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Sexual Compulsivity and Sexual Risk in Gay and Bisexual Men

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Abstract

Much of our understanding of the association between the Sexual Compulsivity Scale (SCS; Kalichman et al., 1994) and sexual risk behavior among men who have sex with men (MSM) has been limited to samples of HIV positive MSM only. Using data from a community-based survey of gay and bisexual men (n = 1214), this analysis sought to further evaluate the association between the SCS and sexual risk behavior. The SCS was significantly associated with a variety of sexual risk behaviors, including having sex under the influence of club drugs, engaging in unprotected anal sex (receptive or insertive) with partners of the same and/or different HIV serostatus, identity as a barebacker, intentions to have bareback sex, number of recent sex partners, and temptation for unsafe sex. The SCS was also significantly associated with having engaged in a variety of specialized sexual behaviors (i.e., fetishes), many of which can increase HIV transmission risks. Finally, in multivariate analyses, the SCS significantly predicted unprotected sex with a non-main partner even when controlling for race, HIV serostatus, age, identity as a barebacker, and club drug use. These data indicate that the SCS may be able to serve as an indicator to detect HIV-associated sexual risk behavior in community-based samples of gay and bisexual men.

Keywords

sexual compulsivity; gay and bisexual men; sexual risk behavior; HIV; club drugs; specialized sexual behavior; fetishes

Introduction

Sexual compulsivity, also known as sexual addiction and compulsive sexual behavior (Coleman, 1992; Goodman, 1992), is characterized by increased levels of sexual fantasies and behaviors, both in frequency and intensity, that interfere with personal, interpersonal, or vocational pursuits (Bancroft, 2008; Black, 1998; Kafka, 1994). Sexual compulsivity can result in: interpersonal conflict and distress; social and occupational problems resulting from lack of time spent participating in non-sexual activities; psychological distress, especially regarding self-esteem; and financial problems resulting from the costs of pornography, paying for sex, and loss of income from avoiding work responsibilities (Muench & Parsons, 2004). The

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prevalence of sexual compulsivity in the U.S. is estimated to be between 3% and 6% (Black, 1998; Carnes, 1991; Coleman, 1992), with a significantly higher incidence among men (Dodge, Reece, Cole, & Sandfort, 2004; Gullette & Lyons, 2005; Kuzma & Black, 2008).

Compared with heterosexuals, researchers have also suggested that rates of sexual compulsivity are higher among gay and bisexual men (Baum & Fishman, 1994; Cooper, Delmonico, & Burg, 2000; Missildine, Feldstein, Punzalan, & Parsons, 2005) Parsons et al. (2008) proposed explanations for this phenomenon and emphasized that gay and bisexual men report more lifetime sex partners compared to other social groups (Quadland, 1985; Saghir & Robins, 1973), and have access to a greater variety of sexual "outlets" (e.g., bathhouses, Internet, sex parties; Parsons, 2005). As a result, these factors may make it easier for gay and bisexual men at risk for sexual compulsivity to actually develop the problem and/or to trigger sexually compulsive episodes (Parsons, Kelly, Bimbi, Muench, & Morgenstern, 2007).

Sexual Risk Behavior and Men who have Sex with Men

Despite recent declines in HIV transmission in the U.S. overall (CDC, 2008a) men who have sex with men (MSM) continue to comprise a disproportionate number of new HIV incidence, 48.1% in 2006 (CDC, 2008b). In addition, the number of HIV/AIDS diagnoses among MSM from 2001-2006 has increased 8.6% (CDC, 2008c, 2008d). Meanwhile, researchers investigating sexual compulsivity among MSM have consistently identified a link between this phenomenon and negative sexual outcomes (Benotsch, Kalichman, & Kelly, 1999; Kalichman, et al., 1994; Kalichman, Greenberg, & Abel, 1997; Kalichman & Rompa, 1995, 2001; O'leary, et al., 2005; Parsons, Bimbi, & Halkitis, 2001; Reece, Plate, & Daughtry, 2001). For example, Reece (2003) reported that sexually compulsive men were less likely to disclose their HIV serostatus to sexual partners, O'Leary et al. (2005) found men with sexually compulsive symptoms reported lower condom use self-efficacy, and Semple et al. (2008) reported that higher scores on sexual compulsivity were found among men who engage in sexual marathons. Nevertheless, many of these studies have drawn from samples of HIV positive MSM, thus limiting our knowledge of the possible association among sexual compulsivity and sexual risk behavior among more generalized samples of MSM.

