COMPELLED TO RISK: DOES SEXUAL COMPULSIVITY EXPLAIN THE CONNECTION BETWEEN BORDERLINE PERSONALITY DISORDER FEATURES AND NUMBER OF SEXUAL PARTNERS?

Charles Jardin, MA, MDiv, Carla Sharp, PhD, Lorra Garey, BA, Salome Vanwoerden, BA, Nic Crist, BA, Jon D. Elhai, PhD, and Michael J. Zvolensky, PhD

Having more sexual partners increases the likelihood of new HIV infections among women. Women with more borderline personality disorder (BPD) features have been known to have greater numbers of sexual partners. However, the mechanisms linking BPD features with more sexual partners remain to be clarified. Sexual compulsivity (lack of control, increased distress over sexual behavior) may be one such explanatory factor, as it overlaps with BPD features (e.g., impulsivity, negative affectivity). The present study examined whether sexual compulsivity explained the relation of BPD features with number of sexual partners among a diverse sample of college females ($N = 1,326$). Results demonstrated a significant indirect effect of BPD features via sexual compulsivity on number of sexual partners. These findings support the relation between BPD features and sexual compulsivity and suggest sexual compulsivity as a target in the promotion of the sexual health of women with BPD who demonstrate risky sexual practices.

Epidemiological statistics from 2013 show that heterosexual women are second only to men who have sex with men in HIV incidence, with the majority of new infections among women contracted via sexual contact (Centers for Disease Control and Prevention, 2015). Having a greater number of sexual partners is one salient risk factor for contracting HIV and other sexually transmitted infections (Gewirtzman, Bobrick, Conner, & Tyring, 2011). Therefore, understanding specific factors that increase the number of sexual partnerships among women is of great importance for promoting better sexual health among women.

A disorder that shows female bias in clinical settings is borderline personality disorder (BPD; Skodol & Bender, 2003). BPD is a severe disorder characterized by affective instability, impulsive behaviors, and unstable relationships (American Psychiatric Association [APA], 2013b; Chen, Brown, Lo, & Linehan, 2007; Gunderson & Links, 2008; Linehan, 1993). BPD negatively affects approximately 3% to 6% of women in the United States (Grant et al., 2008; Lenzenweger, Lane, Loranger, & Kessler, 2007; Tomko, Trull, Wood, & Sher, 2014). In addition, some work suggests that BPD features (i.e., symptoms) among women may be related to risky sexual behaviors (Adams, Stuewig, & Tangney, 2015). Compared with adults who do not meet criteria for a BPD diagnosis, those diagnosed with BPD report greater numbers of sexual partners (Sansone, Lam, & Wiederman, 2011), particularly casual sexual partners (Tull, Gratz, & Weiss, 2011). Similarly, women who exhibit more BPD features are also more likely to report more sexual partners (Adams et al., 2015; Kalichman & Rompa, 2001; Sansone & Wiederman, 2009), more casual sexual partners (Sansone & Wiederman, 2009), and sexual initiation at an earlier age (Sansone, Barnes, Muennich, & Wiederman, 2008).

To date, much remains to be known about the factors linking BPD features with risky sexual behaviors. Past work has utilized the theoretical framework developed by Meade and Sikkema (2005) to explore the link between risky sexual behavior among individuals with severe mental illness. According to a review by Meade and Sikkema (2005), a range of factors, including substance use (e.g., alcohol use), childhood sexual abuse, social relationships (e.g., being unmarried), and cognitive-behavioral factors (e.g., lower self-efficacy) are related to increased numbers of sexual partners among people with severe mental illness. Similarly, greater drug and alcohol use may explain the specific relation of BPD with greater numbers of sexual partners. For example, among individuals with BPD, those who reported using substances also reported more sexual partners (Chen et al., 2007; Harned, Pantalone, Ward-Ciesielski, Lynch, & Linehan, 2011). Similarly, among adults in inpatient treatment for substance disorders, those who meet criteria for BPD report significantly greater numbers of casual and commercial sexual partners compared with those not meeting criteria for the disorder (Tull et al., 2011).

