

Childhood sexual abuse and HIV sexual-risk behaviour among men who have sex with men in South Africa

Shelley Heusser and Diane Elkonin

Abstract

Previous research has indicated an association between childhood sexual abuse and an increased risk of engaging in unsafe behaviours during adulthood, including risky sexual practices. This study examines the relationship between self-reported childhood sexual abuse and adult HIV sexual-risk behaviour in a sample of South African men who have sex with men. Potential long-term childhood sexual abuse-related outcomes, including dissociation, recreational and sex-related drug use, depression, impaired interpersonal communication, and adult re-victimisation were treated as variables mediating the relationship between childhood sexual abuse and sexual-risk behaviour. Men using a gay Internet dating site were randomly selected to complete the anonymous electronic survey. Results indicate that one-fourth of participants reported a history of childhood sexual abuse. Men with a history of unwanted sexual activity during childhood were more likely to report recreational and sex-related drug use, and adult re-victimisation experiences. Furthermore, mediation analyses revealed that men who have sex with men who are survivors of childhood sexual abuse are more likely to report drug use and sex-related drug use, and these outcomes in turn are associated with increased HIV risk as measured by number of male sexual partners. These results highlight the importance of mental health services and new approaches in HIV prevention for men who have sex with men who have been sexually abused as children.

Keywords

Childhood sexual abuse, HIV sexual-risk behaviour, long-term childhood sexual abuse-related outcomes, mediation analyses, men who have sex with men

Department of Psychology, Nelson Mandela Metropolitan University, South Africa

Corresponding author:

Shelley Heusser, Department of Psychology, Nelson Mandela Metropolitan University, P. O. Box 77000, Port Elizabeth, Postal Code 6031, South Africa.

Email: shell.heusser@bluewin.ch

In their controversial 1998 meta-analytic study, Rind, Tromovitch, and Bauserman concluded that the harm resulting from childhood sexual abuse (CSA) is not necessarily intense or pervasive, and that the consensus that CSA is associated with long-term maladjustment is flawed. However, the effects of child sexual abuse have been studied in depth over the past three decades, with the extant and growing literature indicating that clusters of enduring psychological problems are more prevalent among individuals who have been sexually abused as children than among those with no such experiences (Briere & Elliott, 2003). Adults with a history of CSA report significantly elevated rates of psychopathology, including depression, substance abuse, dissociation, and anxiety (e.g., Briere & Elliott, 2003; Paolucci, Genius, & Violato, 2001). Furthermore, research indicates that the psychological sequelae of CSA may increase the likelihood of sexual risk-taking during adulthood, putting individuals at risk for HIV infection (Bensley, Van Eenwyk, & Simmons, 2000; Brennan, Hellerstedt, Ross, & Welles, 2007). These studies offer evidence that deficits in the domains of safety, trust, esteem, intimacy, and control (Pearlman & Courtois, 2005) may contribute to the survivor's long-standing attachment and psychological problems that preclude the ability to relate to others in health-promoting ways and thus predict engagement in self-destructive behaviours (Catania et al., 2008).

Given that survivors exhibit a range of long-term outcomes of CSA-related trauma, and that a history of CSA is a risk factor for later HIV infection in adulthood, an important goal of current research in this area is to determine which psychological consequences of CSA represent pathways in their effects on HIV sexual-risk behaviours (Catania et al., 2008; Mimiaga et al., 2009). Furthermore, these CSA-related outcomes, and their relationship to HIV sexual-risk behaviours, need to be studied in a population that is (even in the absence of a CSA history) at increased risk of exposure to HIV infection, namely, men who have sex with men (MSM). Despite increasing international research in this area, studies undertaken in a South African context are warranted in view of the high prevalence of sexual abuse (Madu & Peltzer, 2001), and given that MSM behaviour plays a crucial part, albeit a less dominant one, in the mode of HIV transmission in South Africa (Imrie, Hodinott, Fuller, Oliver, & Newell, 2013; Lane et al., 2011; Rispel, Metcalf, Cloete, Reddy, & Lombard, 2011).

Around the world, MSM continue to be at high risk for HIV infection, with recent reports indicating escalating epidemics of HIV infection among MSM in developing countries (McDaid & Hart, 2010; Van Griensven, De Lind Van Wijngaarden, Baral, & Grulich, 2009). In Africa, the epidemiology of HIV prevalence and risk among MSM is becoming more evident. Recent research has shown high HIV prevalence among MSM in South African township communities (Lane et al., 2011) and among city-dwelling MSM in Cape Town (Burrell, Mark, Grant, Wood, & Bekker, 2010) and Johannesburg (Rispel et al., 2011). Another study (Baral et al., 2009) found increasing HIV prevalence with age in MSM in Malawi, Namibia and Botswana.

Prior research has shown that gay and other MSM are more likely to report a history of CSA than heterosexual men (Purcell, Malow, Dolezal, & Carballo-Diéguez, 2002). Furthermore, a number of studies have found that MSM with a history of CSA display a wide range of psychological outcomes in adulthood, including substance abuse (Bartholow et al., 1994), depression (Paul, Catania, Pollack, & Stall, 2001), and suicidality (O'Leary, Purcell, Remien, & Gomez, 2003). Furthermore, a string of such long-term CSA-related sequelae are known to mediate the relationship between CSA and HIV sexual-risk behaviour, as measured by unprotected anal intercourse, number of sexual partners, and sex work (Catania et al., 2008; Gore-Felton et al., 2006; Mimiaga et al., 2009; O'Leary et al., 2003; Paul et al., 2001). A series of studies thus indicate that MSM with a history of CSA show a variety of CSA-related long-term outcomes that are associated with sexual behaviours that increase HIV risk in adulthood.