Though the exact mechanism by which SC increases HIV risk is unknown, Bancroft et al. (2003) proposed that rational decision-making can become impaired during a state of sexual arousal. In essence, when one is not sexually aroused, they can recognize that specific sexual behaviors may be risky and thus should be avoided. In contrast, during sexual arousal, there is less concern about sexual risks. Applying these ideas, it may be possible that because SC MSM maintain protracted states of sexual arousal, their longer term ability to avoid sexual risk is diminished.

Similarly, among gay and bisexual men, sexual risk behavior has been related to drug use, and specifically "club drugs," a category name typically given to ketamine, MDMA/ecstasy, cocaine, GHB, and methamphetamine (Nanin & Parsons, 2006). Engaging in sex under the influence of club drugs can decrease inhibitions, particularly around condom use (Carey, et al., 2008). Parsons et al. (2007) study of 180 sexually compulsive gay and bisexual men reported that substance use, particularly methamphetamine, was a major trigger for episodes of compulsive sexual behavior. Decreased inhibitions and a reduced locus of control during sexual activity may be associated with sexual compulsivity which, by definition, involves reduced self-control over one's sexual behavior.

Specialized sexual behaviors and extreme sexual behaviors (i.e., fetishes) may also be related both to sexual compulsivity and HIV risk. Moskowitz and Roloff's (2007) analysis of 300 Internet profiles found that men who wanted to transmit HIV (either by becoming infected or giving the virus to others) were significantly higher on a range of fetish-like behaviors, and

were more likely to exhibit symptoms consistent with sexual compulsivity (both on behavior and psychological measures). Though not all of the specialized sexual behaviors assessed by Moskowitz and Roloff necessarily increased risk for HIV transmission (e.g., foot play), their data identified an association between specialized sexual behaviors, sexual compulsivity, and HIV transmission risks. Their data suggest specialized sexual behaviors may be an important variable in understanding a potential association between sexual compulsivity and HIV transmission risks.

The Sexual Compulsivity Scale

Select groups of health professionals, researchers, and academics have spent the better part of the last 50 years professionalizing and constructing a discourse of sexual compulsivity (e.g., www.sash.net). While the third addition of the *Diagnostic and Statistical Manual of Mental Disorders* listed sexual compulsivity as a "sexual disorder not otherwise specified," the four edition makes no mention of sexual compulsivity (American Psychiatric Association, 1994). As a result, researchers and clinicians have been challenged with developing and adopting generally agreed upon classifications and indicators of sexual compulsivity that are culturally sensitive and morally/politically neutral (Levine & Troiden, 1988). For example, having multiple sexual partners or frequent masturbation (in addition to other socially unsanctioned or non-normative sexual behavior) are not sufficient criteria to diagnose sexual compulsivity. Instead, these thoughts or behaviors must somehow create a sense of personal, occupational, or social distress (Muench & Parsons, 2004). Furthermore, this distress must not be in response to an individual's perceptions of society's expectations of sexual behavior (e.g., a gay man feeling guilt about having sex with other men based on societal homophobia), but rather real negative consequences, such as sexual behaviors/thoughts that interfere with a person's ability to function on a daily basis (SASH, 2003). While formal diagnostic criteria for sexual compulsivity have yet to be outlined, the Sexual Compulsivity Scale (SCS) (Kalichman, et al., 1994) has been one of the most widely tested, cited, and used empirical measures believed to capture out of control sexual thoughts and behaviors (McBride, Reece, & Sanders, 2008).