Among the domains described by Meade and Sikkema (2005), much of past work on BPD features has focused on substance use. However, less focus has been given to the influence of risk factors within the cognitive-emotional domain. As one such factor, sexual compulsivity may help explain the relation of BPD with greater numbers of sexual partners. Sexual compulsivity describes a lack of control over personal sexual behavior, the use of sexual behavior to cope with negative affect, and increased distress related to one's sexual behavior (Reid, Garos, & Carpenter, 2011), and can pertain to a wide variety of sexual behaviors (e.g., casual sexual intercourse, pornography use). Thus far, little work has been done to delineate how BPD may relate to sexual compulsivity. Yet both constructs are related to sexually impulsive behaviors (Kalichman & Rompa, 2001; Rickards & Laaser, 1999), as well as the difficulties with coping with negative emotions (Gratz,

Rosenthal, Tull, Lejuez, & Gunderson, 2006; MacLaren & Best, 2010; Reid, Dhuffar, Parhami, & Fong, 2012). Preliminary work among clinical samples affirms these similarities, while also suggesting that the two remain separate constructs; only a minority of individuals in treatment for one (e.g., sexual compulsivity) will meet criteria for the other (e.g., borderline personality disorder; Lloyd, Raymond, Miner, & Coleman, 2007; Rickards & Laaser, 1999).

Research has supported the study of BPD features among college samples (Trull, 2001), and prevalence rates of the disorder may be highest in this age group (Stone, 1990). Additionally, while previous studies often neglect to consider the continuous nature of BPD features, young adults with significant BPD features (but who do not meet diagnostic criteria) exhibit clinically significant degrees of dysfunction across a number of domains, which warrants the use of a dimensional perspective when examining features related to BPD (Trull, Useda, Conforti, & Doan, 1997). College students also engage in higher rates of sexual risk-taking, therefore warranting special attention (American College Health Association, 2014).

Despite the bivariate relations among BPD features, sexual compulsivity, and number of sexual partners, no studies to date have examined the inter-relation of these factors within a single model. Moreover, most past work on the relation of BPD with number of sexual partners has utilized a categorical (i.e., diagnostic) assessment of BPD (Chen et al., 2007; Sansone, Lam, & Wiederman, 2011; Tull et al., 2011). Less is known about how a dimensional operationalization of BPD features may influence these relations. The present study sought to address these gaps in the literature.

The aim of the present study was to test whether sexual compulsivity may explain the relation of BPD features with increased numbers of sexual partners among a college sample of young adult females. Two hypotheses were tested. First, based upon previous work among HIV-positive adult females (Kalichman & Rompa, 2001), it was hypothesized that increased BPD symptomatology would be significantly associated with greater levels of sexual compulsivity in college females. Second, based upon previously observed bivariate relations among these variables (e.g., Kalichman & Rompa, 2001; Klein, Rettenberger, & Briken, 2014), it was hypothesized that BPD features would exert an indirect effect on numbers of sexual partners via sexual compulsivity.

METHOD
PARTICIPANTS

Female college students (N = 1,730; M_{age} = 22.43; SD = 5.00; age range: 18–58 years) were recruited from a large, southwestern university between January 2014 and September 2015 as part of a larger study of college student sexual behavior. Participants received extra credit toward their psychology course as compensation and were recruited via flyers and posting on the extra credit website. Exclusion criteria included being younger than age 18 and nonproficiency in English (to ensure comprehension of study questions).

There were 402 participants excluded from analyses for incomplete study measures (n = 222) and inconsistent responding (n = 180). The final sample consisted of 1,326 females (M_{age} = 22.29; SD = 4.72; age range: 18–57 years). Participants in the final sample identified themselves as follows: 44.70% single (not in a committed relationship); 91.6% heterosexual, 1.9% lesbian, 5.8% bisexual, and 0.7% other/unsure. The sample of females participants was also racially diverse and was representative of the university's student body: 33.7% Hispanic, 29.3% White, 21.1% Asian, 10.8% African American (non-Hispanic), and 5.0% other races/ethnicities.

MEASURES

Demographics. Sex, age, sexual minority status (coded: heterosexual = 0; lesbian/bisexual/other = 1), and relationship status (coded: single/nonexclusive dating = 0; exclusive relationship = 1) were assessed to serve as covariates.

