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Long-term health outcomes of childhood sexual abuse and peer sexual contact among an urban sample of behaviourally bisexual Latino men

Brian Mattera^a, Ethan C. Levine^b, Omar Martinez^a, Miguel Muñoz-Laboy^a, Carolina Hausmann-Stabile^a, José Bauermeister^c, M. Isa Fernandez^d, Don Operario^e, and Carlos Rodriguez-Diaz^f

^aSchool of Social Work, College of Public Health, Temple University, Philadelphia, PA, USA

^bCollege of Liberal Arts, Temple University, Philadelphia, PA, USA

^cSchool of Nursing, University of Pennsylvania, Philadelphia, PA, USA

^dCollege of Osteopathic Medicine, Nova Southeastern University, Fort Lauderdale, FL, USA

^eSchool of Public Health, Brown University, Providence, RI, USA

^fSchool of Public Health, University of Puerto Rico, San Juan, Puerto Rico, USA

Abstract

While previous research indicates high rates of childhood sexual abuse among Latino men who have sex with men, few studies have examined the long-term health outcomes of childhood sexual abuse specifically among behaviourally bisexual Latino men. In a sample of 148 behaviourally bisexual Latino men in New York City, we examined associations between childhood sexual abuse and multiple dimensions of adult health: sexual risk behaviours; sexually transmitted infections incidence; polydrug use; depressive symptoms; and perceived stress. We compared outcomes between those with histories of childhood sexual abuse, those reporting peer sexual contact prior to age 13 and those with no sexual contact prior to age 13. Over one-fifth (22.3%) reported a history of childhood sexual abuse, which was significantly associated with engaging in receptive condomless anal intercourse (aOR = 3.59, $p < .01$, SE = 2.0), high perceived stress (aOR = 2.48, $p < .06$, SE = 1.13) and clinically significant depressive symptoms (aOR = 2.7, $p < .05$, SE = 1.25). Across all variables, peer sexual contact did not impact these outcomes, underscoring a key distinction between abusive and non-abusive early sexual experiences. We recommend that sexual abuse prevention policies and programmes better engage Latino youth, and that practitioners serving this population across diverse areas of practice incorporate childhood sexual abuse screening and culturally appropriate treatment and care into practice.

CONTACT Brian Mattera, bmattera@temple.edu.

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ORCID

Carlos Rodriguez-Diaz, <http://orcid.org/0000-0001-6333-0654>

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Introduction

Childhood sexual abuse is a pervasive public health concern facing sexual minority Latino men. Previous research reports that nearly one in three (29%) Latino men who have sex with men has experienced childhood sexual abuse, compared to 16% of the general adult male population and 20% of non-Latino men who have sex with men (Arreola, Neilands, and Díaz 2009; Dube et al. 2005). While the high prevalence of childhood sexual abuse within this population is concerning in itself, strong evidence indicates that the effects of such abuse extend far beyond child/adolescent trauma and psychological/physical harm, predisposing survivors to various negative health outcomes that persist into adulthood (Chartier, Walker, and Naimark 2007; Springer et al. 2003).

Previous research has found childhood sexual abuse to be associated with higher rates of sexual risk behaviours, leading to sexually transmitted infections (STIs) and HIV infection (Bensley, Van Eenwyk, and Simmons 2000; Markowitz et al. 2011; Mimiaga et al. 2009; Zellner et al. 2009); tobacco, drug and alcohol use (Boroughs et al. 2015; Fergusson, McLeod, and Horwood 2013; Nelson et al. 2006; Springer et al. 2003); adverse mental health outcomes (Banyard, Williams, and Siegel 2001; Boroughs et al. 2015; Lewis et al. 2016; Springer et al. 2003); and physical health problems (Chartier, Walker, and Naimark 2007; Nelson, Baldwin, and Taylor 2012; Sachs-Ericsson, Kendall-Tackett, and Hernandez 2007).

In contrast to the substantial literature on long-term health outcomes of childhood sexual abuse, the extent to which non-abusive early life sexual experiences impact adult health is largely understudied. In addition to reporting elevated rates of childhood sexual abuse, evidence indicates that gay, bisexual and other Latino men who have sex with men report earlier average age of sexual initiation (Martos, Nezhad, and Meyer 2015) and higher rates of age-discordant childhood/adolescent sexual experiences which they did not consider 'abusive' (Bruce et al. 2012; Carballo-Diéguez et al. 2012) than their non-Latino and heterosexual counterparts. Despite this, few studies have examined whether early sexual initiation with peers impacts health outcomes and sexual risk behaviours in adulthood. One exception was Carballo-Diéguez and Dolezal's (1995) investigation of HIV risk behaviours among individuals who did not label their early sexual experiences as abusive. These researchers found that early sexual experiences did not affect risk in and of themselves; only experiences self-perceived as abusive were associated with increased risk. Researchers and providers must explore this distinction further, with more contemporary data, in order to better comprehend the long-term influence of childhood experiences on HIV risk in adulthood.