The SCS is a 10-item self-administered questionnaire that assesses the impact of sexual thoughts on daily functioning and the inability to control sexual thoughts or behaviors. Items for the SCS were derived from a self-help guide for persons with sexual control problems who have difficulty managing their sexual thoughts and behaviors or who believe that they have a sexual addiction (Comp Care, 1987; Kalichman & Rompa, 2001). Items on the SCS are scripted in a Likert-type fashion with response choices ranging from 1 to 4 (e.g., "My sexual thoughts and behaviors are causing problems in my life," "I struggle to control my sexual thoughts and behavior," 1 = not like me, 4 = very much like me) and summation scores can range from 10 to 40. As developed, this measure was originally tested in a sample of 106 "homosexually active men" who were recruited through advertisements in newspapers and community outreach to STD clinics serving gay communities (Kalichman, et al., 1994). The measure demonstrated strong reliability (α = .89) and temporal stability. Meanwhile, other researchers have also found the SCS to be internally consistent (α ranging from .86-.89), reliable (three month test-retest coefficient = .80), and to possess convergent criterion-related validity (Benotsch, et al., 1999; Kalichman & Cain, 2004; Kalichman & Rompa, 1995).

In their original study, Kalichman et al. (1994) tested correlations of the SCS with a battery of continuous measures (e.g., loneliness, sensation seeking, sexual behaviors). No significant correlations were found between the SCS and unprotected anal sex or number of sex partners. However, the SCS was correlated with sexual risk (measured in a variety of ways) in follow-up studies (Kalichman & Cain, 2004; Kalichman & Rompa, 1995, 2001), and a number of other researchers have also identified a strong correlation between sexual compulsivity and sexual risk behavior. This association has been identified in samples of college students

(Dodge, et al., 2004; Gullette & Lyons, 2005; McBride, et al., 2008), HIV positive men and women (Benotsch, Kalichman, & Pinkerton, 2001; Kalichman, et al., 1997; Kalichman & Rompa, 2001) low-income heterosexuals (Kalichman & Rompa, 1995), and MSM (Kalichman & Rompa, 1995; Parsons, et al., 2001).

Current Focus

Though there has been a growing interest in sexual compulsivity among MSM, there has been little published research specifically evaluating the SCS's ability to predict sexual risk behaviors within community-based samples of gay and bisexual men. Given SC's link to HIV-associated risk behavior overall, MSM who are experiencing SC symptomatology might be an important group to target HIV education and prevention. Though not all men who engage in sexual risk behavior are necessarily sexually compulsive, identifying and treating SC may be an effective means to dualistically prevent risky sexual behavior and the spread of HIV for some MSM (McBride, et al., 2008). Thus, it is necessary to fully evaluate the association between measures of sexual compulsivity and sexual risk behavior in order to tailor formal interventions and educational or prevention campaigns to high risk populations.

Method

Participants

A cross-sectional, street-intercept method (Miller, Wilder, Stillman, & Becker, 1997) was adapted to survey 1,214 gay and bisexual men at a series of gay, lesbian, and bisexual (GLB) community events in New York City in the fall of 2004 through the Sex and Love Study, version 3.0. This approach to collecting data has been used in numerous studies (Carey, Braaten, Jaworski, Durant, & Forsyth, 1999; Chen, Callahan, & Kerndt, 2002; Kalichman & Simbaya, 2004a, 2004b; Rotheram-Borus, et al., 2001), including those focused on GLB persons (Benotsch, Kalichman, & Cage, 2002; Kalichman, et al., 2001) and has been shown to provide data that are comparable to those obtained from other more methodologically rigorous approaches, such as random-digit dialing (Halkitis & Parsons, 2002).

Procedure

At both two-day long community events, the research team hosted a booth, and a member of the research team actively approached each person who passed the booth. Potential participants were provided with information about the project and offered the opportunity to participate. The response rate was high, with 87.0% of those approached consenting. In order to be eligible for the project, participants had to report being at least age 18 and identified as gay, lesbian, or bisexual (only men's surveys were used for the present analyses). Those who were not at least age 18 or identified as heterosexual (and reported no sexual behavior with members of the same sex) were ineligible to participate. The survey required 15-20 minutes to complete, and–-to promote confidentiality–-participants were given the survey on a clipboard so that they could step away from others to complete the questionnaire privately. Upon completion, participants deposited their own survey into a secure box at the booth. As an incentive, those who completed the survey were given a voucher for free admission to a movie. Data were entered into an SPSS database and verified by project staff for accuracy. Hunter College's Instutitional Review Board approved this project.

Measures

Demographics—Men completed a variety of demographic measures, including age, race and ethnicity, and HIV serostatus.

