

RELATIONSHIP BETWEEN SEXUAL ABUSE AND HIV RISK RELATED BEHAVIORS IN
YOUNG AFRICAN AMERICAN MEN WHO HAVE SEX WITH MEN

By

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ABSTRACT

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African Americans represent 13% of the United States (US) population, yet they account for almost half of new US HIV/AIDS cases (CDC, 2007a; 2006). In Michigan, although the average HIV prevalence rate for White men is 118 per 100,000, the prevalence rate among African American male residents is 866 per 100,000 persons. Men who have sex with men (MSM) are the predominant risk group among males in Michigan and nationally. HIV is rapidly spreading among this group, particularly among young African Americans.

Men who have experienced childhood sexual abuse typically have persistent problems throughout adulthood with sexuality and other issues. Among adult men who have sex with men, the impact of sexual abuse on unsafe sex is well documented. Few studies have examined the prevalence of sexual abuse among young African American men who have sex with men (YAAMSM) and whether it is associated with unsafe sexual behaviors. This study explores the impact of being a victim of sexual abuse on risky sexual behavior among a statewide Michigan sample of YAAMSM.

To address the gaps between epidemiologic, psychosocial, and behavioral data on HIV risk among YAAMSM, this study uses data from a comprehensive assessment of YAAMSM between the ages of 13 and 25. The primary goal of this study is to provide formative research on how a history of sexual abuse contributes to risky HIV behaviors such as unprotected sex. Among the 156 YAAMSM in the study, roughly one third (32.1%) reported that they had been

sexually abused. The average age of assault was 10 years old, and the main perpetrators were family members and adult strangers.

Findings for this study concluded that sexual abuse does not add a layer of risk for higher depressive symptoms, higher alcohol/drug abuse scores or unprotected anal or vaginal sex among young YAAMSM. However, those that reported higher alcohol/drug abuse scores had lower levels of condom use. Also, those with higher depressive scores were more likely to have higher alcohol/drug abuse scores. Through this study, it was also concluded that family support did not mediate the effects of sexual abuse on the depressive symptoms or alcohol/drug abuse scores. However, those that reported higher levels of family support were more likely to report consistent condom use. This study's findings are subject to a few limitations: use of self-reported data, and the lack of measurement of the severity and duration of the reported sexual abuse. Study implications include the need for practitioners and researchers to explore the educational and health promotion interventions that are most effective in reducing risk taking behaviors among sexually abused YAAMSM.

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List of Abbreviations

AC	Advisory Council
AIDS	Acquired Immunodeficiency Syndrome
BBM	Behaviorally Bisexual Men
BBAAM	Behaviorally Bisexual African American Men
CDC	Centers for Disease Control and Prevention
CSA	Childhood Sexual Abuse
HIV	Human Immunodeficiency Syndrome
IDU	Injection drug user
IRB	Internal Review Board
MSM	Men who have sex with men
NGI	Non-gay Identifying
PA	Partner Abuse
RDS	Respondent Driven Sampling
SES	Socio-economic status
STI	Sexually Transmitted Infections
UAI	Unprotected anal intercourse
YAAMSM	Young African American Men Who Have Sex with Men
YMHSIG	Young Men’s Health Study Guide

CHAPTER I: OVERVIEW

Introduction

Although, African Americans represent 12% of the United States (US) population, they account for almost half (46%) of the people living with HIV in the US and half (45%) of the new US HIV/AIDS cases (CDC, 2007a; 2006). At the onset of the epidemic, White MSM had the highest incidences of HIV in the US, but in recent years this trend has shifted; now young African American MSM have the highest US rates of infection (CDC, 2007b, 2008, 2009; Harawa et al., 2004; Mays, Cochran, & Zamudio, 2004; Solorio, Swendeman, & Rotheram-Borus, 2003). HIV is spreading among African American males faster than any other US race, ethnicity, or gender. According to the Centers for Disease Control (2010), one in 16 African American men will be diagnosed with HIV at some point, during the course of their lives. Furthermore, African American men who have sex with men (MSM), and who are between the ages of 13 and 29 are 1.6 times greater than Whites and 2.3 times greater than Latinos to be newly infected with HIV (Wilton et al., 2009). In Michigan, the state where this study was conducted, 237 African American men were diagnosed with HIV in 2010, compared to 158 White men and 23 Latino men (Michigan Department of Community Health, 2010). The Michigan Department of Community Health (2010) also concludes that 54% of African American HIV positive males reported male to male sex as the method of HIV transmission.

These emerging data signal not only the changing face of the HIV/AIDS epidemic to one that is increasingly associated with racial/ethnic minorities, but the data also serve as a reminder of the ways that social inequality based on race, ethnicity, economic status, and sexual orientation in the United States is confounded with HIV transmission and infection (Mays et al., 2004, p. 79).

Several studies have concluded that race and ethnicity alone are not associated with HIV risk (Harawa et al., 2004; Lane et al., 2004; Miller, 1999). If African Americans do not have a genetic predisposition to the acquisition of HIV, there has to be other probable causes that explain the disproportionate rates of infection within this community. The research literature has identified six overarching factors that most widely explain this disparity: high levels of poverty, low educational and sexual literacy rates, constrained sexual networks, high rates of substance use/abuse, low condom use, and environmental factors associated with sexual minorities (i.e. victimization, rejection, social isolation, and homophobia) (Thompson, Kingree, & Desai, 2004).

Within the US, African Americans have been the poorest, least educated, and one of the most highly unemployed groups (Leiber, Johnson, Fox, & Lacks, 2007). Poverty limits the access to high quality healthcare and HIV prevention education. Moreover, African American men with a low socioeconomic status have higher rates of condom failure compared to Whites and men of higher socioeconomic status (Zea, Reisen, & Diaz, 2003). In addition, a study of 271 heterosexual African American men ages 18-24 found that the more partners that African American men have, the more likely African American men are to use condoms incorrectly (Miller, 1999). This is a significant finding considering the constrained sexual networks within African American communities and the propensity for African American men to have concurrent partners. Lastly, the National Survey on Drug Use and Health (2010) reported that African

American adults had higher than the national average usage of illicit drugs (9.5 vs. 7.9 percent) and one in seven African American adults needed alcohol treatment last year. While people are under the influence of substances, they are more likely to engage in risky activities such as unprotected sex (Tubman, Langer & Calderon, 2001; Miller, 1999).

Statement of the Problem

Even though we know quite a bit about these broad ecological factors, we do not know enough about how other factors including mental health and sexual trauma history play out in these contexts making young African American MSM vulnerable to HIV/AIDS acquisition. Traumatic experiences, such as sexual abuse at a young age, have the propensity to significantly influence the physical, mental, and social health of individuals including young men who have sex with men. As will be discussed below, studies of sexual trauma suggest that childhood sexual abuse causes harm to male victims who may suffer many consequences including sexual difficulties, mood swings, self-blame, guilt, and somatic complaints in adulthood (Howard, Wang, & Yan, 2008). In one study of 186 adult survivors of childhood sexual abuse (CSA), survivors were four times more likely to have worked as a prostitute than adults who did not report any abuse (Zierler, Feingold, Laufer, Velentgas, Kantrowitz-Gordon & Mayer, 1991). Studies of mental health difficulties, specifically depression, have also shown that gay men that have been coerced to engage in sexual activities are more depressed and have lower self-esteem than non-coerced men (Adimora, Schoenbach, & Doherty, 2006). In addition to the increased HIV risk this group may be under because of sexual trauma and mental health difficulties, we know little about what might buffer the effects of this increased risk. Studies of family support/rejection suggest that this variable is an important buffer of sexual risk, especially for men who have sex with men (Kimberly & Serovich, 1999; Caitlin Ryan, Huebner, Diaz, &

Sanchez, 2009; Ryan, Russell, Huebner, Diaz, & Sanchez, 2010; Serovich, Graftsky, & Craft, 2010). For example, in a study of 224 White and Latino lesbian, gay, and bisexual young adults, it was concluded that those who reported higher levels of family rejection were 8.4 times more likely to have attempted suicide, 5.9 times more likely to be depressed and 3.4 times more likely to report engaging in unprotected sex and 3.4 times more likely to report illegal drug use compared to their peers that reported little or no family rejection (Ryan et al., 2009). It is unclear from these studies about how strong family support influence the sexual risk behaviors of young African American men who have sex with men (YAAMSM) who have been victims of sexual abuse, but it seems likely that family support will buffer sexual risk behaviors in this population as well. The goal of this study is to explore these variables in greater detail.

Purpose of the Study

Studies that focus on the HIV/AIDS crisis within the African American community are a high priority, especially studies that focus on HIV/AIDS risk and protective factors. The purpose of this study was to explore how sexual abuse and depression are risk factors that increase the likelihood of HIV/AIDS infection among young African American men who have sex with men and to examine the buffering role of family support in this population. Although, sexual abuse, family support, and depression have not been studied as extensively as the other six ecological factors linked to higher HIV prevalence in the African American community, my review of the literature led me to hypothesize that these three variables contribute to the cognitive and behavioral development of the young men in this study. This study explores how sexual abuse interacts with substance abuse, family support, and depression in young African American men who have sex with men (YAAMSM) to influence their condom use and potentially put them at an increased risk for HIV.

Scope of the Abuse Problem

Although, there have been decades of literature on females and violence, abused males have largely been ignored by society and in the research literature (Isely, 1998; Merrill & Wolfe, 2000; Waldner-Haugrud, 1999). A combination of underreporting and lack of attention to male sexual abuse has created this gap between males and females in the literature. As a result, it has been difficult to measure the extent of this phenomenon among men.