Although sparse, several studies have examined prevalence and related long-term health implications of childhood sexual abuse among Latino men who have sex with men (Arreola, Neilands, and Díaz 2009; Arreola et al. 2005; Martinez et al. 2016; Saucedo, Wiebe, and Simoni 2016); nonetheless, this research often portrays Latino men who have sex with men

as a homogeneous population, lumping together behaviourally bisexual men with men who engage only in same-sex sexual behaviours. As a result, studies of sexual risk in this population often limit their assessments to same-sex activities, such as anal sex between men, and fail to assess other potential sources of sexual risk, such as vaginal sex or anal sex with women. Populations such as bisexual Latino men who occupy multiple marginalised positions are also rarely considered; this paper develops the literature on multiple dimensions of identity through an intersectional approach by researching behaviourally bisexual Latino men as a distinct population.

In addition to the evidence that behaviourally bisexual men (regardless of how they self-identify) represent a sizeable population among Latino men – with estimates ranging from 15% to as high as 44% (Heckman et al. 1995; Wolitski et al. 2006) – numerous contextual factors warrant attention to this population as a distinct group. Research by Rohde-Bowers and colleagues (2011) highlighted notable differences between behaviourally bisexual men and men who strictly engage in same-sex acts, reporting higher rates of substance use, more casual sex partners and differences in socio-environmental risk factors (e.g. lower educational status, higher rates of homelessness/marginal housing) among behaviourally bisexual men. Given these differing risk profiles, the authors highlight the need for research and interventions to address the needs and risk patterns of specific populations and sub-populations.

Moreover, behaviourally bisexual Latino men contend with numerous dimensions of social marginalisation that may impact risk and resilience factors, both within and outside the context of childhood sexual abuse (e.g. contending with homophobia, biphobia and racism; limited access to normative family life). They may face pressures to cover or outright conceal their identities and behaviours within both heterosexual and gay communities (Yoshino 2007), which is likely to impact outcomes differently from other populations. As such, risk and resilience among bisexual Latino men should not be presumed to line up with those of gay or heterosexual Latinos.

Background

In other populations, childhood sexual abuse has been associated with negative health outcomes across various dimensions of adult health. Among bisexual Latino men and other Latino men who have sex with men, the association between childhood sexual abuse and HIV sexual risk behaviours is of particular concern.

Latino/as continue to bear a disproportionately high burden of HIV infection, accounting for 23% of new infections in 2013, 81% of which were among Latino men who have sex with men (Centers for Disease Control and Prevention 2014). Research by Bensley, Van Eenwyk, and Simmons (2000) found childhood sexual abuse to be associated with an eight-fold increase in HIV risk behaviours, measured by condomless intercourse, STI incidence, injection drug use and HIV infection. Likewise, Mimiaga and colleagues (2009) found higher rates of HIV and STI transmission, condomless anal intercourse and serodiscordant condomless anal intercourse in men who have sex with men with a history of childhood sexual abuse than those without. Some evidence suggests that behaviourally bisexual Latino men who do not self-identify as bisexual are at greater risk of engaging in sexual risk

behaviours, with one study finding higher rates of STIs, condomless sexual intercourse and substance use during sex among heterosexually identifying Latino men who have sex with men and women compared to both bisexually identifying and exclusively heterosexual Latino men (Zellner et al. 2009).

The relationship between childhood sexual abuse and substance use later in life is well documented. Boroughs and colleagues (2015) found that among a sample of men who have sex with men, those with histories of childhood sexual abuse were 2.6 times more likely to meet diagnostic criteria for alcohol use disorders, and twice as likely to meet criteria for substance use disorders. Likewise, a 30-year longitudinal study conducted by Fergusson, McLeod, and Horwood (2013) found that rates of alcohol dependence and illicit drug dependence at age 30 among those with histories of sexual abuse were positively correlated with the extent of abuse, operationalised on a continuum ranging from no sexual contact to sexual penetration. Notably, few studies have focused on possible connections between childhood sexual abuse and substance use specifically among behaviourally bisexual men, Latino or otherwise.

Although the link between childhood sexual abuse and substance use later in life is well studied, critical research gaps remain. Growing evidence supports that the combined use of multiple substances presents greater risk than use of any one drug in isolation (Deschenau, Iftimovici, and Touzeau 2016), prompting researchers to analyse polydrug use (i.e. two or more substances used within a set period of time) rather than singular substance use outcomes. Numerous factors warrant exploration into the impact of childhood sexual abuse on polydrug use among sexual minority Latino men. In addition to the elevated risk associated with polydrug use, evidence suggests that polydrug use is higher among those with histories of child maltreatment, including childhood sexual abuse (Alvarez-Alonso et al. 2016), and among sexual minorities (Kecojevic et al. 2016). Moreover, polydrug use has been shown to increase risk of psychological distress (Kelly et al. 2015), and exacerbate existing psychiatric symptoms (Booth et al. 2010) at greater severity than singular drug use. Thus, polydrug use may pose an elevated concern for survivors of abuse with trauma-induced psychological distress. Despite this, research has overwhelmingly analysed the impact of childhood sexual abuse on singular drug use, with very few if any analysing the impact of childhood sexual abuse on polydrug use and co-occurring psychological distress.