Sexual Compulsivity—Participants completed the Kalichman et al. (1994) 10-item SCS as described in the Introduction. As indicated, summation scores can range from 10 to 40, with higher values indicating greater likelihood of sexual compulsivity. Though no value has been established as a "cut-point" to designate sexual compulsivity, previous researchers have identified that values ≥ 24 on the SCS may indicate severe SC-like symptoms (Parsons, Bimbi, & Halkitis, 2001).

Drug Use and Sex Under the Influence of Drugs—Men indicated if they had recently used a range of club drugs, including ketamine, MDMA/ecstasy, GHB, cocaine, and methamphetamine. These responses were dichotomized yes/no. Additionally, men also indicated if they had experienced a recent (≤ 90 days) episode of sex while under the influence of drugs.

Identity as a Barebacker and Intentions to Bareback—Barebacking (i.e., intentional unprotected sex) factors were assessed in the same manner as previous years' versions of the Sex and Love Study (Parsons & Bimbi, 2007). Men indicated if they identified as a barebacker (i.e., person who seeks out unprotected sex; yes/no) and completed measures of intentions for unsafe sex assessed by asking, "I purposely seek out bareback sex as a top" and "I purposely seek out bareback sex as a bottom" (with response choices 1 = strongly disagree to 4 = strongly agree). For this analysis, men having indicated "agree" or "strongly agree" were collapsed into "agree = 1," and others were collapsed into "disagree = 0." Participants also estimated the number of recent (≤ 90 days) sex partners who were HIV serodiscordant and HIV seroconcordant, and reported if they had engaged in unprotected sex (receptive or insertive) with these partners.

Specialized Sexual Behaviors—Participants also completed a series of questions assessing if they had participated in a range of 10 different specialized sexual behaviors (i.e., fetishes) ever in their lives (Nanín, Bimbi, Brown, Severino, & Parsons, 2005; Nanín, Bimbi, & Parsons, 2006). These included water sports (i.e., urine exchange); fisting (hand/fist in anus); anal play; bondage and domination; sadism and/or masochism; exhibitionism, photography, or voyeurism; breath play/asphyxiation; snowballing (i.e., exchange semen between mouths); felching (i.e., using mouth to pull semen from partner's rectum); and group sex. Though not all of the aforementioned specialized sexual behaviors may increase the risk for HIV or STI transmission (e.g., exhibitionism, photography, or voyeurism), clearly some of them do (e.g., felching). Furthermore, all of them capture variant levels of sexual experimentation/ adventurism (Nanín et al, 2005, 2006), which may be related to sexual compulsivity and HIV transmission risks (Moskowitz & Roloff, 2007).

Temptation for Unsafe Sex—Finally, participants also completed the Temptation of Unsafe Sex (TUS) scale (Parsons, Halkitis, Bimbi, & Borkowski, 2000; Parsons, Halkitis, Wolitski, & Gomez, 2003). The TUS scale is a 10-item four-point Likert-type scale that assesses temptations for unsafe sexual behavior. It presents different situations in which an individual may be tempted to engage in sex without a condom. Items include "I really want sex," "I really need affection," "I am with a really hot guy," "He says he wants to bareback," "I am angry," "I think the risk of STDs is low," "I think the risk for HIV (or re-infection) is low," "I feel depressed," "I think he wants to bareback," "I am drunk or high on drugs" (1 = "not at all," 4 = "very much"). Using principal component analysis with varimax rotation, the TUS demonstrated strong internal consistency, yielding only one factor for the scale (Cronbach's α = .89).

Analytic Plan

Where appropriate, *t*-tests or Spearman's r_s were calculated to assess differences in and associations between the SCS and the variety of aforementioned measures of HIV risk and sexual behavior. Spearman's r_s is a non-probability test of the linear relation between non-normally distributed continuous variables (e.g., number of recent sex partners and the SCS) and can be interpreted much the same as a Pearson *r* correlation coefficient (Tabachnick & Fidell, 2001). Finally, a series of three logistic regressions were conducted in an effort to better control for the multivariate effects of sociodemographic characteristics (race, HIV serostatus, age), substance use, and identity as a barebacker on the association between the SCS and recent unprotected anal sex with a non-main partner (Menard, 2002).