Various scholars have given reasons why these differences in abuse research exist between genders. First, gender-based ideologies have contributed to the myth that males are *always* the perpetrators and women are *always* the victims (Hodge & Canter, 1998; Merrill & Wolfe, 2000). Secondly, because studies of the general population recruit participants from places such as emergency rooms, psychiatric facilities, or domestic violence shelters, males are inadvertently excluded because these are not places where some adult male victims feel comfortable seeking assistance because of potential shame, isolation, hurt or rejection (Merrill & Wolfe, 2000). Also, the policies of some domestic violence shelters prohibit men from being on the premises, in order to emotionally and physically protect female victims. Consequently, male victims are not able to receive services in these types of settings (Kalichman & Rompa, 1995). Third, homosexuality is still viewed as immoral in many parts of the culture, and funding priorities may not favor the study of abuse within this population. This may contribute to the apathy and the lack of research surrounding the abuse of gay and bisexual men (Waldner-Haugrud, 1999). This is especially true when cultural stereotypes portray gay men as always wanting sex (Kalichman & Rompa, 1995). Fourth, the definition of sexual coercion is defined in some studies as penile-vaginal intercourse, which automatically excludes men (Waldner-Haugrud, 1999). Waldner-Haugrud (1999) also suggests that gay advocates and researchers

avoid studying sexual victimization amongst gays so that heterosexuals do not have evidence of the “inferiority” of the gay community.

Although there is scarce literature surrounding gay and bisexual men and abuse, there have been some significant discoveries about how abuse affects this population. One study found that coerced gay men had lower self-esteem than noncoerced men (McKenry, Serovich, Mason, & Mosack, 2006; Tubman, Langer, & Calderon, 2001). When gay MSM have experiences of abuse, they are more likely to self-medicate through substance abuse or engage in self-destructive behaviors such as unprotected sex and multiple sex partners (Walker, Archer, & Davies, 2005) or have a complete aversion to sex (McKenry et al., 2006; Waldner-Haugrud, 1999). These behaviors are intensified when the abused person is from a lower socioeconomic status, lower educational level, lacks family support, has low self-esteem and is a member of a drug using community (Arreola, Neilands, Pollack, Paul, & Catania, 2005).

Sexual Abuse

Childhood sexual abuse (CSA) occurs when an adult has inappropriate sexual contact with someone 14 years old or younger (Arreola, Neilands, Pollack, Paul, & Catania, 2008), or if sexual contact occurs with someone at least five years older than the child (Catania et al., 2008; Kalichman et al., 2001; Tarakeshwar, Hansen, Kochman, Fox, & Sikkemma, 2006; Williams et al., 2008). Studies show that CSA victims are more likely to be sexually revictimized and less able to negotiate sexual activity as adults (Walker et al., 2005). Children and youth are more vulnerable to victimization because of their proximity to potential offenders and their dependency on family members (Bogart et al., 2005; Brennan, Hellerstedt, Ross, & Welles,

2007; Dilorio, Hartwell, & Hansen, 2002; Jinich et al., 1998; Kalichman et al., 2001; Stanley, Bartholomew, & Oram, 2004; Zierler et al., 1991).

Men who have experienced CSA typically have persistent problems throughout adulthood with sex and sexuality (Rose & Mechanic, 2002). In addition, male survivors of CSA are nearly eight times more likely to report involvement in prostitution, multiple sex partners, and anonymous sexual partners (Paul, Catania, Pollack, & Stall, 2001; Purcell, Moss, Remien, Woods, & Parsons, 2005; Sikkemma et al., 2007). Childhood sexual abuse is not widely addressed in HIV prevention interventions for men, MSM, or men who have sex with both men and women, even though it is an important predictor of high risk sexual behaviors and mental health difficulties (Adimora et al., 2006; Harawa, Williams, Ramamurthi, & Bingham, 2006; Lane et al., 2004; MacKellar et al., 2007; Warren et al., 2008).

African American MSM. For almost thirty years, researchers and practitioners have attempted to decrease the incidence of HIV within the MSM population. Although progress has been made, these HIV prevention efforts have not been successful in decreasing the risk of new infections (Mays et al., 2004). This could partially be due to the lack of focus on a history of sexual abuse (Isely, 1998; Merrill & Wolfe, 2000; Waldner-Haugrud, 1999). Despite an increasing interest in abused men, it is surprising that so little empirical research has actually been conducted on African American sexually abused MSM. Very few studies have examined the relationship between abused African Americans and the rising HIV rates within this population. Within the HIV infected population, rates of childhood sexual abuse have been known to be higher than the general population ranging from 33% to 76% (Sikkemma et al., 2007). Based on these findings, it is apparent that more research needs to be conducted about the

relationship between a history of sexual abuse of African American MSM and HIV risk-related behaviors.

Theoretical Perspective of the Problem

This study is guided by two theoretical frameworks, the Behavioral Ecological Model (BEM) (Campbell, Dworkin & Cabral, 2009) and Miller's Model (Miller, 1999). These two theories provide a contextual understanding for this study on the YAAMSM population and the different levels of influence on their behaviors. The Behavioral Ecological Model is rooted in a model of health behavior that intervenes on five levels of influence including intrapersonal, interpersonal, institutional, community, and public policy factors. It is important to understand the macrosystemic and microsystemic factors that influence the sexual health of YAAMSM. These factors can serve as protective or risk factors in regards to their increased probability of acquiring HIV. Miller's model is important because of its reference in other studies (Mays et al., 2004) and incorporation of key variables of interest in relation to sexual assault. Miller's Model was originally developed to explain the relationship between sexual abuse and HIV risk/drug use risk in women. Therefore, this study heavily utilized Miller's Model to inform the hypotheses and theoretical framework for this study.

The Behavioral Ecological Model

The Behavioral Ecological Model is necessary in providing a background to understanding the sample population of YAAMSM in this study. Figure 1.1 shows the Behavioral Ecological Model of abuse and HIV risk in YAAMSM including broad macrosystemic and narrow microsystemic factors that influence this population. Although, the

Behavioral Ecological Model has five levels, in this study, it is synthesized into four categories: social/categorical, community, local, and individual.

On the social/community level, YAAMSM have been disadvantaged by systems of racism and discrimination and patterns of marginalization. Stress that stems from racism has been known to lead to substance abuse, unprotected sex, and increased perceived risks for HIV acquisition (Malebranche, 2003). There is racial disparity in morbidity and mortality from HIV infection between African American MSM and White MSM due to health disparities in the US. For example, during the mid-1990s the death rate decreased steeply for White MSM, due to highly active antiretroviral therapy but not as much for African American MSM (Lane et al., 2004, p. 324). African American MSM tend to be victims of structural violence and have disproportionate levels of illness and death within their communities.

On the community level, YAAMSM are often victims of hate crimes. The United States Department of Justice (2008) reports that of the 7,624 out of 9,006 criminal incidents that occurred in 2007, 50.8 percent were motivated by racial bias and 16.6 percent of were motivated by sexual orientation bias. These were the top two motivations to commit hate crimes. This is staggering and validates the hesitations of African American gay men to identify as homosexual. Of the reported bias crimes, Whites are the offenders in 62.9 percent of the incidents. The largest number of hate crimes occurred inside the homes of the victims. This is a point of interest considering the assumption that hate crimes are committed by strangers, not persons that potentially know the victims.

A study of 290 lesbian, gay, and bisexual participants concluded that family members were reported more often as committing sexual assaults against the participants (Rose &

Mechanic, 2002). These criminal assaults by a known perpetrator are more frequently unreported than assaults by strangers (Tarakeshwar et al., 2006). Therefore, the actual number of hate crime cases reported to the U.S. Department of Justice likely underreports the actual or true number of occurrences.

YAAMSM also face discrimination within the gay community (Rose & Mechanic, 2002; Stokes & Peterson, 1998; Warren et al., 2008). African American MSM have significantly lower attachments to gay- identified venues, clubs, organizations, and literature (Rose & Mechanic, 2002) than do their white counterparts. They are also less likely to live in gay communities. This is because oftentimes, they do not feel welcome and experience discrimination, even within the gay community where African American men are more likely to be victims of violence. Furthermore, living in gay communities would possibly cause outsiders to question their sexual orientation. Once again, the fear of disclosure governs and restrains African American MSM from identifying as homosexual.

African American men lack access to quality healthcare partially due to high levels of unemployment or underemployment (Newman & Massengill, 2006). Individuals of higher income levels have lower percentages of people that are uninsured. African Americans have the lowest median income (\$33,916) compared to Whites (\$54, 922) (DeNavas-Walt, Proctor, & Smith, 2008). African Americans have the highest rates of persons with no health insurance; 19.5 percent of African Americans have no health insurance compared to 10.4 percent of Whites (DeNavas-Walt et al., 2008). This not only impacts the quality of health care that African Americans receive but also the fatality rate for preventable diseases, as well as health prevention education. With the compounding stresses that African Americans deal with, it would be helpful if there were more affordable and quality health care facilities available. A lack of health