The association between childhood sexual abuse and negative mental health outcomes later in life, including depression, post-traumatic stress disorder, loneliness, isolation and anxiety disorders (Banyard, Williams, and Siegel 2001; Springer et al. 2003), is well established. Research by Arreola, Neilands, and Díaz (2009) focusing on a generalised sample of Latino men who have sex with men found higher rates of depression and suicidal ideation among those with histories of childhood sexual abuse. Ample evidence also indicates that survivors of childhood sexual abuse are more prone to experiencing anxiety and post-traumatic stress (Boroughs et al. 2015) than those without such histories. Moreover, the link between childhood sexual abuse and post-traumatic stress disorder may be more profound among sexual minorities, with one study finding that sexual minorities with histories of childhood sexual abuse had between 1.6 to 2.4 times the odds of screening for clinically significant

post-traumatic stress (i.e. probable post-traumatic stress disorder) compared to their heterosexual counterparts (Roberts et al. 2012).

Interestingly, despite a vast body of research focused on childhood sexual abuse and mental health outcomes, the majority has focused solely on psychopathological outcomes, with very few studies examining the impact of childhood sexual abuse on non-pathological mental health outcomes that impact daily functioning (e.g. guilt, resilience, perceived stress). Examining associations between childhood sexual abuse and perceived stress (i.e. appraised stress) may be of particular interest, given that perceived stress has consistently shown high comorbidity with post-traumatic stress (Besser, Neria, and Haynes 2009; Laganà and Reger 2009), and has been identified as an exacerbating factor in the maintenance severity of post-traumatic stress disorder symptomatology (Hu et al. 2014). Research elsewhere indicates that perceived stress may also act as a mediating factor in the development (Fincham et al. 2009; Haisch and Meyers 2004) and maintenance (Besser, Neria, and Haynes 2009; Hu et al. 2014) of post-traumatic stress disorder symptomatology following traumatic life experiences, such as childhood sexual abuse. Moreover, stress and other non-pathological psychological outcomes can and do impact the general well-being of childhood sexual abuse survivors, and bear investigation in their own right.

The present study expands upon existing literature related to childhood sexual abuse as a predictor of adult health morbidities and addresses a critical research gap by focusing on bisexual Latino men as a distinct group. While previous studies focusing on men who have sex with men have examined the effects of childhood sexual abuse on sexual risk with male partners, this analysis examines sexual risk behaviours with both male and female partners. Current literature specific to men who have sex with men is also largely limited to analysing (same-sex) sexual risk behaviours as the sole outcome; this paper extends this framework to multiple facets of adult health by examining not only sexual risk behaviours, but also STI incidence, polydrug use and mental health outcomes. Additionally, we aim to address a critical research gap related to the impact of early life peer sexual contact (hereafter: 'peer sexual contact group') by implementing a model that compares these outcomes between those reporting childhood sexual abuse, peer sexual contact and no sexual contact prior to age 13. Using this framework, we hope to analyse whether childhood sexual contact will affect adult mental health, sexual risk and substance use more generally, or whether those experiences must be abusive in order to have such effects.

We predict that a history of childhood sexual abuse will be associated with higher rates of sexual risk behaviours, measured by frequency of insertive and receptive condomless anal intercourse with men and condomless vaginal intercourse; higher STI incidence; higher rates of polydrug use; and greater likelihood of screening for clinically significant depressive symptoms and perceived stress. We further predicted that non-abusive peer sexual contact would not be associated with these outcomes.

Methods

Data collection and recruitment procedures

Data were collected between August 2009 and September 2011 (see Muñoz-Laboy et al. 2015a). Participants were recruited in two large metropolitan areas with large Latino populations in New York City and New Jersey. We implemented venue quota sampling to ensure inclusion of men across a diverse range of demographic characteristics, including those who do not self-identify as bisexual: 25% were recruited from venues that were not gay/bisexually oriented nor AIDS-related venues, such as sports teams, religious organisations and workers' organisations; 25% were recruited from venues considered to be 'sexual venues' for men seeking sex with other men, such as Internet sites and public sex places; 25% of the sample was recruited through bisexually oriented venues such as gay bars and clubs; and the remaining 25% came from 'clinical sites', such as community health clinics.

Participants were screened for eligibility using the following inclusion criteria: age (18–60); sex (male); ethnicity (Latino descent); history of sexual encounters with both men and women (behaviourally bisexual); and recent sexual encounters (bisexually active within the preceding six months). Data were collected in connection with a broader project on risk and protective factors among HIV-negative bisexual Latino men; consequently, all participants were HIV-negative. Those meeting eligibility criteria through the automated screening process were asked to schedule a time and date for the in-person interview process, available in English or Spanish. Of the 258 potential participants screened, 148 met the inclusion criteria and were included in the study.

Measures

Demographic characteristics—Demographic characteristics included age (years), annual income and level of formal education (less than high school, high school diploma or high school equivalency, some college, Bachelors degree or higher). As mentioned above, the sample was homogenous regarding ethnicity (Latino), sex (male), sexual behaviour (bisexual) and HIV status (negative).

Childhood sexual abuse—Participants were asked to report the age of their first sexual experience (whether manual, oral, genital or anal). Those who reported a history of sexual contact prior to the age of 13 were subsequently asked if the other person was four or more years older at the time of contact; those who answered 'yes' were defined as having experienced childhood sexual abuse. This definition is consistent with statutory rape laws in numerous states that criminalise sexual contact with persons under the age of 13, including New York (Whitman 2012). This operationalisation encompasses sexual experiences that are indicative of abusive contact, given the power differential between a child/adolescent and perpetrator. This definition is also consistent with findings that statutory rape cases involving victims aged 12 or younger in which there was an age gap of four or more years were most likely to be perceived as abusive, regardless of the nature of the contact (Koon-Magnin and Ruback 2013).