Taken from prior research findings on the long-term effects of CSA, this study examines crucial psychological variables that are believed to suggest underlying interpersonal, cognitive, emotional,

and motivational patterns (Catania et al., 2008; Paul et al., 2001) that correlate with sexual risk-taking. Specifically, the current study proposes that dissociation, alcohol abuse, recreational and sex-related drug use, depression, impaired interpersonal communication, adult re-victimisation, and bondage and discipline, sadism and masochism (BDSM) activities will serve as critical CSA-related outcome variables that mediate the sexual-risk behaviour of MSM who were sexually abused as children. Some of these measures, such as BDSM and adult re-victimisation, are not indices of impaired mental health per se, but may nevertheless represent proxy variables for underlying situational, interpersonal, and motivational dynamics that may contribute to HIV risk (Catania et al., 2008; Paul et al., 2001).

This study aimed to produce a conceptual model explaining the association between CSA and HIV risk by exploring the pathways of potential CSA-related mediating variables. In this study, we explored the prevalence of self-reported CSA in a sample of adult South African MSM. We hypothesised that MSM with a history of CSA will report higher rates of long-term psychological outcomes and sexual-risk behaviour than MSM with no such history. In addition, we determined the contribution of CSA and CSA-related outcomes to sexual-risk behaviour. Finally, we hypothesised that the CSA-related outcome measures will mediate the relationship between CSA and later sexual-risk behaviour.

Method

Participants

Participants were recruited online via emails which were sent to MSM using a gay and bisexual South African social networking site. This email contained a link that included the information letter, the survey, and the debriefing form. To be included in the final analysis of the study data, men had to be at least 18 years of age.

Procedure and ethical considerations

The study was approved by the Faculty Research, Technology, and Innovation Committee of the Nelson Mandela Metropolitan University and the Human Research Ethics Committee. An online-survey software tool was used to create the electronic survey for the current study. Emails containing the survey link were sent to members of a gay South African social networking site. Furthermore, lesbian, gay, bisexual, and transgender (LGBT) non-governmental organisations were contacted to advertise the study. When a user opened the link, the information letter appeared on screen, which detailed the research, potential risks, and benefits from involvement, and the voluntary and anonymous nature of participation. Consent was implied by continuing onto the survey. The survey took approximately 30 minutes to complete. Upon completion, participants received a debriefing form containing further information on the study, as well as referral sources.

Measures

Demographic information. Basic biographic and demographic variables were explored, including age, race/ethnicity, sexual orientation, marital status, occupation, years of education, and self-reported HIV status.

Alcohol abuse. Alcohol use or abuse was established using the CAGE, a 4-item screening instrument (Mayfield, McLeod, & Hall, 1974). Respondents answered 'yes', 'no', or 'not applicable'.

Recreational drug use and sex-related drug use. A drug-use question with a 'yes' or 'no' option determined whether participants had used marijuana (dagga), nitrite inhalants (poppers), Ecstasy, mandrax, methamphetamine, heroin, or crack cocaine in the previous 3 months. A follow-up question asked whether participants had used any drugs, alcohol, or both, in a sexual context in the past 6 months.

CSA. A screening question opened the survey's section on CSA ('Before you were 13, did you ever have unwanted or forced sexual activity with anyone who was 5 or more years older than you? These situations may have involved sexual fondling, oral sex, or penetration'). A second enquiry was made where respondents answered negatively, thinking that this might minimise respondents' avoidance of self-disclosure on this sensitive topic (Paul et al., 2001).

Adverse family experiences. In order to separate the effects of CSA from the independent effects of adverse family experiences (Paul et al., 2001), the survey included three questions assessing parental substance abuse, inter-parental violence, and childhood physical abuse.

Dissociation. The Dissociative Experiences Scale (DES; Bernstein & Putnam, 1986), a widely used 28-item questionnaire with established validity and test-retest reliability ($r = .84$), was used to measure the current prevalence of dissociative symptoms.

Depression. Depressive symptoms were measured using the Beck Depression Inventory-Second Edition (BDI-II; Beck, Steer, & Brown, 1996), which has been shown to have high test-retest reliability ($r = .93$) and internal consistency ($\alpha = .91$) regardless of the population measured.

Sexual-risk behaviour. To assess HIV sexual-risk behaviour, participants were asked to record the number of male partners with whom they had engaged in sexual activity over a 3-month, 6-month, 9-month, and 12-month period. Responses were weighted and then totalled in order to yield an aggregate score of male sexual partners.

Adult re-victimisation. The following question determined abusive relationships:

Have you been in one or more intimate relationships over the previous 5 years that have involved two or more experiences of physical or emotional abuse? Situations may have involved being hit, shoved, beaten, verbally threatened, or degraded by your partner.

BDSM. A 'yes' or 'no' question determined whether, in the past 12 months, participants had engaged in any sexual practices that included elements of dominance and submission, bondage and discipline, physical or psychological pain, or master-slave role-playing.

Impaired interpersonal regulation. Participants were asked to complete the Health Protective Sexual Communication (HPSC) Scale (Catania et al., 1992). This 10-item scale assesses how often respondents discuss health-protective topics with a new, first-time sexual partner. Two items were excluded as they are not specific to gay men.