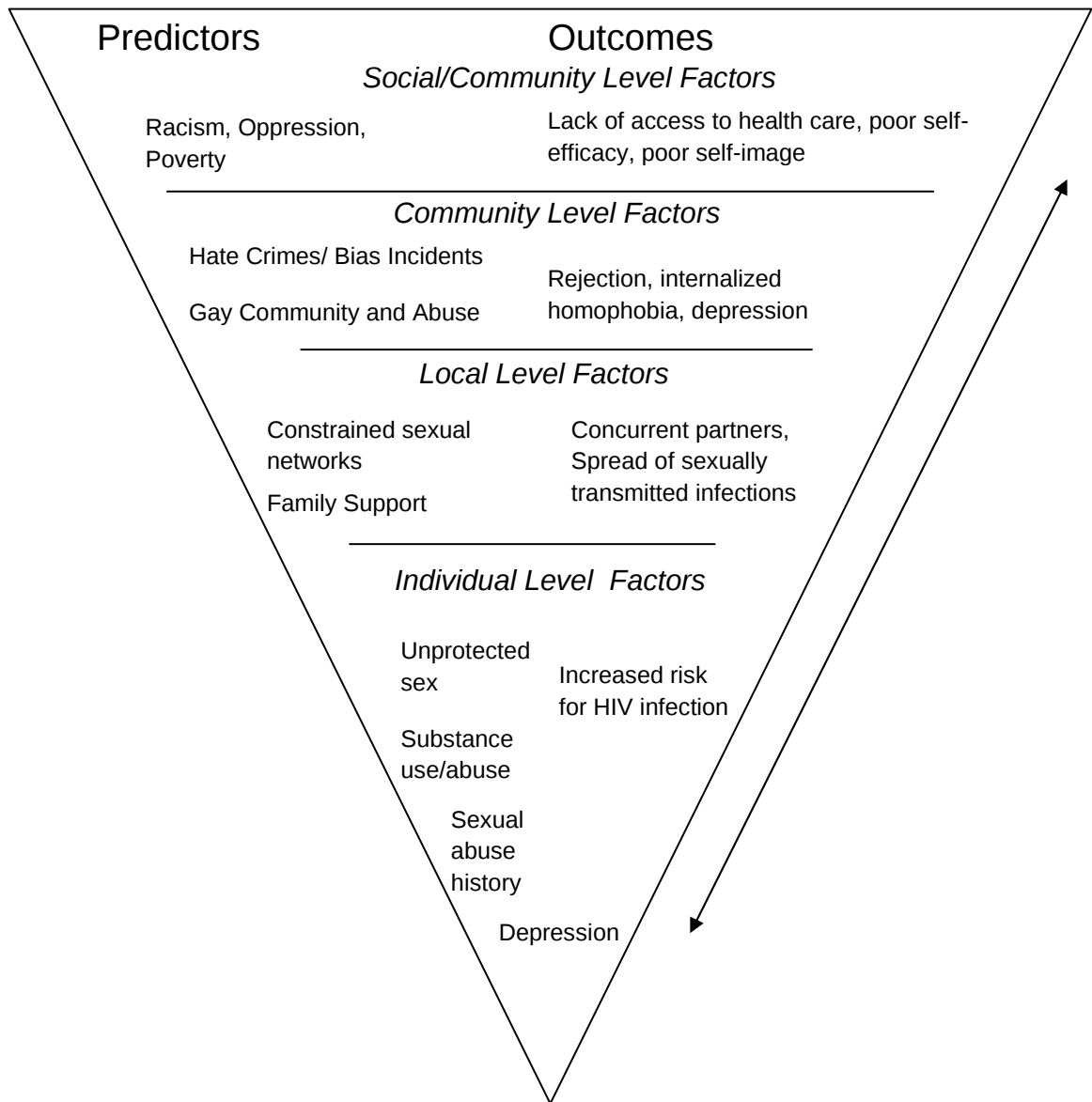
insurance increases that barrier to seeking assistance and poor African Americans suffer with balancing many external stressors. Overall, African Americans are not open to seeking the help of mental health specialists (Williams et al., 2004).

On a local level, constrained sexual networks contribute to the spreading of HIV in the African American community. “Social or geographical isolation of human networks can result in the maintenance of elevated rates of sexually transmitted infections; socially isolated individuals choose partners from within their network and likely transmit infections among fellow members”(Lane et al 2004, p.324). In the African American community, people are more likely to choose African Americans as partners (Adimora et al., 2006). African American communities have constrained sexual networks due to high numbers of men being incarcerated, extreme poverty, and having multiple concurrent partners. One of the explanations of the high rates of HIV within the African American MSM community is that this group is engaging in a higher number of risky sexual behaviors. There are some studies that find that African American MSM do not engage in more risky drug and/or sexual behaviors than other racial/ethnic groups (Harawa et. al, 2004, Peterson et. al, 2001, Warren et. al, 2008). However, African American MSM have the highest HIV prevalence rates compared to the other groups. Other studies suggest that there might be increased risky behaviors in some cases. In general, African American men are more likely to report having anal sex with a male partner (Battle & Bennett, 2000; Millett, Peterson, Wolitski, & Stall, 2006; Stokes & Peterson, 1998). A Los Angeles County young MSM study concluded that the young African American MSM who were HIV infected tended to have older and predominately African American partners (Mays et al., 2004). Older African American men are possibly more likely to be infected since they have longer histories of risk exposure (Mays et al, 2004). Behaviorally bisexual men may compromise

themselves sexually by having relationships with older men, not using condoms, or having sex with men in exchange for their livelihood (Miller, 1999). In a CDC (2009) study, sixteen of twenty-nine African American MSM ages 13-24 years old, reported having male sex partners twenty-six years and older.

Lastly, on the individual level, YAAMSM may experience depression as a result of sexual abuse, rejection, discrimination and homophobia (J. K. Williams, Wyatt, Resell, Peterson, & Asuan-O'Brien, 2004; Lenderking et al., 1997; Thompson, Kingree, Desai, 2004). They may use self-destructive mechanisms like injection drug use to cope. Injection drug use increases a person's risk of acquiring HIV through needle sharing and exchanging risky sex for drugs (Miller, 1999). It is the complex intersection of all of these macro and micro systemic factors that put abused YAAMSM at a greater likelihood of engaging in risky HIV behaviors and acquiring HIV.

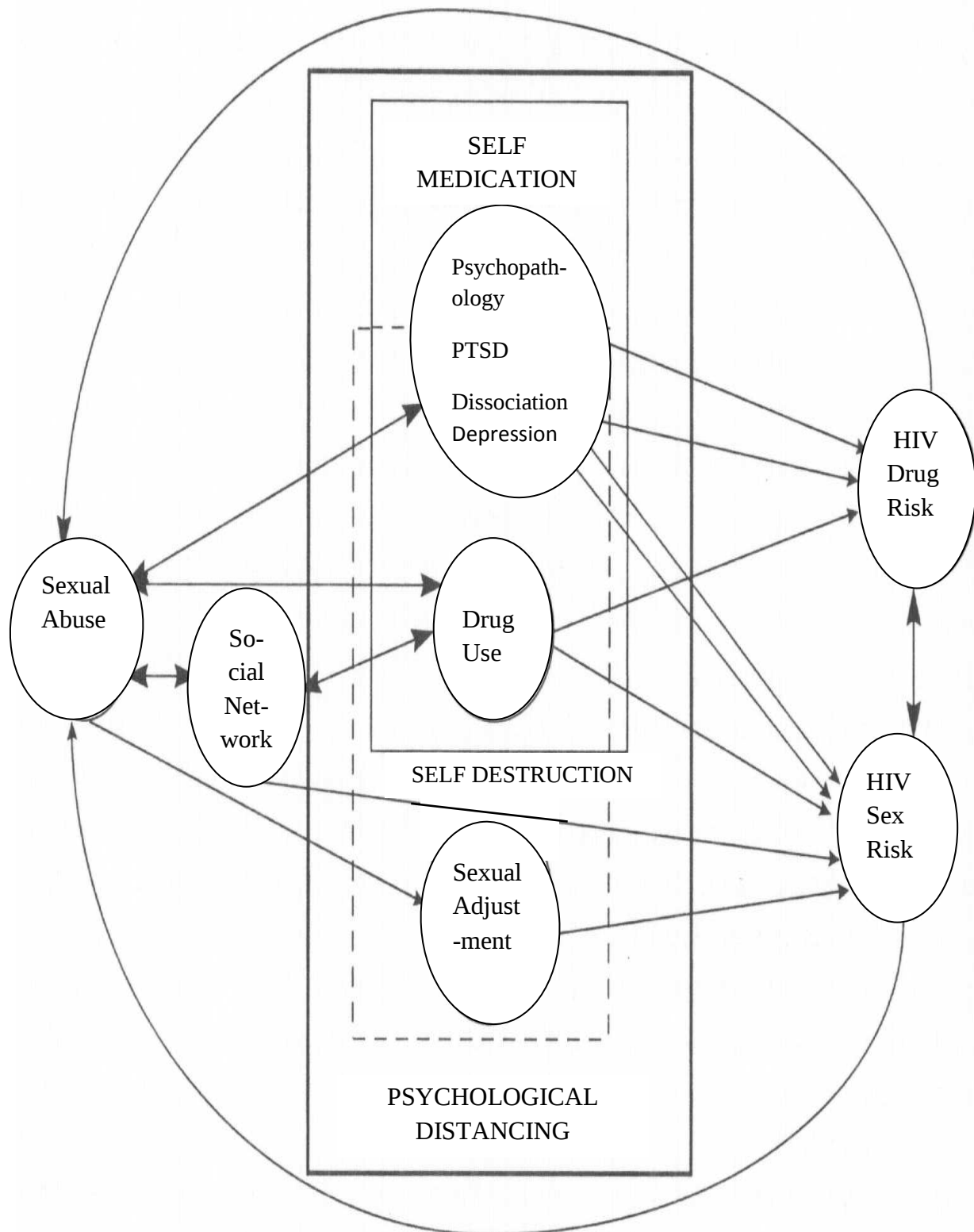
Figure 1.1 Behavioral Ecological Model



Miller's Model

While BEM describes the broad context and individual factors within that broad context, this study used Miller's model, as well to guide this research because it describes the specific relationship between sexual abuse and other variables important in this study. Miller's model presents several causal pathways and key variables that mediate an increased likelihood of HIV acquisition by women who have been sexually abused: 1) Initiating and/or increasing substance abuse as a means of coping; 2) issues with sexual adjustment, which increases sexual risk taking; and 3) psychopathology (depression, PTSD, dissociation) which is related to an increased likelihood of engaging in HIV risk related behaviors. These variables are all associated with individual behaviors and characteristics of people with sexual abuse histories. This model (see Figure 1.2) tries to capture the underlying determinants of HIV risk behavior which seem to help the individual disconnect from the abuse memories. These methods of dealing with abuse include: 1) self-medication through drugs and alcohol; 2) engaging in self-destructive behaviors such as unprotected sex, multiple sex partners and survival sex; and 3) using "psychological distancing through denial or through the activation of dissociative mechanisms as a strategy of self-protection"(Miller, 1999, p. 4).