Peer sexual contact—Participants who reported sexual contact prior to age 13, but no incidents in which the other person was at least four years older, were categorised as reporting peer sexual contact and retained in analyses as a separate group for comparison.

Sexual risk behaviours—Sexual risk behaviours were measured by the frequency of condomless penetrative sex acts with both men and women. Participants were asked to report the frequency of receptive condomless anal intercourse with men, insertive condomless anal intercourse with men and condomless vaginal intercourse with women within the preceding two months (Cook, Valera, and Wilson 2015). In regression analyses, these frequencies were dichotomised, and participants were classified as having reported either ‘any’ or ‘no’ incidents for each behaviour.

Lifetime STI incidence—We asked participants to report whether they had ever tested positive for the following STIs: hepatitis B; hepatitis C; genital herpes; genital warts; syphilis; and ‘Other’. Given the inclusion criteria, all participants were HIV-negative. In regression analyses, participants were classified as either having received one or more positive result(s) from an STI test within their lifetime, or never having received a positive STI result.

Polydrug use—We operationalised polydrug use as the recreational use of three or more of the following substances (see Parsons, Grov, and Golub 2012) within the preceding four months: marijuana; pain killers such as Vicodin or Codeine; prescription sedatives such as Valium or Xanax; prescription stimulants such as Ritalin or Adderall; prescription erection pills such as Viagra or Cialis; ecstasy; ketamine; powdered cocaine; GHB; methamphetamine; LSD; PCP; mushrooms; crack-cocaine; heroin; and steroids. For medications, we asked specifically about use without prescriptions.

Clinically significant depressive symptoms—Mental health outcomes were measured using the 53-item Brief Symptom Inventory. The Brief Symptom Inventory is a self-administered questionnaire used to gauge psychiatric symptoms indicative of nine mental health outcomes: somatisation; obsession-compulsion; interpersonal sensitivity; depression; anxiety; hostility; phobia; paranoia; and psychoticism (Derogatis and Spencer 1993). For the purpose of this analysis, we focused solely on the six-item depression subscale, which has shown high internal reliability both in diverse settings ($\alpha = .85$) (Derogatis 1993) and among our sample ($\alpha = .97$). Participants were asked to rank each item on a 5-point scale ranging from 0–4 to represent the severity of depressive symptoms within the preceding seven days. Raw scores were calculated by summing responses for each item, potentially ranging from 0–24. These scores were converted to T-scores using tables included in the Brief Symptom Inventory scoring manual and interpreted in comparison to age–gender appropriate normative data of non-clinical samples of adults (Muñoz-Laboy et al. 2014). T-scores of .80 or higher were considered indicators for clinically significant depressive symptoms; scores below .80 were treated as ‘subclinical’ or ‘undetected’ depression (Muñoz-Laboy et al. 2015b). Although not a diagnostic tool, Brief Symptom Inventory depression subscale scores have shown to be highly correlated with clinical diagnosis of DSM-IV affective disorders, including Major Depressive Disorder, and

moderately correlated with a diagnosis of post-traumatic stress disorder in outpatient settings (Brodbeck et al. 2014).

High perceived stress—Perceived stress was measured using the 10-item Perceived Stress Scale (Cohen and Williamson 1988). The Perceived Stress Scale is a self-administered questionnaire used to quantify levels of stress within the preceding month. For each item, participants ranked the frequency with which they experienced various feelings or situations indicative of stress (e.g. ‘How often have you been upset because of something that happened unexpectedly’ [item 1]) on a scale ranging from 0 (never) to 4 (very often). Four items were reverse coded according to instrument protocol, and responses to each item were summed to formulate raw scores (possible range of 0–40). We used a cut-off score of 20 to indicate ‘high stress’, based on comparisons with data from a normative sample of 2000 adults in non-clinical settings (Cohen and Janicki-Deverts 2012). Cohen and Williamson (1988) reported a Cronbach’s alpha coefficient of .75; Cronbach’s alpha among our sample was .81. The Perceived Stress Scale measures appraised stress, which can have a major impact on day-to-day functioning in spite of being distinct from psychiatric symptomatology. In addition, screening for ‘high perceived stress’ has shown high comorbidity with post-traumatic stress (Besser, Neria, and Haynes 2009; Laganà and Reger 2009).

Data analysis

Data were extracted from the online survey database and analysed using IBM SPSS, Version 23.0. History of childhood sexual abuse and history of peer sexual contact were treated as our primary independent variables. Receptive and insertive condomless anal intercourse with male partners, condomless vaginal intercourse with female partners, lifetime STI incidence, polydrug use, clinically significant depressive symptoms and high perceived stress were analysed as dependent variables. We first conducted descriptive statistics to analyse health outcomes and behaviours among the three specified groups. We then examined bivariate relationships between independent variables and each health outcome, and conducted multivariate analyses using logistic regression models controlling for income and education. In bivariable and multivariable models, odds ratios (OR) and adjusted odds ratios (aOR), respectively, are reported for each adult health outcome. Given the homogeneity of the sample in terms of sex (male), ethnicity (Latino), sexual behaviour (bisexual) and HIV status (negative), it was not necessary to control for these variables. A total of 145 participants provided data on all measures included in regression models; in regression models, only participants providing data for all measures were included in analysis.