Data analysis

Descriptive statistics were conducted in order to describe demographic characteristics of the sample. Chi-square contingency tests were used to determine comparisons on demographic

variables across the CSA and non-CSA groups. Next, *t*-tests and chi-square contingency tests were conducted to compare the CSA group and the group reporting no CSA history on mean scores for CSA-related outcome measures, and the measure of HIV sexual-risk behaviour. In the next stage, a hierarchical multiple regression model was tested with number of male sexual partners as the dependent variable, with CSA, adverse family experiences, and the CSA-related outcome measures as predictor variables. We also controlled for ethnicity, level of education, and HIV status. Dummy variables were created for categorical variables with more than two categories to allow those variables to be included in the multiple regression analysis. Finally, Baron and Kenny's (1986) method of mediation analysis was performed to determine the effect of CSA on the sexual-risk behaviour dependent variable through the proposed mediators or CSA-related outcome measures (i.e., dissociation, depression, alcohol abuse, recreational and sex-related drug use, interpersonal regulatory deficits, adult re-victimisation, and BDSM). According to Baron and Kenny (1986), mediation analysis is conducted in order to indirectly assess the pathway that underlies an observed relationship between a predictor variable and a dependent variable via the inclusion of a third intervening variable. Instead of hypothesising a causal relationship, a mediational model assumes that the independent variable influences the mediator variable, which in turn is associated with the dependent variable.

Results

Sample characteristics

Table 1 presents the results of the demographic characteristics of the sample. In all, 237 surveys were returned. Seven were excluded from the analysis because individuals were below the age of 18 years. The study sample thus amounted to 230 participants. Missing data were dealt with through listwise deletion of cases from the analyses. The mean age of persons in the sample was 34.96 years (standard deviation [*SD*] = 10.11), with a median age of 34 years. Overall, 81.74% of the participants were White, 89.13% self-identified as gay, 55.22% reported being single, and 69.23% had completed or were completing a degree from a tertiary education facility. The majority of the participants (80.79%) reported their HIV status to be negative.

A total of 54 participants (23.48%) reported a history of CSA and 176 (76.52%) reported no such history. Around 37.72% of the sample reported recreational drug use, and 35.22% reported using drugs in sexual contexts. In addition, 21.32% reported having been in an abusive relationship.

CSA to demographic variables and adverse family experiences

There were no significant relationships between abused and non-abused men with respect to age, race/ethnicity, sexual orientation, marital or partner status, occupation, and HIV status. Level of education, however, was associated with CSA, $\chi^2(2) = 6.90, p = .032$. There was no significant difference between abused and non-abused men on adverse family experiences during childhood, $t(225) = -1.19, p = .236$.

CSA to CSA-related mental health outcome measures and HIV sexual risk

Table 2 shows associations between CSA and CSA-related outcome variables and sexual risk. Men who were sexually abused as children were more likely to report symptoms of dissociation and depression in adulthood than men who reported no sexual abuse. Furthermore, men who were

Table 1. Demographic characteristics of the sample and comparisons by group.

| Variable | Total (<i>n</i> = 230) | % | Group | | | |
|---------------------------------|----------------------------|-------|----------------------|-------|---------------------------|-------|
| | | | CSA (<i>n</i> = 54) | | Non-CSA (<i>n</i> = 176) | |
| Age (<i>M</i> , <i>SD</i>) | | | 34.83 (9.80) | | 35.01 (10.23) | |
| | | | <i>n</i> | % | <i>n</i> | % |
| Race/ethnicity | | | | | | |
| African | 10 | 4.35 | 2 | 3.70 | 8 | 4.55 |
| Coloured | 10 | 4.35 | 2 | 3.70 | 8 | 4.55 |
| Indian | 15 | 6.52 | 3 | 5.56 | 12 | 6.82 |
| White | 188 | 81.74 | 45 | 83.33 | 143 | 81.25 |
| Other | 7 | 3.04 | 2 | 3.70 | 5 | 2.84 |
| Total | 230 | 100 | 54 | 100 | 176 | 100 |
| Sexual orientation | | | | | | |
| Gay | 205 | 89.13 | 47 | 87.04 | 158 | 89.77 |
| Bisexual | 16 | 6.96 | 5 | 9.26 | 11 | 6.25 |
| Heterosexual | 5 | 2.17 | 1 | 1.85 | 4 | 2.27 |
| Other | 4 | 1.74 | 1 | 1.85 | 3 | 1.7 |
| Total | 230 | 100 | 54 | 100 | 176 | 100 |
| Marital status | | | | | | |
| Single | 127 | 55.22 | 28 | 51.85 | 99 | 56.25 |
| Partner, closed | 59 | 25.65 | 14 | 25.93 | 45 | 25.57 |
| Partner, open | 30 | 13.04 | 7 | 12.96 | 23 | 13.07 |
| Married, opposite sex | 5 | 2.17 | 1 | 1.85 | 4 | 2.27 |
| Married, same sex | 3 | 1.30 | 2 | 3.70 | 1 | 0.57 |
| Divorced | 6 | 2.61 | 2 | 3.70 | 4 | 2.27 |
| Total | 230 | 100 | 54 | 100 | 176 | 100 |
| Occupation | | | | | | |
| Unemployed | 5 | 2.17 | 1 | 1.85 | 4 | 2.27 |
| Self-employed | 84 | 36.52 | 16 | 29.63 | 68 | 38.64 |
| Business employed | 115 | 50.00 | 31 | 57.41 | 84 | 47.73 |
| Student | 25 | 10.87 | 5 | 9.26 | 20 | 11.36 |
| Other | 1 | 0.43 | 1 | 1.85 | 0 | 0.00 |
| Total | 230 | 100 | 54 | 100 | 176 | 100 |
| Education* | | | | | | |
| < Grade 12 | 6 | 2.71 | 0 | 0.00 | 6 | 3.53 |
| Matric | 62 | 28.05 | 21 | 41.81 | 41 | 24.12 |
| Tertiary education ^a | 153 | 69.23 | 30 | 58.82 | 123 | 72.35 |
| Total | 221 | 100 | 51 | 100 | 170 | 100 |
| HIV status | | | | | | |
| Negative | 185 | 80.79 | 42 | 77.78 | 143 | 81.71 |
| Positive | 29 | 12.66 | 9 | 16.67 | 20 | 11.43 |
| Status unknown | 15 | 6.55 | 3 | 5.56 | 12 | 6.86 |
| Total | 229 | 100 | 54 | 100 | 175 | 100 |

CSA: childhood sexual abuse; SD: standard deviation.