BPD Features. The Personality Inventory for the *DSM-5* (PID-5) was used to operationalize BPD dimensionally (Krueger, Derringer, Markon, Watson, & Skodol, 2012). Participants completed the 220-item inventory, which produces five personality trait domains and 25 personality trait facets. Specifically, BPD features are operationalized on the PID-5 using the Anxiousness, Depressivity, Emotional Lability, Hostility, Impulsivity, Risk Taking, and Separation Insecurity subscales in accordance with the alternative *DSM-5* model for BPD (APA, 2013a) and tits empirical base (Crego, Gore, Rojas, & Widiger, 2015; Krueger et al., 2012; Krueger & Markon, 2014). However, because the Risk Taking subscale of the PID-5 was anticipated to correlate highly with number of sexual partners (i.e., risky sexual behavior), it was removed to prevent potential confounding effects. Therefore, a latent independent variable representing BPD features was specified using only the Anxiousness, Depressivity, Emotional Lability, Hostility, Impulsivity, and Separation Insecurity subscales of the PID-5. In the present sample, internal consistency was in the good to excellent range for all subscales (αs = .80 to .94).

Number of Sexual Partners. A modified version of the Sexual Behavior Questionnaire (SBQ; Durant & Carey, 2000) assessed risky sexual behaviors over the previous 6 months. The SBQ contained seven items each for male and female sexual partners, first assessing the number of partners with whom they had penetrative (i.e., vaginal, anal, or oral) sex, followed by the frequency of three types of sexual intercourse (i.e., vaginal, anal, and oral) with and without condoms in the previous 6 months. The SBQ has shown excellent test–retest reliability (ρ = .84 to .96, $M\rho$ = .92; Durant & Carey, 2000). The current study utilized only the sexual partner data, derived from the initial two items assessing number of sexual partners in the past 6 months across both partner genders, as the observed dependent variable.

Sexual Compulsivity. The Hypersexual Behavior Inventory-19 (HBI; Reid et al., 2011) is a 19-item self-report measure used to assess sexual compulsivity.

The HBI is based upon the diagnostic criteria that had been proposed for the fifth edition of the *Diagnostic and Statistical Manual for Mental Disorders* (*DSM-5*) for hypersexual disorder (Reid et al., 2011). The HBI produces three subscales that reflect the use of sexual behavior to cope with negative affect (Coping subscale), the inability to control sexual behavior (Control subscale), and the consequences experienced from compulsive sexual behavior (Consequences subscale). Response options span a Likert scale from 1 (*Never*) to 5 (*Very Often*). In previous research, the HBI has shown excellent internal reliability (α = .96) and test–retest reliability (*r* = .91; Carpenter, Reid, Garos, & Najavits, 2013; Reid et al., 2011), and strong convergent validity (Reid et al., 2011). While developed among males, the HBI has also demonstrated convincing construct validity among females (Dhuffar & Griffiths, 2014; Klein et al., 2014; Reid et al., 2012). The present study utilized the three subscales of the HBI to form a latent sexual compulsivity variable, which served as the statistical mediator. The internal reliability of each of the subscales was good (Consequences: α = .84) to excellent (Coping: α = .92; Control: α = .92).

Sexual Trauma History. The trauma screening section of the Post-traumatic Distress Scale (PDS; Foa, Cashman, Jaycox, & Perry, 1997) was used to code for having experienced a sexual trauma. The PDS has demonstrated convergent validity with other measures of trauma and strong psychometric properties (Foa et al., 1997). For the purpose of this study, endorsement of any item regarding sexual assault by family member, sexual assault by stranger, or child sexual abuse (items 5, 6, and 8) was coded as having a sexual trauma history. Sexual trauma history served as a covariate.

Binge Drinking. Alcohol use during the past month was measured using the Drinking Patterns Questionnaire (DPQ; Collins, Parks, & Marlatt, 1985). The DPQ has shown good reliability and convergent validity with other measures of drinking behavior (Collins et al., 1985). Binge drinking was assessed as the frequency of having five or more (for males) or four or more (for females) drinks on one occasion. The present study included binge drinking frequency as a covariate to account for the influence of alcohol use on risky sexual behavior.

PROCEDURES

All study procedures complied with the Institutional Review Board at the university in which the study was conducted. Each participant completed online informed consent before proceeding to an Internet-based self-report survey. All study measures were completed online. No identifying information was retained linking participants to survey responses.

