindian, Pacific Islander, or Other Groups. A majority (57.3%) of participants had a bachelor's degree or higher, and the average number of psychology courses taken was 1.53, $SD = 1.35$. Exclusion criteria removed a total of 26 participants from analysis, leaving 84 participants remaining (38 Female, 46 Male). The majority (82.1 %) identified as White, 9.5 % identified as Hispanic or Latino/a, 4.8 % identified as East Asian, 1.2 % identified as Black or African American, and 1.2 % each identified as Native American or Amerindian or as Other Groups. Fifty-two percent had a bachelor's degree or higher, and the average number of psychology courses taken was 1.17, $SD = 1.05$ (see Appendix D, Supporting Figure 1).

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Procedure

      Vignettes. Vignette studies in the social and behavioral sciences consist of short, carefully written descriptive passages presented to participants followed by a series of questions used to assess attitudes and positions (Alexander and Becker, 1978, Wallander, 2009, Baudson & Preckel, 2013, Evans et al., 2015). They are widely used to assess mental health literacy and the diagnostic habits of clinicians because they combine the efficiency and directness of surveys with the multiple conditions and random assignment potential of experimental methods, and can be used when direct experimental manipulations would be infeasible or unethical (Rutten et al., 2006, Evans et al., 2015). Systematic reviews have determined that diagnostic vignette studies have high construct validity in both clinical expert samples (Evans et al., 2015) and lay samples (Jorm, 2000, Taylor, 2006) so long as they are well written, based on the literature, engage participants, are between 50 and 500 words, and seem plausible to participants.

      The design of the current study took the form of a factorial 2 (vignette subject sex: male or female) x 2 (vignette symptoms: explosive anger or compulsive buying) vignette survey study. Participants were randomly assigned to their vignette condition using Qualtrics' Randomize Block programming. Participants were first presented with one for four vignettes (female w/spending, female w/anger, male w/spending, male w/anger), adapted from established vignettes describing BPD used by Liebman & Burnette, 2013 and Furnham et al., 2014 (Appendix A).

      Main Survey. Participants were then presented with 13 survey items assessing attitudes towards the vignette's subject along with the attention check (item 6) and two distractor items that were not analyzed (items 4 and 8). All items except for the attention check were scored on a 7-point Likert scale. Items 1-3 were designed to test whether participants would view gender

incongruent vignette subjects as more gender-atypical than gender congruent vignette subjects. Item 1 directly asked if participants thought the vignette subject was "normal" for their age and gender, while items 2 and 3 assessed perceived masculinity and femininity. To assess whether gender incongruent cases were seen as more psychologically pathological, participants were asked whether they believed the vignette subject required psychological help and whether they believed the vignette subject's problems would "sort themselves out" without help (items 7, 9, 10, 11, 12, 13). Participants were also asked two items gauging how much they attributed the vignette subject's behavior to psychological factors and how much they attributed these same behaviors to stable personality factors. This item was adapted from Wirth & Bodenhausen, 2009's national study of mental illness stigma. Their item was split because it can be considered a double-barreled question. Other items were adapted from survey items in Furnham et al., 2012 and Furnham et al., 2014. All main survey items are displayed in Appendix B.

Demographics survey. In order to account for potential confounding variables, the main survey was followed by a five-item demographics survey. Items assessed participants' self-identified ethnicity, education level, age range, gender identity, and number of psychology courses taken (Appendix C).

Statistical Analysis

Preliminary analyses. Descriptive statistics and frequencies were computed for the sample demographics, including gender, age range, education level, ethnicity, and number of psychology courses taken. Because participants only identified as either male or female, t-tests for independent means were used to test whether male and female participants differ systematically for age range, education level, and number of psychology courses taken. To assess whether participants in each vignette category (Angry Men, Angry Women, Compulsive Buying

Men, Compulsive Buying Women) were balanced in terms of demographic characteristics, chi-squared tests for independence were conducted for gender, ethnicity, education level, and age category. Further, each vignette category was assigned a group number and analyzed using a one-way ANOVA with number of psychology courses taken as the DV to determine if psychological education was evenly distributed across groups.

Femininity-masculinity difference scores. Measures of how masculine or feminine participants perceived vignette subjects to be were computed by subtracting masculinity scores from femininity scores such that more positive scores indicated more overall feminine perceptions and more negative scores indicated more overall masculine perceptions. This difference score was the dependent variable in a 2 (Vignette subject sex) x 2 (Vignette Symptoms) factorial ANOVA. Because men and women differed significantly on number of psychology courses taken (see results), participant gender was included in the model to control for any possible confounding effects. Three main effects, vignette subject sex, symptomatology, and participant gender, were assessed, along with three 2x2 interactions, vignette subject sex by symptomatology, participant gender by vignette subject sex, and participant gender by symptomatology.

Perceived need for psychological help. Participants' perceptions of abnormality were measured by making a composite score of participants' two measures for the vignette subject's need of help ("This person needs professional psychiatric help," and "This person's problems will sort themselves out with time," reverse scored) and the difference score of participants' attributions of the vignette subject's behavior to personality ("This person's behavior is mostly due to their personality") and to psychiatric disturbances ("This person's behavior is mostly due to psychological disturbances"). First, standardized z-scores for each variable were computed.

Second, these z-scores were averaged. The average of these standardized variables was the composite variable used for perceived need for psychological help. To analyze this item, a 2 (Vignette sex) x 2 (Vignette Symptoms) ANOVA with this composite score as the DV was used. Main effects for participant gender, vignette subject sex, and vignette symptoms were tested, as was a 2x2 interaction for vignette subject sex by vignette symptoms.

Blame for situation. Participant's blame of vignette subjects for their situation were measured using the average of participants' explicit blame of vignette subjects for their situation ("This person has only themselves to blame for their situation"), attributions of their behavior to personality ("This person's behavior is mostly due to their personality"), and ratings of responsibility for their actions ("This person is accountable for their actions"). To analyze this DV, a 2 (Vignette Sex) x 2 (Anger or Spending) ANOVA was used. Main effects for participant gender, vignette subject sex, and symptomatology were tested, as was a 2x2 interaction for vignette subject sex by vignette symptoms.

Reported Liking for vignette subject. Liking for the vignette subject was analyzed using a factorial 2(Vignette sex) x 2 (Anger or Spending) ANOVA for the single item, "Imagine you know this person in real life. How much would you like this person?" Participant gender was again included as a control variable.

Correlations. A correlation matrix was computed for all four dependent variables analyzed. These correlations were partial correlations controlling for participant gender, vignette subject sex, and vignette symptomatology.

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Results

Preliminary Analyses

Chi-squared tests for independence revealed that participants were evenly distributed to the four vignette conditions by gender, $\chi^2(3) = 1.165$, $p = 0.761$, age category, $\chi^2(15) = 12.661$, $p = 0.629$, and number of psychology courses taken, $F(3, 80) = 0.165$, $p = 0.920$. A marginally significant chi squared value was found for education level distribution among vignette groups was found, $\chi^2(15) = 23.238$, $p = 0.079$. However, this figure is unlikely to represent systematic flaws in random assignment because 66.7% of relevant cells had fewer than five samples, and several categories of education had very small numbers of participants. For instance, only two participants stated their education level as "some graduate study" and seven had "an associate's or community college degree," meaning that for these categories it was numerically impossible for them to be evenly distributed among the four groups. Thus, the marginal trend detected by the χ^2 test for education was not included as a possible confound variable in subsequent analyses.

Chi-squared tests for independence further indicated that male ($n = 46$) and female ($n = 38$) participants were evenly distributed among age categories, $\chi^2(5) = 3.502$, $p = 0.623$, and education level, $\chi^2(5) = 3.415$, $p = .636$. However, a t-test for independent means (equality of variances not assumed) revealed that female participants had taken significantly more formal psychology courses, $M = 1.50$, $SD = 1.109$, than male participants, $M = 0.891$, $SD = 0.924$, $t(72.130) = 2.697$, $p = .009$ (Figure 1). Therefore, possible main effects of gender on dependent variables were included in subsequent analysis.
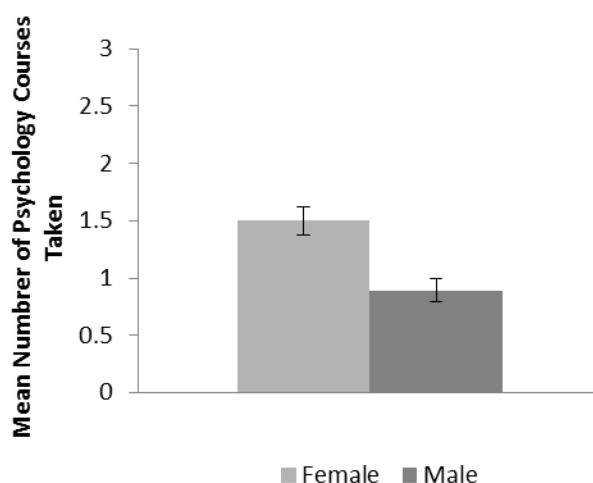
Figure 1. Among participants remaining after exclusion criteria were applied ($N = 84$), male and female participants were compared for number of formal psychology courses taken. Female participants had taken significantly more formal coursework in psychology ($M = 1.50$, SD = 1.109) than male participants (M = 0.891, SD = 0.924), t (72.130) = 2.697, $p = .009$.