Figure 1.2. Miller's Model (Miller, 1999)

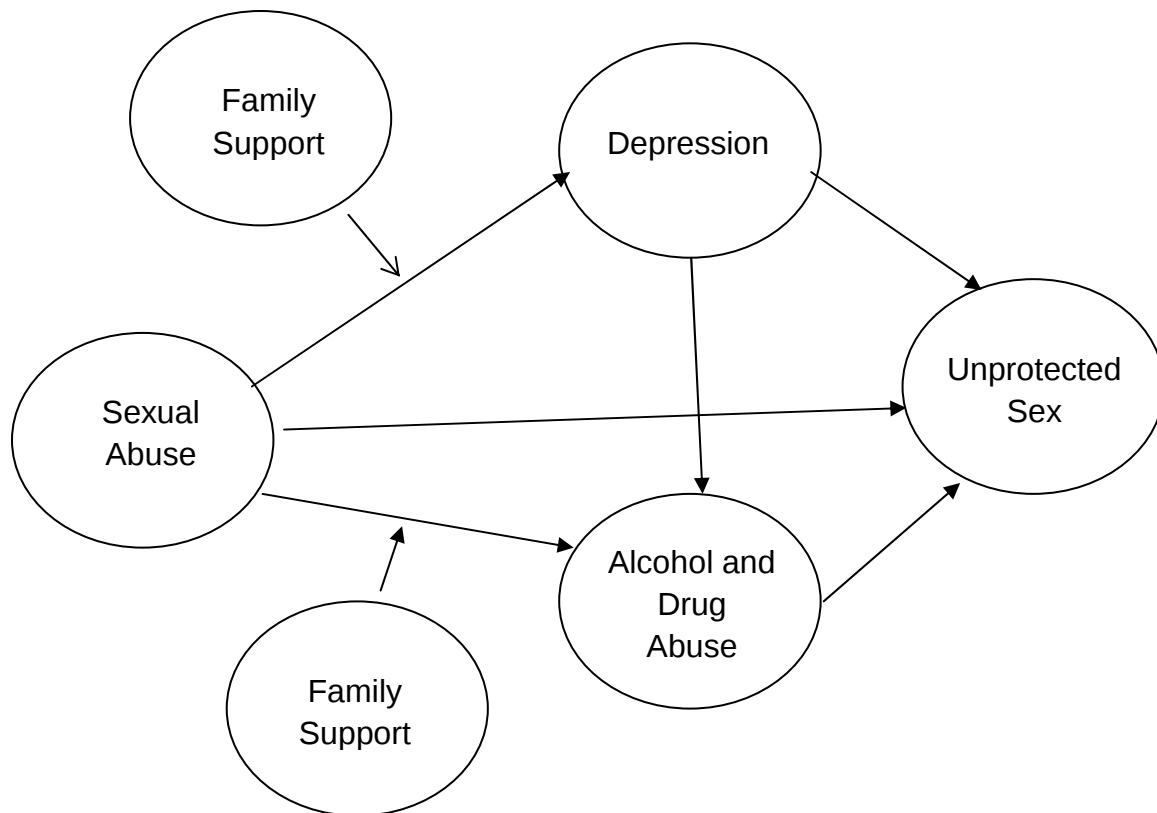


The three causal pathways and their underlying mechanisms focus on individual level behaviors. However, the model does not account for the influences of the person's social environment beyond membership within the social networks of drug users. Miller (1999) asserted that sexually abused women, who were members of a group of drug users, were more likely to engage in self-destructive behavior such as drug use. An adapted version of Miller's model was used as a theoretical framework to guide this research on African American MSM (see Figure 1.3). This model shows theoretically how sexual abuse, depression, and alcohol/substance abuse can influence the condom use of YAAMSM. Family support is included in this model as a moderating variable for three reasons. First, because the focus of this study was on a relatively young sample of men, it was thought that their families would still have a significant influence on their lives. Second, African Americans' families are of central importance to African American individual wellbeing and these families and communities have honed adaptive skills to overcome barriers to equal access and achievement (Wyatt, 2009). In addition, these families provide individuals with a positive group identity and extensive kinship networks that include positive spiritual and cultural values. Third, a recent study (Serovich et al., 2010) reports that family is of significant importance to HIV positive men who have sex with men. The thirty subjects in that study were afraid to disclose their seropositive status and being associated with a "gay disease". Harawa captured this sentiment:

The threat of losing the love and protection of family or religious standing within a cultural context where family and church are central and act as a buffer against racial and socioeconomic oppression, may be particularly untenable for non-gay identifying African American MSM. (Harawa et al., 2006, p.691)

Supportive families of sexually abused YAAMSM can moderate their levels of depression and alcohol/drug abuse and through this pathway influence the coping of YAAMSM who may as a result engage in fewer self-destructive sexually risky behaviors.

Figure 1.3. Theoretical Model of Sexually Abused YAAMSM



Research Questions and Hypotheses

The following research question guided this study: Does sexual abuse of YAAMSM lead to increased unprotected intercourse and what intervening variables affect this risk behavior? The independent variables are sexual abuse, depression, and alcohol/drug abuse. The dependent variable is condom use and it is an ordinal variable based on if the individual reported condom

usage in the previous 90 days as never, rarely, some of the time, most of the time, or all of the time. Family support is a moderating variable.

Based upon the epidemiological, psychosocial, and behavioral literature on young African American men who have sex with men (YAAMSM), this study aims to provide formative research on one factor thought to contribute to risky HIV behaviors – being a victim of sexual abuse. It is hypothesized that sexual abuse is a key factor that has influenced African American MSM and their sexual risk behaviors and substance abuse. Within this study, the definition of abuse is not limited to the context of the abuse, age of victimization, context of violation or relationship with the perpetrator. Therefore, it includes individuals sexually abused by family members, partners, peers and others. This study tests an integrative conceptual model that describes how being a victim of abuse is related to the underlying motivations behind HIV risk behaviors.

Specific Questions and Hypotheses

1. Does Depression vary by a history of sexual abuse?

1.1. *Hypothesis 1: Sexually abused YAAMSM will report a higher incidence of depressive symptoms within the past week than will non-sexually abused YAAMSM.*

2. Do alcohol and drug abuse scores vary by a history of sexual abuse?

2.1. *Hypothesis 2: YAAMSM who have been sexually abused will report higher alcohol and substance abuse usage than will non-sexually abused YAAMSM.*

3. Does condom use vary by a history of sexual abuse?

- 3.1. *YAAMSM who have been sexually abused will report a higher incidence of unprotected anal or vaginal sex than will non-sexually abused YAAMSM*
4. Does condom use vary by depression measured by the CES-D?
- 4.1. Hypothesis 4: *YAAMSM who have higher depressive scores on the CES-D will report a higher incidence of unprotected anal or vaginal sex.*
5. Does condom use vary by alcohol/drug abuse scores?
- 5.1. Hypothesis 5: *YAAMSM who report a higher usage of alcohol and drugs will have a higher incidence of unprotected anal or vaginal sex.*
6. Does family support moderate the effects of sexual abuse on the depression scores of YAAMSM?
- 6.1. Hypothesis 6: *YAAMSM who have been sexually abused but have a high level of family support will report lower depressive scores on the CES-D than sexually abused YAAMSM who have low levels of family support.*
7. Does family support moderate the effects of sexual abuse on the alcohol/drug abuse scores of YAAMSM?
- 7.1. Hypothesis 7: *YAAMSM who have been sexually abused but have a high level of family support will report lower alcohol and drug abuse scores than sexually abused YAAMSM who have low levels of family support.*
8. Does depression mediate the effect of condom use through alcohol/drug abuse?

8.1. Hypothesis 8: *Depression has a mediated effect on condom use through its impact on alcohol/drug abuse.*

9. *Does depression mediate the effect of sexual abuse on condom use?*

9.1. Hypothesis 9: *Depression mediates the effect of sexual abuse on condom use.*

10. Does alcohol and drug abuse mediate sexual abused YAAMSM and condom use?

10.1. Hypothesis 10: *Alcohol and drug abuse partially mediates the effect sexual abuse has on condom use.*

CHAPTER II: LITERATURE REVIEW

Increasingly, sexual abuse is being researched as a potential pathway to HIV risk behaviors (Bogart et al., 2005; Brennan et al., 2007; Dilorio, Hartwell, & Hansen, 2002; Jinich et al., 1998; Kalichman & Rompa, 1995; Lane et al., 2004; Maman, Campbell, Sweat, & Gielenk, 2000; Miller, 1999; Millett, Peterson, Wolitski, & Stall, 2006; O' Leary, Purcell, Remien, & Gomez, 2003; Simoni, Walters, Balsam, & Meyers, 2006; Tarakeshwar, Hansen, Kochman, Fox, & Sikkemma, 2006; Thompson, Kingree, & Desai, 2004; Tubman, Langer, & Calderon, 2001; Zierler et al., 1991). For example, one study with 333 HIV positive men and women in New York City found that 91% of the participants were sexually abused as children, 77% were abused during adolescence, and 56% were sexually revictimized as adults (Tarakeshwar et al., 2006). Furthermore, MSM are at risk for other kinds of abuse in that they are more likely to be sexually battered if they are under the age of 40, have less than a graduate or professional degree, or are unemployed. These demographics describe many of the participants in this study, who were sexually abused. In this literature review, first, I will give background information, including the prevalence of physical and emotional abuse because oftentimes YAAMSM experience more than one type of abuse simultaneously. Second, I will discuss the influence of different perpetrators of abuse (i.e. intimate partner versus a stranger). Lastly, I will give a more in-depth review of the interrelationships of the factors in the study's theoretical model: sexual abuse, depression, alcohol and substance abuse, condom use and family support in a population of YAAMSM.

Emotional and Psychological Abuse

In general, emotional and psychological abuse are precursors to physical and sexual abuse, although different forms of abuse may occur simultaneously (Thompson et al., 2004). It

is rare for physical or sexual abuse to occur in the absence of emotional abuse (B. E. Gibb, I. Chelminski, & M. Zimmerman, 2007a; Hillis, Anda, Felitti, Nordenberg, & Marchbanks, 2000).

Childhood emotional abuse. Childhood emotional abuse contributes to the development of psychopathologies in adulthood that include depression, low self-esteem, anxiety, posttraumatic stress disorder and social phobias (D'Augelli, 2006a, 2006b; B. E. Gibb, I. Chelminski, & M. A. Zimmerman, 2007b; Landolt & Dutton, 1997; Walker, Archer, & Davies, 2005). In one study of 857 Rhode Island psychiatric outpatients, participants were more likely to be diagnosed with major depressive disorders when compared to those that reported physical or sexual abuse (Gibb et al., 2007a). Some literature has suggested that African American MSMs are at high risk for emotional abuse (Graham, L., Braithwaite, K., Spikes, P., Stephens, C., & Edu, U., 2009).

Even when abuse is not occurring, the fear or perception of victimization may be more prevalent than the actual victimization (Sanders-Phillips, 2002). For example, research has concluded that in many cases, the perceived threat of violence is more accurate in predicting psychological outcomes than the actual acts of violence (Hobfoll, 1998). This is of particular importance to young African American men who have sex with men (YAAMSM) whose perception of the threat of violence may be greater because of the racism, heterosexism, and structural violence that they face.