DATA ANALYTIC STRATEGY

Descriptive statistics and bivariate relations among study variables were examined using Mplus 7.31. The observed dependent variable (i.e., number

of sexual partners) was a count variable that was determined to be nonnormally distributed, overdispersed, and zero-inflated; therefore, a zero-inflated negative binomial regression modeling framework was employed to assess the hypothesized model (Long, 1997). Confirmatory factor analyses and path analyses within a structural equation modeling framework were conducted with Mplus 7.31 using Maximum Likelihood generated chi-square with robust standard errors (MLR) estimation, because multivariate nonnormality was observed (Yuan & Bentler, 2000). Confirmatory factor analyses were used to confirm the factor structure of latent BPD features. Model fit was assessed using the root mean square error of approximation (RMSEA), with values of less than .06 indicating excellent fit and values above .10 suggesting poor fit; the Comparative Fit Index (CFI), with values between 0.95 and 1.00 indicating excellent fit and values between .90 and .94 indicating acceptable fit; and the standardized root mean square residual (SRMR) was evaluated, with values less than .08 indicating acceptable fit (Hu & Bentler, 1999). Number of sexual partners in the past 6 months was examined as an observed dependent variable. The structural regression model was then specified to test the indirect effect of BPD features on number of sexual partners via sexual compulsivity. Indirect effects are calculated as the product ($a \times b$) of the beta coefficients from two linear models: the first predicting the mediator from the proposed independent variable (path a); and the second predicting the proposed outcome variable from the proposed mediator (path b). The direct effect is then represented by coefficient for the regression of the outcome onto the predictor (path c; see Figure 3 below; Hayes, 2013). Although it is characteristic to examine indirect effects via bootstrapped confidence intervals, bootstrapping is not available in Mplus when using MLR estimation; therefore, bootstrapping was not employed. Based on the theoretical model of severe mental illness and risky sexual behavior by Meade and Sikkema (2005), relevant covariates included in the model were age, sexual minority status, race, relationships status, binge drinking frequency, and sexual trauma history. All exogenous variables were correlated with one another, while all endogenous variables were modeled with corresponding disturbances. Model fit statistics were examined prior to specific path coefficients in order to verify that results were appropriately valid. Because the present study utilized cross-sectional data, a comparison model in which the predictor and mediator variables were switched was tested to verify the direction of effects among the model variables (Preacher & Hayes, 2008).

RESULTS

Participants with complete data were compared on all study variables with those who did not complete all study questionnaires. Comparisons were made using t tests for continuous data and χ^2 tests for categorical data. No differences were observed between complete and incomplete responders for any of the study's covariates. Differences were observed on the HBI Consequences subscale and the PID-5 Impulsivity subscale. However, in both cases the direction of the significant differences was such that excluded partici-

pants reported greater levels of HBI Consequences and PID-5 Impulsivity, suggesting that excluding such participants did not influence the significant results obtained in the present study (see below). In addition, an analysis of missing data was conducted using Little's Missing Completely At Random (MCAR) test, which resulted in a failure to reject the null hypothesis that data were missing completely at random (χ^2[12] = 11.126, p = .518).

Participants in the study reported an average of 1.149 sexual partners (*SD* = 1.596; range: 0 to 30). Bivariate relations among study variables are reported in Table 1. Each of the PID-5 subscale indicators of BPD demonstrated significant correlations with each of the HBI subscale indicators of sexual compulsivity.

CONFIRMATORY FACTOR ANALYSIS

The confirmatory factor model of BPD features demonstrated adequate model fit: χ^2(9) = 127.278, p < .001; RMSEA = .099; SRMR = .033; Tucker–Lewis index (TLI) = .925; comparative fit index (CFI) = .955. With the exception of the χ^2 statistic, all fit indices were in the acceptable range. With large sample sizes and/or nonnormally distributed data, the chi-squared model fit test becomes increasingly sensitive to differences between the predicted and observed covariances, increasing the likelihood of a significant chi-squared test (Barrett, 2007). Figure 1 displays the unstandardized factor loadings for the PID-5 subscales.

STRUCTURAL REGRESSION MODEL

To test the first hypothesis, a structural model was specified with latent BPD features as the exogenous variable and latent sexual compulsivity (formed from the three subscales of the HBI) as the endogenous dependent variable. Model fit for the structural model was acceptable: χ^2(68) = 419.598, p < .001; RMSEA = .062; SRMR = .036; TFI = .907; CFI = .930. The model accounted for approximately 21.4% of the variance in sexual compulsivity (R^2 = .214, *SE* = .026, *t* = 8.314, *p* < .001). After controlling for the effects of model covariates, BPD features were significantly related to sexual compulsivity (*B* = .495; *SE* = .042; *t* = 11.889, *p* < .001; see Figure 2).

