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Pathways from Childhood Sexual Abuse to Sexual Risk Behaviour in MSM: A Mixed Methods Study

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PATHWAYS FROM CHILDHOOD SEXUAL ABUSE TO SEXUAL RISK BEHAVIOUR IN MSM: A MIXED METHODS STUDY

by

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DECLARATION OF ORIGINALITY

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ABSTRACT

Men who have sex with men (MSM) are disproportionately affected by childhood sexual abuse (CSA) compared to heterosexual men. CSA has been associated with a wide range of adverse outcomes later in life, including engagement in sexual risk behaviours (e.g., condomless anal intercourse), that place MSM at greater risk for HIV acquisition and transmission. Although the links between CSA and sexual risk are well-established among MSM, little research has investigated psychosocial factors that may mediate this relationship. Using a mixed-method approach, this study (a) explored psychosocial factors as pathways linking a composite of complex CSA experiences (i.e., CSA complexities) with sexual risk (N = 297 HIV-uninfected men; M_{age} = 38.0, SD = 11.6) and (b) drew upon the perspectives and experiences of a subset of MSM with histories of CSA (n = 39). Mediation analyses provided some support for hypotheses. CSA complexities were positively associated with sexual risk behaviours (i.e., condomless anal and/or vaginal intercourse) cross-sectionally and negatively associated with change in sexual risk behaviours over time. CSA complexities had a positive indirect effect on sexual risk behaviours only through the PTSD avoidance symptom cluster cross-sectionally, but not over time. There were no significant indirect effects of CSA complexities on sexual risk behaviours through substance use and other PTSD symptom clusters both cross-sectionally and over time. Thirty-nine audio recorded and transcribed impact statements were analyzed to provide insight into how CSA is related to cognition, affect, behaviour, and resilience among MSM. Findings are discussed in terms of their implications for informing HIV prevention interventions.

Keywords: MSM, childhood sexual abuse, sexual risk, substance use, PTSD

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CHAPTER 1

INTRODUCTION

Childhood sexual abuse (CSA) is a serious public health concern, both in the United States and globally (Hailes et al., 2019; Letourneau et al., 2018). In the United States, CSA is common among adults with an estimated prevalence of 5% in men and 25% in women (Centers for Disease Control and Prevention [CDC], 2022). CSA can be defined as any completed or attempted sexual act (i.e., those involving penetration), sexual contact (i.e., intentional touching with no penetration), or exploitation (i.e., exposing a child to sexual activity, taking sexual photographs or videos of a child, sexual harassment, prostitution, trafficking), of a child or adolescent (less than 18 years old) by an adult (CDC, 2022; Leeb et al., 2008). CSA may be a unique form of childhood maltreatment with specific relational characteristics (e.g., boundary violations, betrayal, sexual traumatization) that result in deleterious effects that are distinct from other forms of childhood maltreatment (Noll, 2008). The experience of CSA is a risk factor for a broad array of mental (e.g., anxiety, depression; Amado et al., 2015; Fergusson et al., 2013) and physical (e.g., structural brain changes, gastrointestinal problems; Hart & Rubia, 2012; Irish et al., 2010) health problems that extend well beyond the immediate act of abuse and can last into adulthood. A history of CSA is also associated with health risk behaviours such as increased substance misuse (Fergusson et al., 2013; Halpern et al., 2018), sexual risk taking (e.g., unprotected sexual intercourse, sex with multiple partners, exchanging sex for money and drugs; Abajobir et al., 2017; Arriola et al., 2005), and suicide (Devries et al., 2014; Maniglio, 2010). Despite the diversity in negative psychosocial outcomes, some sexually abused individuals do well and are considered to

be resilient (McGloin & Widom, 2001). Resilience is defined as a dynamic process of relatively positive adaptation following significant adversity or trauma (Luthar, 2006), and can involve both internal (e.g., personality) and/or external (e.g., supportive relationships) factors that interact to bolster resilience (Windle, 2011). Although CSA research has increased significantly in the past few decades (Fergusson et al., 2013), most of the literature has focused on women (Turner et al., 2017). Less research has focused on the impact of CSA specifically among men (Turner et al., 2017). In fact, CSA is disproportionately higher among sexual minority men (i.e., gay, bisexual, and other men who have sex with men [MSM]) with a meta-analysis, consisting of 12 studies from the United States, indicating prevalence rates of 27.3% of MSM reporting a history of CSA (Lloyd & Operario, 2012). Furthermore, based on a nationally representative American sample, bisexual men had 12.8 times the odds for CSA and gay men had 9.5 times the odds for CSA compared to heterosexual men (Sweet & Welles, 2012).

Among MSM, CSA has been identified as an important predictor of psychological and behavioural sequelae (Boroughs et al., 2015; Mimiaga et al., 2009). In particular, the effects of CSA on the sexual behaviour among MSM are well documented. Several studies suggest that MSM with a history of CSA have higher rates of sexual risk behaviours such as unprotected anal intercourse, serodiscordant unprotected anal intercourse (i.e., one partner is HIV-infected whereas the other is not), frequent casual sex partners, sex while under the influence of alcohol and other drugs, and sex work, compared to MSM with no history of CSA (Arreola et al., 2009; Levine et al., 2018; Lloyd & Operario, 2012; Mimiaga et al., 2009; O'Leary et al., 2003; Tomori et al., 2016; Williams et al., 2015; Xu et al., 2018). Although the literature supports a link between

CSA and sexual risk behaviours, the causal pathways through which psychological and behavioural sequelae operate to influence sexual risk behaviours among MSM is not well-understood (Wang et al., 2017). This gap in the literature is concerning given that the presence of CSA in MSM is considered part of a syndemic (i.e., interacting psychosocial health conditions that contribute to the burden of disease in a population) that increases the likelihood of sexually transmitted infections (STIs), including HIV (Katz et al., 2016; Mimiaga et al., 2015; Stall et al., 2003). The relatively high incidence of HIV and other STIs via male-to-male sexual contact (e.g., condomless anal intercourse[1]) among MSM continues to be a growing public health threat in the United States (de Voux et al., 2017). Accordingly, research has emphasized identifying biological and psychosocial factors as potential predictors of sexual risk behaviours (Cooper, 2010; Mustanski, 2008), which is necessary to design and implement innovative prevention interventions aimed at reducing sexual risk among MSM (Goldenberg et al., 2019). To have a more complete understanding of CSA and its impact on sexual risk among MSM, a mixed method design was used. More specifically, a quantitative approach was used to examine psychosocial factors as potential mechanisms of change (i.e., mediators) of the longitudinal association between CSA and sexual risk to further clarify *how* CSA impacts sexual risk. A qualitative approach was used to allow for an in-depth understanding of MSM's lived experiences with CSA and the meaning and impact of these experiences from their own perspectives.

[1] I used the term "condomless intercourse" when referencing a previous study that used the same term and when discussing the sexual risk variable in the current study. I used the term "unprotected intercourse" when referencing a previous study that used the same term.

CHAPTER 2

LITERATURE REVIEW

CSA and Sexual Risk Behaviour

There is substantive evidence regarding sexual health inequities experienced by MSM (Wolitski & Fenton, 2011). MSM continue to be disproportionately affected by HIV in the United States; they account for the largest portion of people living with HIV (69%) and most new infections each year (70%; CDC, 2022). MSM also remain disproportionately affected by STIs such as gonorrhea and primary and secondary syphilis (CDC, 2023). Previous studies have often focused on recent or more proximal biological (e.g., hormonal changes), behavioural (e.g., sexual risk behaviours), and social (e.g., low socioeconomic status) risk factors for the acquisition of HIV and other STIs (Ford & Browning, 2013; Haghir et al., 2018; McCree & Rompalo, 2007). Less frequently considered are adverse childhood experiences, such as CSA, which may have long-term effects on adult sexual behaviour that increases the risk of STIs, including HIV, despite occurring long before seroconversion and possible future transmission to others (Jones et al., 2010). Indeed, MSM with CSA histories are 1.54 times more likely to be HIV positive compared to MSM without CSA histories (Lloyd & Operario, 2012).

MSM and other populations who experience CSA may be at an increased risk for HIV and other STIs for a few reasons: (a) direct contact through CSA (Kelly & Koh, 2006; Rogstad et al., 2016); (b) increased rates of sexual risk behaviours among victims of CSA (Scheidell et al., 2017; Senn et al., 2008) and other forms of childhood maltreatment (Walsh et al., 2014; Wilson & Widom, 2011); and (c) earlier sexual debut (Fergusson et al., 2013; Wilson & Widom, 2008). Of these reasons, sexual risk

behaviours are the primary way through which HIV and other STIs are acquired (Beidas et al., 2012). Although the most studied sexual risk behaviour among MSM is unprotected anal intercourse (Marks et al., 2006), another important indicator of sexual risk is the total number of male sexual partners (Beidas et al., 2012). Having multiple sexual partners expands a sexual network and puts men at higher risk for contact with an HIV-infected partner and predicts HIV seroconversion among MSM (Koblin et al., 2006). Identifying correlates of unprotected anal intercourse and/or the total number of male sexual partners as indicators of sexual risk may inform future intervention and prevention programs for MSM (DiClemente et al., 2008).

What is unique about CSA as a traumatic experience is that it can have two different effects on sexual behaviour–victims may either avoid engaging in sexual behaviour for fear of possible revictimization (Walker et al., 2017) or psychosocial changes may occur (explained below) that lead to an increased likelihood of engaging in sexual risk behaviours (Scheidell et al., 2017). Considering the high incidence of HIV and other STIs among MSM with CSA histories, researchers and advocates have argued for decades for greater attention toward the links between CSA and sexual risk (Levine et al., 2018). Incorporating aspects of different theoretical perspectives into the understanding of the processes underlying individual pathways from CSA earlier in life to sexual risk later in life can be useful for guiding research endeavours.

Theoretical Frameworks

Theoretical frameworks and models that describe how the sequelae of CSA may consist of several pathways that increase the likelihood of sexual risk behaviours are discussed below.

Attachment Theory. According to attachment theory, the bonds formed between children and adults are influenced by the type, quantity, and quality of caregiving a child has received from attachment figures (Simpson et al., 2020). Bowlby's (1982) conception of internal working models (i.e., mental representations of the self and others) guides thoughts, feelings, and behaviours within attachment relationships. Working models form the basis for attachment patterns in children; however, for adolescents and adults, these attachment patterns become attachment orientations, which reflect those earlier working models (Simpson et al., 2020). The two primary adult attachment orientations are avoidance (i.e., the degree to which people in relationships feel at ease being physically and emotionally close) and anxious (i.e., the degree to which individuals worry about being abandoned or rejected in relationships; Brennan et al.,1998; Simpson & Rholes, 2019). Exposure to CSA damages internal working models and the secrecy, deception, and betrayal typically associated with CSA may disrupt the development of positive and long-lasting relationships (Ayoub et al., 2003; Finkelhor & Brown, 1985). As such, experiences of CSA correlate with higher levels of avoidant (r = .15) and anxious (rs = .10 to .17) attachment (Brassard et al., 2014; Frías et al., 2014). These attachment styles in adult relationships shape an individual's decision-making process, including engaging or not engaging in sexual risk behaviours (Kim & Miller, 2020). Individuals with negative working models of others may seek to avoid intimacy with other people due to the fear of rejection and/or may be motivated to be independent, which could lead to multiple, brief sexual relationships instead of enduring and monogamous relationships (Feeney, 1995; Griffin & Bartholomew, 1994; Senn & Carey, 2010). Individuals with negative working models of themselves may become anxious about relationship issues;

they usually prioritize trying to maintain their relationship, tend to perceive themselves as unworthy of love, and put the needs of others above their own (Kim & Miller, 2020). For example, they may worry about being rejected if they insist on using condoms, and thus are likely to avoid negotiating safer sex practices for fear of potentially jeopardizing a relationship (MacDonald et al., 2016). The relevant literature suggests attachment styles are linked with a range of sexual risk behaviours, including higher levels of attachment anxiety predicting number of unprotected vaginal or anal sex sexual partners of unknown or negative HIV status among men and women (b = 0.43; Ciesla et al., 2004) and less healthy sexual attitudes among adolescents (b = 0.12; McElwain et al., 2015). Conversely, gay men with avoidant attachment had 31.5 times the number of casual unprotected anal intercourse partners compared to other attachment styles (Starks & Parsons, 2014). Taken together, part of the theoretical underpinning that explores the link between CSA and sexual risk behaviours may involve aspects of disrupted attachment.

Social-Cognitive Theory. Within the context of social-cognitive theory, Paul and colleagues (2001) developed a model specific to MSM that integrates other theoretical formulations to examine CSA and its relationship to sexual risk. Some of these formulations include traumagenic dynamics (Finkelhor & Browne, 1985) and information-motivation-behavioural (IMB) skills (Fisher & Fisher, 1992).

Traumagenic Dynamics. The traumagenic dynamics model suggests there may be four consequences of CSA: (a) traumatic sexualization (i.e., maladaptive scripts for sexual behaviour are developed because the child receives rewards [e.g., attention, gifts] for engaging in sexual activity), (b) betrayal and lack of trust, (c) stigmatization, and (d) powerlessness (Finkelhor & Browne, 1985). All four traumagenic dynamics may

influence later sexual risk behaviour. Traumatic sexualization may lead individuals who were sexually abused to have many sexual partners or engage in sexual risk taking to obtain affection, attention, or other rewards. Feeling betrayed by the perpetrator, how others respond when told about the abuse experience, or others' failure to recognize and stop the abuse may make it difficult for some victims of CSA to trust others and form close relationships, which may result in brief, multiple sexual relationships. Stigmatization may engender the feeling of being sexually different from others and victims may come to believe that they are "marked" as someone who frequently engages in, or enjoys, sexual activity. These feelings may be internalized and facilitate having multiple sexual partners or engaging in unsafe sexual practices. Lastly, individuals with a history of CSA may have felt powerless during the abuse experience(s). This may result in feeling unable to control the sexual aspects of relationships such as the ability to refuse sex in general or to refuse risky sex in particular. Although it is reasonable to expect that feelings of betrayal and powerlessness could be related to any form of childhood maltreatment, traumatic sexualization is thought to be uniquely associated with CSA (Finkelhor & Browne, 1985).

The four traumagenic dynamics associated with CSA may directly alter cognitive processes (Smith et al., 2004). Although it would seem that victims of CSA would have a propensity to see more danger in situations than nonvictims, cognitive alterations may impair the ability to accurately assess situations, which can result in a diminished awareness of danger (Smith et al., 2004). Consistent with this, previous studies have reported that trauma victims (including those with CSA) perceive less risk associated with illicit drug use and sexual risk behaviours than nonvictims and may demonstrate

deficits in risk recognition (Melkonian et al., 2017; Smith et al., 2004; Soler-Baillo et al., 2005).

IMB Skills. In addition to the traumagenic dynamics model, the IMB skills model (Fisher & Fisher, 1992) may help to explain the relationship between CSA and sexual risk behaviours. In this model, information (about transmission, prevention, and consequences of STIs), motivation (to protect oneself and attitudes towards safer sex), and behavioural skills (to discuss safer sex with a partner and use condoms) impact sexual risk behaviours (Fisher & Fisher, 1992). Multiple studies support the association between the IMB constructs and sexual risk behaviours. *Information* was negatively associated with vaginal and/or anal intercourse among youth (b = -.24; Fisher, 2011). *Motivation* was negatively associated with vaginal and/or anal intercourse among youth (b = -0.17 Fisher, 2011) and a composite measure of sexual risk behaviour among youth (i.e., number of sexual partners in the past three months and consistency of condom use in the past three months; b = -0.40; Mustanski et al., 2006), and positively associated with condom use among young Black men (b = 0.43; Jones et al., 2018) and among patients attending an STI clinic (b = 0.17; Scott-Sheldon et al., 2010). *Behavioural skills* were positively associated with a composite measure of sexual risk behaviour among youth (b = 0.13; Mustanski et al., 2006) and condom use among patients attending an STI clinic (b = 0.47; Scott-Sheldon et al., 2010), and negatively associated with condom use among young Black men (b = -0.18; Jones et al., 2018). The level of information, motivation, and behavioural skills related to sexual risk may be influenced by CSA (Castro et al., 2019). CSA has been linked to less HIV-related knowledge, fewer safer sex attitudes, and less safer sex self-efficacy (Brown et al., 2000; Hall et al., 2008; Noll et al., 2003a; Senn

et al., 2012; Slonim-Nevo & Mukuka, 2007). There have been a number of reasons put forth to explain these associations. CSA may disrupt the encoding, processing, and/or remembering of sex-related information about prevention and risky behaviours (Zurbriggen & Freyd, 2004). Alternatively, perpetrators of CSA often lie or distort reality (Zurbriggen & Freyd, 2004); individuals who have experienced CSA may find it difficult to accurately assess the reality of their risk in sexual situations and if they do not believe they are at risk, they may not see the need to use a condom and may have less favourable attitudes towards condoms (Senn et al., 2012). Furthermore, the self-efficacy or skills required to engage in safer sex may be lacking among individuals who experienced CSA because they may have learned that they have no control over sexual situations (Zurbriggen & Freyd, 2004). Similar to attachment theory, aspects of social-cognitive theory may play a role in helping to understand the links between CSA and sexual risk.

Syndemic Theory. A syndemic is a set of co-occurring and mutually reinforcing health conditions that negatively impact the general state of health of a population and persist within the context of harmful social conditions (Singer, 1996, 2009). Although syndemic theory has been applied to a number of disciplines (Singer et al., 2017), this theory has been useful for examining sexual and other risky behaviours among MSM (Muñoz-Laboy et al., 2018). For instance, syndemic indicators that cluster specifically among MSM are thought to include victimization experiences (e.g., CSA, intimate partner violence) and mental health problems (e.g., depression, posttraumatic stress disorder [PTSD], substance use) that interact to increase the likelihood of health-related outcomes such as HIV risk behaviours, HIV acquisition, HIV viral load, medication

adherence, and healthcare utilization (Dyer et al., 2012; Friedman et al., 2015; Herrick et al., 2013; Mimiaga et al., 2015; Mustanski et al., 2014; O'Cleirigh et al., 2018).

Furthermore, psychosocial syndemic indicators have been shown to have an additive effect. For example, one study found a greater number of psychosocial health problems (i.e., polydrug use, depression, intimate partner violence, and/or CSA) were associated with greater odds for having unprotected anal intercourse with a partner of serodiscordant or unknown status (odds ratio [*OR*] = 1.60 for one problem; *OR* = 2.40 for two problems; *OR* = 3.50 for three and four problems; Stall et al., 2003). Batchelder and colleagues (2019) reported a significant effect of the number of clinical diagnoses (i.e., substance use disorder; major depressive disorder, PTSD, and anxiety disorders) on episodes of condomless sex; the incident rate of episodes of condomless sex coincided with a 14% increase for every additional diagnoses. In a study of Latinx MSM, those with two or more syndemic factors (i.e., heaving drinking, sex work, homophobic discrimination) reported 3.96 more male partners and 4.73 more condomless anal intercourse with main and casual partners than those with no syndemic factors (Martinez et al., 2020). Longitudinally, compared to MSM with no psychosocial health conditions (i.e., depressive symptoms, CSA, heavy alcohol use, stimulant use, polydrug use), those with four or five conditions were 4.26 times more likely to engage in serodiscordant unprotected anal intercourse (SDUA) over a four year follow-up, those with three conditions were 2.23 times more likely to engage in SDUA, those with two conditions were 1.69 times more likely to engage in SDUA, and those with one condition were 1.24 times more likely to engage in SDUA (Mimiaga et al., 2015).

Traditionally, CSA has been considered one of the factors influencing the development of syndemics (Stall et al., 2003) as the challenges associated with being part of a sexual minority group (e.g., disproportionate rates of CSA) contribute to, and interact with, various psychosocial conditions in adulthood (e.g., depression, PTSD, substance use) that increase the likelihood of health challenges faced by MSM (Boroughs et al., 2015). Syndemic theory, along with the other theories described above, provide some of the relevant frameworks through which to view and understand CSA and sexual risk. Considering the relationship between the two, it is also important to identify mediators that may serve as pathways to explain this link and to facilitate an understanding of how CSA influences the behavioural health of MSM (Wang et al., 2017). Two pathways, through which a history of CSA may influence sexual risk behaviour, are substance use and mental health problems.

Pathways from CSA to Sexual Risk Behaviour

Understanding the link between past experiences of CSA and current sexual risk behaviours is critical for the development of prevention and intervention programs (Thompson et al., 2016). Miller (1999) proposed a theory that substance use, poor sexual adjustment, psychopathology, and social network characteristics serve as mediators between CSA and sexual risk behaviour in women. Similarly, Purcell and colleagues (2004) hypothesized that CSA may influence later HIV risk behaviours in men through mediating variables such as substance use, psychological distress, sexual dysfunction, and revictimization. In addition to the proposed mediators mentioned above, other mediators such as self-efficacy and assertiveness have also been hypothesized (Malow et al., 2006). Some overlap between these conceptual models suggest that CSA has an

indirect effect on sexual risk through its link with substance use and mental health difficulties.

CSA and Substance Use

Exposure to stressors and trauma early in life is a risk factor that may, to some extent, contribute to the onset of problematic substance use (Carliner et al., 2016; Enoch, 2011). CSA has been linked with increased alcohol misuse (e.g., heavy drinking, hazardous drinking, alcohol dependence), alcohol use disorder, non-illicit (e.g., nicotine, cannabis) and illicit (e.g., opioids, amphetamines, crack/cocaine) drug use, illicit drug dependence, prescription drug misuse, polysubstance use, and accidental overdose (Afifi et al., 2012; Alvarez-Alonso et al., 2016; Boroughs et al., 2015; Cutajar et al., 2010a, 2010b; Elliot et al., 2014; Fergusson et al., 2013; Fix et al., 2019; Hadland et al., 2012; Lown et al., 2010; Nelson et al., 2006; Tonmyr & Shields, 2017; Tonmyr et al., 2010). In a recent meta-analysis of 10 longitudinal studies, Halpern and colleagues (2018) reported that the risk for substance misuse later in life was 73% higher in individuals who suffered CSA. Furthermore, the positive association between CSA and alcohol abuse/dependence (*OR*s range from 1.51 to 2.50) and between CSA and drug/abuse dependence (*OR*s range from 2.53 to 3.80) remains significant even after controlling for individual, familial, and societal factors (Afifi et al., 2014; Fuller-Thomson et al., 2016). Relatedly, in a twin study, for CSA-discordant same-sex pairs, twins reporting a history of CSA were 1.66 times more likely to use any cannabis, 2.08 times more likely to use any opioids, 1.90 times more likely to use any sedatives, and 2.56 times more likely to use any cocaine compared to their non-sexually abused co-twins even after controlling for familial influences (Nelson et al., 2006). In another twin study, after adjusting for potential

confounds of familial influences, CSA was positively associated with higher rates of alcohol dependence (*OR* = 2.02; Sartor et al., 2007). There is also some evidence that more intrusive (e.g., oral sex, intercourse) and frequent CSA increases the risk for substance misuse, suggesting a dose-response effect. For example, individuals with more intrusive CSA histories that included attempted, or having had, intercourse were up to 5.7 times more likely to experience alcohol and drug dependence compared to those with less intrusive CSA histories that included kissing and genital touching (Kendler et al., 2000). Moreover, experiencing three or more episodes of CSA was associated with an increased likelihood of amphetamine use (*OR* = 2.0), amphetamine use disorder (*OR* = 2.90), and frequent cannabis use (*OR* = 3.60) compared to experiencing one or two episodes of CSA (Hayatbakhsh et al., 2009a, 2009b).

The majority of literature on drug and alcohol use has focused on its ability to alleviate negative affect as a coping strategy for dealing with adverse life events or perceived personal inadequacies (Bourne & Weatherburn, 2017; Carver et al., 1989). The self-medication hypothesis suggests that individuals who use drugs are aware of the psychoactive effects as a means to manage distress or maintain emotional stability (Khantzian, 1997). For instance, individuals may engage in substance use to manage the distress after experiencing a trauma (Leeies et al., 2010; Ullman et al., 2013). It is not uncommon for individuals to engage in avoidance coping strategies after stressful life events to avoid or reduce negative affect (Littleton et al., 2007). Using drugs or alcohol may be considered an avoidance coping strategy (Kuper et al., 2010). Avoidance coping is part of the approach-avoidance model (Roth & Cohen, 1986). Approach coping involves confronting the source of the stressor to change the stressful experience,

whereas avoidance coping involves managing cognitive or emotional pain associated with a stressor (Roth & Cohen, 1986). The benefit of approach coping is that the source of the stressor can be resolved at the cost of heightened distress in the short-term (Roth & Cohen, 1986). The benefit of avoidance coping is that it reduces stress immediately at the cost of delaying the appropriate action required to address the source of the stressor (Roth & Cohen, 1986). However, use of avoidant coping strategies in general can be ineffective with meta-analyses suggesting higher levels of avoidance coping are associated with poorer psychological health outcomes (r = -.47; Penley et al., 2002) and more psychological distress (r = .37; Littleton et al., 2007). Engaging in avoidance coping, as opposed to a more adaptive coping strategy, may depend on the context and an individual's level of perceived control (Aldwin, 2007; Folkman & Moskowitz, 2004). For instance, avoidance coping may be used when the stressor is perceived as uncontrollable (Hampel et al., 2009). Individuals may use approach and/or avoidance coping to deal with a number of stressors, one of which is CSA. Considering that CSA is an uncontrollable stressor, it is not surprising that previous studies suggest that victims of CSA may utilize avoidance coping strategies to manage distress after the abuse experience (see Walsh et al., 2010). Taken together, CSA is a well-established correlate of substance use. However, substance use itself is a proximal risk factor for a number of psychosocial outcomes, one of which is sexual risk behaviour.