Human subjects approval

This study was approved by Columbia University Institutional Review Board (CUMC IRB AAAE0494) and Temple University Institutional Review Board (IRB #20,641).

Results

Sample characteristics

Sample characteristics appear in Table 1. Given the inclusion criteria, the sample was entirely male, Latino, behaviourally bisexual and over age 18. Nearly half (41%) of the sample reported an annual income of under \$10,000. Nearly one-third of the sample ($n = 45$; 31%) had not completed high school, while an additional 27% ($n = 39$) had either a high school diploma or equivalency degree.

Over one in five (22%) participants met the criteria for childhood sexual abuse, while an additional 12.8% reported peer sexual contact (peer sexual contact) prior to the age of 13. Fifty-six per cent of the sample reported at least one incident of condomless anal intercourse (whether receptive or insertive) or condomless vaginal intercourse within the preceding two months; incidence of condomless vaginal intercourse was slightly higher (41%) than insertive condomless anal intercourse (36.5%), and substantially higher than receptive condomless anal intercourse (22.2%). Both receptive and insertive condomless anal intercourse were more common among those with a history of childhood sexual abuse (32.1% and 35.7%, respectively) than those without. A considerable proportion of the sample (21%) reported having tested positive for one or more STIs in their lifetime, with 'Other STI', genital warts and genital herpes being the most commonly reported (12.2, 12 and 10% incidence, respectively).

Nearly one-third (31.1%) of participants reported polydrug use in the preceding four months. The sample scored relatively high on the Brief Symptoms Inventory depression subscale, and over a quarter (26.4%) of respondents met criteria for clinically significant depressive symptoms. Incidence of clinically significant depressive symptoms was significantly higher among the childhood sexual abuse group (42.4%) than the peer sexual contact group (21.2%) and 'no contact' group (20.8%). Likewise, although the sample showed high rates of perceived stress across all three groups (52%; $n = 77$), the incidence of high perceived stress was highest among the childhood sexual abuse group (67%; $n = 22$).

Sexual risk behaviours

Bivariable and multivariable analyses of sexual risk behaviours appear in Table 2. In unadjusted and adjusted logistic regression models, participants with histories of childhood sexual abuse were at significantly greater odds of engaging in receptive condomless anal intercourse with male partners within the preceding two months (OR = 4.13, SE = 2.22, $p < .01$; aOR = 3.59, SE = 2.0, $p < .05$, respectively). Conversely, peer sexual contact was not found to be significantly associated with receptive condomless anal intercourse. In bivariable and multivariable models, neither childhood sexual abuse nor peer sexual contact significantly increased odds of engaging in insertive condomless anal intercourse or condomless vaginal intercourse.

STI incidence and polydrug use

In bivariable and multivariable analyses (see Table 3), neither childhood sexual abuse nor peer sexual contact were significantly associated with lifetime STI incidence or polydrug use.

Clinically significant depressive symptoms

Results from bivariable and multivariable regression analyses for clinically significant depressive symptoms and perceived stress appear in Table 4. In bivariable models, childhood sexual abuse significantly increased participants' odds of screening for clinically significant depressive symptoms (OR = 2.65, SE = 1.15 $p < .05$). This association persisted when logistic regression models were adjusted for education and income (aOR = 2.70, SE = 1.25, $p < .05$). Participants reporting peer sexual contact did not face greater odds of screening for clinically significant depressive symptoms.

High perceived stress

In bivariable models, reporting childhood sexual abuse increased the odds of screening for high perceived stress with marginal significance (OR = 2.48, SE = 1.13, $p < .10$). In multivariable models, this relationship persisted and reached statistical significance (aOR = 2.48, SE = 1.15, $p < .05$). Peer sexual contact was not significantly associated with high perceived stress.

Discussion

Key findings

Childhood sexual abuse and adult health outcomes—Among the three sexual risk behaviours analysed, condomless vaginal intercourse with women had the highest incidence rate among the sample, with nearly half of participants reporting condomless vaginal intercourse within the preceding two months ($n = 70$; 47%). This finding underscores the need to study behaviourally bisexual Latino men as a group separate from generalised and Latino-specific men who have sex with men populations, given that condomless vaginal intercourse is rarely addressed in men who have sex with men research. The relationship between childhood sexual abuse and receptive condomless anal intercourse corroborates other findings pointing to childhood sexual abuse as a factor contributing to engagement in sexual and HIV risk behaviours (Bensley, Van Eenwyk, and Simmons 2000; Mimiaga et al. 2009). Recent HIV surveillance data indicate that if current infection rates continue, one in four Latino men who have sex with men will be diagnosed with HIV in their lifetime (Centers for Disease Control and Prevention 2016). Given this alarming projection, the need to target prevention efforts towards social and environmental factors underlying HIV risk behaviours and engage high-risk Latino men who have sex with men (and women), such as those with histories of childhood sexual abuse, is critical.