Results

Table I displays sample characteristics. Mean age was 37.5 (*SD* = 11.4, range, 18-78). The sample was diverse, with 37.8% being persons of color and was overall well educated. Most men (92.7%) were gay identified with the remainder identified as bisexual. HIV positive men comprised 12.1% of the sample, 17.1% of men reported having used at least one of the five club drugs recently (≤ 90 days), and 18.9% of men reported a recent episode of unprotected anal sex with a non-main partner. Cocaine (10.6%), MDMA/ecstasy (8.8%), and methamphetamine (8.4%) were the most common drugs men had recently used. Further, the full range of possible SCS scores was demonstrated among men sampled (*M* = 19.9, *SD* = 6.92, range, 10-40) with 30.5% (*n* = 370) of men having scored 24 or higher on the SCS.

Bivariate Comparisons of Sexual Risk and the SCS

Table II shows bivariate comparisons of the SCS and a variety of HIV-associated risks. In total, men who: were HIV positive, reported unprotected sex (insertive or receptive) with a HIV seroconcordant or serodiscordant partner, or reported intentions to seek out bareback sex (either as a top or a bottom) scored significantly higher on the SCS than men without these characteristics. Furthermore, the number of recent sex partners (HIV seroconcordant or serodiscordant) and scores on the TUS scale were positively correlated with scores on the SCS. In essence, the SCS was significantly related to all indicators of increased HIV risk.

Having recently used ketamine, MDMA/ecstasy, GHB, cocaine, or methamphetamine was not significantly related to total score on the SCS. Because these values were non-significant, they are not reported in Table II. Nevertheless, men who had engaged in sex while under the influence of at least one of these drugs scored significantly higher on the SCS compared with men who had not.

Specialized Sexual Behaviors and the SCS

Table III shows the association between the SCS and a variety of specialized sexual behaviors. The prevalence of specialized sexual behaviors was as follows: group sex, 60.6% (*n* = 672); anal play, 56.1% (*n* = 623); exhibitionism, photography, voyeurism. 39.8% (*n* = 441); watersports (urine exchange), 32.8% (*n* = 365); bondage and domination, 29.8% (*n* = 328); fisting (hand/fist in anus), 20.9% (*n* = 231); sadism and/or masochism, 20.7% (*n* = 228); snowballing (semen exchange between mouths), 19.7% (*n* = 218); breath play/asphyxiation, 8.1% (*n* = 89); and felching (use mouth to pull semen from partner's rectum), 7.4% (*n* = 81). Men who had previously engaged in water sports, fisting, bondage and domination, exhibitionism, photography, or voyeurism, breath play/asphyxiation, snowballing, felching, or group sex reported significantly higher scores on the SCS. In contrast, the SCS was unrelated to whether men had engaged in sadism and/or masochism, or anal play.

Multivariate Logistic Regressions

A series of logistic regressions were conducted in an effort to control for the confounding effects of sociodemographic characteristics (race, HIV serostatus, age), substance use, and identity as a barebacker on the association between the SCS and sexual risk behavior (Table IV). In this instance, recent unprotected anal sex (insertive and/or receptive; 1 = yes, 0 = no) served as the dependent variable. The SCS alone was entered into the first step of the model; race (1 = Caucasian), HIV status (1 = HIV+), and age in years were entered into the second step; the third step additionally took into consideration the total number of club drugs participants had recently used (range 0 to 5) and barebacker identity.

As would be expected, in the first model, the SCS significantly predicted a recent episode of unsafe sex with a non-main partner. Adjusting for the effects of race (Caucasian versus not), HIV status, and age did little to otherwise better explain the SCS score's ability to predict unsafe sex (Model 2). Age and HIV serostatus, in and of themselves, both significantly predicted unsafe sex in Model 2, such that HIV positive men had a significantly higher likelihood than other men of reporting unprotected sex with a non-main partner. In contrast, increases in age reduced the odds of unprotected sex with a non-main partner (values are reported in Table IV). Furthermore, this pattern was consistent, even when additionally controlling for identity as a barebacker and the total number of club drugs recently used (Model 3). Net the effects of the other variables in the model, for every one unit increase in the SCS, the odds of having recently engaged in unprotected sex increased by 4%. Considering the possible range of scores in the SCS, the magnitude of these increased odds for unprotected sex was quite high. For example, scoring 28 on the SCS versus 18 on the SCS (a 10 unit different) would result in a 1.54 higher predicted odds of engaging in unprotected sex (i.e., an odds increase of 54%). Similarly, scoring 38 versus 18 (a 20 unit increase) would result in a 237% increased odds for unprotected sex.