Substance Use and Sexual Risk Behaviour

Studies using nationally representative samples indicate that substance use is more prevalent among MSM than among the general population (Conron et al., 2010; Hunter et al., 2014). Although opiate usage among MSM has typically been uncommon

(Bourne, 2012), stimulants such as amphetamines (e.g., Adderall), cocaine, ecstasy/MDMA, and inhalants (e.g., "poppers") have been commonly used by MSM for decades (Schmidt et al., 2016). However, health reports from several countries suggest increasing use of four newer drugs: the stimulants methamphetamine (e.g., crystal) and mephedrone (a synthetic amphetamine), and the dissociative anaesthetics ketamine and gamma-hydroxybutyrate/gamma-butyrolactone (GHB/GBL; Kirby & Thornber-Dunwell, 2013; Stuart, 2013). The immediate effects following use of these substances include altering cognition, impairing judgment, euphoria, increasing sexual desire or arousal, and prolonging sexual activity by inhibiting ejaculation, which are hypothesized to influence the level of risk taking behaviours among MSM who use substances (Colfax et al., 2010; Drumright et al., 2006; Kubicek et al., 2007). These effects are particularly seen with cocaine, inhalants, methamphetamine, and alcohol intoxication, each of which have been independently and positively associated with behaviours that elevate HIV risk, such as engaging in condomless intercourse, having sex with multiple partners or serodiscordant partners (i.e., one partner is HIV-infected and the other is not), exchanging sex for money or drugs, using drugs before and/or during sex, and not knowing a partner's HIV status before having sex (Carey et al., 2008; Colfax et al., 2010; Heiligenberg et al., 2012; Hoenigl et al., 2016; Li & McDaid, 2013; Melendez-Torres & Bourne, 2016; Mimiaga et al., 2010; Ostrow et al., 2009). Although the impact of drug use on condomless anal intercourse has not been examined as part of a laboratory-based study due to ethical concerns (Melendez-Torres & Bourne, 2016), experimental evidence for alcohol's role in sexual risk behaviour suggests MSM who received alcohol reported significantly stronger intentions ($M = 1.8$) to engage in condomless sex than those who received non-alcohol

(*M* = 1.6; Shuper et al., 2017). For alcohol use in particular, two prominent theories are often used to explain the association between alcohol use and sexual behaviour. Alcohol myopia theory (Steele & Josephs, 1990) posits that alcohol's acute effects on cognitive processing influences one's attention so that more salient cues are noticed (e.g., sexual arousal, attractive partner) and less salient cues (e.g., HIV risk) are minimized or ignored (Lewis et al., 2010), which limits the ability to consider future consequences of sexual risk behaviours (Maisto & Simons, 2016). Alcohol expectancy theory (Goldman et al., 1999) posits that positive expectancies about the effects of alcohol on sexual risk taking (e.g., makes it easier to act on sexual feelings, enhances the quality of sexual experiences) will subsequently lead to engaging in sexual risk taking while drinking (Gilmore et al., 2013). Both theories have been supported by empirical research (Scott-Sheldon et al., 2015; Wray et al., 2018) and provide a better understanding of the link between alcohol use and sexual risk behaviours (Maisto & Simons, 2016). There is also evidence that sexual risk among MSM increases as the frequency of substance use and the number of substances used increases (i.e., a dose-response effect). For example, weekly users of cocaine and crystal methamphetamine were 3.13 and 5.46 times more likely to engage in unprotected anal intercourse than episodic users, and heavy alcohol users were 1.36 times more likely to report unprotected anal intercourse than moderate users (Santos et al., 2013). Similarly, as the number of substances used increased, the risk for unprotected anal intercourse also increased (*OR* = 16.81 for one substance to *OR* = 46.38 for three or more substances; Santos et al., 2013). Overall, substance use represents one pathway through which CSA may influence later sexual risk behaviours. Another critical pathway may be psychopathology.

CSA and Psychopathology

In addition to substance use as a potential mediator between CSA and sexual risk, researchers proposed psychopathology as a potential mediator (see Malow et al., 2006; Miller, 1999; Purcell et al., 2004). Extensive research suggests that individuals with a history of CSA are vulnerable to psychopathology later in life, with small to moderate effect sizes ranging from 0.04 (for low self-esteem) to 0.25 (for traumatic stress symptoms; Hillberg et al., 2011). According to a meta-analysis consisting of 37 studies, CSA is associated with an increased risk of lifetime diagnoses of anxiety disorder (*OR* = 3.09), depression (*OR* = 2.66), eating disorders (*OR* = 2.72), PTSD (*OR* = 2.34), sleep disorders (*OR* = 16.17), and suicide attempts (*OR* = 4.14) across various methodologies, samples, and measures (Chen et al., 2010). In a more recent review of the literature consisting of 19 meta-analyses, CSA had the strongest associations with the following psychiatric diagnoses: conversion disorder (*OR* = 3.30), borderline personality disorder (*OR* = 2.90), anxiety (*OR* = 2.70), and depression (*OR* = 2.70; Hailes et al., 2019). However, some mental health problems (e.g., eating disorders) are less frequently related to CSA than others (e.g., PTSD; Maniglio, 2009). Therefore, it is possible that individuals with a history of CSA may be especially at risk for certain mental health problems (Maniglio, 2009). Furthermore, CSA is usually not a single-episode event; it often occurs multiple times during childhood and/or adolescence (Shrivastava et al., 2017). Research suggests there is a dose-response relationship such that individuals who have experienced more intrusive forms of CSA, such as non-consensual intercourse, have greater odds of psychosis (*OR* = 10.14), suicide attempts (*OR* = 3.08), generalized anxiety disorder (*OR* = 4.51), panic disorder (*OR* = 3.80), phobia (*OR* = 12.12),

obsessive-compulsive disorder (*OR* = 7.01), drug dependence (*OR* = 5.49), alcohol dependence (*OR* = 3.71), PTSD (*OR* = 8.23), and eating disorder (*OR* = 6.53) compared to individuals who have experienced less intrusive forms of CSA, such as sexual touching or uncomfortable sex talk (Bebbington et al., 2011; Easton et al., 2013; Jonas et al., 2010).

Even in the absence of CSA, MSM already experience significant mental health disparities (Safren et al., 2011). Increasing evidence suggests that MSM experience vast health disparities with noted elevated risk for mood and anxiety disorder, suicidal ideation and attempt, eating disorder, attention-deficit/hyperactivity disorder (ADHD), and overall poorer mental health compared to heterosexual men and the general population (Bostwick et al., 2010; Cochran & Mays, 2000; Cochran et al., 2003; Frisell et al., 2010; Sattler et al., 2017). More specifically, gay and bisexual men had higher odds of meeting diagnostic criteria for any lifetime mood (*ORs* = 1.60 and 3.20, respectively) and anxiety (*ORs* = 1.50 and 2.50, respectively) disorders and any past-year mood (*ORs* = 1.30 and 2.30, respectively) and anxiety (*ORs* = 1.20 and 2.10, respectively) disorders compared to heterosexual men (Bostwick et al., 2010). Furthermore, when compared to heterosexual men, rates of depression are estimated to be 17.2% higher among MSM (Mills et al., 2004), and PTSD and substance use are at least twice as likely (or greater) among MSM (McCabe et al., 2009; Roberts et al., 2010). MSM were over three times more likely to have suicidal ideation and over five times more likely to have a suicide attempt than heterosexual men (Cochran & Mays, 2000). After adjusting for age, education, relationship status, discrimination and hate crime victimization, men with any same-sex sexual partner had a higher prevalence of lifetime eating disorder (*OR* = 2.90)

and current ADHD (*OR* = 1.20) than men with only opposite-sex sexual partners (Frisell et al., 2010). When compared to a general male population, gay and bisexual men demonstrated more mental health problems with a moderate effect size (*d* = 0.43; Sattler et al., 2017). The higher prevalence of psychopathology is often attributed to minority stress (i.e., stressors driven by a hostile, homophobic culture, which often results in persistent harassment, maltreatment, discrimination, and victimization; Hatzenbuehler, 2009; Meyer, 1995, 2003) but also can be partially attributed to traumatic events, such as CSA, that disproportionately affect MSM (Wawrzyniak & Sabbag, 2018). One mental health consequence of CSA that has received considerable research attention is PTSD (Ironson et al., 2019).

PTSD has been identified as a core manifestation of sexual abuse trauma because PTSD rates are higher and symptoms are more severe for those who experienced CSA compared to other forms of maltreatment and to nonabused children (Collin-Vézina et al., 2013; Higgins & McCabe, 2000; Widom, 1999; Wilson & Scarpa, 2013). PTSD may develop when individuals fail to recover psychologically from, or cope with, exposure to a traumatic event or ongoing traumatization (Hovdestad et al. 2011). Furthermore, individuals with a history of CSA may develop specific maladaptive coping patterns (e.g., blocking out thoughts, social withdrawal, denial) that alleviate stress without addressing the source of the stress, which can contribute to the development of PTSD symptoms (Littleton et al., 2007). PTSD related to childhood maltreatment, including CSA, may be a unique and more complex type of PTSD than PTSD that develops after a single traumatic event because of the prolonged and interpersonal nature of childhood maltreatment (Cloitre et al. 2010; Herman, 1992) and because maltreatment may disrupt

developmental processes that are crucial for healthy emotion regulation (Oshri et al., 2015). As such, CSA may elevate risk for challenges with emotion regulation, interpersonal relationships, and self-concept, which are considered criteria of complex PTSD (Cloitre et al., 2012; Cloitre et al., 2013). Frequently, PTSD can be comorbid with other psychological disorders (e.g., mood and anxiety disorders; Pietrzak et al., 2011) and detrimental health behaviours (e.g., unprotected anal intercourse, substance use; Reisner et al., 2009; Ullman et al., 2013). Among the detrimental health behaviours, PTSD has been identified as a correlate of sexual risk behaviours (Beidas et al., 2012).

Psychopathology and Sexual Risk Behaviour

Exploring mental health as a predictor of sexual risk behaviours may help to inform prevention and intervention efforts for MSM (Bedias et al., 2012). The MSM literature is mostly consistent on the significant association between PTSD diagnoses/symptoms and sexual risk behaviours (see Burnham et al., 2015 and Sikkema et al., 2009 for opposite findings). The relationship between PTSD and sexual transmission risk (i.e., unprotected insertive or receptive anal intercourse with a partner of HIV-uninfected or HIV-unknown status) among HIV-infected MSM may differ by age group. For instance, O'Cleirigh and colleagues (2013) reported that PTSD was associated with greater likelihood of recent sexual transmission risk behaviour among younger (20 to 29 years old) gay and bisexual men (*OR* = 12.09), whereas PTSD was not associated with recent sexual transmission risk behaviour among older (30 years old and above) gay and bisexual men. In samples of HIV-infected African American men, those with PTSD had significantly more sexual partners (*M* = 4.2) than those without PTSD (*M* = 2.8) and more sex without a condom (83.3%) than those without PTSD (64%; Glover et al., 2013),

and PTSD symptoms were positively correlated with engaging in recent sexual intercourse without a condom (r = .40; Radcliffe et al., 2011). Furthermore, after controlling for race, sexual identity, and HIV status, Reisner and colleagues (2009) found that PTSD symptoms were positively associated with having engaged in unprotected anal (insertive or receptive) intercourse in the past 12 months, over and above any effects of whether or not a traumatic event occurred during the year (OR = 2.72). In addition to the direct effects of PTSD on sexual risk behaviour, PTSD has acted as a moderator on psychological distress as a determinant of unprotected anal intercourse acts (Beidas et al., 2012) and as a mediator of the relationship between childhood maltreatment and HIV incidence (Reisner et al., 2011). Findings from a recent network analysis to identify potential relationships between specific psychological symptoms and sexual risk behaviours suggested that the PTSD symptom of avoiding trauma-related thoughts or feelings was linked with sexual risk behaviours in MSM (Choi et al., 2017). Relatedly, lifetime PTSD symptoms were positively associated with condomless anal/vaginal intercourse episodes with serodiscordant or unknown status partners in the past three months among MSM with CSA histories (b = 0.14; Coleman et al., 2022).

Evidence for the relationship between PTSD and sexual risk behaviours may be largely explained by PTSD diagnostic symptom clusters. The symptom clusters are (1) intrusive reexperiencing, (2) avoidance, and (3) hyperarousal (American Psychiatric Association [APA], 2000), although a fourth symptom cluster, negative cognitions and mood, was added in the *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition Text Revision* (*DSM-5-TR*; APA, 2022). Focusing on the first three symptom clusters, recurrent intrusions in the form of distressing thoughts and feelings about the

self may make it difficult to negotiate safer sex with sexual partners (O'Cleirigh et al., 2012). Avoidance may impede the ability to confront risk, negotiate safer sex, and assert safety behaviours (O'Cleirigh et al., 2012). Hyperarousal may reduce the ability to accurately appraise risky situations, which may decrease self-efficacy, and increase doubt in one's ability to identify and mitigate risk (O'Cleirigh et al., 2012). Taken together, PTSD is a mental health issue that is likely linked to sexual risk. Although research on MSM health has consistently identified CSA as a risk factor for sexual risk behaviours, there is still a need for better understanding of the potential pathways through which CSA affects sexual risk; something that may be achieved by a deeper examination of the nuances of CSA (Boroughs et al., 2015).

CSA Characteristics

One limitation in the current literature is the way in which CSA is characterized (Boroughs et al., 2015). CSA is a general term that describes heterogeneous experiences that occur during an abusive event or set of events (Ventus et al., 2017). Not all CSA victims have similar abuse experiences and not all victims are affected by CSA in the same way (Lyons & Romano, 2019). For instance, some abuse may involve physical contact, whereas other abuse may involve no physical contact (e.g., exposing one's genital to a child, taking sexual photographs or videos of a child; Ventus et al., 2017). Furthermore, the abuse can occur at different ages and be committed by a family member or a stranger (Ventus et al., 2017). However, CSA is often measured as a single, dichotomous variable (i.e., yes/no to the presence or absence of one or more instances of CSA), which minimizes the wide range of experiences that may occur during an abusive event (Boroughs et al., 2015), ignoring qualitative and quantitative differences between

CSA survivors, and providing little information about the CSA experience and its associated characteristics (e.g., duration, relationship to the perpetrator; Kilimnik et al., 2018; Loeb et al., 2011). In addition, when CSA is dichotomized, dose-response relationships between more intrusive and more frequent CSA and potentially greater negative outcomes cannot be examined (DiLillo, 2001). Finkelhor (1986) suggested that researchers should choose a measure that gathers enough detail about the sexual activity that occurred during the abuse experience(s). To improve upon a dichotomous single-item approach, Peters and colleagues (1986) suggested that asking a series of questions about the CSA experience generates more information and is more likely to capture the wide range of abuse experiences. When multiples questions measuring abuse are included, instead of single-item questions, research indicates higher rates of abuse are reported (Hulme, 2004).

Although comprehensive reviews have linked CSA to later sexual risk behaviours (see Senn, et. al., 2008), they do not adequately address whether single or multiple indicator measures of CSA result in a more explanatory fit to the data in predicting negative sexual health outcomes (Loeb et al., 2011). Instead of single item dichotomous measures, some studies have tried to use multidimensional measures designed to capture the severity of CSA experiences in relation to adult sexual risk (Loeb et al., 2011). These multidimensional measures usually consist of a continuous summed score to examine one or more aspects or dimensions of CSA experiences (Loeb et al., 2011). Although researchers have sometimes considered the impact of individual CSA characteristics, they tend to be moderately correlated (r = .29 as the strongest correlation between characteristics; Ventus et al., 2017). As a result, combining several CSA characteristics

into a single composite score is likely to provide a more reliable measure than analyzing individual CSA characteristics (Merrill et al., 2003). Composite variables of CSA generally include duration and frequency, degree of contact, use of threat or harm, age of first experience, and relationship to the perpetrator (Kilimnik et al., 2018). For instance, Merrill and colleagues (2003) created a CSA severity index that summed five aspects of CSA experiences among young women, including penetration, use of threats or force, identification of perpetrator as father or stepfather, more than one perpetrator, and more than five incidents. A higher CSA index score was correlated with more sexual partners (r = .19; Merrill et al., 2003). Randolph and Mosack (2006) also created a CSA severity index that summed six aspects of CSA experiences among young women, including witnessing the exposure of sex organs, unwanted touching, threats of and actual forced sex, and other unwanted sexual experiences for both childhood and adolescence/adulthood. More severe childhood sexual abuse predicted a greater number of sexual partners (b = 0.29; Randolph & Mosack, 2006).

Another approach commonly used in the literature examines abuse-specific characteristics, which involves including several CSA characteristics in a regression model (Loeb et al., 2011). Depending on how CSA is defined, narrower definitions create a more homogenous sample of CSA experiences (e.g., penetrative abuse that involves the use of force), whereas broader definitions create a more diverse sample of CSA experiences that may range from exposure to one's genitals to penetration (Kilimnik et al; 2018). Research examining the variation in sexual health outcomes of CSA victims found that abuse characteristics are associated with specific negative sexual health outcomes. For example, men and women with CSA histories involving force and penetration was

associated with a larger number of lifetime sexual partners (*M* = 64.2) and more STI diagnoses (*M* = 4.0) compared to CSA without force and penetration (*M*s = 27.6 and 2.6, respectively; Senn et al., 2007). Women with CSA histories involving penetration were significantly more likely to have engaged in casual sex (*M* = 0.8) and have lower sexual self-esteem (*M* = 147.3) than did the women with CSA histories involving fondling (*M*s = 0.62 and 159.9, respectively) and women with no CSA histories (*M* = 0.6 and 157.3, respectively), and more likely to have engaged in unprotected sexual activity (*M* = 0.3) and purposely abstained from sexual activity (*M* = .61) than women with no CSA histories (*M*s = 0.1 and 0.4, respectively; Lemieux & Byers, 2008). Women with CSA experiences in which the perpetrator was the biological father demonstrated greater sexual aversion (*M* = 0.4) than those with multiple perpetrators (*M* = 0.01) and single perpetrators (*M* = -0.1; Noll et al., 2003b). Among women, sexual abuse during childhood was a significant predictor of more sexual partners in the last 30 days (*B* = 0.79; Parillo et al., 2001). In addition, abuse characteristics are likely to serve as moderators or mediators in studies examining the impact of CSA on health, so not including them may lead to inaccurate effect sizes (Domhardt et al., 2015). Abuse characteristics may exacerbate the traumatic experience because of their association with greater maladjustment across the lifespan, which can make assessment and treatment more difficult (Boroughs et al., 2015). Although the numerous instruments and items that have been used to measure CSA lack standardization and are often modified to align with a study's particular research questions (Hulme, 2004), researchers are in agreement that frequency and intensity of abuse, current functioning, and context of CSA are important when attempting to examine the impact of CSA on health and well-being (Kilimnik et al.,

2018; Loeb et al., 2011; Zink et al., 2009). Studies have investigated how specific abuse characteristics may impact the health of heterosexual men and women (Dube et al., 2005; Lacelle et al., 2012; Perez-Fuentes et al., 2013; Senn et al., 2007; Zink et al., 2009). However, there is little research on abuse characteristics in MSM (Ironson et al., 2019). Recent research has linked five dimensions of CSA (i.e., CSA by a family member, CSA with penetration, CSA with physical injury, CSA with intense fear, first CSA in adolescence) with adult emotional and behavioural functioning among MSM (Arreola et al., 2008; Boroughs et al., 2015; Ironson et al., 2019). More specifically, CSA by a family member was associated with increased likelihood of current alcohol use disorder (*OR* = 2.60), substance use disorder (*OR* = 2.10), and reporting non-HIV STIs in the past (*OR* = 2.70; Boroughs et al., 2015). CSA with penetration was associated with increased likelihood of current PTSD (*OR* = 3.17), recent HIV sexual risk behaviours (*OR* = 2.72), and a greater number of casual sexual partners (Boroughs et al., 2015). Both CSA with physical injury and CSA with intense fear were related to increased odds for current PTSD (*ORs* = 4.05 and 5.16, respectively; Boroughs et al., 2015) and higher levels of posttraumatic cognitions about the self (*r*s = .20 and .21, respectively) and the world (*r*s = .17; Ironson et al., 2019). CSA with force was related to increased odds of having depression (*OR* = 1.98), suicidal ideation (*OR* = 2.63), heavy drinking (*OR* = 2.15), polydrug use (*OR* = 2.42), frequent drug use (*OR* = 2.80), and condomless anal intercourse (*OR* = 2.31; Arreola et al., 2008). First CSA during adolescence was related to higher levels of posttraumatic cognitions about self-blame (*r* = .15; Ironson et al., 2019). Taken together, accounting for the characteristics or complexities of CSA can lead

to a greater understanding of psychological and behavioural correlates of CSA (Kilimnik et al., 2018).

Current Study

Given the well-established connection between CSA and psychosocial problems, such as substance use and PTSD, the current study sought to test mediation models in which changes in both substance use and PTSD may act as mechanisms linking CSA to sexual risk among MSM. The current study used a short-term longitudinal design over a period of nearly one year to investigate mediating processes. Most mediation studies use cross-sectional data (Maxwell & Cole, 2007); however, due to various problems related to using cross-sectional data to test mediation hypotheses (e.g., ignoring that causal processes unfold over time, not controlling for variables measured at previous times), longitudinal data is preferred (Selig & Preacher, 2009). Generally, it is advantageous to perform mediations using longitudinal data because choosing variables for each slot in a mediation model (i.e., independent, mediator, dependent) can be informed by temporal relationships among the variables (Jose, 2016). The use of short-term longitudinal data in the current study was beneficial as they are related to the exploration of mental health given that the presence and severity of mental health symptoms are fluid, particularly following a course of treatment. Longitudinal data allowed for an analysis of change over time and how change in one variable may impact change in other variables. Building on conceptual (e.g., Malow et al., 2006; Miller, 1999; Purcell et al., 2004) and empirical foundations (e.g., Mimiaga et al., 2009; Reisner et al., 2011), the current study proposed mediation models to better understand the links between CSA, substance use, PTSD, and sexual risk among MSM and advance prior research in two ways.

Hypotheses 1 and 2

First, studies often measure CSA as a single, dichotomous event; however, the use of a dichotomous CSA variable is limited because it only indicates whether or not abuse occurred and fails to capture characteristics of a CSA incident or more than one CSA incident that occurs over time (Loeb et al., 2011). Instead, multidimensional measures are designed to capture the heterogeneity of CSA experiences (e.g., abuse characteristics) and better explain the data in terms of predicting adult sexual risk than a dichotomous measure of CSA (Loeb et al., 2011). Taking into account specific characteristics of CSA is recommended given their individual associations with a variety of sexual health outcomes (see Kilimnik et al; 2018). However, few studies have examined specific CSA characteristics among MSM (Ironson et al., 2019). In the current study, I examined several CSA characteristics (i.e., CSA by a family member, CSA with penetration, CSA with physical injury, CSA with intense fear, first CSA during adolescence; Leserman et al., 1997; Mayall & Gold, 1995) as part of a composite variable to account for the complexity of different CSA experiences (hereafter referred to as CSA complexities for hypotheses and data analyses). Therefore, I expected CSA complexities would have a direct effect on the number of condomless anal and/or vaginal intercourse acts with any casual partner or with any primary partner who had not specifically disclosed that they were HIV-negative (hereafter referred to as sexual risk behaviours for hypotheses and data analyses) cross-sectionally (hypothesis 1a) and predict change in sexual risk behaviours over time (hypothesis 1b). Relatedly, Mimiaga and colleagues (2009) reported that marijuana/hashish, poppers/inhaled nitrites, crack/rock cocaine and powder cocaine, and amphetamines (such as speed, crystal, or crank) mediated the

relationships between CSA and unprotected anal intercourse and between CSA and serodiscordant unprotected anal intercourse (i.e., one partner is HIV-infected and the other is not). However, they measured CSA as a dichotomous variable, which limits the heterogeneity found among abuse experiences. Based on these considerations, I expected CSA complexities would have a significant indirect effect on sexual risk behaviours through substance use cross-sectionally (hypothesis 2a; see Figure 1) and a significant indirect effect through change in substance use over time (hypothesis 2b; see Figure 3).

Hypothesis 3

Second, although PTSD has been linked with sexual risk in MSM, the mechanisms by which PTSD may contribute to sexual risk is not well understood (Choi et al., 2017). Previous research has often used categorial diagnostic classifications (i.e., whether a diagnosis or symptom sum scores predict sexual risk), which may not best reflect clinical reality (Choi et al., 2017; Fried et al., 2017). Grouping individuals with different symptoms into a homogeneous diagnostic category stem from the notion that all symptoms are interchangeable and equal in the degree to which they contribute to a psychological disorder (Fried & Nesse, 2015). However, more recent models of psychopathology have begun to consider or adopt the network perspective, which suggests that psychological disorders can be viewed as a system of interacting symptoms rather than a single condition (Borsboom & Cramer, 2013; Fried et al., 2017). Recently, a growing number of researchers have examined PTSD, along with other psychological disorders such as depression and psychosis, as a network of interacting symptoms (see Fried et al., 2017). PTSD is heterogeneous in nature as not all individuals with PTSD experience the same pattern of symptoms (Zoellner et al., 2014). As a result, it is possible

that sexual risk behaviours are shaped by PTSD's unique symptom clusters (Choi et al., 2017). Therefore, the current study will examine the three symptom clusters (i.e., intrusive reexperiencing, avoidance, and hyperarousal) that makeup PTSD. Accordingly, I predicted CSA complexities would have significant indirect effects on sexual risk behaviours through all three PTSD symptom clusters cross-sectionally (hypothesis 3a; see Figure 2) and significant indirect effects through changes in all three PTSD symptom clusters over time (hypothesis 3b; see Figure 4).

Figure 1

Conceptual Mediation Model for Substance Use at Baseline

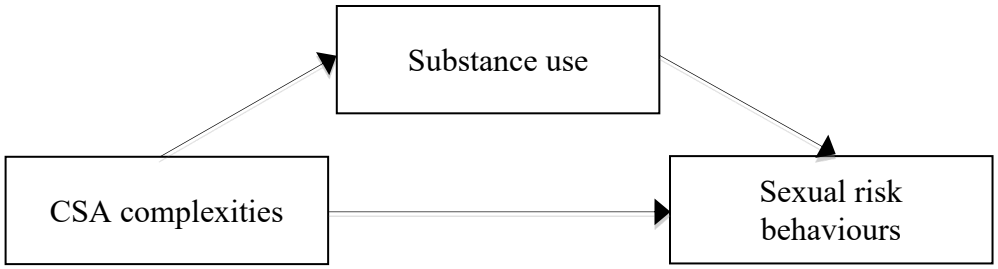
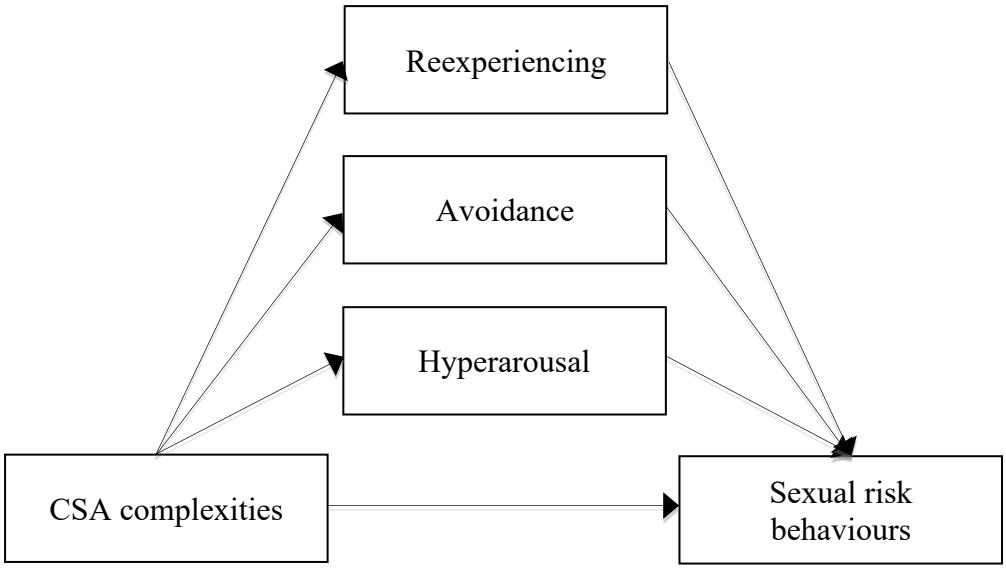


Figure 2

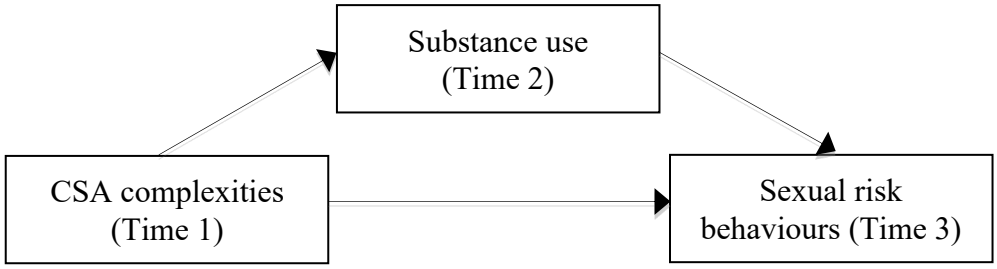
Conceptual Mediation Model for PTSD Symptom Clusters at Baseline



Note. Reexperiencing = Intrusive reexperiencing.