A structural model was then specified with latent BPD features as the exogenous variable, latent sexual compulsivity as the statistical mediator, and observed numbers of sexual partners in the past 6 months as the dependent variable. because the dependent variable was a zero-inflated negative binomial count variable, no model fit statistics were produced. After controlling for the effects of model covariates, BPD features demonstrated a significant indirect effect on number of sexual partners via sexual compulsivity (unstandardized indirect effect = .110; *SE* = .024; *t* = 4.650, *p* < .001; see Figure 3). Moreover, the direct effect of BPD features on number of sexual partners was not significant (*B* = .006; *SE* = .037; *t* = 0.155, *p* = .876). Examination of the comparison model switching the predictor and explanatory variables demonstrated that the indirect effect of sexual compulsivity via BPD features on number of sexual partners was not significant (unstandardized indirect

TABLE 1. Descriptive Statistics and Zero-Order Pearson Correlations Among Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Age (years)[a]	—	-.188**	-.092*	-.022	.147**	-.004	-.145**	-.133**	-.119**	-.129**	-.092*	-.171**	-.077*	.024	-.029
2. Relationship Status[a]		—	.104**	-.003	-.073*	.007	.009	.083*	.006	.005	.084*	.087*	.058†	-.053	-.011
3. Race[a]			—	-.063†	-.036	-.113**	.099**	.131**	.092*	.109**	.078*	.084*	.000	-.040	.009
4. Sexual Minority Status[a]				—	.073*	.015	.071†	.119**	.135**	.066†	.089*	.043	.014	.170**	.036
5. Sexual Trauma History[a]					—	.003	.111**	.047	.132**	.105**	.103**	.040	.113**	.167**	.056†
6. Binge Drinking[a]						—	-.030	-.027	.005	-.005	.133**	-.011	.088*	.107**	.103**
7. Anxiousness[b]							—	.611**	.719**	.595**	.288**	.590**	.260**	.273**	.231**
8. Depressivity[b]								—	.618**	.628**	.492**	.641**	.285*	.272**	.295**
9. Emotional Lability[b]									—	.664**	.439**	.649**	.304**	.327**	.277**
10. Hostility[b]										—	.433**	.580**	.268**	.274**	.250**
11. Impulsivity[b]											—	.426**	.307**	.299**	.306**
12. Separation Insecurity[b]												—	.300**	.311**	.265**
13. HBI Control[c]													—	.593**	.700**
14. HBI Coping[c]														—	.661**
15. HBI Consequences[c]															—
Mean (n)	22.284	591	938	112	361	1.131	10.617	7.377	6.829	8.236	4.718	5.492	12.156	11.621	5.135
SD (%)	4.709	44.570	70.739	8.446	27.224	2.767	6.253	8.384	5.153	6.101	3.768	4.703	6.194	5.888	2.218