Lesbian, gay, and bisexual youth. In D'Augelli's study of 542 lesbian, gay and bisexual youth, 81% of them reported that over the course of their lifetime, they had been verbally abused. There were similar rates of abuse by mothers to males and females but males were more often verbally abused by their fathers. While there are challenges to being a gay

youth in the United States, it is especially difficult for gay African American male youth, who endure multiple minority statuses.

Physical Abuse

Childhood physical abuse. Approximately, 1.5 million children have been abused and it is estimated that the incidence of physical abuse is 2.1 per 1000 for boys and 2.2 per 1000 for girls (Thompson et al., 2004). The proportion of boys and girls who are physically abused is virtually equal. However, it is likely that the rates for boys are even higher than reported given the stigma around reporting abuse and the fear of victimization. One study of 16,000 men and women found that physical abuse in childhood is more prevalent among males than females (Thompson et al., 2004). In that study, the males were significantly more likely to report that a parent, stepparent, or guardian had exhibited violent behaviors towards them including: having something thrown at them, having been pushed, having been slapped or hit, having been kicked or bitten, having been beaten up, having been hit with some object, or having been threatened with a weapon other than a gun. Physical childhood abuse has been associated with problems in adulthood such as using alcohol daily, acquiring a mental or physical health condition, post-traumatic stress disorder, depression, suicidal behavior, drug dependence, and aggression (Springer, Sheridan, Kuo, & Carnes, 2007).

Although most abuse research focuses on childhood sexual abuse, children are more likely to be victims of childhood physical abuse (Graham, Braithwaite, Spikes, Stephens, & Edu, 2009). This is true for both males and females. Some research suggests that females and males deal with physical abuse differently, with females having a greater propensity to internalize stress, and males doing more externalizing (Landolt & Dutton, 1997). As a result, females tend

to have more emotional and psychological issues such as suicidal ideation and disordered eating, whereas males tend to have more behavioral problems such as delinquency behaviors and heavy drinking and substance abuse. Male victims of violence are also more likely to engage in high risk sexual activity including a higher likelihood of having multiple sexual partners and unprotected sex (Howard, Wang, & Yan, 2008).

MSM. Unwanted and coercive abuse is common in both heterosexual and homosexual relationships and follows similar patterns (Landolt & Dutton, 1997). Power and control, alcohol and drug abuse, and intergenerational transmission of violence are proven reasons for abuse (Cruz & Firestone, 1998; Merrill & Wolfe, 2000). Violence within gay and lesbian relationships has only been minimally studied for several reasons. Waldner-Haugrud (1999) suggested that some gays and lesbians do not disclose domestic violence situations so that heterosexuals do not feel that homosexual relationships are inferior to heterosexual relationships.

Studies have shown that there is little difference between the effect that intimate partner violence contributes to homosexual versus heterosexual relationships (Landolt & Dutton, 1997; Waldner-Haugrud, L. K., Vaden Gratch, L., & Magruder, B., 1997). Oftentimes, the victim feels that the feelings of helplessness and loss of control are worse than the actual abusive act (Hodge & Canter, 1998). There is no consensus regarding the prevalence of partner abuse because of limited convenience samples, small sample sizes, and incomplete assessments of abuse (Walker et al., 2005). The published estimates among MSM range from 12% to 36% (Greenwood et al., 2002; Merrill & Wolfe, 2000; J. K. Williams, Wyatt, Resell, Peterson, & Asuan-O'Brien, 2004). Obviously, this range is very wide because of the various methods that researchers have used to calculate these percentages. As a result, it is difficult to even compare these numbers to prevalence within heterosexual relationships. However, it has been concluded that the effects of

abuse are similar irrespective of the heterosexual or homosexual nature of the relationship (Landolt & Dutton, 1997; Waldner-Haugrud, L. K., Vaden Gratch, L., & Magruder, B., 1997).

African American MSM and Physical Abuse. The African American community has the highest intra-family violence compared to other racial/ethnic groups (Hampton et al., 2003). They are also disproportionately affected by intimate partner violence. Both African American men and women report experiencing higher rates of intimate partner abuse than other racial/ethnic groups. African American women are 35% higher than the physical abuse rates of Whites and 2.2 times more likely than women of other races (Landolt & Dutton, 1997). Intimate partner violence seems to be reciprocal in this community. African American men experience intimate partner violence at 65% higher rates than White men and 2.2 times more likely than men of other races (Landolt & Dutton, 1997). It is unclear as to the reason for this disproportionate occurrence rate. Is it because African Americans are more violent or are they more likely to report violence? It is difficult to distinguish the causes of more violence experienced by African Americans without examining the contextual and developmental factors that contribute to the origin of these relations (Millelt et al., 2006).

When it comes to African American MSM, we know the following about physical abuse. Those that have been abused report worse health problems than those that have never experienced physical abuse. This includes but is not limited to using alcohol daily, acquiring a mental or physical health condition, post-traumatic stress disorder, depression, suicidal behavior, drug dependence, and aggression in adulthood (Dong et al., 2004; Gibb et al., 2007; Springer, Sheridan, Kuo, & Carnes, 2007; Thompson et al., 2004). These factors increase their number of chronic medical conditions and also adult psychiatric morbidity.

Sexual Abuse

There is no consensus on the prevalence of sexual abuse amongst the general public. Estimates of sexual abuse of females before the age of 18 range between 4.5% and 62% (Zierler et al., 1991; O' Leary et al., 2003). This vast range is due to the difference in sampling populations such as intravenous drug users and HIV infected persons, sampling locations, and definitions of sexual abuse. The estimates for men are just as vast but are lower ranging from 3% to 31% (Zierler et al., 1991; O' Leary et al., 2003). Although there is disagreement on the prevalence, it is commonly accepted that women are sexually abused more often than men.

Outside of institutional settings, sexual assault of adult males is rarely reported, or investigated (Isely, 1998). In fact, most men would rather suffer in silence than face the shame of reporting victimization. Some male victims may feel a loss of masculinity (Rose & Mechanic, 2002). There is a societal perception that *real* men do not allow themselves to be violated because they have to be physically and emotionally strong and not express any form of weakness or vulnerability. In addition, gay men are stereotyped as hypersexual so they are not as strongly believed to be victims of sexual coercion as often. The assumption is that a “willing” partner cannot be raped (Walker et al., 2005). Most of the incidents that involved physical restraint against men were committed by male assailants (Jordan, n.d.). Contrary to female victims, the assailants of male victims are typically strangers (Stermac, Del Bove, & Addison, 2004). With female victims, the assailants are usually someone that is acquainted with the victim. This leads to more underreporting so it makes it difficult to provide a good estimate of assault occurrences. Men who are sexually assaulted are more likely to have multiple assailants, weapons are displayed or used and they may be more likely to be revictimized in the future (Hampton, Oliver, & Magarian, 2003).

Gay, lesbian, and bisexual community and sexual abuse. The scarce but growing literature surrounding male sexual assault has three different schools of thought regarding the crime and the perpetrators. Some research has suggested that male sexual assaults tend to occur in homosexual relationships and is comparable to date rape (Mitchell, Hirschman, & Nagayama Hall, 1999); others refer to stranger assaults and bias incidents (Rose & Mechanic, 2002); and other studies focus on childhood sexual abuse of men (Tarakeshwar et al., 2006). A study of 290 lesbian, gay, and bisexual participants concluded that family members were reported more often as committing sexual assaults against the participants compared to strangers (Rose, 2002 #446). In addition, more sexual assault victims reported that they were victimized by six or more perpetrators. Criminal assaults by a known perpetrator are more frequently unreported than assaults by strangers (Solorio, Swendeman, & Rotheram-Borus, 2003). Therefore, the actual number of hate crime cases reported to the U.S. Department of Justice likely underreports the actual or true number of occurrences.

Lesbian, gay, bisexual and transgender youth and sexual abuse. Oftentimes, gay and bisexual youth experience rejection, isolation, and sexual abuse because of their sexual orientation (Dube et al., 2005; O' Leary et al., 2003; Stanley et al., 2004; Zierler et al., 1991). In a study of 231 gay and bisexual young men (between the ages of 13 and 23) living with HIV, close to 50% reported childhood sexual abuse before age 13 (Solorio et al., 2003). Although in this study 42% reported ever attempting suicide, there was no significant relationship between sexual abuse and these suicide attempts. This suggests that sexually abused LGBT youth may not internalize their abusive experiences and feel that suicide is the best option.

Childhood sexual abuse and MSM. Studies have estimated that the prevalence of CSA among men is between 3 and 37 percent (Dube et al., 2005; O' Leary, Purcell, Remien, &

Gomez, 2003; Stanley et al., 2004; Zierler et al., 1991) and is highest (34% to 37%) in studies of HIV/STI infected clinical samples (Brennan et al., 2007). This wide range is due to studies using different conceptual and operational definitions of CSA, different sampling methods, and sample populations consisting of high risk convenience samples. Furthermore, CSA numbers are likely higher among this group when we take into account the sexual development of MSM, some of whom experiment with sex at a young age and engage in sexual activities with older peers or men because they fear facing rejection or even physical assault but who may not consider this sexual abuse or may fail to report it as sexual abuse (J. Williams et al., 2008). A Canadian study (Stanley et al., 2004) found that 26% of the 192 gay and bisexual men in the sample reported a sexual encounter when they were less than 16 years old with a person at least five years their senior. However, the prevalence decreased to 12.5% when CSA was defined as abusive and coercive versus the age difference between the victim and perpetrator (Stanley et al., 2004). Those who described consensual sex with an older partner as positive or neutral had fewer adjustment problems (such as coldness, expressiveness, and interpersonal problems) than those who reported negative experiences.

Most of the studies surrounding childhood sexual abuse in MSM exclude individuals who are less than 18 years old (Bartholomew, Regan, White, & Oram, 2008; Bogart et al., 2005; Cruz & Firestone, 1998; Landolt & Dutton, 1997; McKenry, Serovich, Mason, & Mosack, 2006; Turell, 2000; Waldner-Haugrud, Vaden Gratch, & Magruder, 1997). In addition, many of the studies on MSM are limited in the assessment of the experiences of African American MSM because such a small number of African Americans are represented within the sample populations of these studies. In addition, the samples are often recruited from gay pride events in large, metropolitan cities such as New York, San Francisco, and Atlanta. As a result, the data

from these studies may not be generalizable to African American MSM in less populous places and more conservative states. Despite these limitations, from the literature, it is evident that sexual abuse has an adverse impact on the lives of gay men, specifically YAAMSM (Rose & Mechanic, 2002; Stermac, Del Bove, & Addison, 2004).