Perceived Femininity-Masculinity Difference Scores

Difference scores for perceived femininity and masculinity were computed as described in the data analysis section of **Method.** Lower (more negative) scores indicated stronger perceived adherence to masculine gender norms, while higher (more positive) scores indicated stronger perceived adherence to feminine gender norms. A general linear model (GLM) for these difference scores testing for main effects of vignette subject sex, vignette symptom presentation, participant gender, and all 2 way interactions of these three main effects revealed significant main effects for vignette subject sex, F (1, 77) = 19.521, $p < 0.001$, $\eta^2 = 0.202$, and vignette symptom presentation, F (1, 77) = 4.525, $p = 0.037$, $\eta^2 = 0.056$. The directionality of these effects were such that male vignette subjects ($M = -0.905$, $SD = 2.067$) were perceived as

more masculine (less feminine) than female vignette subjects ($M = 1.095$, $SD = 2.105$), and

vignette subjects presenting with explosive anger ($M = -0.200$, $SD = 2.222$) were perceived as

more masculine (less feminine) than vignette subjects presenting with compulsive buying ($M = 0.436$, $SD = 2.38$). No significant main effect of participant gender was found, $F (1, 77) = 1.193$,

$p = 0.278$. However, mean femininity-masculinity difference scores were qualified by a

marginally significant interaction between vignette subject sex and participant gender, $F (1, 77) = 3.163$, $p = 0.079$, $\eta^2 = 0.039$, such that male participants saw female vignette subjects as more

feminine and male vignette subjects as more masculine than did female participants for either

vignette sex (see Figure 2).
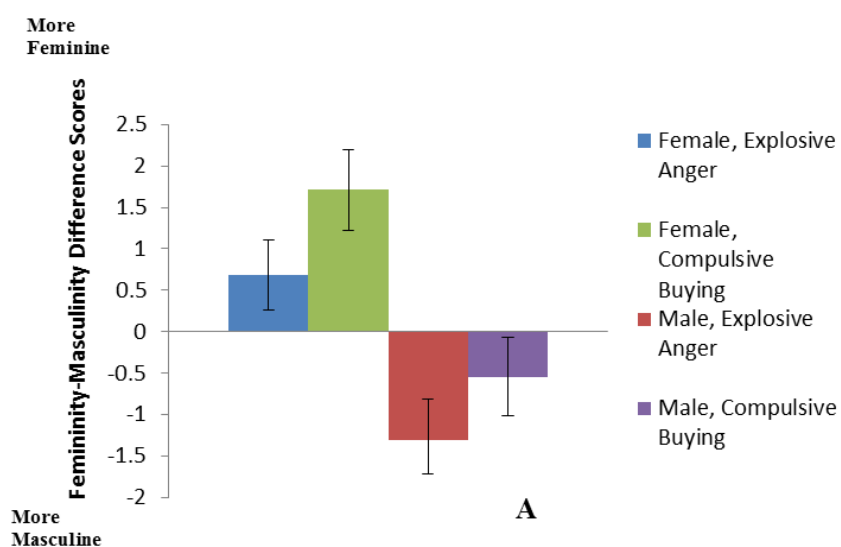
Figure 2. (A) Vignette subjects were overall perceived as sex-congruent: male vignette subjects were perceived as masculine ($M = -0.905$, $SD = 2.067$) and female vignette subjects were perceived as feminine ($M = 1.095$, $SD = 2.105$), $F (1, 77) = 19.521$, $p < 0.001$, $\eta^2 = 0.202$. Further, explosive anger was seen as significantly more masculine ($M = -0.200$, $SD = 2.222$) than compulsive buying ($M = 0.436$, $SD = 2.38$), $F (1, 77) = 4.525$, $p = 0.037$, $\eta^2 = 0.056$. Error bars indicate standard error.
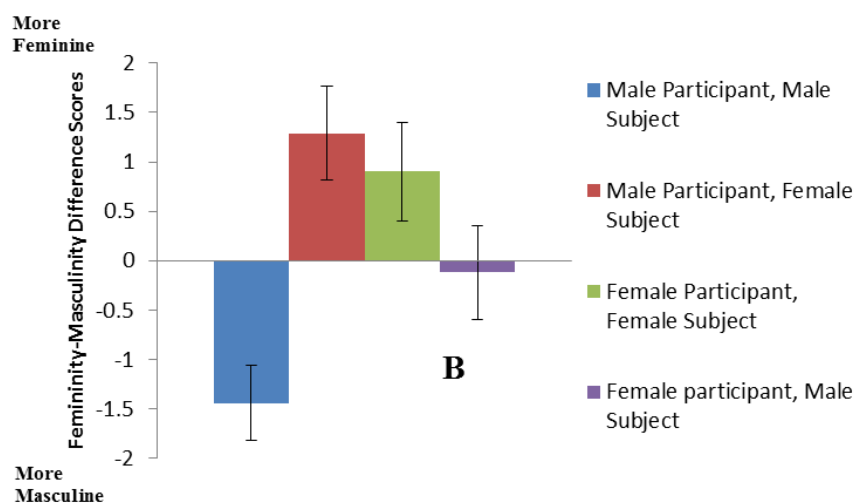
(B) While no main effect of participant gender was found, a marginally significant interaction, F (1, 77) = 3.163, p = 0.079, η^2 = 0.039, was revealed; male participants viewed vignette subjects as more gender stereotype-congruent than female participants. Error bars indicate standard error.

Perceived Psychological Need and Blame

GLMs for composite perceived need for psychological help and for composite blame scores tested for the main effects of participant gender, vignette subject sex, and vignette symptom presentation, as well as a vignette subject sex by vignette symptom presentation interaction. For composite need for psychological help scores, no significant main effect was found for participant gender, F (1, 79) = 1.166, p = 0.284, vignette subject sex, F (1, 79) = 0.882, p = 0.351, or vignette symptoms, F (1, 79) = 0.424, p = 0.517. No vignette subject sex by vignette symptoms interaction qualified these findings, F (1, 79) = 0.103, p = 0.749. Similarly, no significant main effect for participant gender, F (1, 79) = 0.419, p = 0.519, vignette subject sex, F (1, 79) = 0.365, p = 0.547, or vignette symptoms, F (1, 79) = 1.643, p = 0.204. No vignette subject sex by vignette symptoms interaction qualified these findings, F (1, 79) = 0.005, p = 0.943. The overall means and standard deviations were M = 0.00, SD = 0.787 for composite

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perceived need scores and $M = 4.08$, $SD = 1.05$ on a scale of 0 to 6 for composite blame. For

item 7 ("This person needs professional psychiatric help"), which directly asked participants

whether they thought the vignette subject needed psychiatric help, $M = 4.02$, $SD = 1.64$.

Affective Measures of Liking

A GLM for the single item assessing how much participants liked the vignette subject

found a main effect for vignette subject sex on liking, $F(1, 79) = 4.289$, $p = 0.042$, $\eta^2 = 0.051$,

such that female vignette subjects ($M = 2.095$, $SD = 1.635$) were liked more than male vignette

subjects ($M = 1.50$, $SD = 1.518$). No overall significant main effect was found for vignette

symptoms, $F(1, 79) = 2.329$, $p = 0.131$ (Figure 3a). However, a marginally significant effect was

found for participant gender on overall liking, $F(1, 79) = 3.823$, $p = 0.054$, $\eta^2 = 0.046$, such that

male participants ($M = 2.065$, $SD = 1.781$) liked vignette subjects more than female participants

($M = 1.474$, $SD = 1.289$, Figure 3b). No interaction was detected. When only male participants

were examined, a trend for a main effect for vignette symptoms emerges, $F(1, 42) = 3.130$, $p = $

0.084, $\eta^2 = 0.069$, in which vignette subjects with explosive anger ($M = 1.72$, $SD = 1.745$) are

less liked than vignette subjects with compulsive buying ($M = 2.476$, $SD = 1.706$, see Figure 3c).