$N = 1326$

Note. Age = age in years; Relationship Status = romantic relationship status, coded as single/nonexclusive dating = 0 and exclusive relationship = 1, with descriptive statistics for number and percentage single/nonexclusive dating; Race = racial/ethnic identity, coded as white = 1, black = 2, Hispanic = 3, Asian = 4, Arab/Middle Eastern = 5, Other = 6, with descriptive statistics provided for number and percentage of non-White participants; Sexual Minority Status, coded as Heterosexual = 0 and Gay/Lesbian/Bisexual/Other = 1, with descriptive statistics for number and percentage sexual minorities; Sexual Trauma History = endorsement of sexual assault or child sexual abuse items on the Posttraumatic Distress Scale; Binge Drinking = frequency of 5+ (males) or 4+ (females) drinks at a time in the past month, as reported on the Drinking Patterns Questionnaire; Anxiousness = Anxiousness facet of the Personality Inventory for the DSM-5 (PID-5); Depressivity = Depressivity facet of the PID-5; Emotional Lability = Emotional lability facet of the PID-5; Hostility = Hostility facet of the PID-5; Impulsivity = Impulsivity facet of the PID-5; Separation Insecurity = Separation insecurity facet of the PID-5; HBI Control = Control subscale of the Hypersexual Behavior Inventory-19 (HBI-19); HBI Coping = Coping subscale of the HBI-19; HBI Consequences = Consequences subscale of the HBI-19. [a]Covariates. [b]Predictor. [c]Mediator. †$p < .05$. *$p < .01$. **$p < .001$.
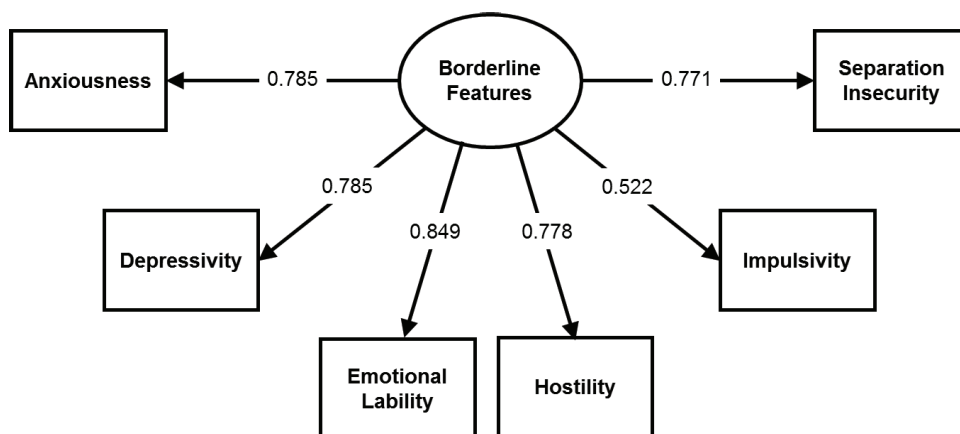
FIGURE 1. Factor loadings from the confirmatory factor analysis of BPD features. Standardized coefficients are presented. All factor loadings and residual covariances (omitted for display purposes) were significant (all $ps < .001$).

effect = .001; SE = .017; t = 0.082, p = .935), while direct effect of sexual compulsivity was significant (B = .259; SE .048, t = 5.354, p = .000).

DISCUSSION

The present study examined whether sexual compulsivity was associated with BPD features, as well as whether it explained the relation of BPD features with number of sexual partners in a racially diverse sample of college women. Both study hypotheses were supported. First, latent BPD features were significantly associated with sexual compulsivity. Second, BPD features exerted an indirect effect on increased numbers of sexual partners via sexual compulsivity. Notably, these findings were observed in the presence of theoretically relevant covariates. The direct effect of BPD features on sexual compulsivity, and its indirect effect, via sexual compulsivity, on number of sexual partners were observed over and above the effects of age, sexual minority status, relationships status, binge drinking frequency, and sexual trauma history (Meade & Sikkema, 2005).

Findings from the present study are the first to demonstrate that sexual compulsivity may explain (i.e., mediate) the influence of BPD features on number of sexual partners and serve as a first attempt to explicate the mechanisms underlying the relation of BPD features with sexual risk-taking. These results are supported by previous work suggesting that BPD features are associated with both sexual compulsivity (Kalichman & Rompa, 2001; Lloyd et al., 2007; MacLaren & Best, 2010) and number of sexual partners (Chen et al., 2007; Harned et al., 2011; Tull et al., 2011). It has long been known that relationship instability and impulsive behavior characterize BPD and can influence the development of risky sexual behaviors, including having multiple sexual partners (Hurlbert, Apt, & White, 1992; Zanarini et al., 2003). The present findings extend previous work to suggest that individuals
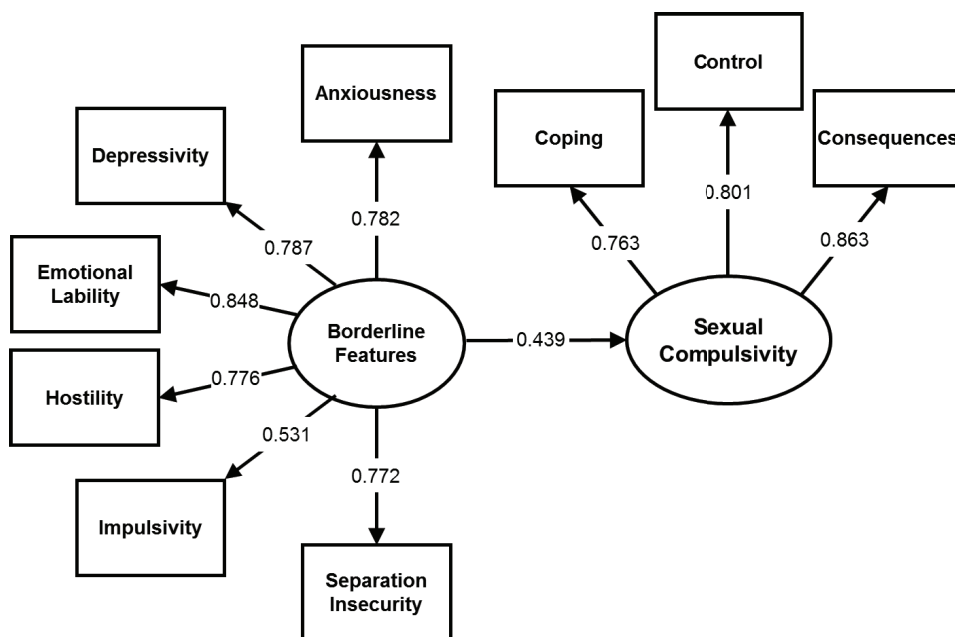
FIGURE 2. Structural model of the relation between latent BPD features and latent sexual compulsivity. Standardized coefficients are presented. All factor loadings and residual covariances were significant (all *p*s < .001).

