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Are Borderline Personality Symptoms Associated With Compulsive Sexual Behaviors Among Women in Treatment for Substance Use Disorders? An Exploratory Study

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Abstract

Objective—Extant literature has documented a significant relationship between borderline symptoms and substance use disorders. As supported in past work, there is a significant theoretical relationship between borderline symptoms and compulsive sexual behaviors because both disorders share common underlying behaviors and traits. There is no known research that has examined the empirical relationship between borderline symptoms and compulsive sexual behaviors in a population with substance use disorders. To fill this important gap in the literature, this relationship was examined in the current study.

Method—Medical records from 120 women admitted to a private, residential treatment program for substance use disorders were reviewed for the current study.

Results—Hierarchical multiple regression analysis demonstrated that borderline symptoms were significantly associated with compulsive sexual behaviors after controlling for alcohol use and problems, drug use and problems, age, and positive impression management.

Conclusion—Results from this study provide potentially important research and clinical implications, which could ultimately aid treatment and reduce relapse. However, continued research is needed to further examine the relationship between symptoms and compulsive sexual behaviors.

Keywords

borderline symptoms; borderline personality disorder; substance use disorders; compulsive sexual behaviors; sexual addiction

Compulsive sexual behaviors are defined as “any sexually-related compulsive behavior which interferes with normal living and causes severe stress on family, friends, loved ones, and one's environment” (Blum et al., 2012, p. 37; International Institute for Trauma and Addiction Professionals, 2011). The prevalence of compulsive sexual behaviors in the

general population has resulted in an increased impetus within the field to elucidate the mechanisms and etiology of this behavior. Specifically, prevalence estimates in the general population range from 3% to 17% (Cooper, Delmonico, & Burg, 2000; McKeague, 2014; Roller, 2004).

Additionally, research has shown that 40%–50% of individuals with compulsive sexual behaviors are women demonstrating compulsive sexual behaviors are important and prevalent among females (Ferree 2010; McKeague, 2014; Roller, 2004). Compulsive sexual behaviors have been linked to an increased risk for psychopathology (e.g., depression) and risky sexual behaviors (e.g., unprotected sex, multiple sexual partners; McKeague, 2014; Miner & Coleman, 2013). However, the Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-5; American Psychological Association, 2013) does not acknowledge problematic sexual behaviors as a unique diagnosis, which has resulted in significant variability across research studies in the terminology used to describe and refer to problematic sexual behaviors. In the current study, compulsive sexual behaviors will be used to refer to problematic sexual behaviors to be consistent with the terminology used in the assessment measure used for the present study and recent research (Karim & Chaudhri, 2012; Najavits et al., 2014).

In addition to the high prevalence of compulsive sexual behaviors in the general population, compulsive sexual behaviors have been found to co-occur with numerous mental health disorders. In particular, it is well documented in the extant literature that there is a high comorbidity between compulsive sexual behaviors and substance use disorders (Washton, 1989; Wright, 2010) and compulsive sexual behaviors and borderline symptoms (Ferree, 2010, 2012; Lloyd, Raymond, Miner, & Coleman, 2007). However, there is limited research examining the relationship between borderline symptoms and compulsive sexual behaviors among individuals with substance use disorders. This is a potentially important relationship to examine as the co-morbidity between borderline symptoms and compulsive sexual behaviors might influence response and adherence to treatment for substance use disorders.

Substance Use Disorders and Borderline Symptoms

There is a wealth of research indicating a significant relationship between borderline symptoms and substance use disorders (Bornovalova & Daughters, 2007; Lee, Bagge, Schumacher, & Coffey, 2010; Trull, Sher, Minks-Brown, Durbin, & Burr, 2000). Prevalence estimates indicate that borderline symptoms are more prevalent among individuals with a substance use disorder compared to the general population. Specifically, the prevalence of borderline symptoms in the general population is less than 2% (Bornovalova & Daughters, 2007), while the prevalence of borderline symptoms in substance dependent populations is between 5–32% (Bornovalova & Daughters, 2007).

Several theories have been proposed to explain the high co-occurrence of borderline symptoms and substance use disorders (Lee et al., 2010). For example, substance use disorders and borderline symptoms are both impulse control disorders that share common underlying personality traits (e.g., impulsivity, affective instability; Lee et al., 2010; Tomko, Trull, Wood, & Sher, 2014). Wilson, Fertuck, Kwitel, Stanley, and Stanley (2006) examined

the relationship between substance use disorders and borderline symptoms and found that young adults with co-occurring substance use disorders and borderline symptoms were more impulsive compared to young adults with no substance dependence history. Additionally, negative early life experiences (e.g., child maltreatment, childhood sexual abuse) are associated with both disorders, suggesting that both may share common etiology (Lee et al., 2010; Trull et al., 2000).