Conversely, no significant effects of vignette type on liking whatsoever emerged when only

female participants were considered.
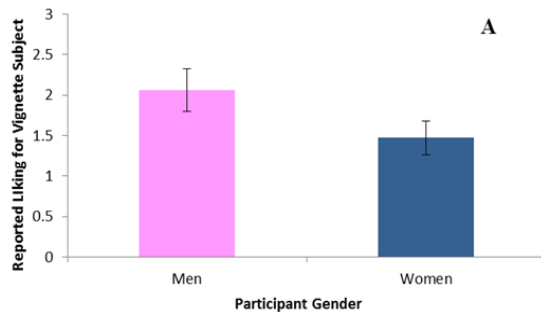
Figure 3. (A) A marginally significant effect emerged for participant gender on overall liking, $F(1, 79) = 3.823$, $p = 0.054$, $\eta^2 = 0.046$, that male participants ($M = 2.065$, $SD = 1.781$) liked vignette subjects more than female participants ($M = 1.474$, $SD = 1.289$). Error bars represent standard error.
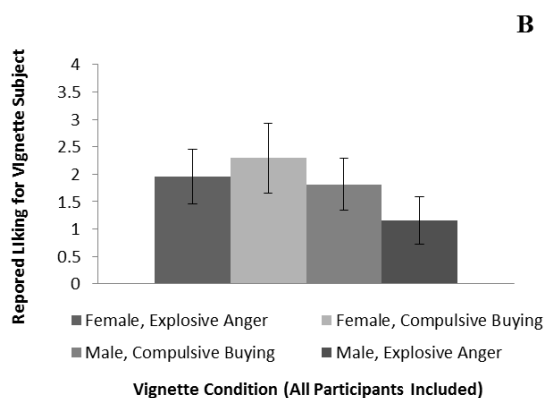
(B) Across all participants, a significant main effect was found for vignette subject gender, $F(1, 79) = 4.289$, $p = 0.042$, $\eta^2 = 0.051$, such that female vignette subjects ($M = 2.095$, $SD = 1.635$) were liked more than male vignette subjects ($M = 1.50$, $SD = 1.518$) overall. No overall main effect for vignette symptom condition or interaction was detected. Error bars represent standard error.

C
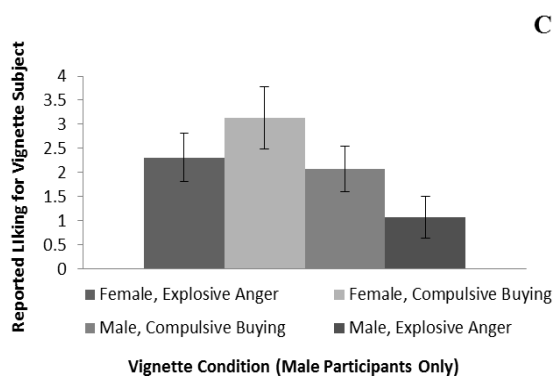
(C) Among male participants exclusively, a marginally significant effect was found, $F(1, 79) = 3.130$, $p = 0.084$, $\eta^2 = 0.069$, in which vignette subjects with explosive anger (M = 1.72, $SD = 1.745$) are less liked than vignette subjects with compulsive buying ($M = 2.476$, $SD = 1.706$). Error bars represent standard error.

Correlations between Dependent Variables

A correlation matrix for the four main variables analyzed (Femininity-Masculinity difference scores, Composite Need for Psychological Help Scores, Composite Blame scores, and reported liking for vignette subjects) was computed and tested using partial correlations, controlling for participant gender, vignette subject sex, and vignette symptoms (see Table 1). Significant correlations were found between liking and composite perceived need for psychiatric help, $r(79) = -0.436$, $N = 84$, $p > 0.001$, between liking and perceived blame, $r(79) = -0.236$, $N = 84$, $p = 0.034$, and between perceived need for psychiatric help and blame $r(79) = -0.330$, $N = 84$, $p = 0.003$. In other words, blame was negatively associated with liking. The more participants blamed the vignette subject for their symptoms, the less they liked them. Further, liking was negatively associated with perceived need for psychiatric help: the more participants thought the vignette subject needed psychiatric help, the less they liked them. However, the more the vignette subject was perceived as in need of psychiatric help, the less participants blamed them

for their actions. No other significant, marginally significant, or trending correlations were found.

Table 1

Matrix of Significant Correlations Between Dependent Variables Used.

Controlling for: Vignette Subject Sex, Vignette Symptoms, and Participant Gender	Composite Need for Psychiatric Help Score	Reported Liking for Vignette Subject
Composite Blame for Condition Score	-0.330 $p = 0.003$	-0.236 $p = 0.034$
Reported Liking for Vignette Subject	-0.436 $p < 0.001$	-

Discussion

This experiment was designed to investigate whether a hypothetical person with BPD would be differently perceived based on their gender, symptoms, and the congruence between gender stereotypes and their symptoms. As expected, participants viewed male vignette subjects with explosive anger as more masculine (more gender stereotype-congruent) than male subjects with compulsive buying. Conversely, female vignette subjects with explosive anger were viewed as less feminine (less gender-stereotype congruent) than female subjects with compulsive buying. Therefore, systematically varying gender-stereotyped symptoms of BPD in vignettes successfully altered participants' gendered perceptions of the vignette subject to create "gender stereotype congruent" and "gender stereotype incongruent" conditions for both male and female vignette subjects with BPD.

This experiment had three main hypotheses. Two of these hypotheses were not supported. It was hypothesized that gender-stereotype congruent vignettes would be (1) perceived as needing less psychiatric help and (2) be more blamed for their symptoms than gender-stereotype incongruent vignette subjects. Instead, participants recognized that the vignette subject needed professional psychological help and blamed the vignette subject for their symptoms regardless of the vignette subject's sex or symptoms. These results suggest that participants recognize psychiatric need in people with BPD regardless of their sex and symptoms, but (on average) blame them for their behavioral symptoms anyway. However, the negative correlation between blame and perceived psychiatric need composite scores suggests that while participants did hold the vignette subjects responsible for their symptoms, they blamed them less the more they saw them as needing psychiatric help.

This study's third hypothesis was that participants would report more liking (more positive dispositions) toward gender stereotype congruent vignette subjects than gender stereotype incongruent vignette subjects. While this hypothesis was unsupported, significant effects of the vignette subjects' sex, the vignette subject's symptoms, and the participants' gender did emerge. These differences were driven by male participants. While female participants reported moderate to high dislike for the vignette subject regardless of their sex or symptoms, male participants liked female vignette subjects more than male vignette subjects, and liked subjects with explosive anger less than subjects with compulsive buying. Moreover, male participants liked the vignette subjects more than female vignette subjects did overall. Although these findings do not support the initial hypothesis, they do suggest that men and women may have different affective reactions to people with BPD.

Each of these findings has multiple implications for how people with BPD may be perceived. The implications of women and men perceiving people with BPD differently and the possible reasons behind this pattern are complex and are worth further examination. Further, the finding that vignette sex, symptoms, and gender-stereotype congruence do not appear to have any effect on how the vignette subject are perceived is important for understanding how and if gender stereotypes influence accurate perception of BPD symptoms as mental illness symptoms and the assignment of blame for BPD symptoms. The implications of these findings will be examined individually and in detail.

Perceptions of Psychological Need

The finding that perceived psychological need did not differ by vignette sex or vignette symptoms is not unprecedented. One study found that college students rated all BPD symptoms (including explosive anger and compulsive buying) as equally problematic for men and for women (Morey et al., 2002). Another found that, given a brief description of what BPD is, non-experts disagreed that BPD was more likely to occur in women than in men (Furnham et al., 2012). Even among professionals familiar with the view of BPD as a "women's disease," vignette sex does not affect their ability to diagnose BPD in most studies (Eubanks-Carter & Goldfried, 2006, Markham, 2003, Deans & Meocevic, 2006, Woodward et al., 2009, Skodol et al., 2003). My findings that BPD vignette sex and symptoms do not affect participants' ratings of the vignette subject's need for psychiatric help build upon these studies. In context, they suggest that gender stereotypes and gender stereotype congruence may not affect non-experts' ability to recognize that people with untreated BPD need professional psychiatric help.

It is also possible that vignette sex, symptoms, and gender stereotype congruence do affect non-experts' perceptions of people with BPD, but that this particular experiment was

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unable to reveal any such effects on either perceived psychological need. Although participants did perceive gender stereotype incongruent vignettes as less gender typical than gender stereotype congruent vignettes, it is possible that varying a single symptom (explosive anger or compulsive buying) does not make these vignette conditions different enough to elicit significant effects for these variables. No other study has systematically varied symptoms known to be gender-stereotyped in BPD vignettes. Therefore, it was unclear at the outset of this study just how different vignette conditions needed to be from one another.

Further, comorbid disorders were entirely excluded from vignettes because they carry gendered stereotypes independently of BPD. However, almost all real-life people with BPD, regardless of gender identity, have multiple comorbid mental disorders (APA, 2013, Zanarini et al, 1998, Zanarini & Mattia, 1999). Among these disorders, those more common in men with BPD, ASPD, alcohol use disorder, and other substance use disorders (Tadic et al., 2009) are masculine-stereotyped, while those more common in women with BPD, anorexia nervosa, GAD, and MDD (Tadic et al., 2009) are feminine stereotyped (Boysen et al., 2014).