Notably, findings from our sample diverge from research with other populations, including generalised populations of Latino men who have sex with men (Boroughs et al. 2015; Kendler et al. 2000), in that childhood sexual abuse was not found to be significantly associated with insertive condomless anal nor vaginal intercourse. Similarly, despite

considerable rates of lifetime STI incidence and polydrug use across our sample (21% and 31%, respectively), these outcomes were significantly associated with childhood sexual abuse. Although this finding may be unique to our sample, we also consider the possibility that mitigating or protective factors specific to bisexual Latino men may buffer the effects of childhood sexual abuse on these outcomes.

Moderating factors such as resiliency, familism, religiosity and social and community support have been shown to mitigate the effects of childhood sexual abuse on substance use (Ai et al. 2016; Taylor 2010; Thomson 2016; Wingo, Ressler, and Bradley 2014) and sexual risk behaviours (Boroughs et al. 2015). Protective factors are likely to differ markedly between bisexual Latino men and other populations (including Latino men who have sex with men), given their unique lived experiences, social communities and support, and contention with multiple levels of social marginalisation. Thus, protective and resilience factors among bisexual Latino men are likely to moderate the effects of childhood sexual abuse on health outcomes differently than other populations. Future research must explore the applicability of previous findings to this population, and seek to further delineate the unique risk and protective factors among bisexual Latino men.

Our analysis of the relationship between childhood sexual abuse, depressive symptoms and perceived stress substantiates an extensive body of evidence that sexual minority men with histories of childhood sexual abuse face heightened risk of negative mental health outcomes (Sauceda, Wiebe, and Simoni 2016; Williams et al. 2015), and expands on existing literature by analysing mental health outcomes of childhood sexual abuse both within and outside the context of psychopathology. Relative to those with no sexual contact prior to the age of 13, those with histories of childhood sexual abuse were over 2.5 times more likely to screen for clinically significant depressive symptoms, suggesting that the link between childhood sexual abuse and adult depression spans culturally and linguistically diverse populations. Similarly, childhood sexual abuse was associated with approximately 2.5-fold increased odds of screening for high perceived stress. This finding may further support the notion of perceived stress as a mediating factor in the endurance and severity of post-traumatic stress among survivors of traumatic life experiences. Moreover, the link between childhood sexual abuse and high perceived stress suggests that trauma-induced stress in childhood may persist into adulthood, sometimes manifesting in more acute, discreet or seemingly ‘everyday’ stress not indicative of psychopathology. Although this finding highlights a clear association between childhood sexual abuse and perceived stress, future research is needed to analyse whether perceived stress mediates the maintenance of traumatic symptoms in adulthood.

Peer sexual contact—Unlike childhood sexual abuse, peer sexual contact was not significantly associated with any of the studied health outcomes. This suggests an important distinction between abusive/coercive sexual experiences and non-abusive/non-coercive sexual contact or sexual experimentation at a young age, and addresses a critical gap in the literature. Furthermore, the lack of differentiation between the peer sexual contact and ‘No Contact’ group provides insight into the underlying factors confounding the relationship between childhood sexual abuse and the studied outcomes, suggesting that the coercion, power differential, non-consent and trauma associated with childhood sexual abuse are central to this link. As such, it is crucial that researchers distinguish consensual sexual

contact at a young age from coercive, non-consensual childhood sexual abuse in order to gain better insight into the long-term effects of childhood sexual abuse. This finding also has important implications for practitioners, indicating that sex education and childhood sexual abuse prevention programmes for young people should emphasise consent and power dynamics, rather than depicting all early sexual activity as inherently risky or problematic.

Limitations

Our study has several limitations. First, the cross-sectional design poses a limitation to fully understanding the impact of childhood sexual abuse on adult health and behaviour. In addition, the design limits the ability to make causal inferences in the exploratory associations found.

Second, the data utilised are generated from a community sample of behaviourally bisexual men in two large metropolitan areas that bear a high burden of HIV infection. Therefore, while this study represents a useful illustration of the risk profile and characteristics of men impacted by childhood sexual abuse, the generalisability of specific findings must also necessarily be viewed in light of sample characteristics.

Our operationalisation of childhood sexual abuse presents several limitations as well. We defined childhood sexual abuse as any sexual activity prior to age 13 in which the other person was at least 4 years older; this measure excluded victims of childhood sexual abuse whose perpetrators were not substantially older, and did not consider factors that may mitigate or exacerbate traumatic effects of the childhood sexual abuse (e.g. relationship to perpetrator, penetrative/non-penetrative abuse, frequency of abuse, etc.). Relatedly, our operationalisation of peer sexual contact did not address power dynamics or consent; any individuals who experienced sexual abuse from peers would unfortunately have been classified as experiencing peer sexual contact rather than childhood sexual abuse.

Additionally, this study was based entirely off self-reported data; therefore, all limitations related to this type of data collection are applicable.

Finally, it is possible that the impact of childhood sexual abuse may differ within different subpopulations of behaviourally bisexual men (e.g. those who report resilience factors, including social support) that were not included in our analyses. Subsequent research, particularly with larger samples, might further explore the complex factors that influence long-term outcomes of childhood sexual abuse in this population.