Additionally, the co-occurrence of substance use disorders and borderline symptoms is associated with poorer prognosis and treatment outcome (e.g., Stepp, Trull, & Sher, 2005; Trull & Gratz, 2010). For example, the comorbidity between borderline symptoms and substance use disorders is associated with an increased risk for overdose (e.g., Darke, Ross, Williamson, & Teesson, 2005), drug use behaviors (e.g., needle sharing; Darke, Williamson, Ross, Teesson, & Lynskey, 2004), and heavier substance use (Darke et al., 2005). Moreover, Tull and Gratz (2010) found a greater likelihood for treatment dropout among patients with co-occurring borderline symptoms seeking residential treatment for substance use disorders. Furthermore, in a longitudinal study, Stepp and colleagues (2005) found that borderline symptoms significantly predicted more severe alcohol problems at 2-year follow-up.

Compulsive Sexual Behaviors and Borderline Symptoms

Most of the past work on the relationship between borderline symptoms and compulsive sexual behaviors has been theoretical (e.g., Lloyd et al., 2007; Rickards & Laser, 1998). This theoretical literature has documented common behaviors and traits underlying both borderline symptoms and compulsive sexual behaviors (e.g., Coleman, 1987; Rickards & Laser). For example, lack of impulse control is a central borderline symptom and symptom of compulsive sexual behaviors (e.g., Lloyd et al., 2007). Additionally, this lack of impulse control often manifests in heightened, problematic, and risky sexual behavior (e.g., unprotected sex, multiple sexual partners; Miner & Coleman, 2013 Sansone & Sansone, 2011) among individuals with borderline symptoms and compulsive sexual behaviors.

In addition, the following sexual behaviors are similar among individuals with borderline symptoms and compulsive sexual behaviors: multiple partners (Hull, Clarkin, Yeomans, 1993; Lloyd et al., 2007); preoccupation with sexual fantasies (Hurlbert, Apt, & White, 1992); and distress/dissatisfaction with sexual behavior (Hurlbert et al., 1992). A high rate of trauma and abuse history has also been found in populations reporting both compulsive sexual behaviors and borderline symptoms (Coleman; 1987; Freimuth et al., 2008). The aforementioned literature indicates a theoretical link between borderline symptoms and compulsive sexual behaviors. However, limited research has directly examined the relationship between borderline symptoms and compulsive sexual behaviors. In one study, Erez et al. (2014) examined gender differences in the relationship between compulsive sexual behaviors and psychiatric disorders. Results demonstrated a significant relationship between compulsive sexual behaviors and borderline symptoms, with results indicating that this relationship was more significant for women compared to men.

Current Study

Research has established high comorbidity between compulsive sexual behaviors and substance use disorders (Cooper et al., 2000; McKeague, 2014; Schneider, 1991) and substance use disorders and borderline symptoms (Lee, Bagge, Schumacher, & Coffey, 2010; Trull et al., 2000). Furthermore, existing literature has discussed a theoretical relationship between borderline symptoms and compulsive sexual behaviors (Rickards & Laser, 1998; Erex, Pilver, & Potenza, 2014). However, to date, no research has examined the relationship between borderline symptoms and compulsive sexual behaviors among a substance use disorder population.

Thus, the current, exploratory study sought to fill this gap in the literature by examining the relationship between borderline symptoms and compulsive sexual behaviors among a sample of women seeking residential treatment for substance use disorders. It should be noted that this empirical investigation focused exclusively on women. Existing literature examining compulsive sexual behaviors has focused on male populations, thus limiting knowledge about this behavioral problem in women (McKeague, 2014). Furthermore, compulsive sexual behaviors in women are often overlooked in treatment, thus highlighting the need for more research using female samples (Freimuth et al., 2008). The relationship between compulsive sexual behaviors and borderline symptoms among women with substance use disorders is potentially important to examine because it could help to inform treatment and reduce the likelihood for future relapse.