The present study did not vary comorbidities in order to generate "masculine" and "feminine" stereotyped vignettes because complex statistical models would have been needed in order to account for the independent effects of each disorder's stereotypes. However, there is evidence that different comorbidities would affect whether participants would perceive the vignette subject as mentally ill. Furnham et al., 2014 used BPD vignettes with different comorbidities and found that, depending on the vignette, participants' recognition that the vignette subject had a mental disorder varied from 3.1%-33.7%. However, these findings are confounded because each vignette drastically differs from each other vignette; gender, life history, and core BPD symptoms are not controlled for in Furnham et al., 2014. Future work

should consider focusing on developing ways to systematically vary comorbid conditions while controlling for their independent stereotypes.

Blame

Across all vignette groups, participants expressed mild to moderate agreement that the vignette subjects were to blame for their symptoms. At first glance, these findings are at odds with past studies because participants in Furnham et al.'s 2012 study disagreed both with statements that BPD was due to personal weakness of character and with statements claiming that BPD was only extreme attention-seeking behaviors and not a true disorder (Furnham et al., 2012). Further, another other non-expert sample expressed mild sympathy for people with BPD (Furnham et al., 2014). Both of these samples were able to identify social stress, childhood maltreatment, chemical imbalances, and genetic factors as causes of BPD (Furnham et al., 2012, Furnham et al., 2014). However, neither of these studies directly asked participants if they blamed participants for their condition or held them responsible for their actions. Studies of professionals opinions, from psychologists (Black et al., 2007) to psychiatric nurses (Markham, 2003) that have directly assessed whether participants blame people with BPD for their symptoms have found moderate to high degrees of blame for people with BPD. The current study's findings from a sample of non-experts replicate these expert findings even without labelling the cases as a mental disorder. This replication suggests that the label of BPD or even a specific mental illness label is not needed to elicit at least some stigmatizing attitudes towards people with BPD.

The inverse relationship between composite blame scores and composite perceived need for psychiatric help scores, however, replicates previous a previous study of non-expert attitudes towards BPD symptoms. Causal attributions of BPD to psychological disturbances,

biopsychosocial factors, and upbringing were negatively associated with stigmatizing attitudes towards BPD (Furnham et al., 2012). The relationship between blame and perceived need for psychiatric help warrants deeper investigation in future work to elucidate possible mediating, moderating, or third variables. Modelling how sympathy, blame, and causal attributions affect one another and perceived need for help could be informative about how seemingly opposed attitudes toward BPD interact.

Dispositions toward the Vignette Subjects

Dislike is an important component of stigma against people with mental disorders among both experts and non-experts. Disliking people with mental illness is associated with avoiding and rejecting them (Rabkin, 1974). Expert samples (psychotherapists, psychiatric nurses, hospital staff, and other professionals) often express dislike of people with BPD, along with avoidance, prejudicial attitudes, blame for their behaviors, and fear (Fallon 2003; Brooke & Horn 2010, King, 2014, Lewis & Appleby, 1988, Markham, 2003, Markham & Trower, 2003). The current study's findings replicate this dislike in a non-expert sample. Such dispositional attitudes towards people with BPD have not been assessed in prior research on non-experts. On average, participants indicated mild to moderate dislike of the vignette subjects. However, male vignette subjects were disliked more than female vignette subjects

Because dislike is associated with rejection (Rabkin, 1974), the finding that men with BPD may be more disliked than women with BPD suggests that men with BPD may be at greater risk for social rejection. While social rejection is generally harmful for people with mental disorders (Gulliver et al., 2010), people with BPD may be especially affected by it. People with BPD have a higher "rejection sensitivity" than either neurotypical people or people with social anxiety disorders (Staebler et al., 2010). In other words, people with BPD more readily perceive,

and more intensely overreact to, social rejection than people whose main psychopathology includes intense fear of social rejection (APA, 2013). Social support is also a key protective factor for adolescents and young adults with mental disorders that is linked to increased help-seeking (Gulliver et al., 2010). Given the current study's findings, it is possible that men with BPD (particularly young men) are at greater risk for social rejection than women with BPD because they are disliked more. If true, men with BPD may seek help less than women with BPD because they may have less social support.

This possibility is not unprecedented. Previous studies of mental illness stigma have found that on a broad level, men with mental disorders are at higher risk for social rejection than women with mental disorders, and consequently have less social support. Two systematic reviews of mental illness stigma studies across multiple western countries found evidence that women with mental disorders were disliked less and were less likely to face social rejection than men with mental illnesses (Schnittker, 2000, Holzinger et al., 2012). One of these reviews found that perceived dangerousness mediates the relationship between gender and social rejection (Schnittker, 2000). Men with mental disorders were viewed as more dangerous than women with mental disorders, and people viewed as more dangerous were more rejected (Schnittker, 2000). Other work has found that the more participants view people with mental disorders as dangerous, the more they endorse stigmatizing attitudes and desire distance from people with mental disorders (Corrigan & Watson, 2002, Feldman & Crandall, 2007). Because dangerousness was not measured in this study, it is impossible to determine what role, if any, it played in male vignette subjects being more disliked than female vignette subjects.

Participant gender was a critical factor affecting liking towards the vignette subject. When only female participants were included in analyses, no main effects were found related to

liking, but when only male participants were included, the effect of vignette sex was exaggerated while a trending effect of vignette symptoms emerged that was absent when all participants were considered. Moreover, male participants as a whole liked the vignette subjects more than female participants. Thus, a pattern emerged that male participants liked female vignette subjects slightly more than male vignette subjects, while female participants disliked vignette subjects about the same regardless of sex.

Susan Fiske and Peter Glick's Ambivalent Sexism theory may be able to explain why men, but not women, had different attitudes towards male and female vignette subjects (and, to a lesser extent, toward subjects with explosive anger and compulsive buying). Under this theory, sexist attitudes towards women encompass two categories, "hostile" sexism (HS) "benevolent" sexism (BS) (Glick & Fiske, 1996, Glick & Fiske, 1997). Unlike HS, which consists of aggressive, demeaning, and blatantly misogynistic attitudes (e.g. "Women seek to gain power and control over men," "Women fail to appreciate all men do for them," "Women are not as smart as men"), BS encompasses paternalistic, heterosexist, protective, and purity-oriented attitudes which dehumanize women by placing them on an unrealistic pedestal (e.g., "Women have a superior moral sensibility," "Despite accomplishment, men are incomplete without women," "Women have a more refined sense of culture and taste," " Women have a quality of purity few men possess," "Women should be cherished and protected by men,"; Glick & Fiske, 1996, 1997, 2001, 2011). Men who harbor BS attitudes generally exhibit high liking toward feminine women and masculine men and exhibit negative attitudes towards feminine men and masculine women (Glick et al., 2015). Moreover, high endorsement of both BS and HS towards women is associated with high endorsement of both BS and HS towards *men* (Glick et al., 2004). The net result of these patterns is that women are viewed as more "good" and "pure" than men,

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but as inherently less agentic or powerful (Glick et al., 2004). People who endorse high BS and HS attitudes towards men generally view men as cruel and morally inferior to women, but as more powerful and dangerous (Glick et al., 2004).

Because women in the United States endorse BS significantly less than men do (Glick et al., 2000), it is possible that female participants in this study relied on gender stereotypes and BS less than male participants when evaluating the vignette subjects. Although this possibility cannot be tested with these data because ambivalent sexist attitudes were not measured, the finding that female participants did not gender the vignette subject as strongly as male participants did (see Figure 2b) is evidence that gender stereotyping differed between male and female participants. If male participants endorsed more sexist attitudes than female participants, than their decreased dislike of female participants represents patronizing beliefs associated with benevolent sexism rather than reduced stigma, while female participant's equal dislike of vignette subjects regardless of condition indicates a lack of sexist attitudes instead of increased stigmatization. Alternatively, the invariance between vignette conditions observed among female participants may be due to a floor effect. Among female participants, 60.5% of female participants selected the strongest two "dislike" options, "dislike a great deal" or "dislike a moderate amount," while only 7.9% indicated that they would like the vignette subject to any degree, and none selected the strongest degree of liking (Supporting Figure 2b). By contrast, 30.5% of male participants indicated that they would like the vignette subject (Supporting Figure 2c). These two possibilities are not mutually exclusive: female participants could dislike the vignette subject in finer degrees than this study could measure while still relying on gender stereotypes and BS less than male participants.

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Limitations

A general limitation of this study is that several variables that could be behind male and female participants' different dispositions toward vignette subjects were not measured. The overall focus of the study at the outset of data collection was whether the "gender stereotype congruence" of BPD symptoms affected non-experts' ability to perceive the vignette subjects as in need of psychiatric help. Liking was measured mainly in order to account for the possibility that participants might respond differently to different vignette conditions based on affective reactions to the vignette subject. However, the patterns observed in male participants', but not female participants', dispositions towards the vignette subject suggest that how participants *feel* about people with BPD may inform their behavior towards people with BPD more than what they *know* about people with BPD. Both male and female participants perceived the vignette subjects as in need of psychological help, but only male participants had different dispositions towards vignette groups.