African American Community and Sexual Abuse

As aforementioned in Chapter One, the prevalence rates of childhood sexual abuse differ within groups of different cultural and ethnic backgrounds and because African Americans are the focus of this study it is important to consider sexual abuse within this group. There is limited literature specifically focused on the histories of sexual abuse of young African American MSM (Graham et al., 2009; Greenwood et al., 2002; Kalichman et al., 2001; Merrill & Wolfe, 2000; Walker et al., 2005). However, one study of 406 undergraduates, ages 20-30, concluded that 44% of the African Americans in the study reported childhood sexual abuse (Williams et al., 2004). They had the third largest prevalence behind Hispanics and “other ethnicities”. Considering the silence surrounding sexual abuse in the African American community, these rates may be even higher. Another study (Williams et al., 2008) of HIV positive African American and Latino men found that 87.6% of the sample reported childhood sexual abuse. Voisin (2002) concluded that African American adolescents between the ages of 14 and 19, who had reported sexual abuse prior to age 13, were more sexually active. Clearly, if adolescents are initiating sex earlier, they will have more lifetime sex partners. This could increase their risk of HIV/AIDS, if they are engaging in unprotected sex. The following studies looked at the role of sex and sexual abuse in the African American community.

Some studies suggest that sex and sexuality are not discussed openly within parts of the African American community (Williams et al., 2004). Therefore, it is improbable that sexual abuse would be reported in some African American contexts. Underreporting of male victims of abuse exists because men may often feel that they will not be believed, even by their parents. In fact, it is rare that sexually abused men of color disclose childhood sexual abuse to their parents (Kalichman et al., 2001). In one study, a non-gay identifying African American male participant stated, “There’s a joke that there is no such thing as bad sex and we are taught to believe that...so I’m never gonna tell my boys [friends] that someone forced themselves on me and that I didn’t like it”(J.K. Williams et al, 2004, p. 275). This quote further embodies the African American definition of masculinity. According to societal standards, men are supposed to be hypersexual and always want sex. In a study of 23 African American and Latino MSM, none of the men expressed any negative emotions regarding their past nonconsensual sexual experiences. In addition, they did not discuss that there was a relationship between their history of abuse and their current patterns of sexual arousal or self-medication through extensive drug and alcohol use. There is a grave problem within the African American community when individuals do not recognize abuse as abuse and they are not cognizant of how their abusive experiences have influenced their lives.

African American MSM and Sexual Abuse

Only a few studies have examined sexual abuse in African American MSMs. In a qualitative study of 87 African American MSM, childhood sexual abuse was reported by many of the participants as usually repetitive and prolonged and involving older adult male relatives (Tubman et al., 2001). In another study of 22 African American MSM in Georgia, participants reported that the age at sexual debut ranged from 6 to 22 years and half of this group reported

that it was involuntary (Waldner-Haugrud et al., 1997). Although, this is a very small sample, this is an extremely high prevalence of sexual abuse. YAAMSMs are particularly vulnerable because coerced adolescents tend to have higher numbers of sex partners than non-coerced adolescents (Cruz & Firestone, 1998). When adolescents initiate sex earlier in life, the number of potential lifetime sex partners increases, along with their risk for HIV as well.

Outcomes of Abuse

Childhood sexual abuse. Unprotected sex and childhood sexual abuse poses significant threats to the health of MSM and there has been a link established between CSA and HIV risk behaviors (Valleroy et al., 2000). Several studies have examined this topic. The outcomes of CSA include higher rates of suicide, rejection, and isolation, more lifetime sexual partners, higher alcohol and substance use and abuse, and higher symptoms of depression and anxiety. Those that have been abused are also more likely to experience revictimization later in life (D'Augelli, 2006a). One study found that gay and bisexual men with histories of unwanted sexual coercion were more likely to be physical assaulted by a male partner at some point in their lives (Walker et al., 2005). Furthermore, those male victims were more likely to be afraid to negotiate condom use with violent male partners. This is also true of those who have been revictimized. The more victimization that a person experiences, the more mental health issues they will probably develop at some point in their lives (Harawa et al., 2006). Among MSM, a history of sexual coercion has been associated with lower intentions to use sexual risk-resistance strategies (Greenwood et al., 2002). They may fear the potential consequences of requesting condom usage from their partners. As a result, they may engage in unprotected sex and possibly unprotected anal sex, which puts them at a greater risk for HIV.

Sexual Abuse and MSM. A Proquest search for articles written in the last ten years on sexual abuse and MSM yielded nearly 800 articles. However, many of those articles were the same studies in multiple articles. That search also included articles that were published outside of the United States. The number of articles shrank dramatically when the study populations focused on African American MSM. These studies have shown that MSM that have been sexually abused may also experience psychological effects such as depression and ongoing sexual problems such as an aversion to sex, or sexual promiscuity (Greenwood et al., 2002). These adverse effects may lead them to be overly dependent on their partners, which may lead to a greater chance of relationship violence (Voisin, 2002). It also puts them at an increased risk of acquiring HIV, if they do not feel empowered to negotiate condom use with their partners. The literature has also suggested that the effects of sexual abuse may be compounded by a perpetrator that is a family member (Zierler et al., 1991). In studies of outcomes of sexual abuse in this population, the majority of the perpetrators are male non-family members (Stokes & Peterson, 1998; J. K. Williams et al., 2004).

Family Support and HIV Risk

Research has been conducted on the role of families in nurturing and protecting adolescents against major health risk behaviors (Voisin, 2002). One study of 2,168 adolescents enrolled in the 7th, 9th and 11th grades found that males who were sexually experienced were more likely to use alcohol, and have a history of sexual abuse and have parents that did not closely monitor them (Small & Luster, 1994). In addition, the parents of sexually active males tended to have permissive values regarding adolescent sexual behavior. These cumulative factors put them at an increased risk of acquiring HIV. In another study of 171 African American and 187 Puerto Rican men, adolescent males who reported that they were emotionally satisfied with

their families were less likely to engage in HIV sexual risk behaviors such as sex without condoms and sex after taking drugs (Voisin, 2002). In this study, emotional satisfaction was equated to familial support. There was also a correlation between those who had large emotional family support networks and safer sex norms. This study concluded that when adolescents felt that their families provided satisfying emotional support that coincided with their goals, they were less likely to engage in peer networks with risky sexual norms. This is evidence that strong familial units can serve as a protective factor in the midst of potentially negative experiences.

Lesbian, Gay, Bisexual and Transgender Youth

Surprisingly, there has been little research conducted on the influence that parents and caregivers have on the health and well-being of lesbian, gay and bisexual adolescents (Arditti, 2005). Weak familial units can put lesbian, gay, bisexual and transgender adolescents at an increased vulnerability to emotional and psychological issues. Ryan et al (2009) concluded that young lesbian, gay, bisexual and transgender youth, who reported high levels of family acceptance, scored higher on self-esteem, social support and general health. Those that had low levels were significantly worse for depression, substance abuse, suicidal ideation, and suicide attempts. D'Augelli (2006) had similar conclusions in his study of 542 lesbian, gay, and bisexual youth. He found that family rejection was associated with low self-esteem and mental health symptoms. It is evident that the level of family support greatly influences the emotional, psychological, physical, and sexual health of adolescents.

African American Community, MSM, and Family Support

There are no quantitative studies that focus on the role of family support for MSM and HIV/AIDS risk behaviors within the African American community. Within the African

American community, family is very important in moderating the harsh discrimination and racism that African Americans face on a daily basis (Voisin, 2002; Bonhomme, 2006). African Americans have a more collective culture than Whites. In this culture, an individual is conscious about his/her actions and how those actions may impact the reputation within and of the group (Stokes & Peterson, 1998). Graham et al (2009) conducted focus groups with African American MSM and many of the remarks from the participants were very candid on how family influences their identity, self-esteem, and even physical and mental health. One participant said that, “Everybody looks for acceptance in your family and when your family shuns you, turns you away or purposely says they don’t like you or whatever, that will lead someone into depression” (p. 277). Another participant stated that “she [his mother] asked me if I had a girlfriend and I told my mom I didn’t like girls. And my dad would want to do the whole beating thing” (p. 279). Another participant from that study said that “All of a sudden you don’t know who you are because you are too busy trying to be what everybody wants you to be instead of being who you really want to be” (p. 279). Within the African American community, identifying as homosexual is contrary to the cultural expectations of procreation and the role of a man (Stokes & Peterson, 1998; Warren et al., 2008; J. K. Williams et al., 2004).

African Americans feel very connected to their ethnic community but they may experience a lack of acceptance from their families and social networks regarding their sexual identity. African American MSM may choose to hide their sexual orientation because they do not believe that they can maintain both their family’s expectation of a strong Black man and being gay (J. Williams et al., 2008). They feel that the two are mutually exclusive and they may hesitate to disappoint their families. The rejection, discrimination, and isolation from their

families may make it difficult for YAAMSM to develop their sexual identity, mental and emotional stability and maintain a healthy self-esteem and positive self-image.

Depression and African American MSM

Men who have sex with men consistently have higher rates of depression than the general population, ranging from 15-26% (Reisner et al., 2009). African American MSM have a greater burden regarding depressive distress and anxiety disorders compared to their gay and African American male counterparts (Graham et al., 2009; Michael Gorman, Barr, Hansen, Robertson, & Green, 1997; J. K. Williams et al., 2004). In a study of 197 African American MSM in Massachusetts, 33% of the sample had clinically significant depressive symptoms as measured by the Center for Epidemiologic Studies Depression scale (Reisner et al., 2009). These numbers could be high because African American MSM have to navigate homophobia, internalized homophobia, heterosexism, stigma, discrimination, and victimization, in addition to other life stressors of being an African American male in the United States. These experiences are probably compounded by African American MSM, who live within urban areas, because they are at an increased likelihood of experiencing a traumatic event, which would cause greater psychological distress.