^aCramer's *V* = 0.18.

* *p* < .05.

Table 2. Comparison of CSA and non-CSA group on CSA-related outcomes and sexual-risk behaviour.

| | Group | | | | <i>t</i> | <i>df</i> | <i>p</i> | OR | 95% CI |
|--|----------|-----------|----------|-----------|----------|-----------|----------|------|--------------|
| | CSA | | No CSA | | | | | | |
| | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | | | | | |
| Alcohol abuse | 0.19 | 0.25 | 0.15 | 0.23 | 1.12 | 227 | .27 | | |
| Dissociation | 26.27 | 14.33 | 21.78 | 10.48 | 2.07 | 67 | .04* | | |
| Depression | 14.29 | 10.45 | 11.11 | 9.94 | 1.94 | 195 | .05* | | |
| Health-protective sexual communication | 14.27 | 5.54 | 15.12 | 6.06 | -0.87 | 194 | .38 | | |
| | <i>N</i> | % | <i>N</i> | % | χ^2 | <i>df</i> | <i>p</i> | | |
| Recreational drug use | | | | | 3.78 | 1 | .05* | | |
| Yes | 26 | 11.40 | 60 | 26.32 | | | | 1.85 | [0.99, 3.44] |
| No | 27 | 11.84 | 115 | 50.44 | | | | | |
| Drug use in sexual contexts | | | | | 12.79 | 1 | .00** | | |
| Yes | 30 | 13.04 | 51 | 22.17 | | | | 3.06 | [1.64, 5.74] |
| No | 24 | 10.43 | 125 | 54.35 | | | | | |
| BDSM | | | | | 0.91 | 1 | .34 | | |
| Yes | 13 | 6.60 | 28 | 14.21 | | | | 1.44 | [0.68, 3.06] |
| No | 38 | 19.29 | 118 | 59.9 | | | | | |
| Adult re-victimisation | | | | | 5.92 | 1 | .01* | | |
| Yes | 17 | 8.63 | 25 | 12.69 | | | | 2.42 | [1.17, 4.99] |
| No | 34 | 17.26 | 121 | 61.42 | | | | | |
| Measure of sexual risk behaviour | <i>M</i> | <i>SD</i> | <i>M</i> | <i>SD</i> | <i>t</i> | <i>df</i> | <i>p</i> | | |
| Number of male sexual partners | 53.33 | 52.65 | 38.71 | 49.56 | 1.75 | 187 | .08 | | |

CSA: childhood sexual abuse; BDSM: bondage and discipline, sadism and masochism; SD: standard deviation; CI: confidence interval.

* *p* < .05. ***p* < .01.

abused as children were also more likely to engage in recreational drug use and drug use in sexual contexts, have more one-night stands, and to have had a recent abusive relationship.

A multiple hierarchical regression analysis was conducted, using number of sexual partners as the dependent variable and four blocks of independent variables: (1) HIV status, race/ethnicity, and educational level; (2) CSA; (3) adverse family experiences; and (4) dissociation, depression, alcohol abuse, recreational drug use and sex-related drug use, adult re-victimisation, BDSM, and health-protective sexual communication. The results show (Table 3) that drug use in sexual contexts and BDSM were significantly associated with number of sexual partners: those men who engaged in sex-related drug use and BDSM were more likely to have a higher number of male sexual partners.

Mediation analysis

Mediation analyses were performed in order to identify possible mediators in the link between CSA and the sexual-risk behaviour dependent variable. Two steps are required to address the question of mediation (Baron & Kenny, 1986): (1) determine whether the independent variable (in this

Table 3. Results of hierarchical linear regression on number of male sexual partners.

| Step | Variable | B | SE B | β | R ² | ΔR^2 |
|-----------------------------|----------------------------|--------|-------|---------|----------------|--------------|
| 1 | Constant | 19.52 | 15.35 | | .06 | .01 |
| | Age | 0.61 | 0.40 | .12 | | |
| | HIV status | 18.97 | 11.51 | .13 | | |
| | White vs Coloured | -5.91 | 18.38 | -.03 | | |
| | White vs African | -20.85 | 19.69 | -.08 | | |
| | White vs Indian | 17.30 | 17.71 | .08 | | |
| | White vs Other | 21.01 | 26.12 | .06 | | |
| | Tertiary vs < Standard 10 | 12.11 | 23.00 | .04 | | |
| | Tertiary vs matric | -2.25 | 8.55 | -.02 | | |
| 2 | Constant | 18.02 | 15.38 | | .06 | .01 |
| | Age | 0.58 | 0.40 | .12 | | |
| | HIV status | 19.35 | 11.50 | .13 | | |
| | White vs Coloured | -5.54 | 18.36 | -.02 | | |
| | White vs African | -21.48 | 19.67 | -.08 | | |
| | White vs Indian | 17.57 | 17.69 | .08 | | |
| | White vs Other | 17.78 | 26.22 | .05 | | |
| | Tertiary vs < Standard 10 | 14.55 | 23.06 | .05 | | |
| | Tertiary vs matric | -3.78 | 8.64 | -.03 | | |
| 3 | Constant | 18.07 | 16.03 | | .06 | .01 |
| | Age | 0.58 | 0.40 | .12 | | |
| | HIV status | 19.37 | 11.62 | .13 | | |
| | White vs Coloured | -5.54 | 18.41 | -.02 | | |
| | White vs African | -21.47 | 19.74 | -.08 | | |
| | White vs Indian | 17.57 | 17.74 | .08 | | |
| | White vs Other | 17.78 | 26.30 | .05 | | |
| | Tertiary vs < Standard 10 | 14.56 | 23.15 | .05 | | |
| | Tertiary vs matric | -3.79 | 8.69 | -.03 | | |
| 4 | Constant | 21.63 | 21.67 | | .23 | .14** |
| | Age | 0.56 | 0.39 | .11 | | |
| | HIV status | 4.32 | 11.40 | .03 | | |
| | White vs Coloured | -4.08 | 17.19 | -.02 | | |
| | White vs African | -6.99 | 19.42 | -.03 | | |
| | White vs Indian | 10.05 | 16.86 | .04 | | |
| | White vs Other | 11.92 | 24.68 | .04 | | |
| | Tertiary vs < Standard 10 | 22.21 | 22.45 | .07 | | |
| | Tertiary vs matric | 0.08 | 8.51 | .00 | | |
| | CSA | 2.39 | 8.73 | .02 | | |
| | Adverse family experiences | -0.60 | 2.20 | -.02 | | |
| | CAGE | -0.70 | 3.22 | -.02 | | |
| Drug use | 11.08 | 8.87 | .12 | | | |
| Drug use in sexual contexts | 28.94 | 9.45 | .23** | | | |