However, asking participants "how much would you like this person" is not a sufficient measure to assess participants' overall emotional reactions and possible social behavior towards the vignette subject. While dislike is associated with social behaviors and preferences including avoidance and rejection (Rabkin, 1974, Schnittker, 2000), it does not actually measure these variables. Moreover, associations are not one-for-one, absolute predictions: it is possible for people to grudgingly spend time with people that they dislike and include them in a social group. Items directly assessing avoidance and rejection such as "this is the type of person that I tend to avoid," or "I would be comfortable renting a room with [name]," compiled as a multiple item scale of social distance (see Corrigan et al., 2001 and Feldman & Crandall, 2007) exist, but were not used in this study. This project therefore cannot conclusively state whether men's differential

dispositions toward vignette subjects by sex would actually translate to different amounts of social rejection or willingness to offer social support.

Similarly, a key variable in the stigmatization and rejection of people with mental illness, perceived dangerousness, was not assessed in this study. Dangerousness is critical to how liked, feared, or avoided people with mental disorders are (Schnittker, 2000, Feldman & Crandall, 2007). Understanding how and whether dangerousness mediates the dispositions participants reported towards the vignette subjects is important for designing possible stigma reduction efforts. Further, participants were not asked for rationalizations why they liked or disliked participants, meaning that content data useful for analyzing the exact reactions people with BPD may evoke from the general public was not gathered by this experiment. Ambivalent sexism, despite the possible effects discussed, was not assessed in any capacity. These limitations are not fatal to the study because understanding that dispositions towards people with BPD do differ between men and women is a prerequisite for investigating why. However, they do constrain the conclusions that can be drawn from these data.

BPD vignette limitations. Vignettes with identifiable comorbid conditions were deliberately avoided in experimental design in order to avoid confounding the effects of stereotypic judgments of different mental disorders (i.e., substance use disorder and BPD or histrionic personality disorder and BPD). However, as has been stated before, "pure" BPD is uncommon (Grant et al., 2008, APA, 2013). Therefore, the vignettes used here and in Liebman & Burnette, 2013 are unlikely to completely match the behaviors and experiences of most actual people with BPD. These comorbidities will need to be accounted for in subsequent research, particularly because the different comorbidities associated with BPD can elicit potentially elicit different reactions to people with BPD (NICE, 2009, Furnham et al., 2014). The decision not to

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include comorbid conditions in the vignettes used in this study therefore limits the applicability

of these findings to the lived experiences of both people with BPD and people who encounter

and interact with them.

Participants. The sample was predominantly (82.1%) white by ethnicity and the

majority held at least a bachelor's degree. Some evidence exists that these particular

characteristics may affect evaluations and judgments of people with mental illness. Different

ethnocultural groups within the United States alone have differing conceptions of mental illness

and harbor differing levels of stigma (Corrigan & Watson, 2007, Rao et al., 2007). African

Americans and Asian Americans people view people with mental illnesses as more dangerous

and desire more social distance from them than White Americans (Rao et al., 2007). However,

African Americans appear to be less likely than White Americans to blame people with either

MDD or schizophrenia for their condition and are less likely to advocate punishment for any of

these people's social transgressions (Anglin et al., 2006). Another study found that African-

American women specifically attribute mental disorders to life circumstances, stresses, or the

pressures of racism, and report low levels of stigmatizing attitudes (Ward et al., 2009). Similarly,

Chinese Americans, despite believing that mental illness was a genetic defect more strongly than

White Americans, are more supportive of their rights to marry, have children, and are be more

willing to marry a person with a mental illness than White Americans are (WonPat-Borja et al.,

2012). Latino Americans appear to view people with mental illnesses as less dangerous and

exhibit less social avoidance towards them than either white Americans, African Americans, or

Asian Americans (Rao et al., 2007), while Native Americans and Alaskan Natives that maintain

tribal attributions vary greatly from tribe to tribe in terms of mental illness stigma, with some

tribes exhibiting little to no stigmatizing attitudes and others exhibiting stricter attitudes than

white Americans (Grandbois, 2005). The majority white sample means that these data may not be generalizable to diverse populations, and that attitudes towards BPD among nonwhite groups may not be adequately captured by this study.

LGBTQIA scenarios not assessed. In order to avoid invoking multiple simultaneous stereotypes and prejudices so that independent effects of vignette sex, symptoms, and gender stereotype congruence could be tested for, vignette subjects were cisgender males or females of an unspecified sexual orientation. However, in real life, there is evidence that BPD is a tremendous public health concern for LGBTQIA people. One study found that 64.1% of LGBT adults in treatment for substance use had BPD (Grant et al., 2011). Another found that 38.1% of a sample of transwomen met criteria for BPD (Duišin et al., 2014). An analytic review found that approximately one in three people with BPD exhibits same-sex romantic or sexual interest to some degree (Reich & Zanarini, 2008). Genderqueer and nonbinary people with BPD appear to be almost completely unstudied. Thus, assessing how cissexism, heterosexism, and general reactions to BPD interact is critical to meeting the needs of these underserved and understudied populations. Further, assessing how reactions to LGBTQIA people with BPD may differ from cisgender heterosexual people with BPD is critical to understanding what one in three people with BPD faces in real life. The present study is unfortunately incapable of this.

Future Directions

In order to make more ecologically valid assessments of non-expert's perceptions of people with BPD, vignettes in which comorbidities can be systematically varied must be constructed. While validated vignettes for BPD that depict comorbid conditions already exist, these vignettes were written for clinical psychologists to serve as examples for diagnosing BPD with comorbid conditions (Gunderson, 2008). They are written so that specific comorbidities are

pervasive in the vignette by drawing attention to cues that the clinician can recognize (see Appendix). Although vignettes of this type with different comorbidities are recognized as mental illness at different rates by non-experts (Furnham et al., 2014), the variation in comorbidities is confounded by variations in the subject's sex, age, ethnicity, socioeconomic status, and criminal record (Gunderson, 2008). The development of vignettes in which all factors can be identical or at least comparable save comorbid diagnoses and gender would allow future projects to construct more true-to-life "gender stereotype congruent" and "gender stereotype incongruent" cases of BPD. These vignettes could then be used to perform a more ecologically valid conceptual replication of this project.

Because this project found that men and women express different dispositions towards hypothetical people with BPD and that men viewed the vignette subjects as more gender stereotyped, future work should also systematically investigate different components of attitudes towards people with BPD. Further, this line of work should examine why men like women with BPD more than men with BPD, and why women appear to dislike men and women with BPD equally. The ambivalent sexism inventory for women (Glick & Fiske, 1996) and for men (Glick et al., 2004) may be useful for assessing possible effects of BS and HS attitudes towards men and women on differing affective reactions of male and female participants to men and women with BPD. Assessing directly whether participants would avoid, reject, or refuse to offer social support to the vignette subject will also be useful in elucidating just what this study's finding mean in the context of overall attitudes towards people with BPD. Perceived dangerousness also must be assessed as given its relationship to liking and social rejection (Corrigan & Watson, 2002, Feldman & Crandall, 2007). By expanding upon the variables measured in this study and through advanced statistical modeling, it may be possible to gain a detailed picture of how the

precise attitudes toward people with BPD may be different for men with BPD than for women with BPD, particularly among men. These models may even grant us insight into possible methods for increasing help-seeking among men with BPD and to link them to adequate treatment.

Conclusion

This study was designed to investigate the hypothesis that people with BPD who have symptom inconsistent with "normal" behavior for their gender would be more readily recognized as needing psychiatric help than those who have symptoms consistent with gender norm stereotypes. I investigated this hypothesis because the less people with mental disorder are seen as in need of psychological help, the more they are held accountable for symptoms that are at least partially beyond their control (Lewis & Appleby, 1988, Wirth & Bodenhausen, 2009). This association was replicated in this project despite the fact that vignette sex, symptoms, and gender stereotype congruence had no effect on participants' ability to perceive the vignette subjects as needing psychiatric help. However, that vignette gender and symptoms affected male participants' disposition towards the vignette subject suggests that for whatever reason, men, but not women, dislike women with BPD less than men with BPD, and may like men with a "masculine" BPD symptom less than men with a "feminine" BPD symptom. Men with BPD frequently have masculine stereotyped symptoms (explosive anger, ASPD, substance use disorder) (Tadic et al., 2009, citation), meaning that real life men most often belong to the vignette category most disliked by male participants. Men with BPD may face high rejection from same-sex peer groups and high rejection from women, while women with BPD are at least somewhat less disliked by men. These pressures, combined with the constraints of a masculine gender identity on help seeking, may contribute to men with BPD avoiding entry into the mental

health care system. If future research finds further evidence of these possibilities, then efforts to increase help seeking among people with BPD specifically targeting men may be warranted. Regardless, this study, despite finding little support for two of its main hypotheses, provides evidence that dispositions toward men with BPD do differ from reactions toward women with BPD among non-expert men; this finding provides ground for future research.