Figure 3

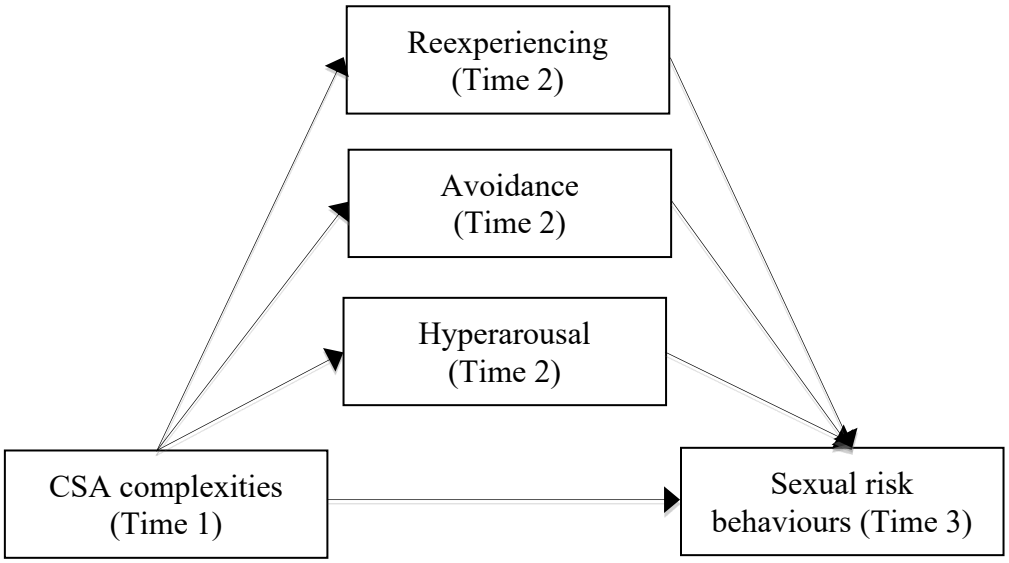
Conceptual Mediation Model for Substance Use Over Time



Note. Time 1 = baseline; Time 2 = 3-month follow-up; Time 3 = 6-month follow-up.

Figure 4

Conceptual Mediation Model for PTSD Symptom Clusters Over Time



Note. Time 1 = baseline; Time 2 = 3-month follow-up; Time 3 = 6-month follow-up; Reexperiencing = Intrusive reexperiencing.

Qualitative Research Questions

In addition to completing quantitative measures of their CSA history, substance use, psychological distress, and sexual risk behaviour, MSM participants were asked to provide written descriptions of their CSA experience along with reasons for why it happened, meaning, and impact. In this way, both quantitative and qualitative data were gathered. Qualitative research on MSM with CSA histories fills a gap in the literature in a couple of ways. First, a review of the literature suggests much of it involves quantitative measurement, so the current study looked to broaden the type of research conducted on CSA among MSM. Second, the voices of female survivors of CSA typically influence the current knowledge base and treatment around CSA (Patterson et al., 2023). However, there has been a shift in perspective that the voices of male survivors of CSA also need to be included (Easton, 2014; Kia-Keating et al., 2005; O'Leary et al., 2017). Hearing the voices of men who experienced CSA may be necessary to understand how they have been impacted by abuse, their specific experiences, and implement treatment that is gender specific, gender informed, and tailored to meet their needs (Hunter, 2009, 2010). Therefore, integrating qualitative data into the current study allowed me to develop a more complete picture of different CSA experiences and of how these experiences were believed to have impacted the lives of MSM specifically, which may not be adequately captured by previous theory and research generated by quantitative methods and by adult female survivors of CSA. Accordingly, there are two research questions that will guide the qualitative analysis used within the current study. First, will the qualitative findings further elaborate upon the quantitative findings? In the current study, I examined sexual risk behaviours as an outcome, as well as mediators such as substance use and PTSD,

which served as potential pathways linking CSA to sexual risk behaviours. Part of the reason these mediators were chosen is because of the strong theoretical and empirical evidence for their association with both CSA and sexual risk. Therefore, it is possible that some of the outcomes associated with CSA that have been acknowledged in previous quantitative research (e.g., sexual risk, substance use, PTSD) may also be reported in the written descriptions of MSM's CSA experience and its impact. However, it is also possible that MSM will discuss other negative outcomes in their written descriptions that are also associated with CSA (e.g., depression, anxiety), but that will not be examined quantitatively in the current study. Second, will qualitative findings highlight any aspects of resilient functioning? Some individuals who experience CSA are able to resume positive functioning despite early adversity. However, in the health literature, focus is often placed on what factors put MSM "at risk" (Dale et al., 2020). In recent years, researchers have begun exploring correlates of resilience among MSM (e.g., Dale et al., 2020; Hughto et al., 2016; McNair et al., 2017). Although the quantitative component of the current study focused on intrapersonal variables that may facilitate sexual risk behaviours, written descriptions of CSA experiences may uncover evidence of resilience and relatively successful adaptation to challenging life experiences.

CHAPTER 3

QUANTITATIVE METHOD

Participants

A sample of 297 HIV-uninfected MSM between the ages of 18 and 67 years (M_{age} = 38.0, *SD* = 11.6) was collected as part of a multisite randomized clinical trial (RCT) conducted from 2012 to 2017 in Boston, Massachusetts and Miami, Florida. The primary

objective of the two-arm parent RCT was to compare Cognitive-Behavioural Therapy for Trauma and Self-Care (CBT-TSC) that included components of Cognitive Processing Therapy (CPT) to a time matched, active control condition using supportive psychotherapy on the outcomes of serodiscordant condomless anal/vaginal intercourse and PTSD symptoms at posttreatment and follow-up (see O'Cleirigh et al., 2019 for related pilot trial).

Participants were randomly assigned to the treatment or control condition and then completed 10 weekly visits of CBT-TSC or supportive psychotherapy and posttreatment assessments at four follow-up timepoints (3, 6, 9, and 12 months). Results of the pilot trial (O'Cleirigh et al., 2019) suggested participants in the treatment group (n = 23) were less likely to have engaged in serodiscordant condomless anal/vaginal intercourse and reported fewer episodes of condomless anal/vaginal intercourse posttreatment and over time through the 9-month follow-up period compared to MSM in the control group (n = 20). Furthermore, participants in the treatment group had greater reductions in total PTSD and avoidance symptoms posttreatment and greater reductions in avoidance symptoms over time through the 9-month follow-up period compared to MSM in the control group. Findings from the full RCT have not yet been published. Participants were recruited through advertising via outreach to bars, clubs, cruising areas, community venues, and social media (e.g., Grindr, Growler, Scruff, Craigslist, Facebook). Race of the participants included White (67.7%), African American (20.5%), Asian American (2.7%), Multiracial (2.7%), Other (i.e., American Indian/Alaska Native, Native Hawaiian or Other Pacific Islander; 1.3%), and "Unknown/Not reported" (2%). Ethnicity of participants included Hispanic/Latino (29.3%) and not Hispanic or Latino

(70.4%). These categories align with demographic reporting requirements of the National Institute of Health. Sexual orientation of participants included gay/homosexual (67.7%), bisexual (21.2%), “Not sure” (5.1%), straight/heterosexual (2.4%), and “Other” (2%; see Table 1 for a summary of participant demographics). To protect privacy and minimize stigma associated with endorsing CSA, recruitment efforts were combined with other ongoing behavioural and biomedical HIV prevention studies and health promotion initiatives. All participants reported more than one episode of unprotected anal or vaginal intercourse within the past three months and a history of CSA before age 17.

Table 1

Participant Demographics for Overall Sample

Variable	*n* (%)
Race	
White	201 (67.7%)
African American	61 (20.5%)
Asian American	8 (2.7%)
Multiracial	8 (2.7%)
Other	4 (1.3%)
Unknown/Not reported	6 (2%)
Ethnicity	
Not Hispanic or Latino	209 (70.4%)
Hispanic/Latino	87 (29.3%)
Gender	
Male	291 (98%)
Female	1 (0.3%)
Transgender (male to female)	0 (0%)
Transgender (female to male)	0 (0%)
Sexual Orientation	
Gay/Homosexual	201 (67.7%)
Bisexual	63 (21.2%)
Not sure	15 (5.1%)
Straight/Heterosexual	7 (2.4%)
Other	6 (2%)
Education	
Some high school, high school diploma, or GED	74 (25.4%)
Some college	106 (35.7%)
College degree or some graduate school	72 (24.3%)
Graduate degree	39 (13.1%)
Income	
<$10,000	89 (30%)
$10,001-$20,000	64 (21.5%)
$20,001-$40,000	55 (18.5%)
$40,001-$60,000	46 (15.5%)
$60,001-$80,000	18 (6.1%)
>$80,000	19 (6.4%)
Results of STI testing	
Syphilis	
Nonreactive	182 (61.3%)
Reactive	9 (3%)
Gonorrhea	
Negative	186 (62.6%)
Positive	7 (2.4%)
Urethral Chlamydia	

Negative	191 (64.3%)
Positive	4 (1.3%)
Rectal Chlamydia	
Negative	164 (55.2%)
Positive	9 (3%)

Measures

Demographics

All participants completed a demographics questionnaire at baseline (Time 1 [T1]) asking about age, race, ethnicity, sexual orientation, educational attainment, and income (Appendix A). The measures outlined below were selected based on the hypotheses of the current study; however, they were part of a larger psychosocial battery (e.g., condom use self-efficacy, mood, anxiety, self-esteem, post-traumatic cognitions, dissociate experiences, distress tolerance, coping, quality of life) completed by participants in the RCT.

Childhood Sexual Abuse

To assess CSA at baseline (T1), participants were administered a clinical interview adapted from previous work in HIV treatment and prevention and used previously to assess sexual abuse in various medical populations (Appendix B; Leserman et al., 1997; Leserman et al., 2006; Leserman et al., 1998). The interview included standardized closed-ended items requiring primarily yes/no responses. CSA was assessed across two age ranges: 0 to 12 years old and 13 to 16 years old. For children younger than 13 years old, CSA is characterized by any unwanted sexual contact with someone who is at least 5 years older. For children between the ages of 13 and 16 years, CSA is characterized by any unwanted sexual contact by someone who is at least 10 years older or any age with the threat of force or harm (adapted from Kilpatrick, 1992; Leserman, 2005). Sexual contact included genital touching, oral sex, and/or penetrative vaginal or anal intercourse. Previous studies have used the same clinician-administered structured interview to assess CSA (Batchelder et al., 2018; Boroughs et al., 2018; Boroughs et al.,

2015; Ironson et al., 2019). The following items were coded dichotomously to indicate the presence or absence of a specific experience during the CSA event and then items were summed to create a composite CSA complexities variable (0 to 5) with higher scores indicating more complexity indicators (see Table 2 for frequency of CSA complexities):

CSA by a Family Member. Indicated if participants reported any CSA perpetrated by a parent, stepparent, guardian, brother, or other family member living in the family home.

CSA with Penetration. Indicated if participants reported that the CSA involved sexual (anal) intercourse.

CSA with Physical Injury. Indicated if participants reported that they sustained either minor (e.g., scrapes, bruises) or major (e.g., stitches, broken bones, hospitalization) physical injuries.

CSA with Intense Fear. Indicated if the participant reported being afraid that they might be killed or seriously injured.

First CSA During Adolescence. Indicated if the participant reported that their first experience of CSA occurred between ages 13 and 16.

Table 2

Frequency of CSA Complexities

Type of CSA Complexity Reported	*n* (%)
CSA by a family member	165 (55.6%)
CSA with penetration	176 (59.3%)
CSA with physical injury	112 (37.7%)
CSA with intense fear	131 (44.1%)
First CSA during adolescence	181 (60.9%)
Number of CSA Complexities Reported	
No indicator	28 (9.4%)
One indicator	50 (16.8%)
Two indicators	74 (24.9%)
Three indicators	52 (17.5%)
Four indicators	54 (18.2%)
Five indicators	39 (13.1%)

Note. $N = 297$.

Substance Use

To assess substance use at baseline (T1) and the 3-month follow-up (Time 2 [T2]), participants were administered the Addiction Severity Index-Lite (ASI-Lite), a semi-structured clinical interview that assesses seven domains, including alcohol and drug use, medical and psychiatric health, illegal activity, family/social relations, and employment/self-support (Appendix C; McLellan et al., 1999). In particular, participants were asked about a list of psychoactive substances that included: alcohol, heroin, methadone (e.g., Dolophine, LAAM), other opiates/analgesics (e.g., pain killers), barbiturates (e.g., Nembutal, Amytal), other sedatives/tranquilizers (e.g., benzodiazepines, Quaaludes), cocaine, amphetamines (methamphetamine, speed), cannabis, hallucinogens (e.g., LSD, ecstasy), inhalants (e.g., "glue", "poppers"), and polysubstance use. A composite variable was derived from items asking about frequency of alcohol intoxication and drug use (i.e., opiates/analgesics, other sedatives/tranquilizers, cocaine, amphetamines, cannabis, hallucinogens, and inhalants) in the past 30 days. Heroin, methadone, and barbiturates were not included in the substance use variable due to their low frequency of use among the sample (<3%). Due to the highly skewed nature of this frequency variable (e.g., overdispersion), reported substance use was divided into quartiles for analyses. The psychometric properties of the ASI-Lite are similar to those of the longer ASI, which is a widely used assessment tool in the substance abuse field (Cacciola et al., 2007). However, across studies, the psychometric properties of the ASI range from excellent to poor because of measurement problems (e.g., large fluctuations in alcohol and drug use, participants having difficulty remembering relevant information, and socially desirable responding; Mäkelä, 2004). As a result, it is not expected that the

ASI (or ASI-Lite) would have the same level of psychometric performance as traditional psychological measures and it is not helpful to use summary statements describing reliability and validity (Mäkelä, 2004). Instead, composite variables and individual items can be used for research and clinical decision making (Mäkelä, 2004).

PTSD Symptoms

To assess PTSD symptoms at baseline (T1) and the 3-month follow-up (T2), participants completed the 17-item Davidson Trauma Scale (DTS), which measures the frequency and severity of PTSD symptoms (Davidson et al., 1997). The DTS has three subscales that correspond to the diagnosis of PTSD as defined by the *Diagnostic and Statistical Manual of Mental Disorders, 4th Edition* (*DSM-IV*; APA, 2000): intrusive reexperiencing, avoidance, and hyperarousal. Participants were instructed to respond based on their experience of PTSD symptoms related to CSA. Items were rated on 5-point scales for both frequency (0 = *not at all*, 4 = *every day*) and severity (0 = *not at all distressing*, 4 = *extremely distressing*) during the past week. Items were summed for subscale scores for each of the three PTSD symptom clusters. The reliability coefficients for the subscales are $\alpha = .83$ (intrusive reexperiencing), .88 (avoidance), and .89 (hyperarousal). Previous studies suggest good reliability and validity across cultures and with unique samples (e.g., military veterans; Davidson et al., 1997; Leiva-Bianchi & Araneda, 2013; McDonald et al., 2009; Seo et al., 2008).

Sexual Risk Behaviours

To assess sexual risk behaviours at baseline (T1) and the 6-month follow-up (Time 3 [T3]), participants reported the number of times they had condomless anal and/or vaginal intercourse with any casual partner or with any primary partner who had not

specifically disclosed that they were HIV-negative in the past three months. This did not take into account participants who were prescribed pre-exposure prophylaxis (PrEP) as it was not widely available at the time of data collection (U.S. Food and Drug Administration, 2012). This measure of sexual risk is commonly used in clinical trials and epidemiological studies and reporting frequency of behaviours in the last three months is commonly referenced in the HIV prevention literature (Blashill et al., 2016; Millar et al., 2017; Mustanski et al., 2017). Sexual behaviour data were collected via computer-assisted self-interview software. Due to the highly skewed nature of this frequency variable (e.g., overdispersion), reported sexual risk was divided into sextiles for analyses.

Procedure

Prospective participants were initially screened via telephone by trained clinical staff for study inclusion and exclusion criteria. Enrollment criteria included: (a) being 18 years or older and assigned male at birth; (b) self-reported history of sex with men (or men and women); (c) reported sexual contact before 13 years of age with an adult or person five years old, or sexual contact between 13 and 16 years of age with a person 10 years old, or any age if threat of force or harm; (d) reported more than one episode of unprotected anal or vaginal intercourse within the past three months with someone other than a primary, HIV-uninfected partner(s); and (e) being HIV-uninfected as confirmed via rapid testing. Participants were excluded from the study if all episodes of unprotected anal or vaginal intercourse occurred with a single, primary, HIV-uninfected partner, if participants reported a significant mental health diagnosis requiring immediate treatment (e.g., uncontrolled bipolar disorder, psychotic disorder, or high suicide risk), or if

participants were unable to complete the informed consent process (e.g., significant cognitive impairment, poor English language skills). If participants met inclusion criteria, they completed a comprehensive baseline assessment that included a psychiatric diagnostic evaluation conducted by staff who were trained in clinical psychology (e.g., advanced doctoral students, doctoral interns, or post-doctoral fellows), testing for HIV and other STIs, and computer-based psychosocial assessments. Participants were then randomized into either the treatment condition, which was comprised of 10 individual therapy sessions fully integrating sexual risk reduction counseling into CBT-TSC or the control condition, which was comprised of sexual risk reduction counseling/education and supportive psychotherapy. Posttreatment and follow up assessments, which included a psychiatric diagnostic evaluation, testing for HIV and other STIs, and computer-based psychosocial assessments at 3, 6, 9, and 12 months, were administered by a trained independent assessor who was blind to the treatment group assignment. Participants were compensated up to $500.00 (USD) over the course of the study. All study procedures were approved by the Institutional Review Board at Fenway Health, Massachusetts General Hospital, and the University of Miami. I signed a data sharing agreement with Fenway Health to have access to all deidentified baseline and longitudinal data, as well as to the impact statements (i.e., the data used for the qualitative part of the study). Use of secondary data also received ethics clearance through the University of Windsor Research Ethics Board.

QUALITATIVE METHOD

Positionality Statement

Before analyzing the qualitative data, it is important to discuss the biases, values,

and experiences I bring to the current study (Creswell & Poth, 2017). For example, it is important to acknowledge and reflect on how my own cultural identities (e.g., ethnicity gender identity, socioeconomic status) and broader social position may influence how I analyze and interpret the experiences of MSM. I am conducting this research from the perspective of a man that does not share the trauma history or sexual orientation of the participants in the study. As a result, I have not experienced the same challenges in my life that might be typically associated with trauma and/or being a sexual minority. Because of this, I made every effort to immerse myself in the literature and qualitative data in order to increase my understanding of others' experiences and ultimately to best reflect upon those experiences in the qualitative analyses. Further, I attended weekly Behavioral Sciences Research Program (BSRP) meetings at the Fenway Institute at Fenway Health, the largest LGBT+ focused health centre in the United States. In addition to discussing my own research at these meetings, I regularly participated in discussions about other sexual minority health and HIV prevention research that is ongoing at the Institute. Combined, this immersion into the literature and its application through current studies underway with this population aided in my ability to approach the data I analyzed with the humbleness and openness that it deserved. Relatedly, my previous research experience involved examining bullying perpetration and victimization; however, my focus has now broadened to include additional adverse childhood experiences such as childhood maltreatment. Despite the change in topic, there is significant overlap between bullying and childhood maltreatment (e.g., aggressive in nature, power imbalance, similar long-term outcomes; Lereya et al., 2015). In addition to research, I have had the opportunity to do some clinical work with adult sexual minority men, hear their stories of

CSA, and assess health outcomes (e.g., substance use, PTSD). Their stories of CSA elicited a personal reaction and piqued my interest in conducting research on CSA and with MSM. My training in clinical psychology, particularly developmental psychopathology and cognitive-behavioural theory, influenced the lens through which I analyzed and interpreted the impact statements. For instance, borrowing from a developmental psychopathology framework (Toth & Cicchetti, 2013), I often consider factors that put individuals at risk for mental and behavioural health challenges and resilience that allows for competent adaption despite significant adversity. Additionally, training in cognitive-behavioural therapy (Beck, 2011) has led me to consider the bidirectional relationships among cognitions, emotions, and behaviours, and the influence of these factors on mental health and well-being. With these two frameworks in mind, I reviewed the impact statements "looking for" symptoms associated with different mental health diagnoses, how the men understood their symptoms, and their ability to "bounce back" and function adaptively after childhood adversity (i.e., resilience). It is possible that researchers without a clinical psychology background and using a different analytic framework (discussed below) may have approached the impact statements differently.

Procedure

Qualitative analysis involved analyzing select impact statements from session four of the treatment group. Impact statements are written descriptions of the personal meaning of the traumatic event and how it affected an individual's view of themselves, other people, and the world. Participants were asked to write at least two pages on why they think the traumatic event occurred (see Appendix G for specific instructions given to participants). An impact statement is a key and critical component of CPT (Resick et al.,

2008). CPT is an evidence-based psychotherapy that includes 12-sessions of treatment that focuses on challenging and modifying unhelpful beliefs related to a trauma to help individuals understand and conceptualize the trauma in a new way and to minimize distress in daily functioning (Resick et al., 2008). Research has supported the effectiveness of CPT for reducing PTSD symptoms and other related symptoms following a trauma (Asmundson et al., 2018; Monson et al., 2006; Resick et al., 2002; Rosner et al., 2019). An impact statement and other CPT approaches were used in the experimental treatment condition in the clinical trial; however, the adapted intervention was designed with just 10 sessions. Impact statements were read during Session 4 and each session was audio recorded. The audio recordings were then transcribed verbatim by two research associates in the BSRP. Impact statements were selected from Session 4 because that is when participants read and reviewed their impact statements with the study therapist. Session 4 also involved introducing CPT skills such as stuck points/thinking errors to participants. Prior to this, Session 1 consisted of providing participants with psychoeducation about HIV transmission and sexual risk reduction. Session 2 consisted of identifying participants' sexual risk profile relative to current/prior/wanted relationships and barriers to using condoms in current sexual relationships. Session 3 consisted of reviewing posttraumatic stress symptom clusters, identifying and specifying clients' distress coping strategies, and introducing impact statements. There was no equivalent of impact statements in the control group as they are not part of supportive psychotherapy. Due to the lack of impact statements and no appropriate alternatives (i.e., participants could discuss any general topic with study therapist during supportive psychotherapy sessions), qualitative data were not analyzed

from the control group. Information power was used as a guide for an adequate sample size (Malterud et al., 2016). Initially, I reviewed all 86 audio recordings from Session 4 and each audio recording was reviewed twice to ensure adequate familiarity with the impact statements. From this sample, 39 audio recordings were selected for inclusion in qualitative analyses based on the narrower aim and higher specificity of the study (i.e., specific experiences of trauma among a specific subset of the population according to inclusion and exclusion criteria discussed above), participants' ability to articulate detailed and diverse accounts of how CSA impacted their life to the study therapist, and extensive theoretical background that has explained relationships between CSA and mental and behavioural health among MSM (see Table 5 for a summary of participant demographics). Furthermore, audio recordings were not transcribed for qualitative analyses if participants did not discuss their understanding of why the trauma occurred and its impact on their life. As such, the goal of analyzing the impact statements was to focus on the impact of the trauma, not descriptions of the various CSA experiences. A purposive sampling technique is widely used in qualitative research (Patton, 2015).

Table 3

Participant Demographics for Qualitative Sample

Variable	*n* (%)
M_{age} (*SD*)	38.3 (11.7)
Race	
White	29 (74.4%)
African American	6 (15.4%)
Asian American	2 (5.1%)
Multiracial	1 (2.6%)
Unknown/Not reported	1 (2.6%)
Other	0 (0%)
Ethnicity	
Not Hispanic or Latino	28 (71.8%)
Hispanic/Latino	11 (28.2%)
Sexual Orientation	
Gay/Homosexual	30 (76.9%)
Bisexual	8 (20.5%)
Not sure	1 (2.6%)
Straight/Heterosexual	0 (0%)
Other	0 (0%)
Education	
Some high school, high school diploma, or GED	8 (20.5%)
Some college	13 (33.3%)
College degree (B.A./B.S.) or some graduate school	10 (25.6%)
Graduate degree	8 (20.5%)
Income	
<$10,000	9 (23.1%)
$10,001-$20,000	9 (23.1%)
$20,001-$40,000	7 (17.9%)
$40,001-$60,000	8 (20.5%)
$60,001-$80,000	4 (10.3%)
>$80,000	2 (5.1%)

Note. $n = 39$.

CHAPTER 4

QUANTITATIVE RESULTS

A convergent mixed-method design was used as both quantitative and qualitative methods were prioritized equally, and results were analyzed independently, but then the two sets of different results were merged (see Creswell,1999; Creswell & Clark, 2017). One rationale for using a mixed-method design was to create a more comprehensive account of the phenomenon being studied (i.e., the impact of CSA on MSM; Bryman, 2006). In addition, the results of the quantitative and qualitative research were combined to triangulate findings and enhance validity (Bryman, 2006).

Analytic Plan

Missing Data and Attrition

All analyses were conducted using SPSS 28. Baseline variables had no more than 3.0% missing data and there was no pattern to the missingness as indicated by Little's MCAR test (χ^2 (16) = 21.36, p = .165). Of the 297 participants who completed the baseline measures, 169 participants (56.9%) completed the 3-month follow-up, and 155 participants (52.19%) completed the 6-month follow-up posttreatment. There was no pattern to the missingness among follow-up variables as indicated by Little's MCAR test (χ^2 (11) = 2.94, p = .992). Analyses from t tests suggested that participants at the 3-month follow-up for substance use t(251) = -1.80, p = .08), intrusive experiencing t(241) = -0.40, p = .70), avoidance t(257) = -1.20, p = .22), and hyperarousal t(259) = -0.40, p = .67), and at the 6-month follow-up for sexual risk behaviours t(278) = <0.01, p = .97) did not significantly differ from participants who only completed the baseline measures on study variables. To handle missing data, multiple imputation was used as this technique

produces unbiased estimates and is recommended over more traditional techniques (e.g., listwise deletion, mean imputation; Baraldi & Enders, 2010).