Table 3. (Continued)

| Step | Variable | B | SE B | β | R ² | ΔR^2 |
|------|------------------------|-------|------|---------|----------------|--------------|
| | DES | 0.20 | 0.37 | .05 | | |
| | BDI | -0.59 | 0.43 | -.12* | | |
| | BDSM | 19.43 | 8.73 | .16 | | |
| | Adult re-victimisation | -6.92 | 9.26 | -.06 | | |
| | HPSC Scale | -0.94 | 0.69 | -.11 | | |

SE: standard error; CSA: childhood sexual abuse; BDSM: bondage and discipline, sadism and masochism; HPSC: Health Protective Sexual Communication; BDI: Beck Depression Inventory; DES: Dissociative Experiences Scale.

* $p < .05$. ** $p < .01$.

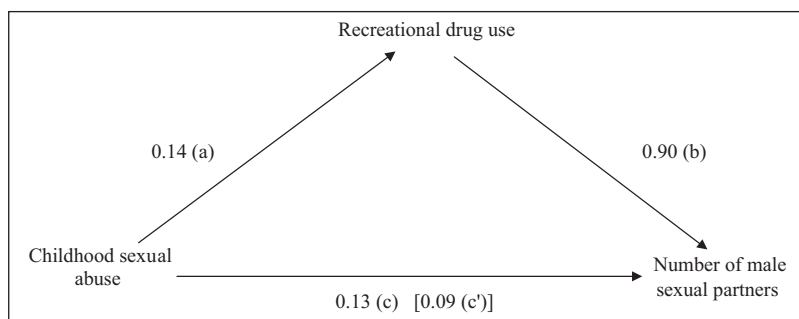


Figure 1. Mediation model for recreational drug use. Standardised regression coefficients for the relationship between childhood sexual abuse and number of sexual partners as mediated by recreational drug use. The standardised regression coefficient between childhood sexual abuse and number of sexual partners controlling for drug use is in parenthesis.

case, CSA) is related to each of the proposed mediators (outcome measures) and (2) examine whether the relationship between the independent variable and the dependent variable is reduced when the proposed mediators are included in the model. The Sobel (1982) test is used to determine whether this reduction is a significant reduction and therefore whether the mediation effect is statistically significant. Significant mediation effects were found for recreation drug use and drug use in sexual contexts. As indicated in Figure 1, adding drug use to the model predicting number of sexual partners reduced the CSA beta value from .13 to .09. This reduction achieved statistical significance (Sobel $t = 1.68$; $p = .046$). Furthermore, the addition of drug use in sexual contexts (Figure 2) resulted in a reduction of the CSA beta value from .13 to .04, achieving statistical significance (Sobel $t = 2.93$; $p = .002$). These results indicate that CSA is associated with later recreational and sex-related drug use, which in turn influences the number of sexual partners.

Discussion

This study confirms prior international research indicating high prevalence levels of self-reported CSA among MSM, and extends this research into the South African context. In this sample, roughly one in four participants (23.48%) reported a history of CSA, which is consistent with international studies reporting prevalence estimates between 15% and 28% (Jinich et al., 1998; O’Leary et al., 2003; Paul et al., 2001). However, given that this study’s sample was predominantly White and

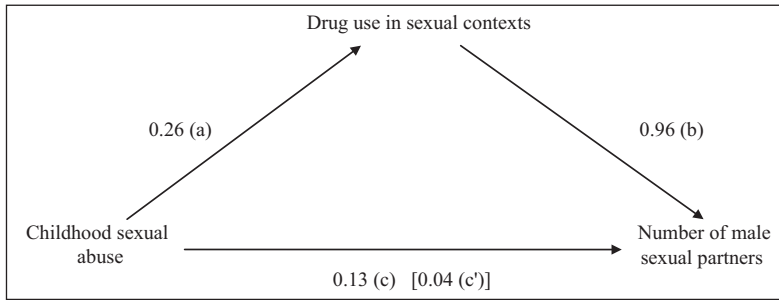


Figure 2. Mediation model for drug use in sexual contexts. Standardised regression coefficients for the relationship between childhood sexual abuse and number of sexual partners as mediated by drug use in sexual contexts. The standardised regression coefficient between childhood sexual abuse and number of sexual partners controlling for sex-related drug use is in parenthesis.

well-educated, the prevalence estimate of CSA among a more representative South African MSM population may be even higher.