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Appendix A
Vignette

Male Vignette Subject Presenting Explosive Anger

Jacob is twenty years old. He is in his third year at Michigan State University, where he lives on-campus in a single dorm. Jacob is impulsive and often doesn't think about the consequences of his actions. He tends to drive recklessly, and when he spends the night out, it often ends with one night stands. He has a pattern of unstable relationships with the people close to him. He alternates between idealizing them and hating them, and has an intense fear that they will abandon him. He does whatever he can to prevent these people from leaving him. Jacob is prone to mood swings, and often says that he doesn't know who he is. He also says that he feels sad and empty a lot of the time. Jacob has trouble controlling his anger, and often blows up at people with minimal provocation.

Male Vignette Subject Presenting Compulsive Buying

Jacob is twenty years old. He is in his third year at Michigan State University, where he lives on-campus in a single dorm. Jacob is impulsive and often doesn't think about the consequences of his actions. He tends to drive recklessly, and when he spends the night out, it often ends with one night stands. He has a pattern of unstable relationships with the people close to him. He alternates between idealizing them and hating them, and has an intense fear that they will abandon him. He does whatever he can to prevent these people from leaving him. Jacob is prone to mood swings, and often says that he doesn't know who he is. He also says that he feels sad and empty a lot of the time. Jacob is prone to unplanned shopping sprees, and recklessly spends much more than he can afford .

Female Vignette Subject Presenting Explosive Anger

Jessica is twenty years old. She is in her third year at Michigan State University, where she lives on-campus in a single dorm. Jessica is impulsive and often doesn't think about the consequences of her actions. She tends to drive recklessly, and when she spends the night out, it often ends with one night stands. She has a pattern of unstable relationships with the people close to her. She alternates between idealizing them and hating them, and has an intense fear that they will abandon her. She does whatever she can to prevent these people from leaving her. Jessica is prone to mood swings, and often says that she doesn't know who she is. She also says that she feels sad and empty a lot of the time. Jessica has trouble controlling her anger, and often blows up at people with minimal provocation.

Female Vignette Subject Presenting Compulsive Buying

Jessica is twenty years old. She is in her third year at Michigan State University, where she lives on-campus in a single dorm. Jessica is impulsive and often doesn't think about the consequences of her actions. She tends to drive recklessly, and when she spends the night out, it often ends with one night stands. She has a pattern of unstable relationships with the people close to her. She alternates between idealizing them and hating them, and has an intense fear that they will abandon her. She does whatever she can to prevent these people from leaving her. Jessica is prone to mood swings, and often says that she doesn't know who she is. She also says that she feels sad and empty a lot of the time. Jessica is prone to unplanned shopping sprees, and recklessly spends much more than she can afford.

Appendix B

Main Survey Items

Main Survey Items

| Item Number	Item Text	Measurement	Question Type
1	This person's behavior is normal for people of their age and gender.	7-Point Likert Scale (Strongly Disagree-Strongly Agree)	Main
2	This person exhibits masculine traits.	7-Point Likert Scale (Strongly Disagree-Strongly Agree)	Main
3	This person exhibits feminine traits.	7-Point Likert Scale (Strongly Disagree-Strongly Agree)	Main
4	This person is more extroverted than introverted.	7-Point Likert Scale (Strongly Disagree-Strongly Agree)	Distractor
5	Imagine you know this person in real life. How much would you like this person?	7-Point Likert Scale (Dislike a great deal-Like a great deal)	Main
6	Was the person in the vignette male or female?	Binary Choice (Male or Female?)	Attention Check
7	This person needs professional psychiatric help.	7-Point Likert Scale (Strongly Disagree-Strongly Agree)	Main
8	This person does not have clear career goals.	7-Point Likert Scale (Strongly Disagree-Strongly Agree)	Distractor
9	This person's problems will sort themselves out with time.	7-Point Likert Scale (Strongly Disagree-Strongly Agree)	Main
10	This person is responsible for their actions and their consequences.	7-Point Likert Scale (Strongly Disagree-Strongly Agree)	Main
11	This person's behavior is mostly due to their personality.	7-Point Likert Scale (Strongly Disagree-Strongly Agree)	Main
12	This person's behavior is mostly due to psychological disturbances.	7-Point Likert Scale (Strongly Disagree-Strongly Agree)	Main
13	This person has only themselves to blame for their situation.	7-Point Likert Scale (Strongly Disagree-Strongly Agree)	Main

SEX, SYMPTOMS, AND STEREOTYPE CONGRUENCE OF BPD

Appendix C

Demographics Survey Items

Demographics Survey Items

Item Number	Item Text	Response Options
1	What gender do you identify as?	Male, Female, Nonbinary or Genderqueer, Prefer not to say
2	What is your age group?	18-25, 26-35, 36-45, 46-55, 56-65, 66-75, 76 or older
3	How many formal courses in Psychology have you taken? (High School or University)	Zero, One, Two, Three, Four or More
4	What ethnic categories do you identify as, if any? (Answering is unnecessary)	White, Caucasian (Non-Hispanic), Hispanic or Latino/a, Black/African-American, Asian-American or East Asian, Polynesian or Pacific Islander, Native American or Amerindian or First Nations, Arab or Middle-Eastern or Persian or other groups linked to the region, South Asian or Indian or Pakistani, Other (Not Listed)
5	What is your approximate level of education?	Less than high school, some high school, high school graduate, some college, associate's degree or community college, bachelor's degree, some graduate school, graduate or professional degree