Assumptions

Baseline data were screened for independence of observations, linearity, homoscedasticity, multicollinearity, significant outliers, and normality. For the assumption of independence of observations, data were collected from random samples in Boston, Massachusetts and Miami, Florida. Furthermore, during the data collection process, participant ID numbers were checked to ensure the same participant did not complete the measures more than once at baseline. To assess for linear relationships between independent and dependent variables and homoscedasticity, scatterplots were visually inspected and indicated that the assumption of linearity was met, but not the assumption of homoscedasticity. A correlational matrix was examined for multicollinearity. No variables had correlations greater than .80, suggesting there was no multicollinearity (Field, 2013). Furthermore, the variance inflation factor for all variables was less than 10 indicating no multicollinearity between variables (Bowerman & O'Connell, 2000). In addition, tolerance values for all variables were greater than 0.2, suggesting the absence of multicollinearity (Menard, 1995). To identify outliers, I examined Mahalanobis distances, Cook's distances, and leverage values. Values for Cook's distance were less than 1 and no value was three times greater than the average leverage value, indicating there were no influential cases (Field, 2013). Mahalanobis distances were not greater than the chi square critical value (set at an alpha of .001), indicating no potential outliers. Visual inspection of a histogram and P-P plot indicated that residuals were not normally distributed. Although assumptions of normality and

homoscedasticity were not met, bootstrapping with bias-corrected confidence intervals using 5,000 samples was conducted for primary analyses, as this robust procedure does not rely on assumptions of normality and homoscedasticity (Field, 2013; Shrout & Bolger, 2002). Furthermore, frequency data on substance use and sexual risk tend to be non-normally distributed (e.g., overdispersion; Hu et al., 2011), which can lead to biased parameter estimates and invalid inferences (Harrison, 2014). However, reported substance use and sexual risk were divided in quartiles and sextiles, respectively, to minimize the impact of their non-normal distributions.

Primary Models

Using PROCESS macro (Preacher & Hayes, 2004) on SPSS 28, mediation analyses were conducted. At baseline, two mediations tested for direct effects of CSA complexities on sexual risk behaviours and tested for indirect effects of CSA complexities on sexual risk behaviours through substance use (i.e., alcohol and drug use) and PTSD symptom clusters (i.e., intrusive reexperiencing, avoidance, and hyperarousal). Longitudinally, two mediations tested for direct effects of CSA complexities (T1) on change in sexual risk behaviours over time (T3) and tested for indirect effects of CSA complexities (T1) on sexual risk behaviours (T3) through change in substance use (i.e., alcohol and drug use; T2) and PTSD symptom clusters (i.e., intrusive reexperiencing, avoidance, and hyperarousal; T2) over time. To compute residual change over time for mediators and the outcome variable, I regressed 3-month follow-up values (T2) onto baseline values for substance use and each PTSD symptom cluster (T1), and I regressed 6-month follow-up values (T3) onto baseline values for sexual risk behaviours (T1). Thus, the residual change scores are the 3- and 6-month follow-up values with the

baseline values partialed-out as suggested by Cohen and colleagues (2002). Residual change scores mitigate autocorrelated error and regression to the mean effects. PTSD symptom clusters were entered into the model as mediators simultaneously, rather than analyzed separately, as it is often more convenient, precise, and parsimonious (Preacher & Hayes, 2008). To test for indirect effects in the mediation models, 95% bias-corrected confidence intervals with 5,000 bootstrapped samples were computed, and any confidence interval that did not cross zero was considered a significant indirect effect (Shrout & Bolger, 2002). The variables age, race, educational attainment, and income were included as covariates in primary analyses if significant in preliminary analyses. These covariates were selected based on previous research.

For example, previous studies have found that younger MSM were 43% less likely to have current PTSD, 64% less likely to have panic disorder, and 50% less likely to engage in cocaine use compared to older MSM (Boroughs et al., 2018). Younger MSM were five times more likely to have recent alcohol intoxication in the past month, three times more likely to have used marijuana in the past month, and three times more likely to have reported an STI in the past year compared to older MSM (Boroughs et al., 2018). There are also significant differences across racial groups for CSA, substance use, PTSD, and sexual risk behaviour. For instance, higher rates of lifetime PTSD were exhibited by African Americans (*OR* = 1.50) and lower rates for Asian Americans (*OR* = 0.54) when compared to non-Latino Whites (Alegría et al., 2013). The highest percentage of stimulant (30%), methamphetamine (27%), and popper (i.e., amyl nitrite; 46%) use was reported among White MSM, and crack/cocaine (38%) use was highest among African American MSM (Hatfield et al., 2009). A significantly higher proportion of Black and

minority MSM (24.6%) reported unprotected anal intercourse with casual male partners in the preceding three months than White British MSM (12.8%); Soni et al., 2008), and a significantly higher proportion of Latino MSM reported CSA before age 13 (22%) than did non-Latino MSM (11%; Arreola et al., 2005). MSM with less education was associated with an increased likelihood of reporting unprotected receptive anal intercourse (*OR*s = 0.59 and 0.81, respectively; Hampton et al., 2012; Maksut et al., 2016), and MSM reporting a high level financial hardship was associated with increased risk of any substance use (adjusted risk ratio [*aRR*] = 1.15), marijuana use (*aRR* = 1.48), and inhalant nitrites use (*aRR* = 1.24; Park et al., 2018).

Preliminary Analyses

Correlations

Effect sizes of correlations of study variables were small to large (see Table 2 for descriptive statistics and correlations). Age was positively correlated with CSA complexities (r_s = .15) at T1 and intrusive reexperiencing (r_s = .18), avoidance (r_s = .20), and hyperarousal (r_s = .17) at T2. CSA complexities was positively correlated with substance use (r_s = .18), intrusive reexperiencing (r_s = .35), avoidance (r_s = .30), hyperarousal (r_s = .22), and sexual risk behaviours (r_s = .15) at T1 and negatively correlated with sexual risk behaviours (r_s = -.16) at T3. Substance use was positively correlated with intrusive reexperiencing (r_s = .16) and avoidance (r_s = .13) at T1. Intrusive reexperiencing was positively correlated with avoidance (r_s = .67) and hyperarousal (r_s = .53) at T1 and negatively correlated with intrusive reexperiencing (r_s = -.16) at T2. Avoidance was positively correlated with hyperarousal (r_s = .71) and sexual risk behaviours (r_s = .15) at T1. Sexual risk behaviours at T1 were negatively correlated

with sexual risk behaviours (r_s = -.36) at T3. Substance use at T2 was positively correlated with intrusive reexperiencing (r_s = .19) at T2. Intrusive reexperiencing at T2 was positively correlated with avoidance (r_s = .59) and hyperarousal (r_s = .55) at T2. Avoidance at T2 was positively correlated with hyperarousal (r_s = .57) at T2.

ANOVAs

For categorical variables, factorial ANOVAs were conducted to examine the effects of race, income, and educational attainment on sexual risk behaviours. At T1, there was a significant effect of race ($F(5, 217) = 2.65$, $p = .024$, $\eta_p^2 = .06$) on sexual risk behaviours. However, a Hochberg's GT2 post-hoc test revealed no significant difference among specific racial groups on sexual risk behaviours. There were no significant effects of income ($F(5, 217) = 1.88$, $p = .099$, $\eta_p^2 = .04$) and educational attainment ($F(6, 217) = 0.48$ $p = .823$, $\eta_p^2 = .01$) on sexual risk behaviours. At T3, there were no significant effects of race ($F(4, 118) = 0.66$, $p = .620$, $\eta_p^2 = .02$), income ($F(5, 118) = 1.18$, $p = .323$, $\eta_p^2 = .05$), and educational attainment ($F(6, 118) = 1.28$, $p = .271$, $\eta_p^2 = .06$) on sexual risk behaviours.

A factorial ANOVA was conducted to examine the effects of race, income, and educational attainment on substance use. At T1, there were no significant effects of race ($F(5, 217) = 1.62$, $p = .156$, $\eta_p^2 = .04$), income ($F(5, 217) = 1.40$, $p = .225$, $\eta_p^2 = .03$), and educational attainment ($F(6, 217) = 1.21$ $p = .300$, $\eta_p^2 = .03$) on substance use. At T2, there were no significant effects of race ($F(4, 118) = 0.14$, $p = .966$, $\eta_p^2 = .01$), income ($F(5, 118) = 0.26$, $p = .934$, $\eta_p^2 = .01$), and educational attainment ($F(6, 118) = 0.49$ $p = .817$, $\eta_p^2 = .02$) on substance use.

MANOVAs

For categorical variables, factorial MANOVAs were conducted to examine the effects of race, income, and educational attainment on the intrusive re-experiencing, avoidance, and hyperarousal symptom clusters. At T1, there were no significant effects of race on intrusive reexperiencing ($F(5, 217) = 1.56$, $p = .173$, $\eta_p^2 = .04$), avoidance ($F(5, 217) = 0.56$, $p = .734$, $\eta_p^2 = .01$), and hyperarousal ($F(5, 217) = 1.27$, $p = .276$, $\eta_p^2 = .03$). There were no significant effects of income on intrusive reexperiencing ($F(5, 217) = 0.96$, $p = .444$, $\eta_p^2 = .02$), avoidance ($F(5, 217) = 0.58$, $p = .719$, $\eta_p^2 = .01$), and hyperarousal ($F(5, 217) = 0.23$, $p = .950$, $\eta_p^2 = .01$). There were no significant effects of educational attainment on intrusive reexperiencing ($F(6, 217) = 0.25$, $p = .957$, $\eta_p^2 = .01$), avoidance ($F(6, 217) = 0.23$, $p = .968$, $\eta_p^2 = .01$), and hyperarousal ($F(6, 2170) = 0.67$, $p = .674$, $\eta_p^2 = .02$). At T2, there were no significant effects of race on intrusive reexperiencing ($F(4, 118) = 0.43$, $p = .789$, $\eta_p^2 = .01$), avoidance ($F(4, 118) = 1.74$, $p = .145$, $\eta_p^2 = .06$), and hyperarousal ($F(4, 118) = 0.65$, $p = .631$, $\eta_p^2 = .02$). There were no significant effects of income on intrusive reexperiencing ($F(5, 118) = 0.46$, $p = .787$, $\eta_p^2 = .02$), avoidance ($F(5, 118) = 0.61$, $p = .694$, $\eta_p^2 = .03$), and hyperarousal ($F(5, 118) = 0.45$, $p = .811$, $\eta_p^2 = .02$). There were no significant effects of educational attainment on intrusive reexperiencing ($F(6, 118) = 0.21$, $p = .975$, $\eta_p^2 = .01$), avoidance ($F(6, 118) = 0.67$, $p = .676$, $\eta_p^2 = .03$), and hyperarousal ($F(6, 118) = 0.18$, $p = .981$, $\eta_p^2 = .01$).

Table 4

Correlations for Study Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12
						Time 1						
1. Age	-	**.15***	-.10	.06	.04	.08	.06	.08	**.18***	**.20****	**.17***	-.03
2. CSA		-	**.18****	**.35****	**.30****	**.22****	**.15***	-.12	.06	.05	.09	**-.16***
3. SU			-	**.16****	**.13***	.11	.07	.02	.07	.11	.12	-.02
4. Reexp				-	**.67****	**.52****	.07	-.01	**-.16***	.01	.12	-.08
5. Avoid					-	**.71****	**.15***	-.01	-.05	-.06	.11	-.01
6. Hyper						-	.10	-.05	.01	.09	-.03	-.04
7. SRB							-	.01	-.10	-.05	-.12	**-.36****
						Time 2						
8. SU								-	**.19***	.04	.10	-.08
9. Reexp									-	**.59****	**.55****	.08
10. Avoid										-	**.57****	.04
11. Hyper											-	.04
						Time 3						
12. SRB												-
M	-	2.6	2.1	7.5	13.6	13.6	6.9	1.8	5.4	9.7	10.5	3.7
SD	-	1.5	2.7	7.7	11.9	10.3	10.6	2.4	7.2	10.9	9.7	17.5

Note. $N = 297$ at Time 1; $N = 172$ at Time 2 and Time 3; CSA = CSA complexities; SU = Substance use; Reexp = Intrusive reexperiencing; Avoid = Avoidance; Hyper = Hyperarousal; SRB = Sexual risk behaviours; Significant correlations are bolded for ease of presentation.

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

Primary Analyses

Mediation models included covariates that were significant in preliminary analyses (i.e., age and race). Additionally, participant randomization into the intervention or control group was a covariate. Consistent with hypothesis 1a and 1b, CSA complexities were positively associated with sexual risk behaviours cross-sectionally in both mediation models (β = .14, *SE* = .06, *p* = .024 and β = .13, *SE* = .06, *p* = .042; see Figures 5 and 6). CSA complexities were negatively associated with sexual risk behaviours over time in both mediation models (β = -.18, *SE* = .08, *p* = .031 and β = -.17, *SE* = .08, *p* = .041 see Figures 7 and 8). See Tables 3 and 4 for direct path coefficients.

Inconsistent with hypothesis 2a and 2b**,** there was no significant indirect effect of CSA complexities on sexual risk behaviours through substance use (β = .01, *SE* = .01, 95% BCa CI [-.01, .04]) cross-sectionally and no significant indirect effect through change in substance use over time (β = .02, *SE* = .02, 95% BCa CI [-.02, .06]).

Partially consistent with hypothesis 3a, there was a positive indirect effect of CSA complexities on sexual risk behaviours through avoidance (β = .07, *SE* = .03, 95% BCa CI [.01, .14]), but not through intrusive reexperiencing (β = -.05, *SE* = .03, 95% BCa CI [-.12, .01]) or hyperarousal (β = .003, *SE* = .02, 95% BCa CI [-.04, .03]) cross-sectionally. Inconsistent with hypothesis 3b, there were no significant indirect effects of CSA complexities on sexual risk behaviours through change in intrusive reexperiencing (β = .006, *SE* = .02, 95% BCa CI [-.02, .05]), avoidance (β = <.001, *SE* = .01, 95% BCa CI [-.03, .03]), or hyperarousal (β = <.001, *SE* = .02, 95% BCa CI [-.04, .03]) over time.

Table 5

Direct Paths Among CSA Complexities, Substance Use, and Sexual Risk Behaviours

Variable	Substance Use		SRB	
	B (*SE*)	*β* (*SE*)	*B* (*SE*)	*β* (*SE*)
		Time 1		
Age	**-.01 (.01)***	**-.14 (.06)***	.003 (.01)	.03 (.06)
Race	**.18 (.08)***	**.13 (.06)***	-.17 (.12)	-.08 (.06)
CSA	**.15 (.04)****	**.20 (.06)****	**.15 (.07)***	**.14 (.06)***
Substance use	-		.08 (.09)	.06 (.06)
R^2	.07		.03	
		Time 2		
Age	.01 (.01)	.10 (.08)	-	
Race	-.09 (.14)	-.06 (.10)	-	
CSA	**-.14 (.06)***	**-.19 (.08)***	-	
Substance use	-		-	
R^2	.06			
		Time 3		
Age	-		.003 (.01)	.02 (.08)
Race	-		.11 (.20)	.05 (.10)
CSA	-		**-.19 (.09)***	**-.18 (.08)***
Substance use	-		-.12 (.11)	-.08 (.08)
R^2			.04	

Note. $N = 297$ at Time 1; $N = 172$ at Time 2 and Time 3; CSA comp = CSA complexities; SRB = Sexual risk behaviours; *B* = unstandardized path coefficients; *β* = standardized path coefficients; Significant paths are bolded for ease of presentation.
*$p < .05$. **$p < .01$.

Table 6

Direct Paths Among CSA Complexities, PTSD Symptom Clusters, and Sexual Risk Behaviour

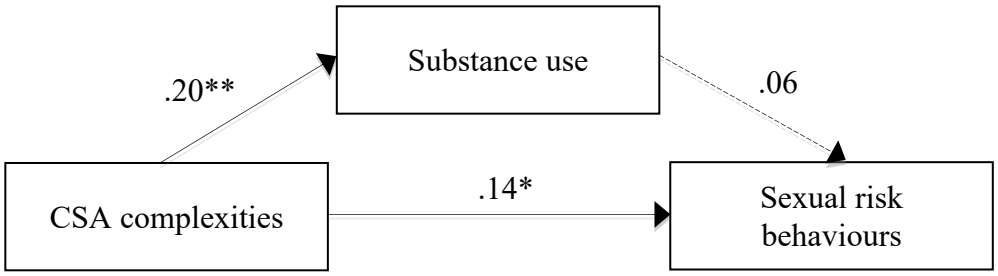
Variable	Reexperiencing		Avoidance		Hyperarousal		SRB	
	B (*SE*)	*β* (*SE*)	*B* (*SE*)	*β* (*SE*)	*B* (*SE*)	*β* (*SE*)	*B* (*SE*)	*β* (*SE*)
				Time 1				
Age	-.004 (.04)	-.01 (.06)	-.03 (.06)	-.03 (.06)	.03 (.05)	.03 (.06)	.004 (.01)	.03 (.06)
Race	.48 (.51)	.05 (.05)	.45 (.82)	.03 (.06)	1.15 (.73)	.10 (.06)	-.16 (.12)	-.08 (.06)
CSA	**1.92 (.28)****	**.39 (.05)****	**2.49 (.44)****	**.32 (.06)****	**1.30 (.39)****	**.19 (.06)****	**.14 (.07)***	**.13 (.06)***
Reexperiencing	-		-		-		-.03 (.02)	-.13 (.08)
Avoidance	-		-		-		**.03 (.01)***	**.22 (.10)***
Hyperarousal	-		-		-		-.002 (.01)	-.01 (.08)
R^2	.15		.10		.05		.05	
				Time 2				
Age	**.08 (.04)***	**.15 (.08)***	**.13 (.06)***	**.16 (.08)***	**.11 (.06)***	**.16 (.08)***	-	
Race	.43 (.75)	.06 (.10)	1.38 (1.13)	.12 (.10)	.66 (.97)	.07 (.10)	-	
CSA	.48 (.32)	.12 (.08)	.50 (.49)	.08 (.08)	.71 (.42)	.14 (.08)	-	
Reexperiencing	-		-		-		-	
Avoidance	-		-		-		-	
Hyperarousal	-		-		-		-	
R^2	.05		.07		.06			
				Time 3				
Age	-		-		-		.001 (.01)	.01 (.08)
Race	-		-		-		.11 (.20)	.06 (.10)
CSA	-		-		-		**-.19 (.09)***	**-.17 (.08)***
Reexperiencing	-		-		-		.01 (.03)	.05 (.10)
Avoidance	-		-		-		.001 (.01)	.005 (.10)
Hyperarousal	-		-		-		.001 (.02)	.003 (.10)
R^2							.04	

Note. $N = 297$; $N = 172$ at Time 2 and Time 3; CSA comp = CSA complexities; Reexperiencing = Intrusive reexperiencing; SRB = Sexual risk behaviours; Significant paths are bolded for ease of presentation.

B = unstandardized path coefficients; β = standardized path coefficients.
*$p < .05$. **$p < .01$.

Figure 5

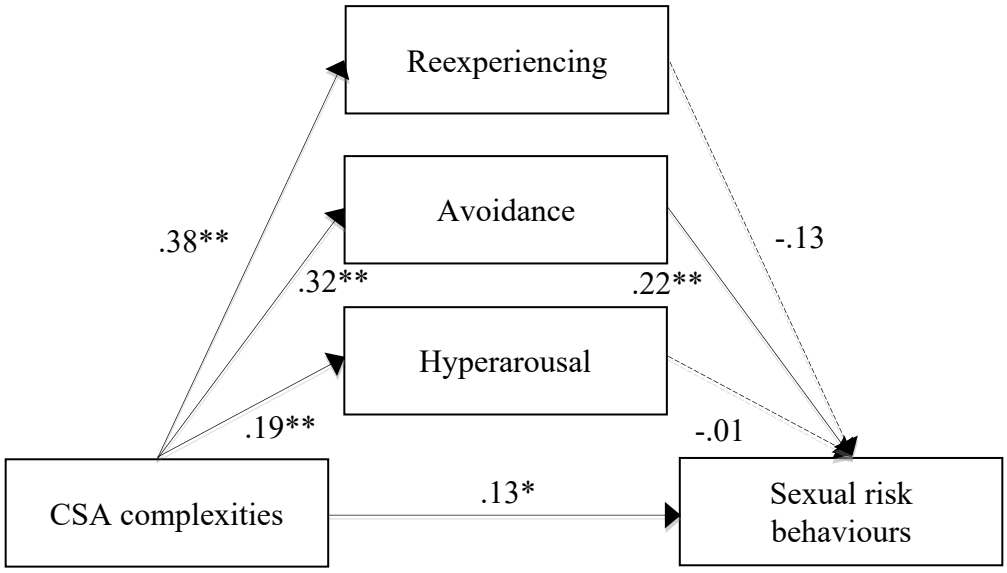
Mediation Model for Substance Use at Baseline



Note. Solid line indicates a significant path. Standardized path coefficients are presented for direct paths; see in text for indirect path coefficients and confidence intervals.
*$p < .05$. **$p < .01$.

Figure 6

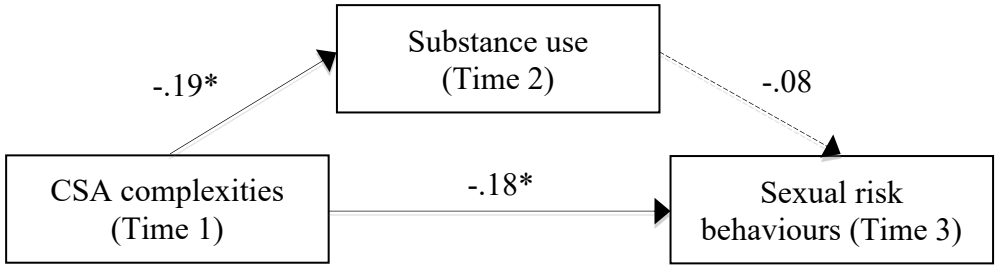
Mediation Model for PTSD Symptom Clusters at Baseline



Note. Solid line indicates a significant path. Standardized path coefficients are presented for direct paths; see in text for indirect path coefficients and confidence intervals; Reexperiencing = Intrusive reexperiencing.
*$p < .05$. **$p < .01$.

Figure 7

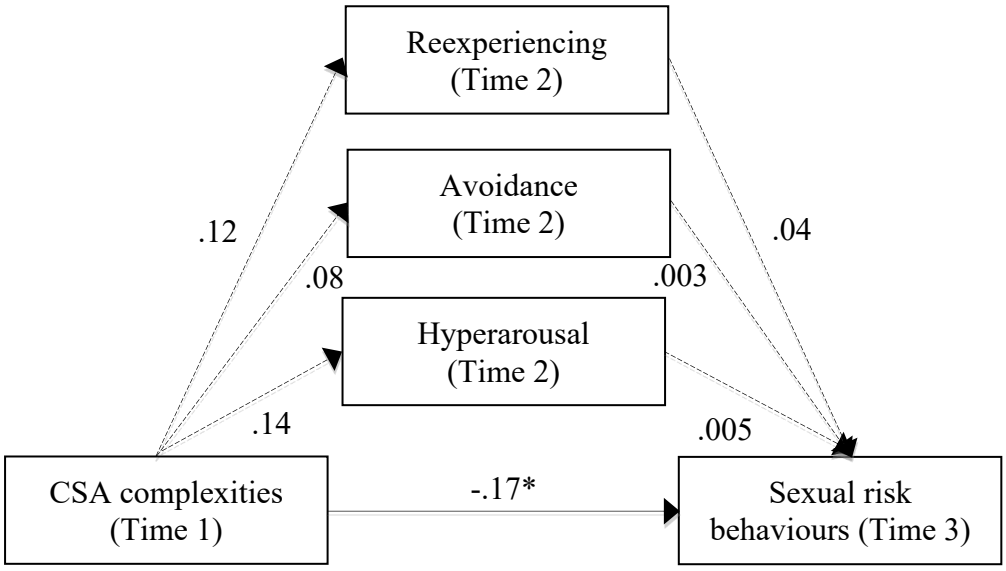
Mediation Model for Substance Use Over Time



Note. Solid line indicates a significant path. Standardized path coefficients are presented for direct paths; see in text for indirect path coefficients and confidence intervals.
*$p < .05$. **$p < .01$.

Figure 8

Mediation Model for PTSD Symptom Clusters Over Time



Note. Solid line indicates a significant path. Standardized path coefficients are presented for direct paths; see in text for indirect path coefficients and confidence intervals; intervals; Reexperiencing = Intrusive reexperiencing.
*$p < .05$. **$p < .01$.

QUALITATIVE RESULTS

Primary Analyses

Braun and Clarke's (2019, 2021) reflexive thematic analysis (RTA) was used as a method to analyze the qualitative data. RTA is a specific thematic analysis approach that is a flexible and robust method for analyzing and interpreting themes and patterns across a wide range of different qualitative datasets and participant group sizes. This method involves a systematic process of data coding to develop themes. RTA embraces the researcher's assumptions, values, and biases that may influence the analysis and interpretation of the data. In other words, researcher subjectivity is present in the current study; this was acknowledged and reflected upon (in a previous section) and does not need to be controlled or managed (Braun & Clarke, 2021). The analytic process involved six phases: (1) familiarization with the data; (2) generating initial codes; (3) generating initial themes; (4) developing themes; (5) refining, defining, and naming themes; and (6) writing up the analysis (Braun & Clarke, 2021). This process was iterative and recursive, which involved moving back and forth between phases as themes were revised to best capture the impact of CSA on MSM (Braun & Clarke, 2006). Orientation to the data was more deductive; analysis was shaped by previous theory and research, which influenced how the data were read and coded and how the themes were developed (Braun & Clarke, 2021). A subset of the impact statements were coded collaboratively (25%) with one of research associates from the BSRP at Fenway Health that was involved in the transcribing process. The aim of collaborative coding was to facilitate understanding and interpretation of the data, rather than to reach a level of agreement about data coding (Braun & Clarke, 2021). As such, the research associate and I generated codes

independently and then came together to discuss our findings and resolve any differences in data coding, without the use of a codebook (Braun & Clarke, 2021).

Lincoln and Guba (1985) outline four criteria for establishing trustworthiness and transparency of the qualitative findings: credibility, transferability, dependability, and confirmability. To ensure credibility, an iterative and recursive process was used to read and reread the data, generate codes and themes, and then revise these codes and themes as needed. Furthermore, collaboration with the research associate for data coding likely improved the quality of the findings. To ensure transferability and dependability, the specific context, participants, settings, circumstances, methodology, and analytic procedures were described in detail earlier in this study. Confirmability was ensured because credibility, transferability, and dependability were all achieved (Lincoln & Guba, 1985).

Narrative Themes

Dedoose version 7.5.9 software was used to analyze the impact statements. Through systematic engagement with the data, the following four themes were actively produced that related to the impact of CSA on MSM: (a) *Impact of trauma on cognition*, (b) *Impact of trauma on affect*, (c) *Impact of trauma on behaviour*, and (d) *Finding resilience after trauma* (see Table 4 for a summary of themes and subthemes). Quotes from participants are contextualized throughout by providing relevant demographic information such as age and race.

Theme 1: Impact of Trauma on Cognition

The first theme identified from the data captured cognitive symptoms consistent with PTSD reported and experienced by MSM with a history of CSA. These cognitive

symptoms are consistent with particular symptom clusters of PTSD outlined in the *DSM-5-TR* (APA, 2022) and include intrusive reexperiencing of the sexual abuse and negative alterations (or changes) in cognition associated with the sexual abuse.