To provide a more comprehensive examination of the relationship between borderline symptoms and compulsive sexual behaviors, alcohol use, drug use, age, and positive impression management were included as covariates when examining this relationship. Positive impression management, the tendency to overreport positive behaviors and attributes and underreport negative behaviors and attributes, and age are all well-documented correlates of borderline symptoms (e.g., Crosby, Cheltenham, & Sacks, 1999; Tomko et al., 2013). Based on existing literature and theory, it was hypothesized that borderline symptoms would be significantly associated with compulsive sexual behaviors after controlling for other known correlates of both borderline symptoms and compulsive sexual behaviors (e.g., alcohol use and problems, drug use and problems, positive impression management, and age).

Method

Participants and Procedure

The current study included a sample of 120 women admitted to a 12-step-based, private, residential treatment center between December 2013 and October 2014. The residential treatment facility in which the study was conducted is located in the southeastern part of the United States. Previous empirical investigations conducted at this same facility have reported ethnic compositions of primarily non-Hispanic Caucasian patients, with between 5% and 10% being African American and between 2% and 5% being Hispanic (e.g., see Elmquist, Shorey, Anderson, & Stuart, 2015; Shorey, Anderson, & Stuart, 2015). Furthermore, past work at this treatment facility has documented an average number of years of education of

between 13.70 (standard deviation [SD] = 2.03) and 13.98 (SD = 2.07; Elmquist et al., 2015; Shorey et al., 2015). A sample of the participants in the current study has been included in the previous research from the same treatment facility (e.g., Shorey, Elmquist, Anderson, & Stuart, in press).

Admission requirements for the treatment facility include (a) having a primary substance use diagnosis and (b) being 18 years of age or older. All patients admitted to the treatment facility during the aforementioned date range were included in the current study with no exclusion criteria. At the beginning of the 28 to 35 day treatment program, all patients completed an intake, during which they were administered a series of self-report measures and unstructured interviews, which are used to aid treatment. Based on patients' responses, a treatment team consisting of a licensed psychologist, a psychiatrist, a general medical practitioner, and substance abuse counselors provide substance use diagnoses. Criteria from the DSM Fourth Edition Text Revision (2000) were used to make all diagnoses. Moreover, before intake the patients were informed that their responses may be used for research purposes and all participants completed an informed consent. The Cornerstones of Recovery's Institutional Review Board approved the procedures used in the current study.

The demographic characteristics of the patient sample were as follows. The mean age of the sample was 36.56 years (SD = 12.95). The ethnicity of the sample was 98.3% Caucasian and 1.7% African American. At the time of the study, 17.8% were fired or terminated, 16.9% were on medical leave, 16.1% of the patients had quit their job, 11.0% were employed full-time, 8.5% had taken a leave of absence, 8.0% were "other" (e.g., probation), 5.9% were unemployed, 4.2% were employed part-time, 2.5% were disabled, 2.5% were administratively discharged, 2.5% were inactive, 2.5% were retired, and 1.6% did not report their employment status. For diagnoses, 41.4% of the sample had a primary diagnosis of alcohol dependence; 35.3% had a primary diagnosis of opioid dependence; 6.0% had a diagnosis of sedative dependence; 5.2% had a diagnosis polysubstance dependence; 3.4% had a diagnosis of amphetamine dependence; 5.2% had a diagnosis of "other" (e.g., hallucinogen abuse); and 2.6% had a diagnosis of cannabis abuse. Finally, the relationship status of the sample was as follows: never married (37.5%), married (34.2%), divorced (17.5%), separated (5.0%), 2.4% "other" (e.g., life partner), 1.7% engaged, and 1.7% widowed.

Measures

Substance use—Problematic alcohol use in the year prior to treatment (i.e., frequency, duration, intensity of drinking, symptoms of tolerance and dependence, and consequences associated with drinking) was assessed with the 10-item Alcohol Use Disorders Identification Test (AUDIT; Saunders, Aasland, Babor, De La Fuente, & Grant, 1993). The reliability of the AUDIT have been well supported in past literature (mean α = .83; Babor, Higgins-Biddle, Saunders, & Monterio, 2001).

The use of cannabis, cocaine, hallucinogens/PCP, nonprescribed stimulants, sedatives/hypnotics/anxiolytics, opiates, and other substances was assessed using the 14-item Drug Use Disorders Identification Test (DUDIT; Stuart, Moore, Kahler, & Ramsey 2003; Stuart, Moore, Ramsey, & Kahler, 2004). The DUDIT also assesses problems related to drug use.