Conclusions

Findings from this study indicate that childhood sexual abuse is a pervasive public health concern in our sample, and further illustrate the negative impact of childhood sexual abuse on multiple facets of adult health. The specific focus here on behaviourally bisexual men sheds new light on an understudied population and illustrates a high prevalence of condomless vaginal and anal intercourse, STI incidence, polydrug use, high perceived stress and depressive symptoms, both within and outside the context of childhood sexual abuse histories. Findings build upon the well-documented negative impact of childhood sexual

abuse on various facets of adult health, and address a critical research gap by considering the relative impact of childhood sexual abuse and peer sexual experiences on adult health. Analyses revealed that peer sexual contact did not predict the studied outcomes as childhood sexual abuse did, highlighting the central role of coercion and non-consent in the development of negative long-term health outcomes.

In the light of alarming HIV transmission projections for Latino men who have sex with men, the present findings indicate a crucial need for HIV/STI prevention efforts to better engage Latino men who have sex with men and avail appropriate services and resource/treatment referrals to survivors of childhood sexual abuse. Furthermore, the high rates of depressive symptoms and high perceived stress among our entire sample – regardless of childhood sexual abuse history – indicates a need to better engage this population in relevant treatment and services, with particular focus on mental health disparities. Findings suggest that the association between sexual abuse and adult depression is not isolated to generalised populations, affecting Latino men similarly despite cultural differences. Moreover, the relationship between childhood sexual abuse and high perceived stress among our sample underscores a need to further explore the link between post-traumatic stress in childhood and perceived stress in adulthood. Results from this study diverge from previous findings in that childhood sexual abuse did not significantly predict certain sexual risk behaviours, STI incidence or polydrug use. Future research should explore potential protective or mitigating factors specific to bisexual Latino men to determine how these factors impact the role of childhood sexual abuse on these outcomes, and how this may differ from other study populations, including Latino men who have sex with men.

Given the high prevalence of childhood sexual abuse among our sample and well-documented impact of childhood sexual abuse on various behavioural, physical, social and psychological aspects of long-term adult health, the need for culturally and linguistically appropriate engagement, prevention and treatment services for behaviourally and self-identified bisexual Latino men across all areas of practice – from HIV prevention to substance use and mental health – has never been more crucial.

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Table 1

Sample characteristics by childhood sexual abuse (CSA) and peer sexual contact (PSC).

	Full Sample	No Contact	CSA	PSC
	N (%)	N (%)	N (%)	N (%)
<i>CSA/PSC</i>				
None	96 (65%)	–	–	–
Childhood Sexual Abuse	33 (22%)	–	–	–
Peer Sexual Contact	19 (13%)	–	–	–
<i>Education (N = 145)</i>				
Less than High School	45 (30%)	29 (30%)	10 (30%)	6 (32%)
High School or High School Equivalency	39 (26%)	28 (29%)	6 (18%)	5 (26%)
Some College	37 (25%)	24 (25%)	9 (27%)	4 (21%)
Bachelors Degree or Higher	24 (16%)	12 (13%)	8 (24%)	4 (21%)
<i>Income (N = 145)</i>				
\$0–\$9999	60 (41%)	39 (41%)	15 (45%)	6 (32%)
\$10,000–\$19,999	35 (24%)	21 (22%)	7 (21%)	7 (37%)
\$20,000–\$29,999	15 (10%)	12 (13%)	2 (6%)	1 (5%)
\$30,000–\$39,999	21 (14%)	14 (15%)	5 (15%)	2 (11%)
\$40,000 or Greater	14 (9%)	7 (7%)	4 (12%)	3 (16%)
<i>Outcomes</i>				
Receptive CAI with Male Partner(s)	20 (14%)	8 (8%)	9 (27%)	3 (16%)
Insertive CAI with Male Partner(s)	35 (24%)	23 (24%)	10 (30%)	2 (11%)
CVI with Female Partner(s)	70 (47%)	43 (45%)	19 (58%)	8 (42%)
Positive STI Result	31 (21%)	26 (27%)	7 (21%)	2 (11%)
Polydrug Use	46 (31%)	28 (29%)	11 (33%)	7 (37%)
Clinically Significant Depressive Symptoms	38 (26%)	20 (20.8%)	14 (42%)	4 (21%)
High Perceived Stress	77 (52%)	47 (49%)	22 (67%)	8 (42%)
<i>N*</i>	(148)	(96)	(33)	(19)

Legend: CSA: childhood sexual abuse; PSC: peer sexual contact; CAI: condomless anal intercourse; CVI: condomless vaginal intercourse.

* For education and income, $N = 145$ for full sample and $n = 93$ for 'No Contact' group. For depression, $N = 144$ for full sample and $n = 92$ for 'No Contact' group.

Polydrug use is operationalised as the use of 3+ illicit substances in the past 3 months.

High stress is operationalised as a score of 20+ on the Perceived Stress Scale.

Table 2

Reports of sexual risk behaviours by childhood sexual abuse (CSA) and peer sexual contact (PSC).