Intrusive Reexperiencing. The first symptom cluster is intrusive reexperiencing of sexual abuse, wherein individuals had recurrent, sudden, and unwanted traumatic memories, dreams, flashbacks, and/or physiological reactions to cues that intruded in the present moment. Of the participants that experienced intrusions, many mentioned distressing memories. For instance, one participant discussed experiencing psychological distress related to memories and external cues when revisiting the location where the sexual abuse occurred:

> There are noises and sounds I remember, places of being in [park name]. I went to the [festival name] one year and got really upset. At first, I didn't know why, [pauses], but the closer we got to certain places where I was raped, the more feelings- the more my feelings and attitudes changed towards myself and the people I was with…Started crying because I thought everyone knew what happened to me…I [long pause], I had to get out of the park [pauses] away from my friends…This was the first time I really been to the park since I'd been raped [48-year-old, African American].

Here, external cues in the park, particularly places near where the abuse occurred, served as reminders of the abuse, which forced the participant to escape the uncomfortable situation. Another participant discussed how sexual behaviour can trigger reexperiencing symptoms: "I almost exclusively top because bottoming is both painful and probably a trigger. I used to struggle with eye contact in intimate encounters due to the way I was

forced into making eye contact during my traumatic instance" [21-year-old, White]. Again, cues related to being the insertive versus receptive partner and eye contact have a perceptual similarity to the cues accompanying the abuse.

Negative Alterations in Cognition. Many participants reported experiencing negative changes in their thinking or beliefs when asked to reflect on the impact of CSA within their impact statements. These changes included distorted cognitions about the cause of the abuse experience and exaggerated negative beliefs about oneself, others, or the world. First, distorted cognitions involved many participants blaming themselves for the abuse experience, believing it was their personality, appearance, and/or behaviour that caused the abuse to, or increased the likelihood that the abuse would, occur. For instance, one participant explained:

> I was quiet and competent, sensitive and kind, shouldn't I have known better? I just wonder why I was chosen. Was it simply easy access or was there something about me, my personality, that made me an easy target?…Would a shy, quiet, [inaudible] be victimized? Was I chosen for my vulnerability in that way? [38-year-old, White]

Here, the participant believes that specific personality traits of theirs, such as being shy or quiet, made him vulnerable to being abused. Although less common, some participants believed that their sexuality or behaving in ways that are stereotypical of gay men made them a target of abuse. One participant reflected on their behaviour as a child:

> Um, perhaps there were some factors which would make [me] more susceptible or more likely- a more likely target, for example, in the case of the situations of my youth I guess being somewhat more perhaps gay acting or flamboyant in some

> ways as a child may make a person a target for someone whose looking to um come take advantage of that [25-year-old, African American].

Similar to the personality traits mentioned above (i.e., shy, kind), this participant held the belief that acting in a particular way made him susceptible to abuse. Other participants assumed blame regarding a particular decision they had made that they conceptualized as increasing the likelihood of abuse or having allowed the abuse to occur. One participant discussed simply not listening to his father:

> Quite honestly I believe this event was preventable. In part I blame myself for not being courageous enough, and in part I blame my father for putting me in a situation where I was vulnerable. If I had even a fraction of the self-worth that others around me might have, I might have stood up to my dad's unreasonable request that I go to make friends with complete strangers all alone and without supervision. I should've refused, plain and simple [32-year-old, African American].

Here, the participant believes that if he had told his father that he did not want to make friends with strangers, the sexual abuse would not have happened. In addition, the participant has attempted to conceptualize a complex event (i.e., CSA) as a situation that could have been easily avoided if he had acted differently (i.e., not listened to his father). Although this may be the case, it is more likely that the complex situation involved a number of factors (e.g., power differentials, age, parent-child relationship expectations) that are not being considered in this simplified understanding of the situation. In general, these participants blamed themselves, at least in part, for the abuse, attributing the occurrence of abuse or increased likelihood of being abused to their own personality or

behaviour.

Second, many participants reported exaggerated negative beliefs about themselves, which included helplessness, unlovability, and worthlessness. One participant stated: “I’m unworthy, I don’t deserve to be loved, I’m no good, I’m unlovable. I feel unlovable” [43-year-old, African American]. Another participant stated: “I’m starting to think that that overwhelming sense of helplessness became so ingrained in my psyche that it’s become a core belief I hold. The theme of helplessness runs through many areas of my life, thanks asshole” [50-year-old, White]. Both participants appear to hold negative core beliefs about themselves which can give rise to dysfunctional thinking patterns. In addition to negative beliefs about oneself, participants also reported negative beliefs about others, which often focused on difficulty developing trust with friends or romantic partners. One participant recalled:

> To this day I have trouble with trust. I think that everyone lies to me and in every relationship I think my partner is always cheating on me when he’s not. I assume without getting all the facts. I can’t get close to any of my partners because I can’t trust them and without trust no relationship will work [37-year-old, White].

Here, more generally held beliefs related to trusting others appear to be impacting the quality of interpersonal relationships. For many participants, a lack of trust and poor social and/or romantic relationships were often interconnected whereby participants’ ability to establish trust was impaired due to the abuse experience, which in turn made it more challenging to get along with or become close to others or develop meaningful interpersonal relationships more generally. Furthermore, many participants believed that they could not trust other people, feeling suspicious or fearful that they would be taken

advantage of by someone. One participant recalled: “They will take advantage of you, use you for sex, and not care about you after sex. You cannot trust people, they will let you down. Avoid being hurt again, don’t get too close to others” [43-year-old, African America]. Again, increased suspiciousness of others as a result of an abuse history likely makes it more challenging to build and maintain interpersonal relationships with others, particularly those of a sexual or romantic nature, as described by the participant above. Of note, although participants discussed various symptoms of PTSD, no participants explicitly mentioned PTSD or identified their symptoms as being characteristic of PTSD. Taken together, despite the occurrence of sexual abuse in childhood, the trauma appeared to continue impacting and affecting the lives of many participants, in part through the experience of cognitive symptoms (i.e., intrusive reexperiencing, negative alterations in cognition) consistent with PTSD.

Theme 2: Impact of Trauma on Affect

The second theme identified within the data captured affective states reported and experienced by MSM with a history of CSA. These affective states are consistent with changes in affect that might be expected following a trauma such as CSA. Diagnostically, negative affect may be conceptualized as part of a particular symptom cluster supporting a diagnosis of PTSD according to the *DSM-5-TR* (i.e., negative alterations in mood associated with the sexual abuse; APA, 2022) but may also represent a separate disorder instead of, or in addition to, PTSD. Negative affect described explicitly or implicitly by participants within the impact statements included low mood, anxiety, and low self-esteem.

Low Mood. Although some participants did not explicitly mention that they felt

depressed, they described symptoms that were characteristic of depression. For example, one participant discussed concerns around his mood:

> I felt hopeless and aimless at times like this. My life had no meaning, no purpose, and no sense of direction. All the time I felt like an object who had no business being in the real world. A few months ago I started having mood swings…I was…nothing much gave me happiness or satisfaction [26-year-old, Asian American].

This participant describes feeling hopeless, joyless, and having a lack of purpose, all of which are symptoms consistent with a depressive disorder or shifts in mood following a trauma. That said, it is unclear whether this participant is aware that these are symptoms of depression or of a depressive disorder. Another participant explicitly acknowledged having a history of depression:

> Outside work I've struggled with depression. Believing I'm worth the effort to take care of myself is a constant struggle and believing that I'm worth having as a friend, sexual partner, boyfriend, etc. takes a lot of focus for me…[49-year-old, White].

This participant mentions feelings of worthlessness and how this feeling exists within his different roles (e.g., friend, sexual partner, boyfriend) across relationships. Similar to feeling hopeless or joyless as mentioned above, feeling worthless is a symptom characteristic of depression and was a feeling mentioned by participants who discussed experiencing low mood. This is not surprising, as feeling worthless, particularly after a CSA experience, can often become a core belief that acts a lens through which to view oneself.

Anxiety. Some participants explicitly mentioned feelings of anxiety. For instance, one participant recalled how he felt being around other men: "I have a very difficult time being around men, let alone being left alone with them. It is the only feeling I can identify with, while in these situations, is panic, but I know there is more" [25-year-old, White]. For this participant, the strong emotions experienced during the abuse seems to have generalized to other situations in which he is around men, whether these situations involve casual interactions or more intimate interactions. Another participant recalled how he felt being around people:

> I also got anxious around people. Sometimes when someone touched me I would jump. If I was around a lot of people I would get scared, start to shake, get upset, and my heart would race. I didn't like being around people [37-year-old, White].

Although the former participant only identifies panic, the latter participant mentions anxiety and physical symptoms (e.g., increased heart rate, shaking) typically associated with anxiety. It is of interest that some participants explicitly identified symptoms as being consistent with anxiety but did not explicitly identify symptoms as being consistent with depression. It is possible that this difference can be explained by different levels of familiarity with each group of symptoms. For example, physical symptoms can be saliant and an immediate indication that one is feeling anxious. Although feeling hopeless is a symptom of depression, it may be a less familiar symptom akin to other symptoms such as poor concentration or psychomotor agitation. Had the participant above, who reported depressive symptoms, identified symptoms more familiar among laypeople, like feeling sad or suicidal, he may have explicitly identified feeling depressed. Regardless of how participants labeled their affective states or whether diagnostic criteria would be met, the

data, inclusive of the direct quotes shared above, certainly identify a negative mood state consistent with what may be experienced following a traumatic event.

Low Self-Esteem. Another commonly described symptom reported by participants within the impact statements was low self-esteem. Although low self-esteem is not an affective state, it can contribute to and be a symptom of multiple mental health challenges. Many participants reported struggling with feelings of low self-esteem, which can often exacerbate difficulties in other areas of one's life. Relatedly, low self-esteem also appeared to be closely connected to low self-worth. Despite self-esteem and self-worth being similar, but ultimately different concepts, some participants discussed how one was related to the other. For instance, one participant explained:

> The trauma has caused my self-esteem to be really low, it has decreased my worth and how I am viewed sexually. If no-one wants me sexually, no matter how wonderful any other non-sexual characteristics are, I feel I have no self-worth [37 year old, Multiracial].

For this participant, low self-esteem appeared to affect how he viewed himself sexually; however, for other participants, low self-esteem impacted how they felt about different aspects of themselves. For example, another participant explained how low self-esteem affected how he felt about his physical appearance:

> Self-esteem is probably the area I've seen myself most affected in. I've had- I have very little self-esteem, and need regular affirmation to be happy. I'm not very good at reinforcing my self-image without the words of others. I would say I have confidence in my intellectual and social abilities, but very little in my physical appearance [21-year-old, White].

In both cases, although low self-esteem is not a diagnosis in the *DSM-5-TR*, it is woven into negative affect and poorer mental health and wellbeing. Overall, and along with negative cognitions as described above, the mental health impact still being experienced by the participants at the time of writing their impact statements included low mood, anxiety, and low self-esteem.

Theme 3: Impact of Trauma on Behaviour

The third theme identified within the data captured behavioural symptoms of trauma reported and experienced by MSM with a history of CSA. As described above for Theme 1 and Theme 2, behavioural symptoms may also be conceptualized as part of a particular symptom cluster supporting a diagnosis of PTSD as outlined in the *DSM-5-TR* (i.e., marked alterations in arousal and reactivity associated with the sexual abuse; APA, 2022). Behavioural symptoms include avoidance, hyperarousal, and engagement in health-risk behaviours (e.g., alcohol and drug use, sexual risk taking).

Avoidance of Stimuli. Some participants described their efforts (e.g., ignoring, denial, refusal to discuss what happened) to avoid distressing thoughts, feelings, or external reminders (e.g., conversations) that may engender distressing thoughts or feelings about the abuse experience. Avoidance behaviours are not uncommon among those who have experienced trauma and are represented within the diagnostic criteria of PTSD (i.e., avoidance of stimuli associated with the trauma). For instance, one participant recalled:

> I could not speak of anything else, um…I could speak about anything else but this aspect of my life. And if I couldn't even talk about my sexuality, how then could I broach the subject of my abuse? Nope, not even my closest confidante, my wife at

> the time, would ever know a hint about the turmoil and conflict within me [32-year-old, White].

Here, this participant was not willing or able to discuss the abuse that had happened to him. Although he does not explain the particular reason for being unable to talk about it, there appears to be avoidance around the discomfort associated with not only having to think about and remember the event, but also telling someone in his life about the abuse. Another participant recalled: "I hide my problems as I, I hide my problems as I hid this trauma. I ignore, I ignore…I ignore that things are happening - that bad things are happening in my life and force myself to smile" [26-year-old, White]. In this case, the participant tried to simply ignore the trauma and other negative things that had happened in his life. Interestingly, both participants above identified avoidance of discussing the traumatic event, but also more generally, discussing other negative, challenging aspects of their lives. It is possible that avoidance of discussing the trauma has generalized beyond the trauma itself and may have a wider impact on the participants' functioning.

Hypervigilance. Some participants reported experiencing hypervigilance associated with the sexual abuse. Changes in arousal and reactivity are not uncommon in those who have experienced trauma and are represented within the diagnostic criteria of PTSD. For instance, one participant discussed being hypervigilant or overly alert to others in his environment and not feeling safe when out in public:

> From my traumatic experience, I don't feel safe at all anywhere I go. I'm always on guard, don't like people behind me or too close to me, and I'm always ready to attack if the situation needs to go that route [31-year-old, African American].

Similarly, another participant discussed being overly cautious and hypervigilant of their

surroundings:

> In terms of safety, I would say I've become very cautious…I am almost [sighs]- I am almost overly aware of the people around me walking on the street as we discussed. I tend to be constantly aware of who's in close proximity to me. I will never walk with earbuds in or my parka hood up due to it decreasing my awareness [21-year-old, White].

In both cases, participants reported experiencing an elevated state of awareness and sensitivity to their environments, which manifests as a need to constantly scan their surroundings for potential threats.

Alcohol and Drug Use. Some participants reported using drugs, alcohol, or a combination of both as an avoidance coping strategy or self-medication to deal with the trauma of the abuse experience. Potentially reckless and self-destructive behaviours (e.g., drug and alcohol use) are represented within the hyperarousal symptom cluster of PTSD. For instance, one participant described their alcohol use as a coping strategy to manage depressive symptoms:

> As I got older my depression worsened and I started smoking cigarettes. For 10 years after I quit, I needed something else to mask the depression so I started drinking…I would drink every day just to help me deal with my depression. I didn't want to deal with it, just try to avoid it [37 year old, White].

Although participants may engage in health-risk behaviours without the recognition or awareness that they are doing so in order to deal with emotional pain and distress, this participant clearly identified his use of alcohol as an attempt to cope with depression. Another participant described using both drugs and alcohol to avoid:

> I did not think I would live past 30. I was completely convinced I was not going to survive. I was skinny and felt I was totally undesirable, drugs and alcohol became welcome in my life. Anything to get me out of my own skin [52-year-old, White].

Again, for this participant, substance use appeared to function as a less adaptive coping strategy, as its purpose was for the participant to get, "out of [his] own skin."

Sexual Risk Taking. Although drug and alcohol use were mentioned by some participants, others described sexual risk taking, which included participants engaging in casual sex with several men and paying for sex. Sexual risk can be conceptualized in a similar manner to alcohol and drug use (i.e., a potentially reckless and self-destructive behaviour) and is represented within the hyperarousal symptom cluster of PTSD. One participant described engaging in casual sexual experiences: "So I began this around thirteen years old, it became more frequent as I grew older, I found places men would go for anonymous sex and I would visit them daily, sometimes engaging in ten men on a visit" [53-year-old, White]. Unlike some of the participants who described using substances to cope, participants engaging in sexual risk behaviours did not explicitly mention or imply that the behaviour was used as an avoidance coping strategy. Another participant described his casual sexual experiences and the places he visited:

> For that reason I pursue relations that are fast and casual. Even though I have accepted who I am, I think that the big trauma made me think that is the only way for me to enjoy a sexual experience. For example, going to the point where I look for sex to happen without getting to know someone and develop a relationship with goals. I found myself going to sex clubs to look for casual and random

> experience instead of getting to know someone and enjoy dating or spending time together [43-year-old, White].

Although a few participants mentioned STIs as a consequence of having multiple sexual partners, participants did not acknowledge the potential health risks associated with sexual risk behaviours (i.e., STIs) and did not acknowledge whether they had actually experienced those health risks. Relatedly, although a number of participants reported having engaged in sexual risk behaviours more generally, the two sexual risk behaviours explicitly specified by participants were having multiple sexual partners and paying for sex. Further, participants did not indicate whether these sexual risk behaviours involved condomless anal intercourse. Therefore, the level of risk in the sexual experiences reported by participants in the current study is uncertain. Changes in behaviour related to experiences of trauma are not uncommon and many participants identified some behavioural change within their impact statements, including avoidance behaviours, hyperarousal, drug and alcohol use, and sexual risk taking.

Theme 4: Finding Resilience after Trauma

The final theme from the data captured aspects of resilience reported and experienced by MSM with a history of CSA. Resilience, or the ability to "bounce back" and function adaptively following adversity, described by participants included positive changes in self-perception, supporting others who have been sexually abused, displaying a willingness to disclose or acknowledge the abuse experience, and not blaming oneself for the abuse experience. These are all examples of inner resources, although it is also possible to draw resilience from external sources such as friends, family, or community. Regardless, the aspects of resilience discussed by participants may have allowed them to

look forward to the future rather than remain focused on, and negatively impacted by, a history of abuse. Some participants described positive traits or characteristics that emerged following the abuse experience. For instance, one participant discussed how the abuse experienced had changed him:

> Even so, the traumatic events have also managed to make me a stronger, more mature, more resilient, more independent, and more aware and sympathetic towards sensitive subjects and others' lives. I try to focus on the positives in my life and try not to dwell on past events that I cannot change. What's done is done, and the only thing I can do from this point on is to reflect, understand, move on and grow stronger [21-year-old, White].

Here, the participant highlights a number of positive traits or characteristics that seemed to allow him to not forget about the abuse experience but acknowledge that the abuse happened and move forward from it. A less common aspect of resilience mentioned by participants was supporting, or their willingness to support, others who had been abused. One participant recalled:

> It also means I can relate to other people who have experienced the same thing, if I were to ever be in a comfortable enough situation to divulge that information to someone else. That it could help them to process what has happened to them, if at that point I've already processed it happening to myself and can be helpful [24-year-old, White].

Here, this participant demonstrated a willingness to eventually help support others with histories of abuse once he felt a level of comfort processing and talking about his own past experiences. It may have been difficult for most participants to help support others

who experienced abuse because they first needed to be comfortable themselves with processing and discussing their own trauma. Although by having participants complete an impact statement with the study therapist they are acknowledging and discussing the trauma, a few participants were willing to divulge information about their abuse experience to other people in their lives (e.g., friends, romantic partners). Despite the immense difficulty of discussing, and as a result potentially reexperiencing, any type of trauma before one is ready, a few participants found it helpful or beneficial to tell someone else about the abuse experience. One participant explained the result of their friends knowing about the abuse experience:

> I know from experience that people will understand when I talk about the abuse. I feel good to let it out, it is like a burden off my shoulders. I feel like I have support from my friends about my abuse [55-year-old, White].

The most frequently described aspect of resilience was participants not blaming themselves for, or not feeling that they were the cause of, the abuse experience. This aspect of resilience was in stark contrast to participants who blamed themselves for the abuse experience. Instead of self-blame, some participants attributed the abuse to the actions of the perpetrator and/or the psychopathology associated with abusing children. For example, one participant explicitly stated that the abuse experience was not his fault:

> He got me alone and I was vulnerable. It could've happened to any other person or child. It was at the right time and right place for him. So it occurred because by nature, he was a bully and probably had personal issues about sex and his mental state. So I'm, I mean I'm kind of saying it wasn't my fault. I don't feel it was my fault [48-year-old, White].

Another participant recalled: “I know I didn’t deserve it, no matter what I did at the time I was abused. I know it was the results of somebody else’s actions and their issues” [47-year-old, White]. Taken together, resilience may not have undone the years of psychological distress caused by CSA, but it may have allowed some participants to manage their distress more effectively and reduce interference with current functioning.

Table 7

Summary of Themes and Subthemes

Themes and Subthemes
1. Impact of trauma on cognition a. Intrusive reexperiencing b. Negative alterations in cognition
2. Impact of trauma on affect a. Low mood b. Anxiety c. Low self-esteem
3. Impact of trauma on behaviour a. Avoidance of stimuli b. Hypervigilance c. Alcohol and drug use d. Sexual risk taking
4. Finding resilience after trauma

CHAPTER 5

DISCUSSION

Experiencing CSA increases risk for negative mental and behavioural health outcomes that can last into adulthood (Abajobir et al., 2017; Amado et al., 2015; Arriola et al., 2005; Devries et al., 2014; Fergusson et al., 2013; Halpern et al., 2018; Hart & Rubia, 2012; Irish et al., 2010; Maniglio, 2010). Compared with heterosexual men, rates of CSA are disproportionately higher among MSM (Lloyd & Operario, 2012; Sweet & Welles, 2012). Rates of HIV are also disproportionately higher among MSM (CDC, 2022) and CSA may serve as a prominent syndemic factor in HIV acquisition and transmission (Lloyd & Operario, 2012). Extant research indicates that CSA may be conceptualized as a behavioural risk factor for HIV due to its association with increase condomless anal intercourse and other sexual risk behaviours (e.g., sex while under the influence of alcohol and other drugs, transactional sex; Lloyd & Operario, 2012). Though previous literature has suggested strong support for a link between CSA and sexual risk behaviours, the causal pathways through which psychosocial risk factors facilitate negative health outcomes among MSM remains an area of research that requires more attention (Wang et al., 2017). Therefore, the aim of the current mixed-method study was twofold: (a) through analyses of mediation models, clarify specific psychosocial factors (i.e., substance use, PTSD symptom clusters) that may explain the link between CSA complexities and sexual risk behaviours (i.e., unprotected anal and/or vaginal intercourse) cross-sectionally and longitudinally, and (b) through an examination of impact statements, learn about the experiences of MSM with histories of CSA and how CSA affected their mental health and wellbeing to potentially complement the findings from

the mediation models. Together, triangulation of quantitative and qualitative methods allowed for a better understanding of the lived experiences of victims of CSA and its impact, as well as allowed results and findings between the two methods to be compared and contrasted to arrive at credible and well-substantiated set of conclusions.

Data were analyzed from a sample of HIV-uninfected MSM with histories of CSA that participated in a multisite RCT comparing CBT-TSC to supportive psychotherapy on outcomes of sexual risk behaviours linked with acquiring HIV and long-term PTSD symptoms. Regarding quantitative analyses, short-term longitudinal models based on three time points (i.e., baseline, 3-month follow-up posttreatment, and 6-month follow-up posttreatment) were used to elucidate how CSA complexities affected sexual risk behaviours over time. The current study addressed a gap in the literature by summing five CSA complexities (i.e., CSA by a family member, CSA with penetration, CSA with physical injury, CSA with intense fear, first CSA during adolescence; Boroughs et al., 2015), each with their own independent links to various sexual risk behaviours among MSM (Arreola et al., 2008; Boroughs et al., 2015; Ironson et al., 2019), to create a composite CSA complexities variable to test whether these complexities were directly associated with sexual risk behaviours. The current study also addressed gaps in the literature by not only considering CSA complexities, but also by focusing on previously researched psychosocial mediators (i.e., substance use and PTSD symptom clusters) through which CSA complexities may be indirectly associated with sexual risk behaviours. In addition, qualitative analysis of the impact statements that were collected within the experimental arm of the study detailing what the CSA event(s) meant to participants and how it affected their view of themselves, other people, and the world,

provided an important contribution to the literature using a novel source of data.

Overall, results from the analysis of the quantitative data offered mixed support for study hypotheses. CSA complexities were positively associated with sexual risk behaviours at baseline and negatively associated with sexual risk behaviours at the 6-month follow-up posttreatment. There was no significant indirect effect of CSA complexities on sexual risk behaviours through substance use both at baseline and at the 6-month follow-up posttreatment. However, there was a positive indirect effect of CSA complexities on sexual risk behaviours, through the PTSD avoidance symptom cluster at baseline, but not at the 6-month follow-up posttreatment. Quantitative findings are discussed in further detail below. The findings from the qualitative phase of the study rendered a number of themes; each reflected diverse ways that CSA impacted the lives of MSM inclusive of resilience demonstrated by this group. The convergence of quantitative and qualitative findings suggested similarities between what some participants reported in clinical interviews or on questionnaires and what they wrote for their impact statements, particularly in the key constructs of substance use, psychopathology, and sexual risk behaviours. Qualitative findings are discussed in further detail below.

Quantitative Findings

Discussion of quantitative findings will focus on how CSA complexities are linked with each of the main study outcomes, including: (a) directly to sexual risk behaviours, (b) indirectly to sexual risk behaviours via substance use, and (c) indirectly to sexual risk behaviours via PTSD symptom clusters.

CSA Complexities and Sexual Risk Behaviours

In the current study, CSA complexities were found to be positively associated

with sexual risk behaviours cross-sectionally such that an increased number of CSA complexities were associated with an increase in sexual risk behaviours. This finding is consistent with previous research suggesting links between CSA and a wide range of sexual risk behaviours in MSM, one of which includes a greater likelihood of unprotected anal intercourse (*OR*s range from 1.24 to 2.70; Boroughs et al., 2015; Mimiaga et al., 2009; Xu et al., 2015). Furthermore, a meta-analysis that included 12 studies from the United States found that MSM with a history of CSA were 1.85 times more likely to engage in recent unprotected anal intercourse (Lloyd & Operario, 2012). CSA is not only an early developmental trauma and stressor, but it is also conceptualized as part of a syndemic for MSM that amplifies their vulnerability to STIs, including HIV (Katz et al., 2016; Mimiaga et al., 2015; Stall et al., 2003). Often, studies that examined the determinants of HIV risk behaviours among MSM have focused on more proximal factors of HIV risk (e.g., substance use, partner characteristics, condom self-efficacy; Hart & Elford, 2010; Wolitski & Fenton, 2011). These proximal factors are then likely to be addressed by HIV prevention interventions (Lloyd & Operario, 2012). Conversely, more distal factors of HIV risk (e.g., experiences/events that occur earlier in life) are less likely to be considered as determinants of HIV risk behaviour (Lloyd & Operario, 2012). These distal factors are then likely to be ignored by HIV prevention interventions (Lloyd & Operario, 2012).

The positive association between CSA complexities and sexual risk behaviours suggests that early life circumstances, including but not limited to CSA, should not be overlooked, as they continue to remain important determinants of sexual risk behaviours. Moreover, unlike most previous studies, the current study accounted for the potential

heterogeneity of CSA experiences by creating and using a continuous variable that consisted of five dichotomous indicators of complex CSA experiences rather than using a single, dichotomous variable (i.e., yes/no to the presence or absence of CSA). Asking participants multiple questions about the CSA event(s) facilitates more information and is more likely to capture the wide variety of abuse experiences (Peters et al., 1986). Although multidimensional measures of CSA (i.e., summed composites of indicators of abuse severity [e.g., frequency, duration, nature of the acts, relationship of the perpetrator]) are not unique among heterosexual men and women (Fortier et al., 2009; Merrill et al., 2003), they are lacking in use among the MSM population (Ironson et al., 2019). It is possible that CSA experienced by MSM is different than CSA experienced by heterosexual men and women. If this is the case, then multidimensional measures of CSA should be tailored to account for the CSA characteristics that fit with the experiences of MSM. The current finding contributes to the literature by establishing a link between a composite measure of different characteristics of CSA, based on a previous study that focused specifically on MSM (see Boroughs et al., 2015) and sexual risk behaviours.