Discussion

Although the SCS was not designed to perform as an indicator of sexual risk behavior, its association with sexual risk has been identified in a diverse range of samples, including MSM (Kalichman, et al., 1997; Kalichman & Rompa, 1995, 2001). Though there has been increasing interest in the association between sexual compulsivity and HIV-associated risk behavior among MSM, much of this research has focused on samples of HIV positive MSM. As MSM comprise a considerable proportion of both HIV incidence and HIV/AIDS prevalence in the U.S. (CDC, 2008b) and SC has been linked to sexual risk behavior specifically among this population, MSM who are experiencing sexual behaviors perceived to be “out of control” or sexually compulsive might be an important group in which to investigate the association between sexual compulsivity and HIV-associated risk behavior (Muench & Parsons, 2004). Such findings and implications have begged the question, “Can we effectively reduce unsafe sexual behavior, by identifying/treating sexual compulsivity?” Thus, it is essential to better evaluate the association between measures of sexual compulsivity and sexual risk behavior, as misidentifying this relation could result in inappropriately designed and poorly targeted research interventions or health educational programs.

These analyses investigated the extent to which the SCS might correlate/predict HIV-associated risk outcomes in a community-based sample of gay and bisexual men. Sexual risk behavior was operationalized in a variety of ways and the SCS was significantly related to all indicators of sexual risk. Thus, within this large community-based sample, it seemed the SCS was an effective tool to identify individuals who had engaged in sexual risk, and these findings support those of previous researchers. Furthermore, in multivariate logisitic regression, the SCS still acted as a significant predictor of unprotected sex even when controlling for participant's HIV status. Thus, these findings indicate that the SCS may be an effective measure to globally distinguish sexual risk among a wide variety of gay and bisexual men in community-

based samples, not just among HIV positive MSM. Though these analyses found a significant association between the SCS and sexual risk behavior, it is worth mentioning that not all men who engage in HIV-associated risk are essentially sexually compulsive, and that a variety of factors are associated with sexual risk behavior. But, given the link between SC and HIV risk, these data imply that treatments for SC could dualistically assess for sexual risk behavior while also providing HIV/STI prevention and education.

As part of this study, participants indicated if they had participated in 10 different specialized sexual behaviors (i.e., fetishes) ever in their lives. Though, in and of themselves, not all of the behaviors assessed increase HIV transmission risk, some of them could serve as proxies for HIV transmission risk (e.g., fisting may increase potential for rectal tearing and thus spreading HIV or other blood born pathogens), or are direct indictors of HIV risk (e.g., felching requires ejaculation into the partner's rectum). Taken together, these specialized sexual behaviors capture variant levels of sexual experimentation and sexual adventurism (Nanin et al., 2005, 2006), and may serve as mechanisms by which HIV transmission risks are increased (Moskowitz & Roloff, 2007). It warrants mentioning that some of the specialized sexual behaviors assessed in this analysis, if used in place of unprotected anal sex, could reduce the potential for HIV transmission (e.g., water sports). However, the contexts of how such behavior is enacted will moderate any risks. For example, although HIV is not present in urine (CDC, 2006), any blood present in urine (e.g., due to a urinary tract infection) could transmit HIV in addition to other pathogens.

With the exception of anal play and sadism/masochism, all the specialized sexual behaviors assessed were significantly related to the SCS. Researchers and health service providers seeking to dually address HIV transmission risks and sexual compulsivity among MSM might also consider addressing the continuum of specialized sexual behaviors men may engage in. This would also include educating men about the potential risks that are uniquely associated with different types of specialized sexual behaviors. Further, although this analysis assessed 10 different behaviors, it did not capture the full range of specialized sexual behaviors in which individuals may engage (e.g., foot play).