Sexual Abuse, MSM and Depression

Childhood sexual abuse is a predictor of sexual behaviors and psychological distress including depression, post traumatic stress disorder and suicide attempts (Jinich et al., 1998; J. Williams et al., 2008). In a study of 137 HIV-positive gay and non-gay identifying African American and Latino MSM and MSMW with histories of CSA, the authors concluded that the average Center for Epidemiological Studies-Depression Scale (CES-D) score was 23 (Silvestre,

Hylton, Johnson, & Houston, 2006). The clinical cutoff score for the CES-D is 16 for mild depressive symptoms and 21 for moderate to severe symptoms, indicating high levels of depression within this sample.

African American Community and Alcohol and Substance Abuse

Injection drug use is the second highest mode of HIV transmission among African American men. In addition to the possibility of contracting HIV through sharing needles, injection drug users (IDUs) are more likely to exchange sex for drugs, have multiple partners and engage in unprotected sex. Furthermore, while being under the influence of drugs or alcohol, the IDU is more likely to engage in risky sexual activities. In a study of African Americans in the Southern United States, respondents reported that substance abuse is prevalent because of boredom, lack of recreational outlets and constrained economic, educational and employment opportunities (Adimora, Schoenbach, & Doherty, 2006).

MSM and Alcohol and Substance Abuse

Many MSM experience discrimination, rejection and prejudice from family and friends because of their sexual orientation. These men may use sex or drugs as a means to cope with these unresolved issues (Ryan et al., 2009). While gay and bisexual youth are “coming out”, they may become involved in problem behaviors at a very early age. Gay and bisexual youth are substantially more likely to use illicit drugs than heterosexual youth (Solorio et al., 2003). Half of a sample of 224 Latino and White lesbian, gay and bisexual, ages 21-25, demonstrated considerable mental health and substance abuse issues (Solorio et al., 2003). Gay and bisexual youth may use drugs to dissociate from reality and to escape mundane life concerns (Purcell, Moss, Remien, Woods, & Parsons, 2005). This trend continues as gay and bisexual young men

become men. It is plausible that the increased rates of substance abuse of gay and bisexual youth and men reflect the social norms of the gay subculture (McNall & Remafedi, 1999). The combination of substance abuse and sex increases the risk of becoming HIV infected because men may be more likely to engage in risky behavior. Boys that have been sexually coerced were more likely to report injection drug use, sharing needles, and drinking alcohol before sex (Tubman et al., 2001). Young MSM that have used marijuana, cocaine, amphetamines, barbiturates, heroin, LSD, volatile nitrites, tranquilizers, and methaqualone before or during sex have been associated with unprotected anal insertive (UAI) sex (Waldo, McFarland, Katz, MacKellar, & Valleroy, 2000). However, cocaine, LSD, methamphetamine and ecstasy have been known as the greatest predictors of UAI and other sexual risk taking endeavors (Stokes & Peterson, 1998). Methamphetamine is known to increase libido, the likelihood of sex with anonymous or casual partners, and decrease condom use. Illicit drug use before or during sex does increase the likelihood of unprotected receptive anal intercourse (Kalichman et al., 2001; Michael Gorman et al., 1997; Miller, 1999; Purcell et al., 2005). Drugs, in combination with sex, seem to intensify sexual sensations, sexual pleasure, and sexual satisfaction.

In different regions of the US, drug users prefer different types of drugs. For example, in the Midwest, crack cocaine and stimulants such as methamphetamine and cocaine predominate (Small & Luster, 1994; Stokes & Peterson, 1998). The method of ingesting the drug influences the extent that substance abusers are being put at risk for HIV. In one study of gay and bisexual men, the participants reported that they preferred to shoot drugs versus snorting them (Miller, 1999). Injecting drugs increases the likelihood of the substance user sharing needles, having multiple sex partners, low condom usage, and condom breakage. All of these behaviors increase

the likelihood of acquiring HIV because substance abuse lowers a person's inhibitions and increases the potential for risky behaviors such as unprotected sex (Miller, 1999).

Sexual abuse, MSM and substance abuse. YAAMSM that have a history of sexual abuse may be more likely to adopt drugs as a coping mechanism, if they are a member of a drug using community (Warren et al., 2008). If the social norms within the group promote HIV risk behaviors, then the person is more likely to comply with the social norms (Jinich et al., 1998). Studies have shown that men that have been sexually coerced as adults are more likely to use crack cocaine than men who have not been victimized (Waldo et al., 2000).

In a study of 2,600 homosexually active men in two cities, those that reported a history of sexual abuse were more likely to report more sexual encounters while feeling the effects of recreational drugs compared to non-abused men (Purcell et al., 2005). These men were also more likely to report an HIV-positive serostatus than their non-abused counterparts. Furthermore, there was a statistically significant relationship between sexual abuse history, HIV transmission, and engaging in sex while under the influence of alcohol or drugs.

African American, MSM and substance abuse. One study showed that behaviorally bisexual African American men use drugs as an excuse for lowering their inhibition and heightening their sexual desire (Warren et al., 2008). Substance abuse has also been used as an excuse for engaging in sexual behaviors that the man wanted to engage in anyway (Harawa et al., 2006). This is especially true with African American Behaviorally Bisexual Men, who do not identify as gay. Substance abuse, secrecy, and poverty contribute to the male to male sexual contact.

There is an association between the chosen type of substance that is abused and age. Younger MSM are more likely to use alcohol and marijuana more frequently (Harawa et al., 2004). Perhaps, it is because these substances may be more readily available to them and they are less expensive. Older MSM more frequently use ecstasy (Crosby, DiClemente, Yarber, Snow, & Troutman, 2008). It is unclear in the research whether the environment encourages drug use and discourages condom use or if the drugs are used to increase sexual pleasure. Therefore, depending on the environment, condoms may not be considered when engaging in sex. All party drugs, including methamphetamines, ecstasy, speed, uppers and LSD have shown to increase sexual risk taking when used before or during sex, despite the context of use (Harawa et al., 2004).

MSM and Condom Use

The Young Men's Survey concluded that one third of MSM self-identify as either heterosexual or bisexual and report high rates of unprotected sex (Rose & Mechanic, 2002). In addition, a study of more than 5,000 HIV-negative MSM found that those who were more likely to contract HIV were older men with large numbers of sex partners, young men who used 'party' drugs, and older men who used nitrate inhalants (Harawa et al., 2004). In a survey of 3,316 multiethnic MSM, aged 15 to 22 years old, the participants reported an average of six to seven male partners in their lifetime (Lenderking et al., 1997). This is extremely high considering that the average age of initiation was fifteen years old across racial/ethnic groups.

Sexual Abuse, MSM and Condom Use

Sexual abuse predicts sexual HIV risk behaviors and other sexual health outcomes (Brennan et al., 2007). In a study of 327 homosexual and bisexual men, more than a third of the

men reported a history of childhood sexual abuse (Kalichman et al., 2001). Those men were twice as likely to engage in unprotected receptive anal intercourse. Jinich et al (1998) also found that men with a history of sexual abuse were more likely to engage in unprotected anal intercourse with a non-primary partner compared to non-abused men. Homosexual and bisexual men who are at risk for HIV/STI are more likely to have experienced childhood sexual abuse (Brennan et al., 2007). It is also true that gay and bisexual men who have been sexually abused as children report high rates of STIs when compared to non-sexually coerced gay and bisexual men (Kalichman & Rompa, 1995). In a sample of 862 homosexual and bisexual men, those that reported CSA were more likely to be HIV positive, have a history of engaging in survival sex and currently used sex-related drugs compared to non-sexually coerced gay and bisexual men (Kalichman et al., 2001).

African American MSM and Condom Use

The Centers for Disease Control (CDC) (2007) reported that 48% of the African American men currently living with HIV/AIDS contracted HIV through male-to-male sexual contact. This male-to-male contact is the highest risk factor for contracting HIV for African American males, followed by injection drug-use, and then high-risk heterosexual sex, which includes unprotected sexual intercourse.

African American MSM are more likely to identify as homosexual or bisexual and less likely to identify as gay than White men (Warren et al., 2008). There is a strong stigma with being homosexual within the African American community (Battle & Bennett, 2000; Stokes & Peterson, 1998). African American MSM, who do not identify as gay may be less inclined to use condoms when having sex because then they have to acknowledge that they are gay (Warren et

al., 2008). African American MSM who do not identify as gay may feel that because they are the insertive partner, they are not gay. Studies have shown that African American men are less likely to have ever had receptive anal sex (CDC, 2009).

There are several reasons that African American MSM have reported that they do not use condoms including lack of pleasure, feeling emotionally closer to their partner, difficulty in convincing older men to use them and feeling like they are invincible (J. K. Williams et al., 2004). It is possible that many African American MSM do not use condoms because they think that it is highly unlikely that they will acquire HIV. In long term relationships, African Americans were the only racial/ethnic group in which a long-term relationship was associated with unprotected sex (Mays et al., 2004). Perhaps men become comfortable within their relationships and then have a false sense of security. The Mississippi State Department of Health and CDC surveyed 29 HIV-infected young African American MSM in a three-county Jackson area. They reported that 12 months before their diagnosis, 20 of the 29 participants engaged in unprotected anal intercourse but only three of the 29 perceived that they were at risk for HIV infection (Warren et al., 2008). These findings support the notion that these men do not feel that they are at risk for HIV, even though they engage in risky sexual behavior. A Bay area study found that half of the 250 African American MSM engaged in unprotected anal intercourse (Mays et al., 2004). When people do not feel like they are vulnerable to contracting HIV, they are less likely to take the precautions necessary to decrease the likelihood of acquiring HIV.

Summary

It is evident from the literature that sexually abused YAAMSM suffer ongoing adverse mental, sexual, emotional and physiological effects. When YAAMSM have experiences of

abuse, they self-medicate through substance abuse or engage in self-destructive behaviors such as unprotected sex and multiple sex partners. These behaviors are intensified when the abused YAAMSM is from a lower socioeconomic status, lacks family support, has low self-esteem and is a member of a drug using community. In the model for this study, I test the relationships between sexual abuse, depression, substance abuse and condom use. I propose that substance abuse and depression mediate the relationship between sexual abuse and condom use. In addition, I test whether family support moderates the effects of sexual abuse on depression and alcohol and drug abuse. I propose that if YAAMSM who experience sexual abuse and who report high levels of family support, will engage in lower levels of alcohol and drug abuse and will be less depressed than sexually abused YAAMSM who report low levels of family support.