The DUDIT's psychometric properties have been well documented in past literature, with reliability estimates ranging from .89 to .90 (e.g., Stuart et al., 2003, 2004).

Positive impression management—Impression management was assessed using the Positive Impression Management (PIM) subscale of the Personality Assessment Inventory (PAI; Morey, 1991). The PIM contains nine items, scored on a 4-point scale ranging from 1 (*false*) to 4 (*very true*), that assess the extent to which respondents are underreporting minor flaws in an attempt to portray herself in an extremely positive manner. Past work has indicated that *T* scores of 57 or greater are indicative of positive impression management (Morey, 1991). Existing literature has indicated that the PIM scale has adequate psychometric properties (Morey, 1991). The test-retest reliability estimates range between .75 and .81 (Peebles & Moore, 1998).

Borderline symptoms—Borderline symptoms were assessed using the full borderline scale (BOR) on the PAI (Morey, 1991). According to the PAI, borderline symptoms include identity problems, problems with friendships, and/or emotion dysregulation (Morey, 1991). There are 24 items on the BOR scale, which are scored a 4-point scale ranging from 1 (*false*) to 4 (*very true*). A total score is obtained by summing all items on PAI BOR scale. Existing literature documents that *T* scores between 60 and 69 indicate potential problems and *T* scores of 70 or above indicate serious pathology (Jacobo, Blais, Baity, & Harley, 2007; Morey, 1991). Reliability ($\alpha = .84$), test-retest reliability ($r = .86$), validity, and concurrent validity of the BOR scale have been supported in the extant literature (Jacobo et al., 2007; Trull, Useda, Conforti, & Doan, 1997). Because of the preliminary and exploratory nature of this study, analysis was limited to the full borderline scale.

Compulsive sexual behaviors—The women subscale of the Sexual Addiction Screening Test-Revised (SAST-R; Carnes, Green, & Carnes, 2010) was used to assess compulsive sexual behaviors among the female sample. The women subscale comprises five items and three main components (relationship disturbance, loss of control, and affect disturbance). For example, “I have traded sex for money or gifts” and “After sexually acting out, I sometimes refrain from all sex for a significant period.” A dichotomized “yes/no” scale was used to determine the extent to which each statement applied to the women's experience. All “yes” responses were coded as “1” and all “no” responses were coded as “0.” Total scores were then computed by summing all five items on the subscale, with a total score of 2 or above indicating compulsive sexual behaviors (Carnes et al., 2010).

The women scale was created in order to more accurately assess the behavioral experience of women with compulsive sexual behaviors. As previously discussed, the current study focused on compulsive sexual behaviors among a female sample because limited research has studied this behavior in female samples. Thus, only the women's subscale was used in the current, exploratory study. Reliability estimates for the SAST-R are documented as .79 (Carnes et al., 2010).

Data Analytic Plan

All patients who completed the self-report assessments used in the current study were included in data analysis. To determine whether there was a significant relationship between borderline symptoms and compulsive sexual behaviors, the following data analytic strategy was used. Bivariate correlations were run to determine whether there were significant associations between all variables of interest in the current study. Next, a hierarchical multiple regression occurring in three steps was used to examine whether borderline symptoms significantly predicted compulsive sexual behaviors over and above alcohol use, drug use, positive impression management, and age. Age was entered in the first step; positive impression management, alcohol use, and drug use were entered in the second step; and borderline symptoms were entered in the third step.

Results

Descriptive statistics (i.e., means and standard deviations) and bivariate correlations are reported in Table 1. There was a significant, positive relationship between borderline symptoms and compulsive sexual behaviors. Both borderline symptoms and compulsive sexual behaviors were negatively associated with age and positive impression management. Alcohol use was negatively associated with drug use, and drug use was significantly associated with borderline symptoms and compulsive sexual behaviors.

According to the models (see Table 2), borderline symptoms were positively and significantly associated with compulsive sexual behaviors after entering all control variables. In all three steps, age was negatively and significantly associated with compulsive sexual behaviors, and drug use was significantly associated with compulsive sexual behaviors in the second step. Positive impression management and alcohol use were not significantly associated with compulsive sexual behaviors.