As a word of caution, these results cannot be widely extrapolated, as all data were gathered from gay and bisexual men living in New York City. Needless to say, this analysis complements previous researcher's findings by further contributing to our knowledge of sexual risk behavior and measures of sexual compulsivity. Furthermore, because this analysis drew from a sample of men recruited at large-scale community-based GLBT events, we believe these data may be particularly useful for researchers and health providers seeking to reach visible and accessible members of the GLBT community. That being said, MSM who are not well connected to the GLBT community might have been less inclined to attend the events where data were collected and are thus not represented in these analyses.

The goal of this study was not to identify the best predictor of sexual risk. Instead, this analysis evaluated the ability of the SCS to correlate with/predict sexual risk behavior in a community-based sample of gay and bisexual men. HIV-associated risks were operationalized in a multitude of ways and, in bivariate analyses, the SCS was consistently and significantly associated with these outcomes. Using multivariate logistic regression to adjust for the effects of age, race, HIV status, identity as a barebacker, and the number of club drugs a person may have recently used, the SCS continued to significantly predict unprotected sex. Understandably, with the exception of race, these “control” variables also significantly predicted unprotected sex in and of themselves. Thus, these data highlight the need for multidimensional models in understanding unprotected sex among gay and bisexual men, while also exploring the unique role that sexual compulsivity may be contributing in this association.

In conclusion, although this analysis found a significant and consistent association between the SCS and measures of sexual risk behavior, this does not preclude the potential for other variables that may mediate or moderate this association. Although it is beyond the scope of the present study, other factors could include variables, such as sensation seeking or "risk-taking" personality types (Bancroft, 2000; Zuckerman, Eysenck, & Eysenck, 1878), and this might be an arena for researchers and community/health service providers to further consider. Finally, it is equally important to also consider larger sociostructural variables (e.g., racial inequality, homophobia, class structures) and their impact both on sexual compulsivity and HIV transmission risk. These factors were beyond the scope of the present analysis, but are arenas for further consideration.

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Table I
Demographic and substance use characteristics (N = 1,214)

	n	%
Age, in categories [a]		
18-30	356	29.3
31-40	424	34.9
41-50	271	22.3
51+	163	13.4
Race and ethnicity		
African American	111	9.1
Caucasian	755	62.2
Latino	202	16.6
Asian/Pacific Islander	82	6.8
Other	64	5.3
Education		
No answer provided	40	3.3
High school or less	107	8.8
Some college	301	24.8
College	354	29.2
Graduate school	412	33.9
Sexual identity		
Gay	1125	92.7
Bisexual	89	7.3
HIV status		
Positive	157	12.9
Negative/unknown	1057	87.1
Club drug use, ≤ 90 days		
Ketamine	57	4.7
MDMA/ecstasy	107	8.8
GHB	30	2.5
Cocaine	129	10.6
Methamphetamine	102	8.4
Any club drug use	207	17.1
Unprotected sex, ≤ 90 days (with a non-main partner)		
Insertive	194	16.0
Receptive	129	10.6
Any unprotected sex (insertive or receptive)	229	18.9

[a] Age is a continious measure

Table II

The Sexual Compulsivity Scale and HIV-Risk-Associated Outcomes

	n	*Mean*	*SD*	*t*	*df*	*p*	Cohen's *d*[a]
HIV status							
Positive	157	21.4	7.50	2.96	1209	.003	.24
Negative/unknown	1057	19.7	6.81				
Had sex while under the influence of drugs, ≤ 90 days [b]							
Yes	247	20.5	7.13	2.04	1029	.04	.14
No	784	19.5	6.86				
Unprotected sex with HIV seroconcordant partners, ≤ 90 days							
Insertive							
Yes	156	22.8	6.59	4.96	679	< .001	.44
No	525	19.9	6.57				
Receptive							
Yes	105	21.9	6.22	2.29	679	.02	.25
No	576	20.3	6.75				
Unprotected sex with HIV serodiscordant partners, ≤ 90 days							
Insertive							
Yes	79	23.0	6.63	3.59	671	< .001	.44
No	594	20.1	6.60				
Receptive							
Yes	59	23.3	5.83	3.43	669	< .001	.49
No	612	20.2	6.68				
Barebacker identified							
Yes	116	22.3	7.34	3.87	1165	< .001	.37
No	1051	19.7	6.85				
“I purposely seeks bareback sex as a top”							
Agree	130	22.8	7.26	5.21	1170	< .001	.47
Disagree	1042	19.5	6.77				
“I purposely seeks bareback sex as a bottom”							
Agree	106	22.6	6.95	4.21	1168	< .001	.43