In this sample, approximately 1 in 10 MSM reported an HIV-positive serostatus. Emerging data suggest that HIV prevalence varies among South African MSM subpopulations, with factors based on race/ethnicity, class, and sexual orientation accounting for differential HIV prevalence rates. The prevalence estimate of 12.6% found in this sample is similar to what has been observed in other studies of MSM in South Africa, with one study reporting a prevalence of 10.4% (Burrell et al., 2010), and another reporting a prevalence of 13.2% (Lane et al., 2011). However, our findings did not show significant associations between self-reported HIV status and demographic measures. More specifically, in this study, HIV prevalence did not exhibit the same pattern of association with race/ethnicity and sexual orientation as in other studies (Burrell et al., 2010; Imrie et al., 2013; Lane et al., 2011; Rispel et al., 2011).

Self-reported HIV status was not associated with sexual-risk behaviour. Furthermore, contrary to expectations, ethnicity and level of education did not influence HIV sexual risk either, indicating that socio-structural factors, such as access to health care, social support, stigma, and homophobia, may account for more variance in the HIV sexual-risk profiles of South African MSM. The interplay of psychological, social, and structural factors will be an important area of focus for future research on HIV risk.

This study found high rates of recreational drug use and sex-related drug use, with 37.5% reporting recreational drug use, and 35.2% reporting drug use in sexual situations. These results coincide with mixed-method research suggesting high rates of drug use among gay and bisexual men across different cities in South Africa (Parry et al., 2008). The role of drug use in sexual situations is complex, and warrants a clearer understanding of how this behaviour contributes to HIV risk among MSM. In this sample, sex-related drug use was a significant predictor of sexual-risk behaviour, and also mediated the relationship between CSA and number of sexual partners. Furthermore, recreational drug use was both a significant outcome of CSA, while also serving as a significant correlate of HIV risk in the mediation model. A possible explanation for this finding is that drug use serves as an escape-avoidance coping tool to manage or dampen negative affect and thoughts associated with the memory of the CSA experience (Catania et al., 2008). In sexual situations, this in turn is associated with an increased number of male sexual partners due to a dulling in the awareness and contemplation of one's sexual actions, which may lead to increased or disinhibited sexual activity, or an inability to refuse or say no to a new or aggressive sexual partners

(Paul et al., 2001). It is important to note that in this study, drug use (recreational or sex-related) is not considered in isolation as an index of pathology. Instead, it reflects the individual's enactment of crucial underlying interpersonal, situational, or motivational dynamics that may be associated with increased HIV risk.

With the exception of one recent study (Stephenson, De Voux, & Sullivan, 2011), there has been no research on the prevalence of partner violence among MSM in South Africa. Despite matching sample demographics, Stephenson et al. (2011) reported a prevalence estimate of 8.09%. This study's prevalence estimate of 21.32% was almost three times higher than that, and approximates international prevalence rates of partner violence among MSM (Bartholomew, Regan, White, & Oram, 2008; Greenwood et al., 2002). Partner violence was not associated with sexual-risk behaviour; however, we found that MSM who were abused as children are more likely to be re-victimised in adulthood. One explanation for this is that CSA survivors may have a reduced capacity to identify boundary violations and to define boundaries in the context of a more powerful other (Gartner, 1999).

Over and above drug use and adult re-victimisation, this study found further positive associations between CSA and indicators of psychopathology in adulthood. Those MSM reporting CSA were characterised by significantly higher rates of depression and dissociation. Dissociation, in particular, has been relatively neglected as a form of symptomatology in abuse research focusing on MSM. The current finding indicates that MSM with a CSA history are more likely to resort to primitive cognitive escape-avoidance coping strategies that compartmentalise conscious experience (Briere & Elliot, 2003) and provide psychological or emotional distance (Paul et al., 2001). Furthermore, consistent with the broader theoretical literature on the sequelae of CSA in adulthood (Finkelhor & Browne, 1985), depression was a common outcome of CSA for MSM. However, contrary to expectations, neither depression nor dissociation was associated with sexual-risk behaviour.

BDSM was significantly associated with number of sexual partners in the regression model. One explanation for this is that most MSM who engage in BDSM identify themselves as participants in or members of a sexually adventurous subculture (Smith, Worth, & Kippax, 2004), with the existence of such subcultures often being centred on specific sex venues. MSM who frequent these sexual spaces, especially sex-on-premises venues catering for BDSM, are more likely to report a higher number of sexual partners because, first, these venues are more likely than others to be visited by sexually adventurous men (Smith et al., 2004), and second, because anonymous sex with multiple partners is standard practice in such venues (Parsons & Halkitis, 2002).

Limitations

A problem with all research in this area of CSA is the use of self-report measures that require participants to recall events from their childhood. Thus, the veracity of these reports cannot be assured.

Another limitation of this study is that it did not take into account socio-structural factors that are pertinent to explaining the association between CSA and HIV sexual-risk behaviour in the South African context. Furthermore, crucial variables specific to the abusive event itself have a bearing on later maladjustment (Finkelhor, 1984), including the victim's relationship to the abuser, the duration of the abuse, and the parent's reaction upon disclosure. In addition, current theoretical models do not necessarily accommodate resilience factors, which influence one's vulnerability to later risk-taking behaviour.

Furthermore, the effects of internalised homophobia on sexual risk-taking among MSM need to be investigated in the South African context. It was beyond the scope of this study to include

internalised homophobia as a potential CSA-related mental health outcome that may be associated with later HIV sexual risk.

This study is further limited by its generalisability of findings. This sample consisted predominantly of White, highly educated homosexual men engaging in high-risk behaviours. It is thus unclear how relevant this study's findings are to a less urban, less educated, and less high-risk sample of South African MSM.