	Receptive UAI, Main Male Partner				Insertive UAI, Main Male Partner				UVI, Main Female Partner			
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
	OR	SE	aOR	SE	OR	SE	aOR	SE	OR	SE	aOR	SE
<i>CSA/PSC (ref: none)</i>												
Child Sexual Abuse	4.13 ^{**}	2.22	3.59 [*]	2.00	1.38	0.62	1.26	0.58	1.67	0.68	1.90	0.82
Peer Sexual Contact	2.06	1.5	2.07	1.55	0.37	0.29	0.36	0.29	0.90	0.46	0.86	0.46
<i>Education (ref: less than High School)</i>												
High School or High School Equivalency			0.80	0.56			0.69	0.37			1.02	0.47
Some College			0.74	0.52			0.70	0.38			0.68	0.32
Bachelors Degree or Higher			1.57	1.25			0.99	0.66			0.76	0.45
<i>Income (ref: \$0–\$9999)</i>												
\$10,000–\$19,999			0.43	0.31			0.86	0.45			2.47 [*]	1.11
\$20,000–\$29,999			0.37	0.42			0.79	0.58			3.05 ^{***}	1.88
\$30,000–\$39,999			0.61	0.51			1.54	0.95			2.66 ^{***}	1.52
\$40,000 or Greater			0.49	0.46			0.83	0.65			1.41	0.92
Log Likelihood		–55.16				–79.49		–77.66		–101.45		–95.66
LR χ^2 (df)		6.91 (2)				2.92 (2)		4.95 (9)		1.85 (2)		9.35 (9)
Pseudo R^2		0.06				0.02		0.03		0.01		0.05

Legend: CSA: childhood sexual abuse; PSC: peer sexual contact; CAI: condomless anal intercourse; CVI: condomless vaginal intercourse.

* $p < .05$

** $p < .01$

*** $p < .10$. $N = 148$ in bivariable models 145 in multivariable models.

Table 3
 Reports of STI incidence and polydrug use by childhood sexual abuse (CSA) and peer sexual contact (PSC).

	Lifetime STI Incidence				Polydrug Use			
	Model 1		Model 2		Model 1		Model 2	
	OR	SE	aOR	SE	OR	SE	aOR	SE
<i>CSA/PSC (ref: none)</i>								
Childhood Sexual Abuse	0.91	0.44	0.94	0.48	1.21	0.52	1.32	0.59
Peer Sexual Contact	0.39	0.31	0.42	0.34	1.42	0.75	1.60	0.87
<i>Education (ref: less than High School)</i>								
High School or High School Equivalency			0.99	0.55			1.76	0.84
Some College			0.85	0.49			0.98	0.50
Bachelors Degree or Higher			0.63	0.47			0.63	0.41
<i>Income (ref: \$0-\$9999)</i>								
\$10,000-\$19,999			0.98	0.56			0.62	0.30
\$20,000-\$29,999			1.71	1.19			1.10	0.70
\$30,000-\$39,999			3.28	2.07			1.48	0.87
\$40,000 or Greater			0.95	0.83			0.97	0.68
Log Likelihood		-75.12				-91.46		-0.88
LR χ^2 (df)		1.68 (2)				0.53 (2)		4.94 (9)
Pseudo R^2		0.01				<.01		0.03

Legend: CSA: childhood sexual abuse; PSC: peer sexual contact.

* $p < .05$

** $p < .01$

*** $p < .10$. $N = 148$ in bivariable models 145 in multivariable models for STI incidence and polydrug use.; Polydrug use is operationalised as the use of 3+ illicit substances in the past 3 months.

Table 4

Reports of clinically significant depressive symptoms and high perceived stress by childhood sexual abuse (CSA) and peer sexual contact (PSC).

	Clinically Significant Depressive Symptoms						High Perceived Stress					
	Model 1		Model 2		Model 1		Model 1		Model 1		Model 2	
	OR	SE	aOR	SE	OR	SE	aOR	SE	OR	SE	aOR	SE
<i>CSA/PSC (ref: none)</i>												
Childhood Sexual Abuse	2.65*	1.15	2.70*	1.25	2.09***	0.88	2.48*	1.13				
Peer Sexual Contact	0.96	0.59	0.99	0.63	0.76	0.38	0.76	0.42				
<i>Education (ref: less than High School)</i>												
High School or High School Equivalency			1.15	0.75			2.38***	1.12				
Some College			0.70	0.40			2.33***	1.11				
Bachelors Degree or Higher			1.77	1.27			1.27	0.78				
<i>Income (ref: \$0-\$9999)</i>												
\$10,000-\$19,999			0.66	0.33			1.83	0.84				
\$20,000-\$29,999			0.30	0.25			1.22	0.75				
\$30,000-\$39,999			0.61	0.40			1.63	0.95				
\$40,000 or Greater			0.10*	0.12			0.43	0.31				
Log Likelihood		-80.44		-75.60		-100.46		-92.51				
LR χ^2 (df)		5.32 (2)		14.39 (9)		4.01 (2)		15.65 (9)				
Pseudo R^2		0.03		0.09		0.02		0.08				

Legend: CSA: childhood sexual abuse; PSC: peer sexual contact.

* $p < .05$

** $p < .01$

$p < .10$. $N = 144$ in bivariable and 143 in multivariable models for depressive symptoms. $N = 148$ in bivariable models and 145 in multivariable models for high perceived stress; Clinically significant depressive symptoms is operationalised as a T-score of .80 or higher on the BSI depression subscale.

High perceived stress is operationalised as a score of 20+ on the Perceived Stress Scale.