	n	*Mean*	*SD*	*t*	*df*	*p*	Cohen's *d*[a]
Disagree	1064	19.6	6.85				
	n	*Mean*	*SD*	Spearman's r_s		*p*	
Number HIV serodiscordant partners, ≤ 90 days	660	3.19	14.84	0.19		< .001	
Number HIV seroconcordant partners, ≤ 90 days	635	4.79	13.78	0.14		< .001	
Temptation for unsafe sex scale	1165	15.0	7.07	0.25		< .001	

[a] Cohen's *d* : (Mean 1 - Mean 2) / SD_{pooled} SC scale

[b] Drugs include ketamine, ecstasy/MDMA, cocaine, methamphetamine, or GHB

Table III

The Sexual Compulsivity Scale and Specialized Sexual Behavior, Ever in One's Life

	n	*Mean*	*SD*	*t*	*df*	*p*	Cohen's *d*[a]
Water sports (urine exchange)							
Yes	365	20.7	7.37	2.60	1110	< .001	.16
No	747	19.6	6.58				
Fisting (hand/fist in anus)							
Yes	231	21.6	7.20	4.15	1104	< .001	.30
No	875	19.5	6.71				
Anal play							
Yes	623	20.1	6.96	1.30	1109	ns	.07
No	488	19.6	6.74				
Bondage and domination							
Yes	328	20.7	6.91	2.58	1100	.01	.16
No	774	19.6	6.83				
Sadism and/or masochism							
Yes	228	20.4	7.15	1.07	1102	ns	.09
No	876	19.8	6.81				
Exhibitionism, photography, voyeurism							
Yes	441	20.6	7.06	2.67	1106	.01	.16
No	667	19.5	6.73				
Breath play/asphyxiation							
Yes	89	22.6	7.22	3.89	1099	< .001	.41
No	1012	19.7	6.77				
Snowballing (exchange semen between mouths)							
Yes	218	20.8	7.08	2.13	1103	.03	.16
No	887	19.7	6.83				
Felching (use mouth to pull semen from partner's rectum)							
Yes	81	22.6	6.65	3.72	1099	< .001	.43
No	1020	19.7	6.86				
Group sex							

	n	*Mean*	*SD*	*t*	*df*	*p*	Cohen's *d*[a]
Yes	672	20.6	6.88	4.16	1106	< .001	.25
No	436	18.9	6.75				

[a] Cohen's *d* : (Mean 1 - Mean 2) / SD_{pooled} SC scale

Table IV

Logistic Regressions Predicting Unprotected Anal Sex with a Non-Main Partner, ≤ 90 days

	Model 1				Model 2				Model 3			
Model χ^2	15***				39.6***				103.5***			
df	1				4				6			
Nagelkerke R^2	0.04				0.09				0.23			
Constant, β	-1.78				-0.09				-0.87			
	β	Exp. β	95% CI	Sig.	β	Exp. β	95% CI	Sig.	β	Exp. β	95% CI	Sig.
SCS score	0.05	1.05	1.02 -- 1.08	***	0.05	1.05	1.02 -- 1.07	***	0.04	1.04	1.01 -- 1.07	**
Caucasian (1 = yes)					0.20	1.22	0.82 -- 1.82		0.23	1.26	0.82 -- 1.93	
HIV + (1 = yes)					1.22	3.39	2.05 -- 5.61	***	0.68	1.98	1.11 -- 3.53	*
Age					-0.02	0.98	0.97 -- 1.00	*	-0.02	0.98	0.96 -- 1.00	*
Barebacker (1 = yes)									2.37	10.72	5.12 -- 22.46	***
Total number of club drugs used, < 90 days									0.28	1.33	1.10 -- 1.60	**

* $p < .05$,

** $p < .01$,

*** $p < .001$