with borderline features may be more vulnerable to the development of compulsive sexual behavior. Moreover, these results suggest that, in addition to substance use, relationship factors, and sexual trauma history (Meade & Sikkema, 2005), sexual compulsivity is an additional important variable to account for in examining the relation of BPD features to risky sexual behaviors in young adult females. Finally, while sexual compulsivity has primarily been studied among men (Carnes, Green, & Carnes, 2010), the present findings support a growing body of literature identifying the impact of sexual compulsivity among women (Klein et al., 2014; McKeague, 2014; Stupiansky, Reece, Middlestadt, Finn, & Sherwood-Laughlin, 2009; Turner, 2008).

In addition to the path analytical findings, each of the subscales used to operationalize BPD features correlated with all three sexual compulsivity subscales. Women with BPD features may experience a lack of control over their sexual behavior, as suggested by their reports of both greater sexual preoccupation and greater sexual dissatisfaction (Bouchard, Godbout, & Sabourin, 2009; Hurlbert et al., 1992; Venta, Kenkel-Mikelonis, & Sharp, 2012). Emotion regulation difficulties inherent in BPD features (Gratz et al., 2006) may also predispose such individuals to use sexual behavior to cope with or distract from intense emotional experiences, a strategy that is common among sexually compulsive individuals (Reid et al., 2012). Moreover,
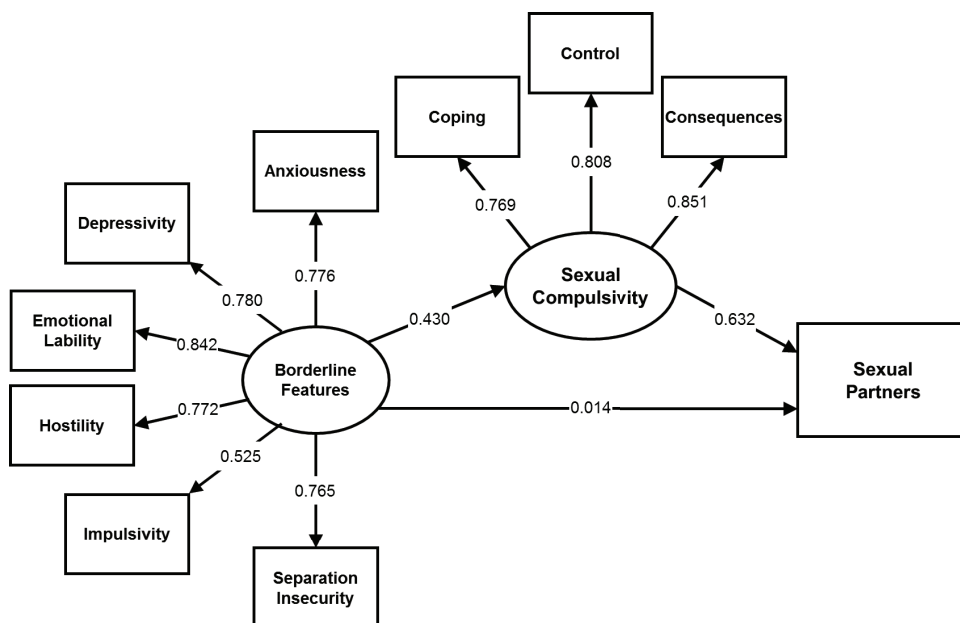
FIGURE 3. Structural model of the indirect and direct effects of latent BPD features on number of past-6-month sexual partners (observed variable), via latent sexual compulsivity. Standardized coefficients are presented. All factor loadings and residual covariances were significant (all $ps < .001$), with the exception of the direct effect of Borderline Features on Number of Sexual Partners ($t = 0.155$; $p = .876$).