Discussion

This is the first study to examine the empirical relationship between borderline symptoms and compulsive sexual behaviors in a substance use disorder population. Existing research has established a high comorbidity between compulsive sexual behaviors and substance use disorders as well as borderline symptoms and substance use disorders. Furthermore, past literature has documented a strong theoretical relationship between borderline symptoms and compulsive sexual behaviors. In an attempt to fill an important gap in the literature, the current, exploratory study sought to further elucidate potential factors that might influence compulsive sexual behaviors and treatment for substance use disorders.

Consistent with the study's hypothesis, borderline symptoms were significantly related to compulsive sexual behaviors after controlling for alcohol use and problems, drug use and problems, positive impression management, and age. As discussed previously, there is a strong theoretical rationale for the relationship between borderline symptoms and compulsive sexual behaviors (e.g., see Lloyd et al., 2007); however, there is a dearth of empirical research examining the empirical relationship between borderline symptoms and compulsive sexual behaviors. The present study adds to the current literature by supporting a

significant theoretical and empirical relationship between these constructs. Furthermore, findings from the current study could be interpreted as consistent with theoretical literature proposing that impulsivity is a defining characteristic of borderline symptoms and compulsive sexual behaviors (e.g., Lloyd et al., 2007; Tomko et al., 2014).

Furthermore, insecure attachment marked by a desire for intimacy but fear of rejection and dependency (Agrawal, Gunderson, Holmes, & Lyons-Ruth, 2004) and negative interpersonal relationships (Trull et al., 2000) are defining characteristics or symptoms of borderline personality disorder. It is possible that individuals with borderline symptoms engage in compulsive sexual behaviors in an attempt to form an attachment or relationship with others.

Additionally, theoretical and empirical research has supported a significant relationship between substance use disorders and high impulsivity (e.g., Verdejo-García, Lawrence, & Clark, 2008). Thus, one potential explanation for the findings of the current study is that individuals with co-occurring borderline symptoms, compulsive sexual behaviors, and substance use disorders are at a significantly increased risk for impulsivity, which could significantly hinder treatment. In fact, borderline symptoms are associated with greater dropout from residential treatment for substance use disorders (Tull & Gratz, 2012); thus, it is likely that co-occurring compulsive sexual behaviors and borderline symptoms may significantly increase the risk for treatment dropout.

A second potential reason for the significant relationship is that individuals with borderline symptoms might use substances as a mechanism to reduce the stress associated with the problematic sexual behaviors and heightened impulsivity, which could ultimately result in increased sexual compulsivity and compulsive sexual behaviors (e.g., Stepp et al., 2005).

Implications and Directions for Future Research

This is the first study to examine the relationship between borderline symptoms and compulsive sexual behaviors, and thus future research should replicate and extend the current study. Although this is a preliminary study, the current study's findings have potentially important clinical implications. First, borderline symptoms and co-occurring or dual addictions, like compulsive sexual behaviors, are associated with an increased risk for relapse and treatment dropout (Carnes, Murray, & Charpentier, 2004, 2005; Tull & Gratz, 2012). Furthermore, sexual compulsiveness, which characterizes compulsive sexual behaviors and may play a role in borderline symptoms, is significantly greater among individuals with co-occurring addictions (Wright, 2010). Furthermore, increased sexual compulsiveness has been associated with an increased risk for relapse (Wright, 2010). Thus, individuals with co-occurring borderline symptoms, substance use disorders, and compulsive sexual behaviors could potentially be at a severe and heightened risk for treatment dropout and/or relapse.

One potential way to reduce this risk is to screen, assess, and provide tailored interventions for all patients with borderline symptoms and compulsive sexual behaviors. Screening substance use disorder populations for compulsive sexual behaviors and borderline symptoms may be of particular importance given the relationship between all three problematic behaviors. Given that individuals with borderline symptoms have difficulty with

emotion regulation and distress tolerance (Kruegelbach, McCormick, Schulz, & Grueneich, 1993; Tull & Gratz, 2012), the inclusion of interventions aimed at increasing emotion regulation and distress tolerance could potentially aid treatment (Tull & Gratz, 2012). For example, dialectical behavioral interventions have been found useful in reducing dropout from residential substance use treatment among individuals with borderline symptoms (Bornovalova & Daughters, 2007).

Furthermore, given that impulsivity is a common mechanism underlying both borderline symptoms and compulsive sexual behaviors, interventions aimed at targeting impulsivity could further aid treatment for substance use disorders. For example, it has been suggested that mindfulness-based interventions may be successful in reducing impulsivity (Peters, Erismann, Upton, Baer, & Roemer, 2011) and there also is research demonstrating mindfulness-based interventions to be efficacious for substance use disorders (Bowen et al., 2014).