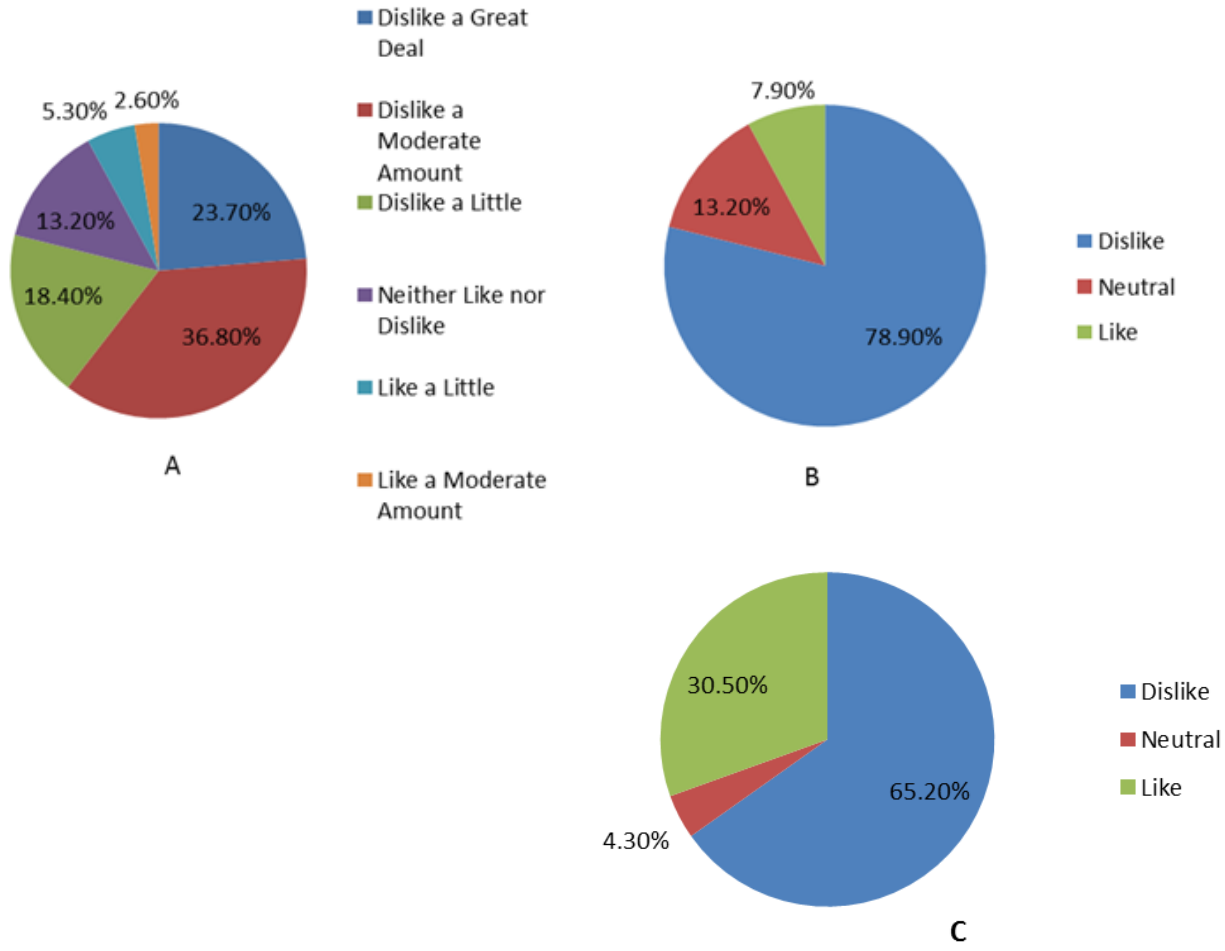Appendix D

Supplemental Figures
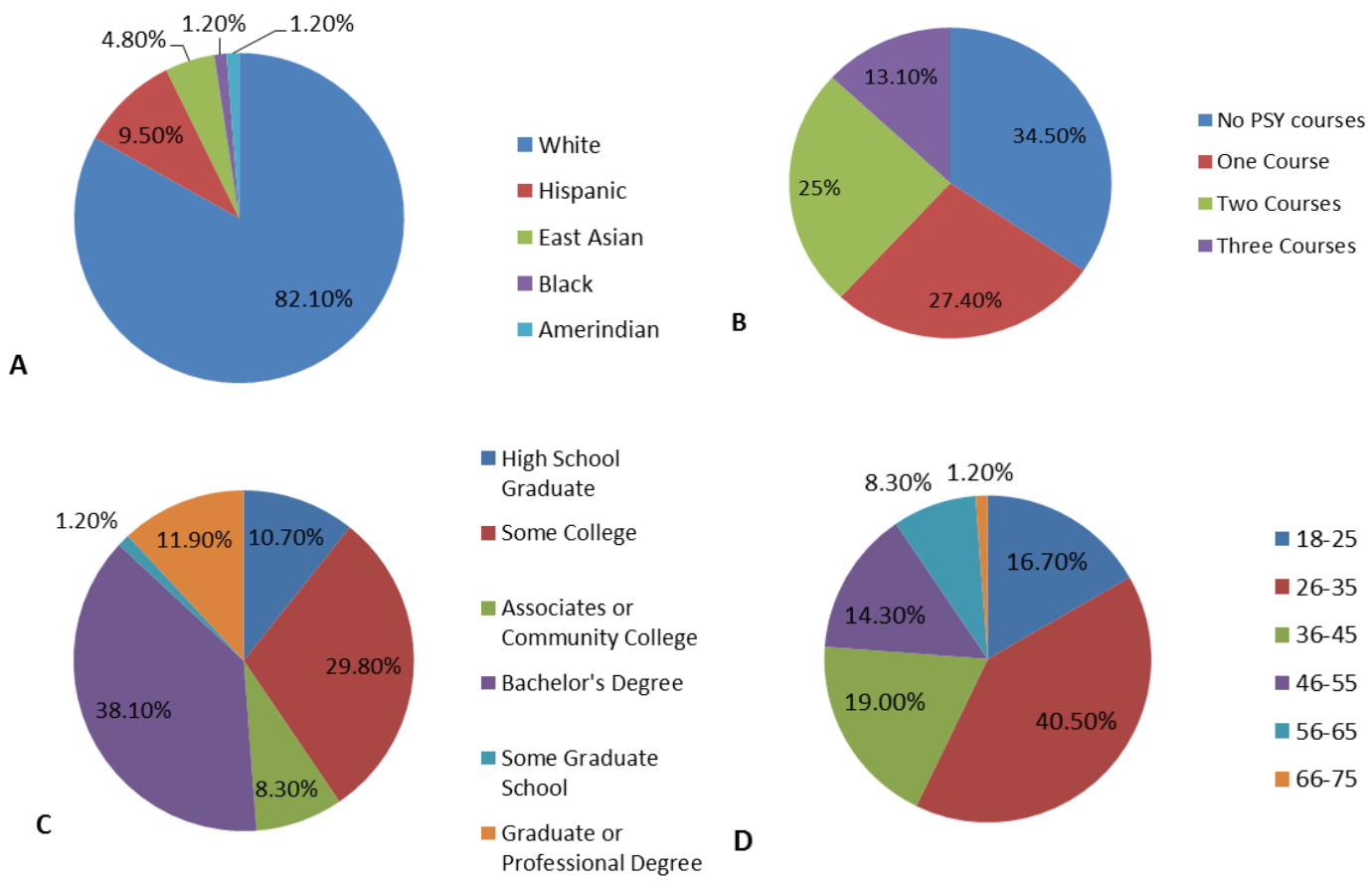
Supporting Figure 1. Demographic characteristics of the included participants. Percentage charts for (A) self-identified ethnicity, (B) number of psychology courses taken, (C) education level, and (D) age group.

Supporting Figure 2. Evidence for a Floor Effect in female participants' reported liking for the vignette subjects. Frequency charts of female participants' self-reported affective liking for vignette subjects illustrate that when (A) all possible responses to this item were considered, no women reported that they would "like [the subject] a great deal," and (B) that 78.90% of female participants reported that they would dislike the vignette subject to some degree, while only 7.9% of women reported any degree of liking for the vignette subject. Conversely, (C) 30.5% of male participants reported some form of liking for the vignette subject, suggesting that the floor effect for this item is restricted to female participants.

Appendix E

IRB Application

Research Question

Borderline Personality Disorder (BPD) is a mental illness characterized by unstable perceptions of one's identity, extreme fear of abandonment, and emotional lability (including explosive anger) (APA, 2013). BPD is diagnosed thrice as frequently in women than in men (APA, 2000, APA, 2013, Skodol & Bender, 2003). However, this pattern does not hold with BPD symptoms and diagnosis outside of the help-seeking or hospitalized clinical population. Prevalence of BPD symptoms among the general population and undergraduates does not differ by gender (Skodol & Bender, 2003, Sansone & Sansone, 2011). Data on this discrepancy is equivocal: while some studies find no bias by gender for BPD diagnosis (Sansone & Sansone 2011, Eubanks-Carter & Goldfried, 2006), others find that clinicians are more likely to diagnose women with BPD than men (Liebman & Burnette, 2013). Further clouding the data, BPD is *not* stereotyped as a female illness in stigma studies; the public views it as equally masculine and feminine (Boysen et al 2014). However, each item of the BPD diagnosis is more easily endorsed by women except for explosive anger (Sharp et al. 2014, Hoertel et al 2014).

Because explosive anger, among other symptoms including comorbid substance abuse and antisocial personality features, are viewed as male-stereotyped features, it is possible that their occurrence in women is viewed as more pathological than their occurrence in men, leading women who present with them to be referred to psychiatric institutions more frequently, thereby accounting for the gender bias in BPD diagnosis. Moreover, it remains uncertain whether gender of the sufferer affects the lay population's perception of BPD symptoms as the data thusfar has been equivocal. Therefore, in this study, I ask:

(1) whether undergraduate students rate women presenting with BPD symptoms in diagnostic vignettes as more abnormal and more in need of psychiatric help than men presenting with identical symptoms

and (2) whether the presentation of explosive anger as a BPD symptom differentially affects these evaluations of male and female vignette subjects.

Procedure

This study will be implemented as a fully online survey recruitment using a SurveyMonkey platform. The SurveyMonkey study will have two components, analyzed separately. The first presents the study's informed consent describing the study obliquely as investigating reactions to risky and potentially dangerous behaviors of college students and informing them that they would be asked to read a vignette describing such a college student. They would then be asked to answer six survey questions about their reactions to the student, followed by a confidential demographics survey. The informed consent will contain content/trigger warnings for risky sexual behavior. By signing the Informed Consent, the participant certifies that they are at least 18 years of age, that the participant has read and

understands the informed consent, and that they know that they may quit the study at any time should they feel uncomfortable (see Appendix A, consent). To protect confidentiality, participants' names will be entered into a spreadsheet assigning them an arbitrary number serving as their "Subject ID."

The subject ID will be used exclusively in data sheets for analysis, thus maintaining confidentiality. Each participant will be assigned to read one of four vignettes depicting a 20-year old college student exhibiting symptoms of BPD, adapted from (Liebman & Burnette, 2013). The vignettes are identical except for two factors: the gender of the subject (Male or Female) and the presence or absence of explosive anger as a symptom (with compulsive spending serving as a control), such that four conditions exist (Appendix B, sample vignettes)

1. Male with BPD presenting compulsive spending
2. Male with BPD presenting with anger
3. Female with BPD presenting compulsive spending
4. Female with BPD presenting anger

After reading the vignette, each participant will be presented with an identical 6-item survey. Each item will be measured as a 7-pt Likert scale ranging from "Completely Disagree" to "Completely Agree." These items include:
1. [Name]'s behavior is typical of men/women of his/her age.
2. *Distractor Item*: [Name] is more likely to be a humanities major than to major in science, math, and computing.
3. [Name] needs professional psychiatric help (reverse scored),
4. *Distractor Item*: [Name] is more introverted than extroverted (reverse scored).
5. *Distractor item* [Name] does not have clear career goals.
6. [Name]'s behavior is more due to personal disposition than to any psychological disturbance.