Conclusion

In the last few years, there has been an increase in the launching of externally funded, MSM-focused health programmes in attempts to meet the health-care needs of MSM, while also affording researchers the opportunity to do research on this at-risk population (Kotzé, 2009). Furthermore, a recent report indicates that there is a high percentage of MSM willing to undergo individual counselling (Rispel et al., 2011), suggesting that there are specific intervention needs around mental health for this group (Berg, Mimiaga, & Safren, 2008). Specifically, this study's findings indicate the need for current mental health and prevention programmes to target issues of recreational and sex-related drug use as it relates to sexual-risk behaviour. More importantly, increased recognition and treatment of CSA among MSM, and its effects into adulthood, is vital not only for the development of optimal mental health-care services, but also for the inclusion into current HIV programmes in South Africa.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

References

- Baral, S., Trapence, G., Motimedi, F., Umar, E., Lipinge, S., Dausab, F., & Beyrer, C. (2009). HIV prevalence, risks for HIV infection, and human rights among men who have sex with men (MSM) in Malawi, Namibia, and Botswana. *PLoS ONE*, 4(3), e4997. doi:10.1371/journal.pone.0004997
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173–1182. doi:10.1037/0022-3514.51.6.1173
- Bartholow, B., Doll, L., Joy, D., Douglas, J., Bolan, G., Harrison, J. S., & . . . McKirnan, D. (1994). Emotional, behavioral, and HIV risks associated with sexual abuse among adult homosexual and bisexual men. *Child Abuse and Neglect*, 18, 747–761. doi:10.1016/0145-2134(94)0042-5
- Bartholomew, K., Regan, K. V., White, M. A., & Oram, D. (2008). Patterns of abuse in male same-sex relationships. *Violence and Victims*, 23, 617–636. doi:10.1891/0886-6708.23.5.617
- Beck, A. T., Steer, R. A., & Brown, G. K. (1996). *Manual for the Beck Depression Inventory-II*. San Antonio, TX: Psychological Corporation.
- Bensley, L. S., Van Eenwyk, J., & Simmons, K. W. (2000). Self-reported childhood sexual and physical abuse and adult HIV-risk behaviors and heavy drinking. *American Journal of Preventive Medicine*, 18, 151–158. doi:10.1016/S0749-3797(99)00084-7
- Berg, M. B., Mimiaga, M. J., & Safren, S. A. (2008). Mental health concerns of gay and bisexual men seeking health services. *Journal of Homosexuality*, 54, 293–306. doi:10.1080/00918360801982215
- Bernstein, E. M., & Putnam, F. W. (1986). Development, reliability, and validity of a dissociation scale. *The Journal of Nervous and Mental Disease*, 174, 727–735. doi:10.1097/00005053-198612000-00004
- Brennan, D. J., Hellerstedt, W. L., Ross, M. W., & Welles, S. L. (2007). History of childhood sexual abuse and HIV risk behaviours in homosexual and bisexual men. *American Journal of Public Health*, 97, 1107–1112. doi:10.2105/AJPH.2005.071423

- Briere, J. N., & Elliott, D. M. (2003). Prevalence and psychological sequelae of self-reported childhood physical and sexual abuse in a general population sample of men and women. *Child Abuse & Neglect, 27*, 1205–1222. doi:10.1016/j.chiabu.2003.09.008
- Burrell, E. R., Mark, D., Grant, R., Wood, R., & Bekker, L. G. (2010). Sexual risk behaviours and HIV-1 prevalence among urban men who have sex with men in Cape Town, South Africa. *Sexual Health, 7*, 149–153. doi:10.1071/SH09090
- Catania, J. A., Coates, T. J., Kegeles, S., Thompson-Fullilove, M., Peterson, J., Marin, B., & . . .Hulley, S. (1992). Condom use in multi-ethnic neighborhoods of San Francisco: The population-based AMEN (AIDS in Multi-Ethnic Neighborhoods) study. *American Journal of Public Health, 82*, 284–287. doi:10.2105/AJPH.82.2.284
- Catania, J. A., Paul, J., Osmond, D., Folkman, S., Pollack, L., Canchola, J., & . . .Neilands, T. (2008). Mediators of childhood sexual abuse and high-risk sex among men-who-have-sex-with-men. *Child Abuse and Neglect, 32*, 925–940. doi:10.1016/J.CHIABU.2007.12.010
- Finkelhor, D. (1984). *Child sexual abuse: New theory and research*. New York, NY: The Free Press.
- Finkelhor, D., & Browne, A. (1985). The traumatic impact of child sexual abuse: A conceptualization. *American Journal of Orthopsychiatry, 55*, 530–541.
- Gartner, R. B. (1999). Sexual victimization of boys by men: Meanings and consequences. *Journal of Gay & Lesbian Psychotherapy, 3*, 1–33. doi:10.1300/J236v03n02_01
- Gore-Felton, C., Kalichman, S. C., Brondino, M. J., Benotsch, E. G., Cage, M., & DiFonzo, K. (2006). Childhood sexual abuse and HIV risk among men who have sex with men: Initial test of a conceptual model. *Journal of Family Violence, 21*, 263–270. doi:10.1007/s10896-006-9022-6
- Greenwood, G. L., Relf, M. V., Huang, B., Pollack, L. M., Canchola, J. A., & Catania, J. A. (2002). Battering victimization among a probability-based sample of men who have sex with men (MSM). *American Journal of Public Health, 92*, 1964–1969. doi:10.2105/AJPH.92.12.1964
- Imrie, J., Hodinott, G., Fuller, S., Oliver, S., & Newell, M. (2013). Why MSM in rural South African communities should be an HIV prevention research priority. *AIDS and Behavior, 17*(1), 70–76. doi:10.1007/s10461-012-0356-1
- Jinich, S., Paul, J. P., Stall, R., Acree, M., Kegeles, S., Hoff, C., & Coates, T. (1998). Childhood sexual abuse and HIV risk-taking behavior among gay and bisexual men. *AIDS and Behavior, 2*(1), 41–51. doi:10.1023/A:1022307323744
- Kotzé, M. (2009, October). Men who have sex with men: A neglected HIV risk population in Africa. *Consultancy Africa Intelligence*. Retrieved from http://www.consultancyafrica.com/index.php?option=com_content&view=article&id=275&Itemid=188
- Lane, T., Raymond, H. F., Dladla, S., Raseth, J., Struthers, H., & McFarland McIntyre, J. (2011). High HIV prevalence among men who have sex with men in Soweto, South Africa: Results from the Soweto Men's Study. *AIDS and Behavior, 15*, 626–634. doi:10.1007/s10461-009-9598-y
- Madu, S. N., & Peltzer, K. (2001). Prevalence and patterns of child sexual abuse and victim-perpetrator relationship among secondary school students in the Northern Province (South Africa). *Archives of Sexual Behaviour, 30*, 311–321. doi:10.1023/A:1002704331364
- Mayfield, D., McLeod, G., & Hall, P. (1974). The CAGE questionnaire: Validation of a new alcoholism screening instrument. *American Journal of Psychiatry, 131*, 1121–1123.
- McDaid, L. M., & Hart, G. J. (2010). Sexual risk behaviour for transmission of HIV in men who have sex with men: Recent findings and potential interventions. *Current Opinion in HIV and AIDS, 5*, 311–315. doi:10.1097/COH.0b013e32833a0b86
- Mimiaga, M. J., Noonan, E., Donnell, D., Safren, S. A., Koenen, K. C., Gortmaker, S., & . . .Mayer, K. H. (2009). Childhood sexual abuse is highly associated with HIV risk-taking behavior and infection among MSM in the EXPLORE Study. *Journal of Acquired Immune Deficiency Syndrome, 51*, 340–348. doi:10.1097/QAI.0b013e3181a24b38
- O'Leary, A., Purcell, D., Remien, R. H., & Gomez, C. (2003). Childhood sexual abuse and sexual transmission risk behaviour among HIV-positive men who have sex with men. *AIDS Care, 15*(1), 17–26. doi:10.1080/0954012021000039725