Although the cross-sectional relationship between CSA and sexual risk is well-established (see Lloyd & Operario, 2012), less research has focused on the longitudinal relationship between CSA and sexual risk. The current study indicated CSA complexities were negatively associated with sexual risk behaviours over time. This finding builds on previous literature, which is limited, as longitudinal investigations on the relationship between CSA and sexual risk are mixed and may depend upon the samples selected. For instance, some studies using samples of heterosexual men and women suggested CSA was positively associated with an increased number of sexual partners in adulthood (*OR*s

= 1.75 and 1.62, respectively; London et al., 2017; Scheidell et al., 2017), and among MSM, CSA was positively associated with increased engagement in unprotected anal intercourse (*OR* = 1.24), which increased risk for HIV infection during the course of the study follow-up period (Mimiaga et al., 2009). Conversely, other studies using samples of heterosexual men and women suggested CSA was not associated with a composite measure of risky sex (Guiney et al., 2022) or number of partners (Wilson & Widom, 2008), and was associated with a decrease in the number of sexual partners over time (van Roode et al., 2009). It is worth noting that these studies involved repeated observations of the same variables over several months, years, or decades, whereas the current study involved repeated observations of the same variables over less than one year. This is not uncommon among RCTs investigating the efficaciousness of novel psychological interventions. Further, a lack of longitudinal studies is not surprising given that these types of methodological designs usually require considerable time and allocation of resources. However, it is difficult to draw conclusions about whether or not the longitudinal results of the current study are consistent with previous literature, which is exacerbated by the even more limited data on MSM specifically. Within the context of the current study, one reason for the decrease in sexual risk behaviours over time may have been due to treatment-related changes as a result of enrollment in the RCT (see O'Cleirigh et al., 2019). Nonetheless, whether sexual risk behaviours increase or decrease, it remains important to explore mediators that may clarify how sexual risk behaviours change over time.

CSA Complexities, Substance Use, and Sexual Risk Behaviours

CSA complexity did not have a significant indirect effect on sexual risk behaviour

through substance use. This finding is inconsistent with theoretical models (e.g., Malow et al., 2006; Miller, 1999; Purcell et al., 2004) and empirical research indicating substance use as a mediator between CSA and sexual risk among MSM (e.g., Heusser & Elkonin, 2014; Mimiaga et al., 2009; Paul et al., 2001). This may be attributed to a number of methodological differences between the previous research and the current study. For example, across each of these previous studies, CSA was measured as a single dichotomous variable that captured a narrower understanding of the abuse experience (Heusser & Elkonin, 2014; Mimiaga et al., 2009), there was a lack of clarity around whether or not sexual activity included unprotected anal intercourse (Heusser & Elkonin, 2014), substance use was measured only within the context of engaging in anal intercourse (Paul et al., 2001), indirect effects were analyzed using different statistical approaches (e.g., Sobel test, causal steps approach; Heusser & Elkonin, 2014; Mimiaga et al., 2009), and significantly larger sample sizes were used (Mimiaga et al., 2009; Paul et al., 2001). Discrepancies in the conceptualization of variables, sample sizes, and data analysis may have contributed to conflicting results.

When examining the mediation models more closely, results from the current study suggested CSA complexities were positively associated with substance use cross-sectionally such that an increased number of CSA complexities were associated with an increase in substance use. This finding is in line with previous research suggesting CSA as a positive correlate of alcohol and drug problems among MSM (Boroughs et al., 2015; Hall et al., 2021; Levine et al., 2018; Markowitz et al., 2011; Mimiaga et al., 2009; Shangani et al., 2022). Furthermore, a meta-analysis by Lloyd and Operario (2012) reported a positive association between CSA history and substance use, including sex

while under the influence of alcohol or drugs, among MSM. Individuals may turn to substances to cope with the distress resulting from CSA (Leeies et al., 2010; Ullman et al., 2013). Using substances to cope is an avoidance strategy and fits with the self-medication hypothesis, which proposes that substances are used to reduce an uncomfortable emotional state (Khantzian, 1997). Although avoidance coping strategies provide more immediate relief in the short-term, they often have unwanted negative consequences in the long-term (Elliot et al., 2011; Grant et al., 2013). It is likely that some victims of CSA may engage in substance use as way to cope though coping was not directly measured in the current study. Moreover, CSA complexities were negatively associated with substance use over time. Similar to sexual risk, previous studies reporting longitudinal investigations on the relationship between CSA and substance use in MSM are scarce. From what is available in the literature, one study reported increasingly frequent heavy drinkers had 1.8 greater odds of reporting a history of CSA compared to non-heavy drinkers and CSA predicted increasingly frequent heavy episodic drinking over the course of four years among MSM (Marshall et al., 2015). Other studies reported women with a history of CSA were significantly more likely to meet criteria for alcohol abuse-dependence (43.5%) than women without a history of CSA (7.9%; Silverman et al, 1996) and CSA exposure was positively associated with later drug dependence in adolescence and young adulthood after controlling for parental attachment and gender (B = 0.44; Fergusson et al., 2008). Conversely, Scheidell and colleagues (2017) reported CSA had the strongest association with substance abuse during adolescence, but the association weakened over time. Taken together, the current results lend further cross-sectional support for the positive association between CSA and substance use. However,

the decrease in substance use over time may have been due to treatment-related changes as a result of participation in the CBT-TSC or supportive psychotherapy groups of the RCT (see O'Cleirigh et al., 2019). Although the pilot trial focused exclusively on treatment for sexual risk and PTSD symptoms, these treatment-related changes may have extended to change in other areas of life, such as substance use.

Surprisingly, the current results suggested substance use was not significantly associated with sexual risk behaviours. This finding is inconsistent with theoretical models (e.g., Malow et al., 2006; Miller, 1999; Purcell et al., 2004) and an extensive body of empirical research indicating higher levels of alcohol and drug use as significant predictors of increased sexual risk among MSM (Bustamante et al., 2022; Celentano et al., 2006; Starks et al., 2020; Vosburgh et al., 2012). With the exception of heavy drinking, MSM are more likely to use licit (e.g., marijuana; [35.5%]) and illicit substances (e.g., cocaine [7.6%], methamphetamine [2.8%]) than heterosexual men (18.9% for marijuana, 2.8% for cocaine, and 0.9% for methamphetamine; Compton & Jones, 2021). It is common for MSM to use substances within the context of sexual behaviour, and they may be motivated to do so for a variety of reasons that include a perceived increase in sexual pleasure, to make the sexual experience last longer (Bourne & Weatherburn, 2017), or to manage emotional distress related to CSA that is triggered by current sexual encounters. The problem, however, is that use of substances during sexual activity can facilitate poor decision making and disinhibition that may be associated with unprotected anal intercourse and other sexual behaviours that increase the risk of HIV and other STI transmission (Maxwell et al., 2019). Although substance use for sexual purposes may account for the relationship between substance use and sexual

risk in most cases, there may be variability in the relationship between substance use and sexual risk that cannot be explained exclusively by the effects of substances to disinhibit, enhance, or sustain sexual experiences (Edmundson et al., 2018). Thus, it is possible that a subset of MSM use substances, but not within the context of sexual behaviour, due to the influence of other individual characteristics (e.g., higher risk perception, lower impulsivity; Ryb et al., 2006). It is also possible that given the current study measured substance use within the last 30 days and sexual risk was measured within the last three months, there was minimal to no overlap between co-occurring substance use and sexual risk behaviours. On the other hand, it is possible that substance use occurred within the context of sexual behaviour, but the behaviour was low in risk (e.g., condom use during anal intercourse, unprotected anal sex with a partner that disclosed they were HIV-negative). Although the current sample of MSM may be using substances in maladaptive attempts to regulate affect or cope with the trauma of CSA, they are not, in turn, using substances to facilitate risky sexual activity. This underscores the likelihood of omitted or undiscovered psychosocial mediators (Zhao et al., 2010) that may account for the link between CSA complexities and change in sexual risk behaviours over time among MSM.

CSA Complexities, PTSD, and Sexual Risk Behaviours

CSA complexities had a positive indirect effect on sexual risk behaviours through avoidance, but not through intrusive reexperiencing or hyperarousal, cross-sectionally. CSA complexities did not have significant indirect effects on sexual risk behaviours through any PTSD symptom cluster over time. The cross-sectional findings are in line with theoretical models (e.g., Malow et al., 2006; Miller, 1999; Purcell et al., 2004) and the few studies exploring PTSD (though not individual symptom clusters) as a mediator

between CSA and sexual risk among samples of heterosexual men and women (Holmes et al., 2005; Plotzker et al., 2007; Thompson et al., 2016). However, some of these studies measured PTSD and depression together, given that they are often comorbid in men with CSA histories (Holmes et al., 2005; Plotzker et al., 2007). To my knowledge, there are no studies that have examined CSA complexities and PTSD symptom clusters among MSM. Examining PTSD symptom clusters, as opposed to the more commonly current or lifetime PTSD, captured the heterogeneity of PTSD as a network of interacting symptoms that may vary from person to person (Fried et al., 2017; Zoellner et al., 2014) and determined if there were unique relationships between CSA complexities and each symptom cluster and between sexual risk and each symptom cluster.

When examining the paths from predictor to mediators in the models, results from the current study suggested positive associations between CSA complexities and all three PTSD symptom clusters cross-sectionally such that a higher CSA complexities score was associated with higher levels of intrusive reexperiencing, avoidance, and hyperarousal. Although most of the studies on CSA and PTSD have been conducted with women (Trask et al., 2011), the current findings are consistent with past evidence that CSA is positively associated with symptoms, or diagnoses, of PTSD among MSM (Batchelder et al., 2018; Boroughs et al., 2015; Ironson et al., 2019). Considering that a diagnosis of PTSD requires there to be exposure to a traumatic event that meets Criterion A in the *DSM-5-TR* (i.e., exposure to actual or threatened death, serious injury, or sexual violence is a necessary precondition for a diagnosis; APA, 2022), it is not surprising that a direct experience, such as CSA, is associated with PTSD. According to the *DSM-5-TR*, PTSD symptoms are generally grouped into four clusters: (1) intrusive reexperiencing, (2)

avoidance, (3) negative alterations in cognitions and mood, and (4) hyperarousal (APA, 2022). However, data collection occurred before the *DSM-5-TR* was introduced; at that time, PTSD symptoms were generally grouped into three clusters: (1) intrusive reexperiencing, (2) avoidance, and (3) hyperarousal (APA, 2000). The current study's conceptualization of PTSD was informed by the unique relationships each of the three symptom clusters have with CSA.

Intrusive reexperiencing is a hallmark symptom of PTSD (Ehlers et al., 2004). According to van der Kolk (2014), individuals who experience trauma struggle with intrusive thoughts, flashbacks, nightmares, and worries of the event as if they were still under threat. These reexperiencing symptoms may be seen as a response by the mind and body to an expectation of danger or in anticipation of loss of control over safety (Carlson et al., 1997). Reminders of the trauma would serve as the trigger for this expectancy of danger (Carlson et al., 1997). In the case of CSA, individuals might experience intrusive thoughts about various aspects of the abuse, see images of the perpetrator in their minds, and/or have nightmares about being in danger or harmed (Carlson et al., 1997). Related to intrusive reexperiencing, abuse victims may engage in escape or avoidance behaviours to alter or suppress the form or frequency of unpleasant cues associated with the trauma (Shenk et al., 2012). The function of cognitive avoidance (e.g., dissociation) and emotional avoidance (e.g., numbing) is to prevent individuals from remembering aspects of the trauma and the distressing reexperiencing symptoms that are activated by specific reminders (Carlson et al., 1997). When it comes to hyperarousal, individuals with a history of CSA may have an overactive nervous system because they are constantly anticipating further danger or threat in their environment (Coates, 2010). This state of

hyperarousal can persist and become chronic throughout the lifespan (Coates, 2010). Even long after the abuse has stopped and the environment is safe, many adults who have experienced CSA may still perceive the presence of danger or threat (Briere & Scott, 2006). The hyperarousal response to threat can have long-term deleterious effects on physical and mental health (Coates, 2010). Taken together, it is important to examine each PTSD symptom cluster individually, as they are responsible for unique impairment.

The results also suggested the avoidance symptom cluster was positively associated with sexual risk behaviours such that a higher level of avoidance was associated with an increase in sexual risk behaviours; however, intrusive reexperiencing and hyperarousal were not associated with sexual risk behaviours cross-sectionally. None of the three PTSD symptom clusters were associated with sexual risk behaviour over time. More broadly, the cross-sectional finding is consistent with previous literature on the significant association between PTSD diagnoses/symptoms and sexual risk behaviours among MSM. For example, the links between PTSD and sexual risk have been found to differ by age group, with younger gay and bisexual men 12 times more likely to have engaged in recent sexual transmission risk behaviour than older gay and bisexual men (O'Cleirigh et al., 2013). African American men with PTSD were found to have a larger number of sexual partners (M = 4.2) than those without PTSD (M = 2.8) and more sex without a condom (83.3%) than those without PTSD (64%; Glover et al., 2013). Among MSM with histories of CSA, lifetime PTSD symptom severity was positively associated with condomless sex (b = .14; Coleman et al., 2022). Even after controlling for covariates of race, sexual identity, and HIV status, screening positive for PTSD symptoms remained a significant predictor of having engaged in unprotected anal

(insertive or receptive) sex in the past 12 months (*OR* = 2.72; Reisner et al., 2009). For the association between PTSD symptom clusters and sexual risk behaviours more specifically, there is little research into how these constructs are related among MSM. Choi and colleagues (2017) reported that avoiding trauma-related thoughts or feelings was a positive correlate of sexual risk behaviour in MSM, and Radcliffe and colleagues (2011) reported that reexperiencing (*r* = .42) and arousal symptoms (*r* = .40) were positive correlates of frequency of sexual intercourse without a condom during the past 30 days. Although also limited, other studies reported that intrusive reexperiencing was a positive correlate of substance use during sex (*OR* = 1.83) and the number of lifetime sexual partners among adolescents (*OR* = 1.22; Banks et al., 2021), avoidance was a positive correlate of sexual risk behaviour in the past six months among women (*B* = 0.31; Overstreet et al., 2015), and hyperarousal was a positive correlate of unprotected intercourse while under the influence of an IV drug or crack/cocaine and while trading sex for drugs, money, or gifts among residents from a treatment facility (*B* = 0.75; Weiss et al., 2013).

Of the three PTSD symptom clusters, CSA complexities had a positive indirect effect on sexual risk behaviours though only through avoidance cross-sectionally. When entering all three symptom clusters as mediators into the model simultaneously, avoidance emerged above and beyond intrusive reexperiencing and hyperarousal as the pathway through which CSA complexities are related to sexual risk behaviours. This finding suggests there may be something unique about the manifestation and function of the avoidance symptom cluster compared to the other two symptom clusters. Avoiding thoughts and feelings may be a form of experiential avoidance, which involves the

reluctance to remain in contact with distressing internal experiences as well as trying to control or avoid distressing internal experiences (Hayes-Skelton & Eustis, 2020). Avoiding thoughts and feelings about a trauma involving sexual abuse may make it more difficult to be fully present in situations that trigger those thoughts and feelings, especially during sexual experiences with casual or intimate partners where individuals may need to carefully consider potential health risks (Choi et al., 2017). Relatedly, pushing uncomfortable thoughts and feelings out of mind may compromise access to cognitive resources (Baumeister et al., 1998; Wyland et al., 2003) that are necessary to accurately appraise risky sexual situations (Choi et al., 2017). Furthermore, attempts to avoid unwanted thoughts and feelings may lead some individuals to seek external sensation via sexual activity as a form of distraction from distressing internal experiences (Choi et al., 2017). Cross-sectionally, the lack of significant indirect effects involving both intrusive reexperiencing and hyperarousal (as mediators) suggest these PTSD symptom clusters are not the most relevant trauma-related symptoms when compared to avoidance, and thus, sexual risk behaviours were not used as a way to manage intrusive reexperiencing or hyperarousal. Longitudinally, the lack of significant indirect effects suggests there may be other mediators that need to be considered (Zhao et al., 2010) that are responsible for explaining the link between CSA complexities and change in sexual risk behaviours over time. Furthermore, one of the outcomes from the pilot RCT (see O'Cleirigh et al., 2019) were greater reductions in total PTSD and avoidance symptoms for participants in the treatment group. It is possible that controlling for participant randomization in the current study, as opposed to examining those in the treatment and control groups separately, may have contributed to the null findings between CSA

complexities and PTSD symptom clusters over time and any indirect effects.

Qualitative Findings

The quantitative findings were complimented by the qualitative analyses undertaken to help to identify the adverse outcomes associated with CSA. The current study further examined the impact of CSA from the perspectives of MSM using their own words in a written account orally presented during the clinical trial. The current study also provided some insight into aspects of resilience in response to the abuse and how some men were able to create meaning from, and come to terms with, their abuse in adulthood. From the narratives provided as a part of impact statements, four themes were developed that focused on the impact of CSA among a subsample of MSM (n = 39): (a) *Impact of trauma on cognition*, (b) *Impact of trauma on affect*, (c) *Impact of trauma on behaviour*, and (d) *Finding resilience after trauma*. Overall, these themes were consistent with both the quantitative results from the current study and the broader scholarly literature in this area. The themes largely suggested that MSM with a history of CSA experienced negative mental health outcomes and engaged in health risk behaviours via impacts on cognition, affect, and behaviour. Furthermore, the themes seemed to highlight that CSA can have long-lasting psychosocial effects that are currently experienced by many of the participants, despite the trauma being a distal event that occurred during childhood and/or adolescence. Broadly, these qualitative findings coincide with previous quantitative research suggesting CSA is a significant predictor of increased mental health conditions (e.g., PTSD symptoms, depression, anxiety) and health risk behaviours (e.g., substance use, sexual risk; Batchelder et al., 2018; Boroughs et al., 2015; Levine et al., 2018; Mimiaga et al., 2009) among MSM, and coincide with themes from other

qualitative research such as psychological issues, relationship challenges, self-blame, and reliving childhood trauma (Brown et al., 2022; Patterson et al., 2023; Sharma, 2022). Relatedly, qualitative findings also coincide with the current study's quantitative findings, as both methodologies identified links between CSA and substance use, PTSD symptom clusters, and sexual risk behaviours. However, participants in the impact statements were not asked to be specific about the types of substances they used and, as a result, used the general term "drugs."

Of the first three themes, trauma impact on cognition was the most discussed by participants within their impact statements, particularly symptoms that belong to the negative alterations in cognitions and mood cluster of PTSD. More specifically, there was mention of distorted cognitions about the cause of the abuse experience and exaggerated negative beliefs about oneself, others, or the world. For example, participants frequently expressed self-blame for the CSA event(s), low self-worth (i.e., negative view of the self), and/or experienced relationship challenges because they could not trust people (i.e., held a general negative view of others). After a traumatic event, it is not uncommon for individuals to try and make sense of why the event might have happened (Park, 2010). This cognitive process can create distorted causal attributions about the trauma, such as blaming oneself (Ehlers & Clark, 2000), which can be harmful to the well-being of the victim (DePrince et al., 2011). Moreover, individuals form a set of assumptions and core beliefs about the self, others, and the world that serve as a framework for directing their behaviour and giving their lives meaning (Hartley et al., 2016). Abusive experiences disrupt and therefore reshape those assumptions and core beliefs (Janoff-Bulman, 1992) and the degree to which they are disrupted is associated with adjustment problems (Cann

et al., 2010). Therefore, it is not surprising that CSA likely shaped participants' cognitions and beliefs. These experiences discussed by participants marked a departure from the quantitative findings, as there was no fourth PTSD symptom cluster outlined in the *DSM-IV* (APA, 2000), the diagnostic manual used at the time of proposing the research programme and subsequent data collection following notice of funding. Detailed accounts of distorted cognitions and beliefs partly fill that gap in the quantitative findings by suggesting CSA is related to the fourth symptom cluster outlined in the *DSM-5-TR* (APA, 2022). Overall, participants' impact statements illustrated how the abuse experienced in childhood impacted, and continues to impact, their cognitions.

Another theme that was developed from the narratives focused on the impact the sexual trauma had on affect. Unlike the other themes, the symptoms reported by participants aligned with this theme may have represented different PTSD symptom clusters, and thus affect requires a slightly different conceptualization. As mentioned previously, it is possible that affective states discussed within this theme belong to the negative alterations in cognitions and mood cluster of PTSD. However, it is also possible that negative affect resulting from trauma are indicative of psychological challenges that may be comorbid with PTSD (e.g., mood and anxiety disorders). Participants specifically mentioned experiencing low mood, anxiety, and low self-esteem. There is some connectivity between the first two themes; the distorted cognitions and exaggerated negative beliefs expressed by some participants are common among individuals who have experienced a trauma (Cromer & Smyth, 2009; Foa et al., 1999) and these broad negative generalizations may aid in the development and maintenance of negative affect (Beck, 2011). This is not surprising; when exaggerated negative beliefs are activated,

which elicit negative automatic thoughts (comprised of negatively biased errors in thinking and reasoning), a negative, neutral, or even positive situation may promote negative affect (Beck, 2011). Over time, this pattern of thinking may become more rigid and produce negative affect (e.g., low mood, anxiety, low self-esteem; Beck, 2011). Conversely, negative affect is often related to an increased frequency of negative automatic thoughts. As such, the relationship between the impact of trauma on cognition and impact of trauma on affect is likely bidirectional in nature. Taken together, impact statements suggest participants' early experiences of CSA are related to the negative affect experienced over the years since the trauma.

The impact of trauma on behaviour was another theme identified from participants' narratives. Participants discussed symptoms found within the avoidance and hyperarousal clusters of PTSD. More specifically, there was mention of an effort to ignore that the trauma had happened, avoid conversations or disclosure about the traumatic event to others, and engage in reckless or self-destructive behaviours such as substance use and sexual risk taking. The substance use and sexual risk taking expressed by participants may be understood as unhealthy coping mechanisms in an attempt to manage the emotional pain and distress associated with the CSA experience. Some participants were aware of the fact that their substance use was a form of avoidance coping, whereas others were not able to establish the link between their current reported symptomology and engagement in sexual risk behaviour as a way to manage that symptomology. Coping strategies were not explicitly measured in the current study, however; the fact that some participants discussed variations of avoidance coping via substance use in their impact statements lends support to the substance use variable from

the quantitative analyses being broadly conceptualized as a less adaptive form of coping with CSA-related distress. On the other hand, the function of some participants' engagement in casual sex with several men and paying for sex remains unclear. It is possible that sexual activity was being used to cope with current symptomology associated with CSA, which may facilitate a pattern of sexual risk taking (Cooper et al., 1998; Peterson et al., 2018), but what seems to be more apparent is that CSA may have influenced "how" participants engage in sexual activity rather than "why." In other words, participants discussed two ways in which they were engaging in sexual risk behaviours but did not discuss the reasoning for engaging in those sexual risk behaviours. Furthermore, it remains unclear what level of risk participants were putting themselves in by engaging in casual sex with several men and paying for sex. Sexual behaviour can be thought of as a continuum ranging from no risk to high risk for contracting an STI depending upon a number of different factors, one of which is an individual's sexual network (Senn, 2013). Sexual risk increases as the number of sexual partners increases, and/or as the number of a sex partner's number of sexual partners increases, because with increasing numbers, there is a greater likelihood that someone within said sexual network has an STI (Senn, 2013). Although having multiple sexual partners and transactional sex can be considered risky given a larger sexual network, the level of risk during these encounters may increase substantially if participants are engaging in anal intercourse, not wearing condoms, and do not know the HIV status of their partners. Despite the uncertainty of the risk level, specific sexual behaviours among MSM are known conduits for HIV transmission (Beidas et al., 2012) and may be key areas to address in intervention. Overall, participants' impact statements illustrated how the abuse

experienced in childhood impacted, and continues to impact, their behaviour into adulthood.

The last theme developed from the narratives focused on aspects of resilience and the strengths that have allowed some MSM to thrive despite CSA. Research on MSM with CSA histories tends to focus on risk factors for negative outcomes (Dale et al., 2020). However, research has suggested that chronic dysfunction (e.g., mental health problems, health risk behaviours) is not the only response trajectory following trauma (Layne et al., 2009). Some people exposed to adversity early in life demonstrate positive outcomes or show fewer long-term negative outcomes (Collishaw et al., 2007). Therefore, there is a need to focus on both the negative impact of trauma as well as the processes of recovery and optimal well-being following a trauma (Dale et al., 2020). Although a focus on what put MSM at risk is helpful in understanding the problems that need to be mitigated, a focus on what factors helped individuals to demonstrate adaptive coping and thrive to lead fulfilling lives is necessary so that these factors can be promoted in interventions (Dale et al., 2020). Resilience was the only theme that did not have a corresponding measure in the quantitative analyses and as a result, this theme could not be compared and contrasted with the quantitative findings. Nonetheless, participants' discussions of different aspects of resilience contribute to the growing body of literature suggesting the protective function of resiliency among MSM (Dale et al., 2020; McNair et al., 2017). More specifically, there was mention of positive changes in self-perception, sharing experiences with other victims of CSA, disclosing or acknowledging that the abuse occurred, and external attribution of blame. These aspects of resilience coincide with research investigating resilience outcomes to CSA. A review

of the relevant literature shows a number of factors that were found to be repeatedly associated with resilience following CSA (e.g., attributional style; Domhardt et al., 2015; Marriott et al., 2014). The importance of resilience cannot be understated, as it is believed to play a significant role in healing (i.e., growth beyond a return to the level of functioning before the trauma) from CSA (Domhardt et al., 2015; Draucker et al., 2011). Although some participants discussed demonstrating aspects of resilience, this does not diminish the level of psychosocial support they may still require. Overall, many participants' impact statements identified and described the protective function of resilience following CSA.

Limitations and Future Directions for Research

There are some limitations to the current study. First, data were collected by asking participants a variety of sensitive questions. Questions are considered sensitive in nature if there is the potential for consequences (e.g., legal sanctions, social disapproval) for reporting truthfully or if the questions are perceived to be invasive (Krumpal 2013; Tourangeau et al., 2000). There is wide consensus that topics such as victimization, substance use, and sexual risk are sensitive (McNeeley, 2012). The two primary methodological issues associated with sensitive questions are nonresponse (i.e., refusing to answer) and misreporting (i.e., not answering honestly; Krumpal, 2013; Lensvelt-Mulders, 2008). Refusal or reluctance to answer questions honestly can be due to a number of reasons, including the mode of data collection, interviewer effects, embarrassment and stigmatization, perception of potential repercussions, and social desirability (Krumpal, 2013; McNeeley, 2012). Regardless of the specific reason, nonresponse and misreporting pose problems for the validity and generalizability of the

results (Sakshaug et al., 2010). To mitigate these methodological issues, increasing anonymity for participants answering questions, decreasing participants' concerns in admitting to specific topics through ensuring confidentiality, and highlighting the benefit of having participants answering honestly by emphasizing the importance of the study to the scientific community, can improve response quality to sensitive questions (Krumpal, 2013). The consent process for the current study was outlined in detail about how participant data were going to be kept confidential and private and the contributions of the data to the broader scholarly literature. Sexual behaviour data were collected via computer-assisted self-interview software to increase participants' comfort with disclosing sensitive information (Kays et al., 2012). The Principal Investigator of the RCT applied for and received a waiver to certain NIH reporting requirements (e.g., court orders, subpoenas) to further protect all clinical and research data collected as a part of the study. This waiver and its implications were communicated to prospective participants during recruitment for the RCT.