As mentioned previously, future and continued research examining the relationship between borderline symptoms and compulsive sexual behaviors among substance dependent populations is needed. Of particular importance is research examining the temporal relationship between borderline symptoms, substance use disorders, and compulsive sexual behaviors. The present study was cross-sectional, thus precluding conclusions regarding whether borderline symptoms predict compulsive sexual behaviors among populations with substance use disorders.

Additionally, this study examined the combined influence of all borderline symptoms on compulsive sexual behaviors, and thus research examining the specific borderline symptoms most significantly associated with compulsive sexual behaviors would further clarify and add to the literature. Specifically, research examining potential mediators (e.g., impulsivity, emotion regulation) would be especially informative in elucidating the relationship between borderline symptoms and compulsive sexual behaviors.

Limitations

Although this is the first study to examine the relationship between borderline symptoms and compulsive sexual behaviors in a population with substance use disorders, the study's findings need to be interpreted with the following limitations in mind. This study is cross-sectional, thus precluding conclusions regarding whether borderline symptoms predict compulsive sexual behaviors. Future longitudinal research is needed to examine the temporal relationship between borderline symptoms and compulsive sexual behaviors.

Second, the sample primarily comprised non-Hispanic Caucasian females, and thus findings might not generalize to male or more diverse samples of women. As such, research examining this relationship in diverse and male samples is needed. Third, assessments of substance use disorders and compulsive sexual behaviors were limited for the following reasons: (a) self-report measures and clinical interviews were used to determine substance use diagnoses, thus reducing the reliability of the substance use diagnoses; and (b) there are no diagnostic criteria for compulsive sexual behaviors, which limits the measurement of compulsive and problematic sexual behaviors.

Fourth, the treatment center in which the study was conducted does not conduct structured clinical interviews, thus limiting reliability of mental health diagnoses. Finally, reliability coefficients for all assessments used in the current study were unable to be calculated, as the treatment center in which the study was conducted provides only total scores for self-report measures.

Conclusion

Past work has documented a significant relationship between borderline symptoms and substance use disorders as well as between compulsive sexual behaviors and substance use disorders. Additionally, theoretical literature has supported a connection between borderline symptoms and compulsive sexual behaviors. However, no known studies have examined the relationship between borderline symptoms and compulsive sexual behaviors among a population with substance use disorders. Thus, the purpose of the current study was to examine this relationship in a sample of women in residential treatment for substance use disorders. Results indicated that borderline symptoms were significantly associated with compulsive sexual behaviors after controlling for alcohol use and problems, drug use and problems, age, and positive impression management. Given the preliminary nature of this study and the aforementioned limitations, future research is needed to further explicate the relationship between borderline symptoms and compulsive sexual behaviors.

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Table 1
Descriptive Statistics and Bivariate Correlations for Study Variables

	1	2	3	4	5	6
1. Alcohol use	–					
2. Drug use	-.44**	–				
3. Age	.28**	-.55**	–			
4. Positive impression management	-.01	-.51**	.32**	–		
5. Borderline symptoms	-.04	.61**	-.41**	-.82**	–	
6. Compulsive sexual behaviors	-.05	.46**	-.51**	-.43**	.56**	–
<i>M</i>	14.93	16.89	36.56	42.7	65.45	.80
<i>SD</i>	12.27	15.31	12.95	12.15	14.76	1.19

Note. *M* = mean; *SD* = standard deviation.

*
 $p < .05$.

**
 $p < .01$.

 $p < .001$.

Table 2
Hierarchical Multiple Regression Analysis for the Relationship Between Borderline Symptoms and Compulsive Sexual Behaviors

	B	SE	β	R ²	R ²	F	F
Model 1				.26***		38.83	
Age	.05	.01	-.51				
Model 2				.36***	.10**	15.10	5.60
Age	-.03	.01	-.36***				
Alcohol use	.01	.01	.15				
Drug use	.02	.01	.23*				
Positive impression management	-.02	.01	-.18				
Model 3				.42***	.10**	15.80	12.31
Age	-.03	.01	-.33***				
Alcohol use	.01	.01	.01				
Drug use	.01	.01	.09				
Positive impression management	.02	.01	.16				
Borderline symptoms	.04	.01	.51**				

Note. SE = standard error.

* $p < .05$.

** $p < .01$.

*** $p < .001$.