- Paolucci, E. O., Genius, M. L., & Violato, C. (2001). A meta-analysis of the published research on the effects of child sexual abuse. *Journal of Psychology*, 135(1), 17–36. doi:10.1080/00223980109603677
- Parry, C., Peterson, P., Dewing, S., Carney, T., Needle, R., Kroeger, K., & Treger, L. (2008). Rapid assessment of drug-related HIV risk among men who have sex with men in three South African cities. *Drug and Alcohol Dependence*, 95(1–2), 45–53. doi:10.1016/j.drugalcdep.2007.12.005
- Parsons, J. T., & Halkitis, P. N. (2002). Sexual and drug-using practices of HIV-positive men who frequent public and commercial sex environments. *AIDS Care*, 14, 815–826. doi:10.1080/0954012021000031886
- Paul, J. P., Catania, J., Pollack, L., & Stall, R. (2001). Understanding childhood sexual abuse as a predictor of sexual risk-taking among men who have sex with men: The Urban Men's Health Study. *Child Abuse and Neglect*, 25, 557–584. doi:10.1016/S0145-2134(01)00226-5
- Pearlman, L. A., & Courtois, C. A. (2005). Clinical applications of the attachment framework: Relational treatment of complex trauma. *Journal of Traumatic Stress*, 18, 449–459. doi:10.1002/jts.20052
- Purcell, D. W., Malow, R. M., Dolezal, C., & Carballo-Diéguez, A. (2002). Sexual abuse of boys: Short- and long-term associations and implications for HIV prevention. In L. J. Koenig, L. S. Doll, A. O'Leary, & W. Pequegnat (Eds.), *From child sexual abuse to adult sexual risk: Trauma, revictimization and intervention* (pp. 93–115). Washington, DC: American Psychological Association.
- Rind, B., Tromovitch, P., & Bauserman, R. (1998). A meta-analytic examination of assumed properties of child sexual abuse using college samples. *Psychological Bulletin*, 124, 22–53. doi:10.1037/0033-2909.124.1.22
- Rispel, L. C., Metcalf, C. A., Cloete, A., Reddy, V., & Lombard, C. J. (2011). HIV prevalence and risk practices among men who have sex with men in two South African cities. *Journal of Acquired Immune Deficiency Syndromes*, 57(1), 69–76. doi:10.1097/QAI.0b013e318211b40a
- Smith, G., Worth, H., & Kippax, S. (2004). *Sexual adventurism among Sydney gay men* (Monograph No. 3). National Centre in HIV Social Research, University of New South Wales. Retrieved from www.crr.unsw.edu.au/media/File/Sexual_adventurism.pdf.
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology*, 13, 290–312. doi:10.2307/270723
- Stephenson, R., De Voux, A., & Sullivan, P. S. (2011). Intimate partner violence and sexual risk-taking among men who have sex with men in South Africa. *Western Journal of Emergency Medicine*, 12, 343–347. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3117611/>
- Van Griensven, F., De Lind Van Wijngaarden, J. W., Baral, S., & Grulich, A. (2009). The global epidemic of HIV infection among men who have sex with men. *Current Opinion in HIV and AIDS*, 4, 300–307. doi:10.1097/COH.0b013e32832c3bb3