Initially, substance use and sexual risk were continuous variables before being divided in quartiles and sextiles, respectively, to minimize the impact of their non-normal distributions on data analyses. Categorizing or dichotomizing continuous data leads to information lost and under some circumstances, produces unintentionally biased results (Altman & Royston, 2006). However, categorizing continuous data into multiple groups limits the amount of information lost (Altman & Royston, 2006) and leaving the data as continuous may have led to biased parameter estimates and invalid inferences (Harrison, 2014).

Another limitation was that adult participants were asked to recall experiences of

sexual abuse that occurred during childhood and/or adolescence. The time lapse between the CSA event and the current study may have made it more difficult for some participants to recall the event. Relatedly, given the wide age range of the sample, there was a large variance in time since the CSA event occurred. Furthermore, recall of adverse childhood experiences can be vulnerable to errors or distortions in memory for the temporal sequence of events, chronicity and severity, and influenced by concurrent mental health issues (Brennen et al., 2010; Colman et al., 2016; Dalgleish & Werner-Seidler, 2014). However, previous research has suggested retrospective reports are reliable and valid for assessing childhood maltreatment (Paivio, 2001; Hardt & Rutter, 2004). Although it is important to acknowledge the potential recall bias, retrospective reports of childhood maltreatment are going to continue to be used as it is often the only practical option for collecting this type of data (Pereira et al., 2021).

Participants were selected for the study based on specific inclusion and exclusion criteria. The sample consisted of HIV-uninfected MSM who all reported recent sexual risk (i.e., unprotected anal intercourse) and a history of CSA, which may limit the generalizability of the results to a wider population of MSM (e.g., MSM without a developmental trauma) and other populations (e.g., heterosexual men with CSA histories, women). The sample also consisted of MSM who participated in an RCT involving a treatment group; therefore, this group of men may not only differ in relevant clinical characteristics (e.g., more motivated to change, treatment readiness) from non-treatment seeking men, but the outcome variables in the current study may have been impacted by treatment-related changes from the intervention and/or supportive psychotherapy groups. This may limit the generalizability of the results. Relatedly, recruitment of participants

took place in two large cities in the United States and therefore findings may not be generalizable to other geographic locations. Nonetheless, research on CSA among MSM still remains far behind compared to studies of CSA among heterosexual men and women (Turner et al., 2017), but the current study may help to make the broader CSA literature more diverse. With that being said, the current sample only included cisgender men and did not include transgender people, which seem to experience higher rates of abuse than cisgender men (Shipherd et al., 2011). Therefore, future research should consider conducting studies with more diverse samples of MSM to understand how CSA confers risk for HIV infection.

Although MSM are disproportionately affected by CSA, the current study did not assess for other adverse childhood experiences (e.g., childhood physical abuse, neglect, school bullying). Individuals who have experienced one form of victimization are at an increased risk for experiencing another form of victimization over time (Finkelhor et al., 2007). For example, different forms of childhood maltreatment, including sexual abuse, are potential risk factors for bullying victimization (Hébert et al., 2016). Exposure to multiple forms of victimization may lead to more severe negative outcomes for victims (Finkelhor et al., 2011). Although additional adverse childhood experiences were not part of the initial data collection, it is possible these experiences may have contributed to some of the psychosocial outcomes measured in the current study. Future research should assess for other developmental traumas to avoid overestimating the strength of the association between CSA and sexual risk. Relatedly, the current study examined some of the most common psychosocial outcomes (as mediators) associated with CSA and sexual risk. However, previous research has found that experiencing CSA is predictive of other

psychosocial outcomes such as depression, suicidal ideation, and distress intolerance (Boroughs et al., 2015; Hall et al., 2021; Levine et al., 2018; Wang et al., 2017). These other outcomes should be explored in future research as potential mediators linking CSA complexities to sexual risk behaviour in adulthood.

The use of impact statements as qualitative data, although novel in its approach, was limited in the ways that the data could be further explored and analyzed. For instance, the context in which the impact statements were used did not allow for study therapists to ask follow-up questions about content of the impact statements for research purposes. Instead, data analysis was limited to what participants wrote in their impact statements and orally presented to their study clinician when reading their impact statement in session.

Implications

Theory

The findings from the current study have important implications for CSA complexities and sexual risk among MSM. Foremost, conceptualizing CSA as a composite consisting of five complexity indicators (i.e., CSA by a family member, CSA with penetration, CSA with physical injury, CSA with intense fear, first CSA during adolescence) improved upon one of the main limitations of the extant literature, which is that CSA is often operationalized as a single, dichotomous variable (i.e., yes/no to the presence or absence of CSA; Boroughs et al., 2015). This limitation reduces the heterogeneity of CSA experiences and makes it difficult to determine if specific CSA experiences are tied to unique outcomes (Boroughs et al., 2015). Although there is no well-researched measure of CSA complexities more specifically, there appears to be

agreement among researchers that frequency and intensity of abuse, current functioning, and context of CSA, may aid in the understanding of adult mental health and adjustment after the abuse experience (Casey & Nurius, 2005; Loeb et al., 2011; Zink et al., 2009). The current findings lend further cross-sectional support to previous research, which has demonstrated significant associations between various CSA complexity indicators and PTSD, mood disorders, substance use, and sexual risk among MSM (Boroughs et al., 2015). The five indices of CSA complexity also support the notion of a more nuanced conceptualization of CSA that should continue to be examined in future research as it is becoming evident that CSA complexities are related to negative mental and behavioural health outcomes.

Along similar lines, PTSD is a complex mental health disorder with currently 20 individual symptoms grouped across four symptom clusters in the *DSM-5-TR* (APA, 2022). As a result, individuals with a PTSD diagnosis can have vastly different symptom profiles (Armour et al., 2017a). The prevailing conceptualization of psychopathology, as used by the *DSM-5-TR*, is that symptoms are considered to be causally independent of each other that reflect an underlying latent (unobserved) variable (e.g., PTSD; Borsboom, 2008). In contrast, the network perspective theorizes that psychopathology reflects a system of interacting symptoms that comprise and maintain a particular disorder (Borsboom, 2017; Fried et al., 2017). Application of a network approach has increased insight into the symptoms that group together (Borsboom, 2017). Symptom groupings, as outlined in the *DSM-5-TR*, appear to vary in which disorder they co-occur (Contractor et al., 2014; Pietrzak et al., 2015), have unique relationships with perceived quality of life (Giacco et al., 2013), and respond differently to treatment (Asmundson et al., 2004).

Although in practice, clinicians often make treatment decisions based on symptoms rather than diagnoses (Kim & Ahn, 2002; Waszczuk et al., 2017), clinical research has not yet caught up (Armour et al., 2017b). The current study did not employ a network analysis, but examining individual PTSD symptom clusters as mediators drew from how a network analysis may conceptualize psychopathology. A network perspective helped to analyze and understand the nuance of PTSD closer to a symptom level and its unique relation to both CSA and sexual risk. That is, the use of a broad indicator of current or lifetime PTSD as the mediator would have obscured the avoidance symptom cluster that was the driver for the significant indirect effect that was found. Therefore, including more cluster-level investigations may refine targets for treatment goals of intervention.

Beyond the direct relationship between CSA complexities and sexual risk behaviours, the inclusion of other variables, such as psychosocial problems, calls for a theoretical perspective that considers additional risk factors. Consistent with syndemic theory, the relationship between CSA and engagement in condomless anal intercourse, a proxy for HIV transmission, can be explained by multiple, comorbid psychosocial variables. Roots of syndemic production among MSM appear to lie in early childhood stressors, such as CSA, which in turn increase the likelihood for experiencing psychosocial problems, which then in turn increase risk for negative behavioural outcomes such as condomless anal intercourse (Stall et al., 2008). Similarly, early childhood trauma (i.e., CSA complexities) predicted the avoidance symptom cluster, which in turn predicted increased sexual risk behaviours. Although the same cannot be said for the longitudinal results (i.e., there were no significant indirect effects), they still suggest CSA complexities were negatively associated with change in sexual risk

behaviours over time. However, it is not only the CSA interacting with psychosocial variables to predict sexual risk, but potentially one CSA complexity interacting with one or more other CSA complexities that may create unique pathways for sexual risk. Relatedly, it also possible some CSA complexities may be more impactful than others, and as a result, be associated with more severe negative outcomes. Future research should look to explore these two areas.

Practice

To go along with the theoretical implications, findings from the current study suggest that a comprehensive assessment of past CSA experiences among MSM may identify interrelationships between developmental challenges (e.g., CSA) and psychosocial problems (e.g., substance use, PTSD) that confer risk for condomless anal intercourse, which can then be addressed through tailored HIV prevention interventions (Boroughs et al., 2015). Only identifying whether or not MSM have a history of CSA may not provide enough information to carry out the most efficacious and effective treatment for co-occurring mental health problems or to implement behavioural health interventions to reduce sexual risk (Boroughs et al., 2015). Instead, healthcare providers may want to consider incorporating a variation of the structured clinical interview used in the current study into their health assessments in order to evaluate the presence or absence of specific CSA complexity indicators and how these indicators may impact engagement in risk behaviours and treatment options (Boroughs et al., 2015). It may be crucial to assess for complexity indicators in order to individually tailor efficacious and effective interventions to promote behavioural outcomes that are linked to lower sexual risk and substance use, and improved mental health (Boroughs et al., 2015). There has

been some modest success with implementing HIV prevention interventions for MSM in the United States (Crepaz et al., 2006; Herbst et al., 2005; Lyles et al., 2007), but MSM with CSA histories may not benefit as much from traditional HIV prevention programs (Mimiaga et al., 2009). One reason may be due to MSM with CSA histories being more likely to avoid sexual situations as a result of CSA-related trauma, which makes it more difficult to implement proactive sexual health goals (O'Cleirigh et al., 2012). Another reason may be that MSM with CSA histories may be less likely to present for treatment or if they do present for treatment, may either be unwilling or unable to identify goals related to the impact of their childhood trauma.

Some interventions for HIV-infected individuals, including MSM, have been developed using evidence-based approaches (e.g., cognitive-behavioural therapy) and have achieved success in demonstrating significantly greater improvements in medication adherence and lower depression for individuals in the treatment condition compared to the control condition (Safren et al., 2009, 2012, 2016). In another invention for HIV-negative MSM, behavioural activation with integrated HIV risk reduction counseling demonstrated a significant decrease in average unprotected anal intercourse episodes, number of crystal methamphetamine episodes in the past three months, and number of days of crystal methamphetamine use in the past 30 days (Mimiaga et al., 2012). More recently, O'Cleirigh and colleagues (2019) developed the first intervention to integrate HIV risk reduction counseling for MSM into treatment for symptoms resulting from CSA. They conducted an RCT to examine the effects of CBT-TSC on post-traumatic stress among HIV-negative MSM with a history of CSA and HIV risk. Results from the pilot trial suggested at posttreatment, MSM in the treatment group (CBT-TSC)

experienced lower odds of any condomless anal/vaginal intercourse and greater reductions in total PTSD and avoidance symptoms compared to MSM in the control group (HIV voluntary counseling and testing) with treatment gains maintained at follow-up visits. Moving forward, evidence-based treatments integrated with HIV risk reduction that address psychiatric comorbidities and sexual risk in MSM with CSA histories may want to consider indicators of CSA complexity and how the indicators may impact mental health and well-being. Furthermore, the avoidance symptom cluster was the only mediator that explained the link between CSA complexities and sexual risk behaviours. Although CSA is associated with all three PTSD symptom clusters in non-MSM samples, the same cannot be said for MSM. Thus, evidence-based treatments may want to target avoidance symptoms, considering they may be unique relative to other symptom clusters in MSM with CSA histories. The use of a mixed-method approach allowed for a more comprehensive understanding of the lived experiences of MSM with trauma beyond the traditional risk framework that was evident in the current study's quantitative findings and the broader scholarly literature. As such, treatments should not focus solely on psychopathology and symptom reduction. As expressed in the impact statements, the different ways in which people bounce back from adversity is an important factor to consider in the aftermath of a trauma. Recent literature suggests associations between greater levels of resilience, adherence to protective sexual behaviors (e.g., consistent condom use), and a lower HIV prevalence among MSM populations (Gwadz et al., 2006; Herrick et al., 2013; Kurtz et al., 2012). Therefore, treatments may be improved by integrating a strengths-based approach that includes using an individual's internal and external resources to facilitate resilience from CSA. Within the context of the current

study, participants' discussions of resilience focused on internal resources from which to draw upon. However, external resources can also help to foster resilience. If individuals struggle with accessing internal resources, perhaps increasing social network (e.g., family, friends) and community-level (e.g., support groups, volunteering) resources may help to promote resilience.

Conclusion

Despite most of the CSA literature focusing on women or combined groups of women and men (Turner et al., 2017), research on CSA specifically among MSM has steadily grown over the previous two decades. The fact that CSA prevalence is disproportionately higher among MSM compared to the general male population (Lloyd & Operario, 2012) and CSA is a significant risk factor for psychological and behavioural sequelae (Boroughs et al., 2015; Mimiaga et al., 2009), supports the need for additional research with MSM. In the current study, CSA complexities were positively associated with sexual risk behaviours (i.e., condomless anal and/or vaginal intercourse) cross-sectionally and a negatively associated with sexual risk behaviours over time. Furthermore, psychosocial factors such as the PTSD avoidance symptom cluster served as a pathway explaining the link between CSA complexities and sexual risk behaviours cross-sectionally. That is, a higher CSA complexities score predicted increased avoidance, which in turn, predicted increased sexual risk behaviours. Although results from the quantitative data provided insight into *how* CSA impacted sexual risk, narratives from the impact statements complemented the quantitative data and allowed for a greater depth of understanding into the lived experiences of this sample of MSM that would not have otherwise been captured through quantitative data alone.

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APPENDICES

Appendix A: Demographic Questionnaire

1. How old are you?

2. What is your primary racial identification? (indicate all that apply)
    a. American Indian/Alaska Native
    b. Asian
    c. Native Hawaiian or Other Pacific Islander
    d. Black or African American
    e. White
    f. Unknown/Not Reported

3. What is your primary ethnic identification?
    a. Not Hispanic or Latino
    b. Hispanic/Latino

4. What is your education level?
    a. No formal education
    b. Some high school
    c. High school graduate or GED
    d. Some college/AA degree/technical school
    e. College graduate (BA/BS)
    f. Some graduate school
    g. Master's degree
    h. Doctorate/medical degree/law degree

5. What is your gender?
    a. Male
    b. Female
    c. Transgender (male to female)
    d. Transgender (female to male)

6. Do you have a penis?
    a. No
    b. Yes

7. What is your income in the past year?
    a. $10,000 or less
    b. $10,001 to 20,000
    c. $20,001-40,000
    d. $40,001-60,000
    e. $60,001-80,000
    f. over $80,000

8. What is your source of income? (indicate all that apply)
    a. Job
    b. Unemployment
    c. Welfare, food stamps, AFDC, GA, Cal-works
    d. VA benefits
    e. Disability, SSI
    f. Spouse or sexual partner
    g. Other family
    h. Friends
    i. Alimony or child support
    j. Sex work
    k. Selling drugs
    l. Hustling
    m. Other

9. Who is your insurance provider? (indicate all that apply)
    a. Medicaid
    b. Medicare
    c. Veterans administration
    d. Private insurance and HMO
    e. None
    f. Other

10. What is your relationship status?
    a. Single/never married
    b. In a committed relationship (not married and not living together)
    c. In a domestic partnership (living with a committed partner)
    d. Married
    e. Separated
    f. Divorced
    g. Widowed
    h. Other

11. What is your sexual orientation?
    a. Straight/heterosexual
    b. Gay/homosexual
    c. Bisexual
    d. Not sure
    e. Other

Appendix B: Childhood Sexual Abuse Clinical Interview (Leserman et al., 1997; Leserman et al., 2006; Leserman et al., 1998)

1. Before your 13th birthday, did an adult or someone at least five years older than you touch the sex organs of your body when you did not want this?
    a. No
    b. Yes

2. Before your 13th birthday, did an adult or someone at least five years older than you touch the sex organs of their body when you did not want this?
    a. No
    b. Yes

3. Before your 13th birthday, did an adult or someone at least five years older than you have sexual intercourse with you when you did not want this?
    a. No
    b. Yes

4. What was your age the first time any of these unwanted sexual experiences happened?

5. What was your age the last time any of these unwanted sexual experiences happened?

6. How many times (different days) did this happen before your 13th birthday?

7. And when this happened, were you ever afraid that you might be killed or seriously injured?
    a. No
    b. Yes

8. When this worst incident happened, did you suffer:
    a. No physical injuries
    b. Minor physical injuries (such as bruises and cuts not need stitches)
    c. Serious physical injuries (stitches, broken bones, or hospitalization)

9. Since your 13th birthday and before your 17th birthday, did anyone 10 years older than you ever touch the sex organs of your body?
    a. No
    b. Yes

    Since your 13th birthday and before your 17th birthday, did anyone (of any age) ever touch the sex organs of your body by using force or threatening to harm you?
    a. No
    b. Yes

10. Since your 13th birthday and before your 17th birthday, did anyone 10 years older than you ever make you touch the sex organs of their body?
    a. No
    b. Yes

    Since your 13th birthday and before your 17th birthday, did anyone (of any age) ever make you touch the sex organs of their body by using force or threatening to harm you?
    a. No
    b. Yes

11. Since your 13th birthday and before your 17th birthday, did anyone 10 years older than you ever make you have sexual intercourse (vaginal or anal intercourse).
    a. No
    b. Yes

    Since your 13th birthday and before your 17th birthday, did anyone (of any age) ever make you have sexual intercourse (vaginal or anal intercourse)?
    a. No
    b. Yes

12. What was your age (after your 13th birthday) the first time any of these forced touching or intercourse experiences happened?

13. What was your age the last time any of these forced touching or intercourse experiences happened?

14. How many times (different days) did this happen after your 13th birthday?

15. And when this happened, were you ever afraid that you might be killed or seriously injured? (Indicate for your worst incident)
    a. No
    b. Yes

16. When this worst incident happened, did you suffer:
    a. No physical injuries
    b. Minor physical injuries (such as bruises and cuts not need stitches)
    c. Serious physical injuries (stitches, broken bones, or hospitalization)

17. Have you had any other forced or unwanted sexual experiences not mentioned above?
    a. No
    b. Yes

18. Can you please briefly describe that experience?

19. What was your age the first time any of these other forced or unwanted experiences happened?

20. What was your age the last time any of these other forced or unwanted experiences happened?

21. How many times (different days) did these other forced or unwanted experiences happen?

22. And when this happened, were you ever afraid that you might be killed or seriously injured?
    a. No
    b. Yes

23. When this worst incident happened, did you suffer:
    a. No physical injuries
    b. Minor physical injuries (such as bruises and cuts not need stitches)
    c. Serious physical injuries (stitches, broken bones, or hospitalization)

24. For any unwanted or forced sexual experiences mentioned so far, please indicate who did this. (Circle all that apply)
    a. Parent, Stepparent, Guardian
    b. Other adult living in your home (e.g. mother's boyfriend)
    c. Spouse/Partner (can be an ex)
    d. Brother
    e. Other family member
    f. Boyfriend/girlfriend
    g. Other teenager
    h. Other adult you know
    i. Other adult you don't know
    j. Anyone else

Appendix C: Addition Severity Index-Lite (McLellan et al., 1999)

ASI- LITE

I will be asking you some questions about your use of substances, and I will ask you to think about two different time frames – in the last 30 days (or in the last month) and in your lifetime. Let's begin. (*Hand subject List of Commonly Used Drugs sheet to subject and say that you will be referring to the substances that are listed on this sheet.*)

For questions D1 – D12, ask the following questions:

1. In the last 30 days, how many days have you used _____? *Code number of days under column A*

2. In your lifetime, has use of _____ever been a problem for you? *Code Y or N under column B*

3. How are you using _____? For example, are you snorting it, freebasing it, or are you injecting it? *Code route of administration under column C. In cases where two or more routes are routinely used, the most serious route should be coded.*

4. Was this a medication that you were prescribed?

	A	**B**	**C**	**D**
	Past 30 days	**Lifetime Problematic Use**	**Route of administration** (oral, nasal, smoking, Non IV injection/IV injection)	**Prescription?**
		Y/N		**Y/N**
D1. Alcohol (any use) Beer, wine, liquor	☐☐	☐	☐	☐
D2. Alcohol (to intoxication)	☐☐	☐	☐	☐
D3. Heroin	☐☐	☐	☐	☐
D4. Methadone Dolphine, LAAM	☐☐	☐	☐	☐
D5. Other Opiates/analgesics Pain killers: Morphine, Dilaudid, Demerol,	☐☐	☐	☐	☐

Percocet, Darvon, Talwin, Codeine, Tylenol, 2,

3, 4, Syrups, Robitussin, Fentanyl, Oxycotin

D6. Barbiturates

Nembutal, Secondal, Tuinol, Amytal,

Pentobarbital, Secobarbital, Phenobarbital, Fiorinol

D7. Other sed/hyp/tranq.

Benzodiazepines: Valium, Xanax, Librium, Ativ

Serax, Quaaludes, Tranxene, Dalmane, Halcion, Miltown

D8. Cocaine

Cocaine crystal, Free-Base Cocaine or "crack"

And "Rock"

D9. Amphetamines

Monster, Crank, Benzedrine, Dexedrine,

Ritalin, Preludin, Methamphetamine, Speed, Ice,

Crystal.

D10. Cannabis

Marijuana, Hashish, Pot

D11. Hallucinogens

LSD (Acid), Mescaline, Mushrooms

(psilocybin), Peyote, Green, PCP (Phencyclidine)

Angel Dust, Ecstasy

D12. Inhalants

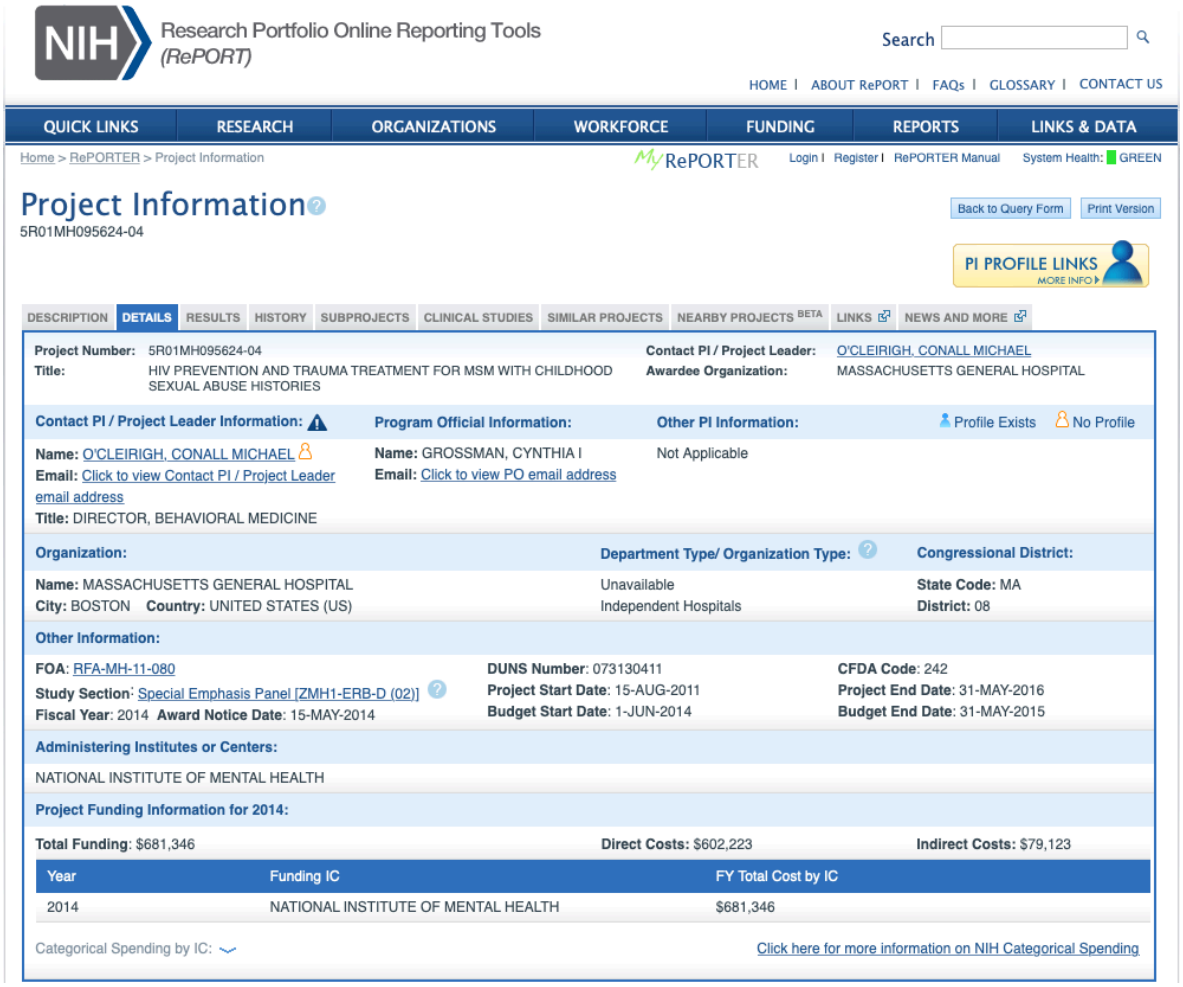
Nitrous Oxide, Amyl Nitrate, Whippits, Poppers,

Glue, Solvents, Gasoline, Toluene, etc.