attachment-based theories of BPD (Sharp & Fonagy, 2008) would suggest that compulsive sexual behavior associated with BPD traits serves to quell abandonment fears. Persistent engagement in risky sexual behavior despite associated negative consequences, such as sexual relationship difficulties (Zanarini et al., 2003) and sexual victimization (Sansone et al., 2008; Sansone, Chu, & Wiederman, 2011), reflects the significant consequences women with BPD features may experience as a result of sexual compulsivity.

While the evidence presented above is preliminary, it provides initial evidence that sexual compulsivity may be partially responsible for risky sexual partnerships engaged in by women with high levels of BPD features. If future work confirms these findings, this would provide motivation to develop treatments that account for the influence of both borderline features and sexual compulsivity on the impulsive and risky sexual behavior of some females. Future work examining the underlying vulnerability factors common to both BPD and sexual compulsivity may help to refine current treatments of both disorders to maximize effectiveness in reducing sexual risk behavior. For example, treatments designed to increase emotion regulation abilities may already be reducing the use of sexual behavior to cope with negative affect, although this is yet to be empirically evaluated.

The present study's results should be interpreted with attention to its limitations. First, the data from the present study were cross-sectional and correlational; therefore, causal relations among the variables of interest cannot be determined based on these findings. Future longitudinal work is needed to speak to the direction of influence among these factors. Second, the sample was recruited from a university and may not generalize to all college-age adults, nor to all adults in the general population. Future work may expand upon these findings by testing the hypothesized model in a general population sample, or among other specific demographics, to verify its generalizability. Third, this study used a community sample and may not represent the experiences of young adults with more severe mental health issues. BPD and sexual compulsivity were also measured dimensionally, preventing the categorization of participants into diagnoses, although the advantages of the dimensional approach have been duly noted (Trull, Widiger, Lynam, & Costa, 2003; Widiger & Samuel, 2005; Widiger & Trull, 2007). Examination of this study's hypothesized model within clinical samples is needed to verify its applicability to individuals suffering from more severe forms of both disorders. Although more women tend to access services for BPD than men, community studies suggest equal prevalence of BPD among men and women (Lenzenweger et al., 2007; Tomko et al., 2014), and testing the hypothesized model among males may help to inform their treatment as well. Additionally, all study variables were based upon self-report questionnaires, and the Hypersexual Behavior Inventory-19 was developed within an all-male sample and, while used previously among female young adults (Dhuffar & Griffiths, 2014; Klein et al., 2014; Reid et al., 2012), the HBI has not been validated within a sample of women. Finally, this study was limited to understanding number of sexual partners in the context of BPD features. Future work may contribute to the field by testing this study's hypothesized model in relation to other forms of risky sexual behaviors and in the context of other forms of severe mental illness.

Taken together with past work, the present findings suggest the relation of BPD features with both sexual compulsivity and increased numbers of sexual partners. Understanding how these factors are related will inform how best to treat impulsive/compulsive sexual behavior among women with BPD. Sophisticated treatments have been developed for BPD (Fonagy & Bateman, 2008; Linehan, 1993) and sexual compulsivity (Delmonico & Griffin, 2015), respectively, and work elucidating the relation of these syndromes may inform how best to integrate these treatments together for clients presenting with comorbid symptoms. If confirmed in future research, the present findings may bring together two previously separate fields of research and serve as a foundation for the integration of formerly disparate treatments. Given the detrimental effects of harmful, compulsive sexual behavior among females (e.g., sexual victimization, negative attitudes toward sex, risk of HIV and other STIs), understanding the mechanisms underlying such behavior is imperative for promoting public physical and mental health.

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