Only items 1, 3, and 6 are scored and analyzed in statistics as the other three are distractor items to avoid demand characteristics due to knowledge that the study is *specifically* about mental illness. While not deception per se as there is no "cover story" for the study, there is a mild omission as the specific label to the behaviors in question is lacking. Thus, a manipulation check is necessitated:

Summarize what this study was about in 1-2 sentences.

After this check, a demographic survey will be administered asking for age, gender (Male, Female, Other Identifications), ethnic self-identification, major, number of psychology courses taken, and year at Bard. These survey items are necessary to assess potential variables that could affect the results, in particular, degree of scientific education and gender, as numerous

studies have shown that Male-identified people have more stigmatizing attitudes than other groups.

After the completion of the demographics survey, participants will be redirected to a debriefing page which explains in detail the mental health aspect of the survey, the motivation for the study, and provides contact information for further questions (see Appendix C, debriefing).

How will participants be recruited?

Participants will be recruited from the student population at Bard College through email listservs to undergraduates, posters tacked on throughout the Campus Center, the RKC, and Kline Commons (see Appendix D, flyer). I will attempt to recruit additional participants by e-mailing the professors teaching Introduction to Psychological Science and asking to appear in class for 5-10 minutes to recruit participants. Individuals that have taken abnormal psychology or who have taken more than 4 psychology courses will be disqualified because their knowledge should be in no way representative of the general population, who are generally poor in their mental health literacy.

How many individuals?

70 students will be recruited, (expected gender ratios: 33 Male, 33 Female, 4 identifying as neither male nor female).

Describe risks and discomfort

Minimal-to-no psychological risk or discomfort is anticipated for participants in this study. Nevertheless, it is possible that the descriptions of borderline personality disorder may evoke psychological discomfort in participants who have experienced them. Therefore, hotlines for suicide prevention, contact information for BRAVE, and the contact information for and Bard Counseling will be included in the consent form and in the debriefing information. Participants will also be reminded that they may quit the study at any time and still receive compensation.

Procedures to Ensure Confidentiality

Participant's names will only be tied to the results through the informed consent and entry into the raffle. The data analysis will be done solely using subject ID's. Although multiple people have access to the data via the lab's shared SurveyMonkey account, all are IRB trained

for human subjects and are enrolled in Dr. Winecoff's lab. I am personally certified for human subjects (Certification in Appendix E).

Compensation

All participants entered into the study will be entered into a raffle for a $50 gift certificate for amazon.com. One winner will be randomly selected.

Debriefing

Participants will be directed to a web based debriefing page elaborating on the informed consent and explaining the focus on BPD recognition, as well as providing contact information (Appendix C).

Consent

An informed consent page will be presented at the beginning of the experiment (Appendix A).

Hypotheses

1) Participants will rate male cases with anger as gender typical and female cases with anger as gender atypical and vice-versa

2) Participants will rate female participants with anger as the most in need of professional psychiatric help, males without anger as needing the least, and similar levels for males with anger and females without anger

3) Participants will rate female participants with anger as the most psychologically disturbed, males without anger as most due to disposition, and middling levels for males with anger and females without anger

Revision Letter

To the members of the IRB at Bard College:

The procedure is largely unchanged from the version of the study submitted to the IRB board with minor revisions in December 2015. Two parameters have changed. Firstly, the population from which the sample of participants will be drawn has been changed. In the original design, students from Bard College would be recruited by multiple means. Flyers would be posted in the Campus Center and the Reem-Kayden Center (RKC) with contact information for

people interested in the study. These participants would then be emailed a link to the study, hosted online through SurveyMonkey.com, an online data collection platform.

Because my Midway board noted the impracticality of hosting an online study, but recruiting participants directly from the Bard Campus, I decided to instead recruit participants through amazon.com's Mechanical Turk (MTURK), an internet-based online platform in which participants perform short tasks or studies in exchange for small amounts of monetary payment (usually under $1.00). By recruiting from this population, I will be able to not only recruit more participants more quickly, but will get a more representative sample in terms of age range and education level than Bard College. Because MTURK has specific procedures by which participants agree to be in studies, the original informed consent page was adapted to reflect that of the typical MTURK study. These parameters include ensuring participants that their MTURK ID will not be used in analysis, describing the hard time limit of the study, and warning that facetious or intentionally ridiculous data entries will not receive payment (see **New Informed Consent**). Because the graphic interface of MTURK truncates when a screenshot is taken, the full text of the revised consent form is attached instead. As MTURK workers are required to accept the terms and conditions of Amazon MTURK when accepting any task or study on MTURK, clicking the button that says "Accept HIT" constitutes a digital signature. It is used as such in this revision.

The second revision is a change in survey platform. Within the original methods, I would host the entire study on SurveyMonkey.com's data collection platform. Within this revision, I propose to use Qualtrics.com, a similar but different data collection and survey platform, instead because Quatrics's software is more compatible with MTurk's programming. Qualtrics may be linked to Mechanical Turk and can generate a unique SubjectID number to prevent participants from repeatedly taking the study for profit, whereas SurveyMonkey cannot easily be used in this way.

The third revision is that additional items were added to the survey. The original survey was a small, six-item survey (**see Original Survey**) that used a total of one item for each concept being tested. On the advice of my midway board, I added additional items so that aggregate scores for each construct (determined by averaging) could be determined. Further, the board determined that the original question #6 was a double-barrelled question, testing two constructs at the same time (attributions of behaviour to psychological disturbance and attributions of behaviour to personality), thus confounding the two. This question was split into two separate items (see **New Survey**).

I hope that this letter sufficiently outlines the revisions I hope to make to my senior project,
Sincerely,
Quinnehtukqut J. McLamore

SEX, SYMPTOMS, AND STEREOTYPE CONGRUENCE OF BPD

Certification

Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Quinnehtukqut McLamore** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 02/26/2014

Certification Number: 1415806

SEX, SYMPTOMS, AND STEREOTYPE CONGRUENCE OF BPD

Appendix F
Informed Consent

Description

Thank you for your interest in our survey! We are interested in how people evaluate risky behaviors that people engage in. As part of these surveys, you'll read a short vignette about a college student and some of their behaviors, followed by a survey. Click the link below to complete the survey. We anticipate that the survey will take 15-20 minutes to complete; however, this HIT is given a time limitation of 1 hour so that you do not feel rushed. We anticipate no risks or discomfort associated with this survey. In addition to the $0.50 reward, your participation may expand scientific understanding of how people evaluate others' behavior. Your data will be kept confidential, and while your amazon MTurk ID will be used to ensure data quality, it will not be used in data analysis. At the end of the survey, you will receive a code to paste into the box below to receive credit for taking our survey. There are no right or wrong answers to survey items.

Requirements

1. **You must be 18 years of age or older to participate in this study.**
2. **You must be located within the United States.**

Contact

If you have questions about this research, you may contact the responsible investigator, Quinnehtukqut McLamore at qm5738@bard.edu. If you have questions about your rights as a research participant, you may contact the Bard College Institutional Review Board at irb@bard.edu. My adviser, Dr. Amy Winecoff, is also available for contact about the study at awinecof@bard.edu.

Make sure to leave this window open as you complete the survey. When you are finished, you will return to this page to paste the code into the box.

STATEMENT OF CONSENT

The purpose of this study, procedures to be followed, risks and benefits have been explained to me. I have been told whom to contact if I have additional questions. I have read this consent form and agree to be in this study, with the understanding that I may withdraw at any time, although I will not receive compensation in the form of $0.50 if I choose to withdraw.

By accepting this HIT, you indicate agreement with the above statement and that you are 18 years of age or older.

[Participants were then asked to click a bubble that indicated that they agreed to participate in the study. This bubble serves as a digital signature as asking them to type their name would compromise anonymity, which is supported because only their MTurk worker ID is recorded upon their agreement].

Appendix G
Debriefing

Thank you for your participation in our study! Before you go, you should be aware that the study has a more specific focus than just risky behavior. While it is true that the study focuses on reactions to dangerous behaviors and feelings in young people, the study is more specifically focused on reactions to a specific mental illness called Borderline Personality Disorder (BPD) depending on the gender of the person exhibiting it and the presence or absence of intense anger. BPD is a serious mental illness characterized by frantic efforts to avoid abandonment, vacillating perceptions of one's own identity, rapidly shifting emotions towards others, impulsivity, intense anger, and risky behaviors (sexual, financial, physical, or otherwise). Although commonly thought of as a female illness, researchers now believe that BPD may be seriously underdiagnosed in men. This study investigates whether different perceptions about what qualifies as "abnormal" contributes to this gap. Because explosive bouts of anger are male-typical, we also investigated the effect of visible anger on these evaluations. Your participation will aid in clarifying these ambiguities in the literature.

If you have any questions about the research, BPD, or wish for your data to be withdrawn from the study, please contact me at qm5738@bard.edu.

Thank you again for participating in this study. Your payment will be approved promptly. Click next to receive your submission code for Mechanical Turk to complete this HIT.