D13. More than one substan

Per day (includes alcohol)

Appendix D: Clinical Trial Project Information



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Project Information

5R01MH095624-04

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PI PROFILE LINKS MORE INFO

DESCRIPTION | DETAILS | RESULTS | HISTORY | SUBPROJECTS | CLINICAL STUDIES | SIMILAR PROJECTS | NEARBY PROJECTS BETA | LINKS | NEWS AND MORE

Project Number: 5R01MH095624-04
Title: HIV PREVENTION AND TRAUMA TREATMENT FOR MSM WITH CHILDHOOD SEXUAL ABUSE HISTORIES

Contact PI / Project Leader: O'CLEIRIGH, CONALL MICHAEL
Awardee Organization: MASSACHUSETTS GENERAL HOSPITAL

Contact PI / Project Leader Information:
Name: O'CLEIRIGH, CONALL MICHAEL
Email: Click to view Contact PI / Project Leader email address
Title: DIRECTOR, BEHAVIORAL MEDICINE

Program Official Information:
Name: GROSSMAN, CYNTHIA I
Email: Click to view PO email address

Other PI Information: Not Applicable

Profile Exists | No Profile

Organization:
Name: MASSACHUSETTS GENERAL HOSPITAL
City: BOSTON **Country:** UNITED STATES (US)

Department Type/ Organization Type:
Unavailable
Independent Hospitals

Congressional District:
State Code: MA
District: 08

Other Information:

FOA: RFA-MH-11-080
Study Section: Special Emphasis Panel [ZMH1-ERB-D (02)]
Fiscal Year: 2014 **Award Notice Date:** 15-MAY-2014

DUNS Number: 073130411
Project Start Date: 15-AUG-2011
Budget Start Date: 1-JUN-2014

CFDA Code: 242
Project End Date: 31-MAY-2016
Budget End Date: 31-MAY-2015

Administering Institutes or Centers:
NATIONAL INSTITUTE OF MENTAL HEALTH

Project Funding Information for 2014:

Total Funding: $681,346 **Direct Costs:** $602,223 **Indirect Costs:** $79,123

Year	Funding IC	FY Total Cost by IC
2014	NATIONAL INSTITUTE OF MENTAL HEALTH	$681,346

Categorical Spending by IC:

Click here for more information on NIH Categorical Spending

Appendix E: Telephone Screening Form

PROJECT THRIVE
Eligibility Screening Form and Checklist

Date: __ __ /__ __/__ __ __ __ Screening
ID Number: _____

Thank you for your interest in this study. We would like to tell you a little bit about our project, called Project THRIVE.

Then, if you're still interested, we will ask some questions to see if you're eligible.

How did you hear about the study?

_____

We are conducting this study because we know that some gay and bisexual men, or other men who have sex with men, have experienced unwanted sexual contact or sexual abuse as a child or adolescent. Sometimes we carry thoughts and feelings about this kind of experience with us throughout our lives. We are interested in understanding better how these experiences might affect sexual decision making as adults. The primary purpose of Project THRIVE is to help teach skills that may help protect you from being infected with HIV or other sexually transmitted diseases. In addition, we would also like to identify other psychological issues that are thought to result from experiencing sexual abuse that often affect functioning – these could be unwanted thoughts about the abuse, or a desire to avoid thinking about the experiences, etc.) The main goal of this study is to help you to deal with your sexual abuse experience so that you may have better sexual health, which may reduce your overall risk of infection from HIV or other STDs. Fenway Health is one of two sites where the study is being conducted; the other site is in Miami.

If you qualify for the study, we will schedule your first visit, which involves a written or computerized assessment and an interview with a clinician that contains psychological, social, and behavioral questions. You will also have an HIV testing and counseling session as well as tests for a variety of other STDs. Participants who are eligible, and enroll in the study, will then receive a psychological intervention that includes 10 one-on-one sessions with a psychologist or clinical social worker. These counseling visits will contain information and skill building related to your sexual behavior and strategies for managing symptoms of potential distress you might be experiencing in your life. You will also have four (4) follow-up assessments that will involve completing questionnaires, and meeting with a clinician for a psychological interview. Your participation in the study will last approximately one year (12 months).

This study compensates people for their time at each study visit. Everyone receives $50 for the first visit and individuals who qualify for the study receive $25 at each therapy

visit. Also, each follow-up visits compensates participants $50. This totals $500 over the course of about one year for participating in this study. We ask participants that enroll in Project THRIVE not to enroll in other studies for the year they are part of our project.

Do you have any questions?

If you are still interested, I have a few questions that I would like to ask you that will take approximately 5 minutes. Your answers will help me to determine whether or not you are eligible to participate in this study. They concern your HIV status, your recent sexual behavior, and a question about any sexual experiences you may have had as a child or adolescent. You can skip questions and decide to stop answering questions, at any time. If you don't answer all the questions I may not be able to find out if you meet basic eligibility for the study and therefore, may not be able to schedule a study visit. If you meet the basic eligibility for this study and are interested in participating, I will ask you for your contact information to schedule a visit for you to meet with study staff. If I can, I will tell you if you qualify to participate as soon as I have finished asking you these questions. If I am not sure if you qualify or not, I will tell you, and I will need to discuss your answers with the Principal Investigator of the study and call you back to let you know. If you are eligible today, we will confirm your eligibility at the enrollment visit.

It is possible that you may find some of these questions upsetting and if you would prefer we can schedule a time for you to come into our office where I can ask you these questions in person.

Whether you are eligible to enroll in the study or not, your answers to these questions will be kept on file but remain anonymous. This means that your answers are not linked or connected in any way to your name or contact information. We may use the information we collect for research activities related to this study or to look at recruitment trends.

Please remember you can stop this pre-screening at any point and/or skip any questions.

Do I have your permission to ask you questions to determine your basic eligibility?
☐Yes ○No

1. Are you 18 years old or older? ☐Yes ○ No
2. What is your gender? ☐Male ○Female ○M to F ○F to M
3. Do you have sex with men, women or both? ☐Men ○Women ☐ Both
4. Do you know your HIV status? ☐Yes ☐No
    a. If Yes, what is your HIV status? ☐Negative ○Positive ☐Prefer not to answer
5. We know that many gay and bisexual men struggle with consistent condom use during sexual intercourse. Let's think about the last 3 months and some of the

challenges you may have faced. I'm going to list some common reasons that people report for not using condoms. Tell me if any of these reasons apply to you. Have you not used condoms during intercourse because:

a) __ You forgot,
b) __ None were available,
c) __ You didn't want to
d) __ It was the heat of the moment,
e) __ You believed the partner was HIV-negative,
f) __ You were high or buzzed,
g) __ Your partner didn't want to,
h) __ Some other reason,
j) __ N/A you use condoms every time.

6. Have you had unprotected anal or vaginal intercourse in the last 3 months? ☐Yes ○ No
   a. If YES, can you estimate how many times you had unprotected intercourse in the last 3 months? _____
   b. If TWICE OR MORE, was this unprotected sex with a primary partner with whom you are in a monogamous relationship? ☐Yes ☐No
   c. If YES, what is this partner's HIV status?
      ○Negative ☐Positive ☐Don't know ☐Prefer not to answer

7. Before your 16th birthday, did you have any sexual contact with an adult or someone who was at least 5 years older than you? ☐Yes ○ No

Thank you for answering these questions. Your answers will help me determine whether you qualify to participate in the study or not. Please give me one moment to review your answers.

INELIGIBLE: Thank you for waiting. From your answers it looks like you do not qualify to participate in this study. Research Studies look for people who meet a very specific set of criteria to enroll their participants. Your ineligibility for this study does not preclude you from enrolling in other studies for which you may qualify. If you are interested, we are conducting other studies here at the Fenway Institute and I can give you the phone number you may contact so that you can receive further information. Additionally, I can provide you (either over the phone or via e-mail) with the address of our website where we have some organizations that we could refer you to for help. The URL is https://readytothrive.org/resource/resources-issues-related-childhood-sexual-abuse.

Thank you again for answering my questions.

IF INELIGIBLE FOR SEXUAL RISK: (Ask if he would like us to contact him again in a few months "to see if anything has changed."

ELIGIBLE: Thank you for waiting. From your answers it looks like you do qualify to participate in this study. I would like, if you are still interested, to schedule an appointment for you to come into our office to complete our informed consent process and to complete the initial assessment and interview. During that appointment we will tell

you in detail all about the study and what your participation will involve. Also, an HIV test and STD screens will be conducted at this visit. The informed consent process and the initial assessments will take approximately 2-3 hours and you will receive $50 dollars for your participation.

Can I schedule that appointment with you now? ☐Yes ☐No

Appointment Scheduled for: __ __ /__ __/__ __ __ __ at __ __ : __ __ with _____

Staff signature and date: _____

Appendix F: Consent Form

HIV Prevention and Trauma Treatment for MSM
with Childhood Sexual Abuse Histories
Project THRIVE R01

Participant's Statement of Informed Consent

Principal Investigator: Conall O'Cleirigh, Ph.D.

Introduction/Statement of Research:

You are being asked to participate in a research study. Before you decide whether to join in this study, the study staff will explain:

- The purpose of this study
- How it may help you or others
- Any risks you may face
- What is expected of you

Once you understand the study, and if you decide to take part, you will be asked to sign this consent form, and will be given a copy of it to keep. This process is called Informed Consent. It is important that you know the following:

- Your participation is entirely voluntary, and
- You may decide not to take part or to withdraw from the study at any time without penalty or loss of any benefit to which you might otherwise be entitled.

What is the purpose of this Study?

This is a research study being conducted at Fenway Health, the University of Miami, and in collaboration with Massachusetts General Hospital (MGH). This study is funded by the National Institutes of Mental Health (NIMH).

This study is for men who identify as gay, bisexual, or other men who have sex with men, and who have experienced childhood or early adolescent experiences of sexual abuse. We expect to enroll up to a total of 200 men at Fenway Health and the University of Miami.

This 12-month research study addresses:

1. Primary prevention which is protecting yourself from being infected with HIV or contracting a sexually transmitted infection (STI), and
2. Trauma and other related psychological symptoms that may have resulted from childhood or early adolescent experiences of sexual abuse.

The purpose of this study is to test different types of counseling programs to reduce the risk of HIV infection, as well as other STIs, and to reduce the number and severity of traumatic stress symptoms (intrusive thoughts, avoidance, and hyperarousal) related to experiences of childhood or adolescent sexual abuse.

How long will this study last?

Participation in this study will last approximately 1 year (12 months).

The initial assessment and interview will take approximately 3 hours. If you qualify for participation, the first part of the study will involve participating in a 10-session counseling program that will last about 4 months. Each session will last for approximately 1 hour.

Regardless of which program you receive, we will follow-up with you for about 1 year and we would prefer if you do not enroll in other studies during this time. This involves completing assessments at approximately 3, 6, 9, and 12 months after today's visit. These 4 follow-up assessment visits last about 2 hours.

If you are not eligible, or not interested, your participation will be complete after this first visit.

What will I have to do?

If you are interested in the study, you will meet with a study staff member to complete a written and/or a computerized assessment. This will contain questions about your sexual activity as well as psychological, social, and behavioral questions. You will then meet with a counselor for an interview that will include an assessment of your childhood/adolescent sexual abuse history as well as of your trauma history and other psychological issues.

During this initial visit we will conduct an HIV test to confirm that you are HIV-uninfected. You will receive standard-of-care, pre- and post-test HIV counseling as part of the testing process with a trained and certified HIV test counselor. The test counselor will administer preliminary HIV risk-assessment counseling and then test you for the presence of HIV antibodies using a licensed, commercially available, FDA-approved whole blood rapid enzyme immunoassay (EIA), otherwise known as a rapid HIV test. The test counselor will share the results with you during post-test counseling.

If you have a reactive test result, you will be referred to undergo further testing at Fenway Health to confirm the reactive test result. During that time, you will receive counseling and a referral for appropriate medical and psychosocial support services. If you have a reactive test result during the confirmatory test, it is during that time that you will be diagnosed as HIV-infected. If you have a reactive test result while participating in the study, your participation in the study will continue after following the above procedure.

We will draw a small amount of blood from you to test for syphilis. We will also collect a swab from your rectum, as well as collect a urine sample to test for other STIs. If we find you have any STIs, we will refer you to a clinic where you can be treated. At today's visit, you will be asked for authorization to release any reactive STI results to your primary care provider. This authorization will used to assist your treating clinician in managing any active STIs, whether this is your primary care provider or a staff referral. This testing will occur three times during the course of participation in the study at this visit, your 6-month follow-up, and 12-month follow-up.

If your rapid HIV test is non-reactive (i.e., tested HIV-uninfected) and also meet other study criteria (determined from the answers that you provide during the assessment and interview) you will be considered eligible to participate in the study. If you are not eligible, your participation will be complete at this time. If you qualify for the next part of the study, you will be randomly (by chance, like the flip of a coin) selected for one of two counseling groups.

Regardless of which group you will be assigned (i.e., either the experimental or supportive therapy condition), each will first receive 2 sessions of sexual risk reduction counseling. These sessions contain information, skills enhancement, and education regarding your sexual behavior, your sexual health and strategies for reducing your risk of being exposed to HIV.

Condition 1.
If you are selected for Condition 1, you will receive 8 individual counseling sessions. During these sessions, you will receive education about symptoms of post-traumatic stress disorder (PTSD), work with the counselor to identify the sexual abuse event(s) and identify initial problem areas. You will also learn how to identify and describe thoughts and feelings and understand the relationships between them. You will learn strategies for coping with distressing thoughts and feelings. The final sessions will be tailored to meet your individual needs around some core issues that you may have relating to your sexual abuse history. Throughout these sessions, your counselor will assist you in making connections between these thoughts and feeling and your current sexual behavior as an adult.

Condition 2.
If you are selected for Condition 2, you will receive 8 individual counseling sessions focused on information and support about potential problems and symptoms. This model of therapy is designed to address stressful or difficult topics that you may have experienced during the prior week. This treatment was developed to address the most frequent mental health problems for adults.
No matter which condition you are in, all counseling sessions will be audio-recorded and might be reviewed only by study staff, such as, experienced therapists who assist with the development of the treatment, or therapists who are learning to deliver the interventions. This is to help insure that the interventions are designed well and improved upon as needed, and to insure that you receive the same level of care as all other study

participants. Recordings may also be transcribed onto paper and reviewed to look at potential themes or concerns among participants, further helping to shape future interventions. Names mentioned on the tape will be removed prior to analysis. Recordings will be identified by a study identification number only, and will be stored at The Fenway Institute in a secure, locked file cabinet and/or a password-protected folder on an electronic server. Recordings will be retained for seven years and then destroyed. You may elect not to have your sessions audio-recorded, and may still participate in the study. Additionally, you may ask to turn off the recorder at any point during the sessions.

Visit schedule

Point of Contact	Approximate Time Point	Payment	HIV and STI Test
Baseline / Enrollment	Initial Visit	$50.00	X
Active Treatment Phase	Weekly Visit 1	$25.00	
	Weekly Visit 2	$25.00	
	Weekly Visit 3	$25.00	
	Weekly Visit 4	$25.00	
	Weekly Visit 5	$25.00	
	Weekly Visit 6	$25.00	
	Weekly Visit 7	$25.00	
	Weekly Visit 8	$25.00	
	Weekly Visit 9	$25.00	
	Weekly Visit 10	$25.00	
Post-Treatment Assessment	About 16 weeks post baseline	$50.00	
Follow-up Assessment	6 months post baseline	$50.00	X
Follow-up Assessment	9 months post baseline	$50.00	
Follow-up Assessment	12 months post baseline	$50.00	X
	Total =	$500.00	

<u>What are the requirements to be in this study?</u>

Inclusion Criteria
You are being asked to participate in this study because:

- You are a man who has sex with men,
- You have a history of childhood sexual abuse,
- You may have had unprotected intercourse,
- You are HIV-uninfected (confirmed by HIV testing), and
- You are capable of completing and fully understanding the informed consent process, study procedures, and questionnaires.

Exclusion Criteria
It is possible that you may be excluded from this study if:

- You have received cognitive processing therapy for PTSD within the past year,

- You have a mental health diagnosis which requires immediate treatment, or
- You are unable to complete the informed consent process.

How many people will be enrolled in this study?

This study seeks to enroll approximately 200 participants.

Can I change my mind later about participating in this study?

Participation in this study is completely voluntary. If you receive your health care at Fenway Health, understand that it will not be altered if you choose not to participate or choose to participate and then leave the study at any time. If you choose not to participate in any fashion, you will still receive the usual standard of care that is offered through Fenway Health, which may include referrals to both services within and outside of Fenway Health.

What are the risks and discomforts associated with this study?

One focus of the study is sexual risk-taking, which may be a difficult or an uncomfortable topic at times. You may decline to answer any question you do not feel comfortable answering. You will be asked to discuss your sexual abuse history and you will be encouraged to discuss many aspects of this event in some detail. This may be distressing and may have some short-term effects on your mood or may increase your feelings of anxiety. It is possible that during the discussion of your sexual abuse, you may become more severely distressed and experience more intense short-term anxiety reactions, including flashbacks or difficult thoughts or memories. Many of these reactions are rare and your therapist will work with you to help you manage your reactions as part of the course of counseling.

Being tested for HIV may cause some anxiety regardless of the test results. If you receive a preliminary positive test result, indicating that you might have an HIV infection, this could have a strong emotional impact. Also, there is the possibility that you are in an early stage of an HIV infection and that the test results might not pick it up. If this is the case, it is possible that you could test positive for an HIV infection at a later time. Although unlikely, there is also the remote possibility that the results are in error.

Drawing the small blood sample for the HIV test from a finger may cause temporary discomfort from the needle stick.

Some people feel discomfort when blood is drawn and may feel dizzy or even faint. You may have a bruise or swelling at site where the needle goes into you.

Some people may feel discomfort when swabbing their rectum.

What are the benefits to participating in this study?

As a participant of this research study, you will be asked questions about your sexual behavior, health, mental health, social support, and substance use. By completing the questionnaire and interview, you will be actively tracking your sexual behavior and mental health needs. Furthermore, completing these assessments will further HIV prevention research.

The first visit as well as the 6 and 12-month follow-up visits provide you with free HIV testing. You will receive the results of your HIV testing as well as prompt referral if you need any further treatment. In addition, you will receive confidential counseling that is designed to determine what your individual risks for getting HIV are and ways in which you could reduce your risks. This is done in a supportive, non-judgmental environment. This may help you make more informed decisions about sex, sexual health, and sexual risk-taking activities. You will also receive condoms and lubrication if you would like.

By participating, you may also receive counseling sessions that are designed to help reduce the transmission of HIV and cope with past events such as childhood sexual abuse.

What will happen, if I am hurt as a result of this research study?

We do not expect that you will be harmed in this research study. We will provide you with immediate necessary treatment for study-related problems. The study staff will direct you where to go if you need additional medical care. The cost for such treatment will be charged to your insurance company or to you. Fenway Health cannot provide free continuing care. Fenway Health cannot compensate you for other things, like lost work, childcare expenses, or pain and suffering. Some insurance companies will not pay for medical expenses resulting from research. There is no program for monetary compensation or other forms of compensation for such harm. You will not be giving up any of your legal rights by signing this consent form.

Will I be told of any new findings or information while I am participating in this study?

If it becomes available, the study staff will give you new information about the study that may or may not affect you.

Will I be paid to participate in this study?

You will receive payments in the form of a check. You will receive $50.00 for completing the initial questionnaire and interview, regardless of which group you are assigned.

Once you are assigned to one of the treatment conditions, you will receive $25.00 for each weekly session of the study (10 visits). Approximately 16 weeks later, you will then enter the follow-up phase of the study and receive $50.00 for completing a post-treatment visit. Then you will complete 3 more follow-up visits at 6, 9, and 12 months from the time of your enrollment visit. You will receive an additional $50.00 at each of these

visits. The total compensation for participants is $500 over the course of the study.

Point of Contact	Approximate Time Point	Payment	HIV and STI Test
Baseline / Enrollment	Initial Visit	$50.00	X
Active Phase	10 Sessions / Weekly Visits	$25.00 (each)	
Post-Treatment Assessment	About 16 weeks post first visit	$50.00	
Follow-up Assessment	6 months post first visit	$50.00	X
Follow-up Assessment	9 months post first visit	$50.00	
Follow-up Assessment	12 months post first visit	$50.00	X
	Total =	$500.00	

Are there any additional costs associated with participating in this study?

There is no cost for participating in this study. You may receive counseling at no charge.

Why might I be withdrawn from the study?

Your participation in the study is entirely voluntary. You may be withdrawn from the study if the study staff feels that your continued participation or the study procedures may be harmful to you. Although unlikely, your participation in the study would also end if the study is stopped or cancelled.

How will my confidentiality and privacy be protected?

In order to strictly protect your confidentiality, all study data will be identified by a coded number and not by your name. The coded information will be kept in a locked file and separate from any documents that include my name. Number coded information may become part of an electronic database, which is password-protected and only accessible to study staff. A list, which links your code number and name, will be stored separately from both your personally identifiable information and your number coded information. **None** of the information will become part of your medical record at Fenway Health. **Your name will not be publicly disclosed at any time** and the records will be strictly maintained according to current legal requirements. This applies to any:

- Written records
- Questionnaires
- Visit documentation
- Interviews

Your records or any part thereof can only be legally obtained with your written permission specifying what exact information is to be released or if subpoenaed by law. However, the investigators will report cases of child or elder abuse or neglect to the

authorities. Furthermore, if you indicate that you are in imminent danger of hurting yourself or others, the investigators will need to reveal this information in order to protect you or that person.

Fenway Health is required by Massachusetts law to report Sexually Transmitted Diseases (STDs) to the Massachusetts Department of Public Health (MDPH). STDs are reported by patient name, however all information is kept under strict confidentiality guidelines by the MDPH. Massachusetts law requires the names of HIV-infected people to be reported by the primary care provider to the MDPH. If you test positive for HIV during the course of the study, the study staff will not report your name to the MDPH, but refer you to an appropriate primary healthcare provider. Your provider will report that information to the MDPH.

Fenway Health and its affiliated hospitals, researchers, health care providers, and physician network will make all reasonable efforts to protect the privacy of information that identifies you and relates to your past, present, and future physical and mental health conditions. This is referred to as "protected health information" throughout the rest of this section.

Health Information that does not contain any identifying information and cannot be connected to you is referred to as "study information".

Your protected health information will receive additional protection under the Certificate of Confidentiality issued by the National Institutes of Mental Health (NIMH). Certificates of Confidentiality protect the privacy of participants, allowing the investigator and others who have access to research records to refuse to disclose identifying information in any civil, criminal, administrative, legislative, or other proceeding at the federal, state, or local level. Identifying information is any item or group or items collected about a person during research that could result in identification of a research subject. Individuals who participate as research subjects are protected permanently while the Certificate is in effect – even if the participant gave the researcher information before the Certificate was issued.

Who may study information (which does NOT contain identifying information) be shared with?

- The Fenway Health Institutional Review Board (IRB)
- Fenway Health Research Staff
- Office of Human Research Protection
- National Institute of Mental Health

This study information (**which does not contain your identity**) may also be published. "Protected health information" will be used or shared with others as explained below.

1. What protected health information, if any, about you will be used or shared with others during this research?

New health information created from study-related

- Procedures
- Visits
- Questionnaires
- Interviews
- Tests

2. Why will protected health information about you be used or shared with others?

The main reasons include:

- To conduct and oversee the research described earlier in this form,
- To ensure the research meets legal, institutional, and accreditation requirements,
- To conduct public health activities (including reporting adverse events or situations where you or others may be at risk of harm), and
- For treatment or healthcare operations.

3. With whom outside of Fenway Health may my protected health information be shared?

- Outside individuals or entities that have a need to access this information to perform functions on behalf of Fenway Health (i.e., data storage companies, insurers, or legal advisors),
- Research staff at Fenway Health, and
- Federal and state agencies (as stated above).

4. Who will use or share protected health information about me?

- Fenway Health and its affiliated researchers and entities participating in the research, as described in the informed consent form, will use and share your protected health information.
- In addition, the Fenway Health IRB that oversees the research at Fenway Health and its affiliated staff who have a need to access this information to carry out their responsibilities (for example, oversight, quality improvement) will be able to use and share your protected health information.

5. For how long will protected health information about me be used or shared with others?

- There is no scheduled date at which your protected health information that is being used or shared for this research will be destroyed, because research is an ongoing process, during which information may be analyzed and re-analyzed in light of scientific and medical advances, or reviewed for quality assurance, oversight, or other purposes.

6. Statement of privacy rights:

- You have the right to withdraw your permission for the researchers and participating Fenway Health entities to use or share your protected health

information. We will not be able to withdraw all of the information that already has been used or shared with others to carry out related activities such as oversight, or that is needed to ensure the quality of the study. If you want to withdraw your permission, **you must do so in writing** by contacting the researcher listed as the Study Contact on this informed consent.

- You have the right to choose not to sign this form. If you decide not to sign, you cannot participate in this research study. However, refusing to sign will not affect your present or future care and will not cause any penalty or loss of benefits to which you are otherwise entitled.
- Questions about privacy protection can be answered by calling Jesse Ripton, Manager of Research Compliance at The Fenway Institute, at 617-927-6031.
- You have the right to request access to your protected health information that is used or shared during this research and that relates to your treatment or payment for your treatment, but you may access this information only after the study is completed. To request this information, please contact the Principal Investigator listed on this consent form in writing.

We recognize that some of those who receive protected health information may not have to satisfy the privacy requirements that we do and may re-disclose it, so we share your information only if necessary and we use all reasonable efforts to request that those who receive it take steps to protect your privacy.

Who do I contact if I have questions or problems?

If you have any questions about the study or concerns about a possible research-related injury, you may contact a member of the study staff:

Dr. Michael S. Boroughs, Project Director, at 617-927-6119;

Or the Principal Investigator:

Dr. Conall O'Cleirigh at 617-927-6033.

If you have any questions at any time regarding your rights as a participant in a research study and want to talk with someone not involved in the conduct of the study, then you may contact the Manager of Research Compliance, Jennifer Campbell, at 617-927-6031, who will get you in contact with the Institutional Review Board (IRB) chairperson.

An IRB is a committee of volunteers who are responsible for protecting the rights and welfare of research participants. The investigators and Manager of Research Compliance may also be contacted at the following address:

The Fenway Institute of Fenway Health
1340 Boylston Street, Boston, MA 02215
Toll free: 1-888-242-0900

Participant's statement of informed consent and signatures.

I have explained to _____ the purpose of the research, the procedures required and the possible risks and benefits to the best of my ability.

_____	_____	_____
Investigator's Signature (or Investigator's Representative)	**Printed Name**	**Date**

I confirm that I have been informed about the purpose of the research study, the procedures that I will undergo, and the possible risks, discomforts, and benefits I may experience, and had all of my questions answered. Alternatives to my participation in the study have also been discussed. I understand that I am free not to participate in this research at all. I understand that I will receive a signed copy of this consent form. I may refuse to sign this form. By choosing to do so, I will not lose any rights or benefits to which I might otherwise be entitled. However, I will not be able to enroll in this research study without signing this form.

I agree to give my consent to participate as a subject in this research study. I give permission to Fenway Health and its collaborators to use and disclose my protected health information as described above.

_____	_____	_____
Participant's Signature/ Or legally authorized representative	**Printed Name**	**Date**
		_____ _____ **Time of Day**

If signed above by a *legally authorized representative* and not the actual participant, please complete the following:

Relationship to participant: _____

_____	_____
Witness' Signature	**Printed Name**
Date	

Appendix G: Instructions for Impact Statement

Homework Assignment – First Impact Statement

Instructions:

Please write at least two pages on why you think this traumatic event occurred. You are NOT being asked to write specifics about the traumatic event. Write about what you have been thinking about the cause of the worst event. Why did this trauma happen to you? What is the meaning of this trauma? Also, consider the effects this traumatic event has had on your beliefs about yourself, others, and the world in the following areas: safety, trust, power/control, esteem, and intimacy. Bring this with you to the next session.

In order for this assignment to be most helpful to you, I strongly suggest you try and start this assignment soon, so that you have enough time to write thoughtfully. Pick a time and place where you have as much privacy as possible, so you can feel any feelings that arise as you complete this assignment.

VITA AUCTORIS

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