CHAPTER III: METHODOLOGY

This chapter provides an in-depth description of the methodology employed in this study. I describe the study design, the sample, study assessments including the process for selecting the measures, data collection procedures, data cleaning, and a discussion of the analytical procedures for testing the proposed hypotheses. I also discuss the threats to the reliability and validity of the study and ethical issues.

Design of the Study

This study consisted of a secondary data analysis of a data set collected in 2009 by the Young Men's Health Study (Robin Miller, Principal Investigator), which was funded by the Michigan Department of Community Health. The principal aim of the larger study was to use the information collected to inform efforts to develop an effective response to the dramatic increase in HIV prevalence amongst YAAMSM in the state. Prior to implementation, all procedures were reviewed and approved by the Michigan State University Institutional Review Board (# 08-1129), and the Michigan Department of Community Health. The specific study that is the focus of this dissertation is an analysis of how the occurrence of sexual abuse influences the unprotected sex practices and coping mechanisms of a sample of 13-25 year old African American men who have sex with men in Michigan.

Data Collection Procedures

Recruitment

Participants were recruited from March to July 2009 as part of a comprehensive assessment of the needs of African American MSM in Michigan. The study team set out to recruit young African American men who have sex with men living in the state. The Michigan

Department of Community Health (2010) reports that 85% of the new HIV/ AIDS cases in the state occur among African American teenagers. This is high compared to African Americans over the age of 20, who make up 60% of the new HIV/AIDS cases. In fact, the number of new diagnoses has risen amongst teens for the fifth consecutive annual trend report. Of the newly diagnosed teen cases, 62% are African American MSM. This is astounding considering that the number of new HIV diagnoses amongst White MSM is decreasing in Michigan.

Participants were recruited from all over the state of Michigan, although initially Berrien, Ingham, Kent, Washtenaw, and Wayne counties were targeted because they have the highest HIV rates in the state. The original sampling strategy targeted these areas of the state where the HIV prevalence rates were the highest among African Americans and men.

In January 2010, the Michigan Department of Community Health published an updated report of the statewide HIV/AIDS prevalence. Berrien County had a HIV/AIDS prevalence rate of 300 per 100,000 residents. This county is probably disproportionately affected because it is geographically very close to Chicago, IL. Ingham, Kent, and Washtenaw counties had rates of 550, 1,020 and 610, respectively per 100,000 residents. Wayne County had the highest HIV prevalence rate in the state with 9,230. The Detroit metropolitan area contributes significantly to this number. If Detroit were excluded from the calculation, the rate would drop to 1,880, indicating that the HIV/AIDS prevalence is alarmingly high in the city of Detroit.

Inclusion Criteria

In order to be eligible for this study, participants needed to meet the following criteria: (1) self-identify as African American or Black in whole or in part, (2) born male, (3) had sexual contact with a man or a man and a woman within the past 24 months, (4) between the ages of 13

25, (5) currently live in Michigan, (6) not a previous study participant, and (7) able to understand and speak English.

Recruitment method

This study used a hybrid recruitment methodology combining multiple approaches. First, fliers and announcements were posted in businesses, community-based organizations, and other community settings that the target population frequented. The flier had a brief summary of the study, as well as a telephone number and confidential email address. If the person was interested in learning more about the study they contacted the study through one of these means. Second, venue-based sampling was also used (Hall, Byers, Ling, & Espinoza, 2007; Harawa et al., 2004; Harawa, Williams, Ramamurthi, & Bingham, 2006; Hart, Peterson, & Team, 2004; Kalof & Wade, 1995; Peterson, Bakeman, Stokes, & Team, 2001; Valleroy et al., 2000; Waldo, McFarland, Katz, MacKellar, & Valleroy, 2000; Warren et al., 2008). This is a popular recruitment method for hard to reach populations such as MSM of color. Interviewers targeted specific gay venues or gay events at specific times, where they were able to screen potential respondents on the spot. In order to ensure confidentiality during the screening process, interviewers presented the questions on the pre-screener in a place that was away from others and spoke in a low tone so others were not able to hear questions or responses. In this study, participants were recruited from 24 venues. Interviewers approached potential participants, introduced themselves, and asked the potential participant if they were interested in being a part of a Young Men's Health Study. If he verbally consented, then the interviewer did an eligibility screening on the spot. If the participant was eligible for the study, then he was given a card and could call to schedule an interview later.

Third, respondent-driven sampling (RDS) was used (Arreola, Neilands, Pollack, Paul, &

Catania, 2008; Arreola, Neilands, Pollack, Paul, & Catania, 2005; Brennan, Hellerstedt, Ross, & Welles, 2007; Catania et al., 2008; Dilorio, Hartwell, & Hansen, 2002; Jinich et al., 1998; O'Leary, Purcell, Remien, & Gomez, 2003; Stanley, Bartholomew, & Oram, 2004; Tarakeshwar, Hansen, Kochman, Fox, & Sikkemma, 2006; Williams et al., 2008; Zierler et al., 1991). RDS is an innovative and effective method of recruiting hard to reach populations (Heckathorn, 1997). RDS was originally developed as a part of an AIDS intervention project to reach injection drug users (Heckathorn, 1997). RDS helps researchers to overcome some of the biggest methodological challenges with this population such as trust, access to a "hidden" population, and confidentiality (Heckathorn, 1997). RDS is based on the assumption that peers have better access to recruiting each other, especially with "hidden" populations. RDS is based on the snowball sampling technique but it has been improved to reach a population of interest quickly. The first difference between RDS and snowball sampling is that while snowball sampling only requires an incentive for the participant, RDS provides a dual incentive for participation and for recruiting others (Heckathorn, 1997). The second difference between snowball sampling and RDS is that the participants are not asked to identify potential participants to the researcher: With RDS, the participant directly recruits his/her peers (Heckathorn, 1997).

It was expected that RDS would yield approximately 180 participants with six initial participants, called *seeds* (see Appendix A). This estimate was derived from each of the six seeds having three coupons and this process continuing for six phases $(6 \times 3)^6 = 180$. The limited number of coupons prevents the researcher from oversampling a particular network (Heckathorn, 1997). It also makes it easier for the researcher to generalize their findings to the general population. The researchers can also map the social networks of YAAMSM. This information could be useful in exploring the path of HIV prevalence.

The RDS process was planned to continue for six waves because that is what is required to approximate equilibrium between the sample and the population size. However, many of the initial seeds were unproductive so both more seeds and more waves were necessary. Ultimately, about 20% of the men were referred to the study by another young man and the rest were recruited by the sampling methods described earlier. The partial success of RDS with this sample could be indicative of the close social networks of the YAAMSM and the low level of comfort they felt disclosing their sexual activities with others. Most of the YAAMSM reported that the majority of their social network was comprised of heterosexuals and not other YAAMSM.

Recruitment Implementation

An initial sample of participants (seeds) was gathered from the referrals of a team of young men who served as co-investigators to the study. In addition, the research team utilized professional and social affiliations to recruit seeds at various places including organizations that serve YAAMSM, gay clubs, gay resource centers at universities, gay events like balls, and youth homeless shelters for GLBTQ.

The interviews were held at confidential locations at mutually convenient places for the interviewer and participant like libraries, community-based organizations, public parks, coffee shops, clubs, bars, house balls, respondents' homes and interviewers' cars. The interviews were digitally-recorded and lasted between 36-138 minutes. The average interview was 70 minutes. The variability in the length of the interviews was due to how the level of gregariousness of the participant. Each participant was given \$25 and three coupons to give to his potential eligible peers. The participant could receive \$5 for each legitimate coupon returned to the study team.

Measures

The Young Men's Health Study Interview Guide (YMHSIG) was developed using the literature available in this area of research and from interviews of 21 key informants from community-based organizations, county health departments, the state health department, and the Michigan HIV/AIDS Council. These key informants provided information about what they knew about YAAMSM, as well as what they would like to know. Young men co-investigators made the final decision about what would be asked, how it would be asked, and in what order.

The final YMHSIG instrument asked questions in a number of specific domains including basic demographics, employment and housing needs, health services utilization, sexual behaviors, and substance use and abuse. The survey included the following specific measures: an adapted Inventory of Socially Supportive Behaviors (ISSB) scale (Barrera, Sandler & Ramsay, 1981); a sexual behavior scale (Fishbein & Coutinho, 1997); an alcohol/drug abuse scale (Knight, Shrier, Bravender, Farfell, Bilt & Schaffer, 1999); the Center for Epidemiologic Studies Depression scale (CES-D), and questions pertaining to sexual abuse derived from the trauma and victimization scale (Widom, Dutton, Czaja, & DuMont, 2005). Next, each variable used in this study will be operationalized.

Basic Demographic Information

Basic background data were collected from each participant including his age, highest grade of school completed, current status in school, monthly income, self-reported gender and sexual orientation identity, and perceptions of how being an MSM affects how people treat him. Sample questions included: "What is the highest grade level of school that you have completed?" "Which of the following best describes your gender identity?" Sexual identity was asked about within the basic demographic information section. Within the sexual identity category, there was

an option for participant to self-select bisexual, heterosexual, and don't know/unsure, in addition to gay/homosexual. During the screening process, the potential participant was asked if he had sexual contact with a man within the last twenty-four months.

Family Support

This variable was adapted from the 40-item Inventory of Socially Supportive Behaviors (ISSB) (Barrera, Sandler & Ramsay, 1981). Family support consisted of five questions adapted from the ISSB and three questions that were created specifically for the target population. I will report the psychometric properties of this latent variable for family support in the Results section. Barrera, Sandler and Ramsay (1981), the creators of the ISSB, reported a Cronbach's alpha of .93 and .94 for the two administrations of the survey. Their study explored the perceived support of undergraduate psychology students. In all of the analyses for my study, it was typical that the Cronbach's alpha was slightly higher for the original study than subsequent studies because of differences in the sample populations (Kline, 2005). The specific Cronbach's alpha for each of the variables in the study are described below.

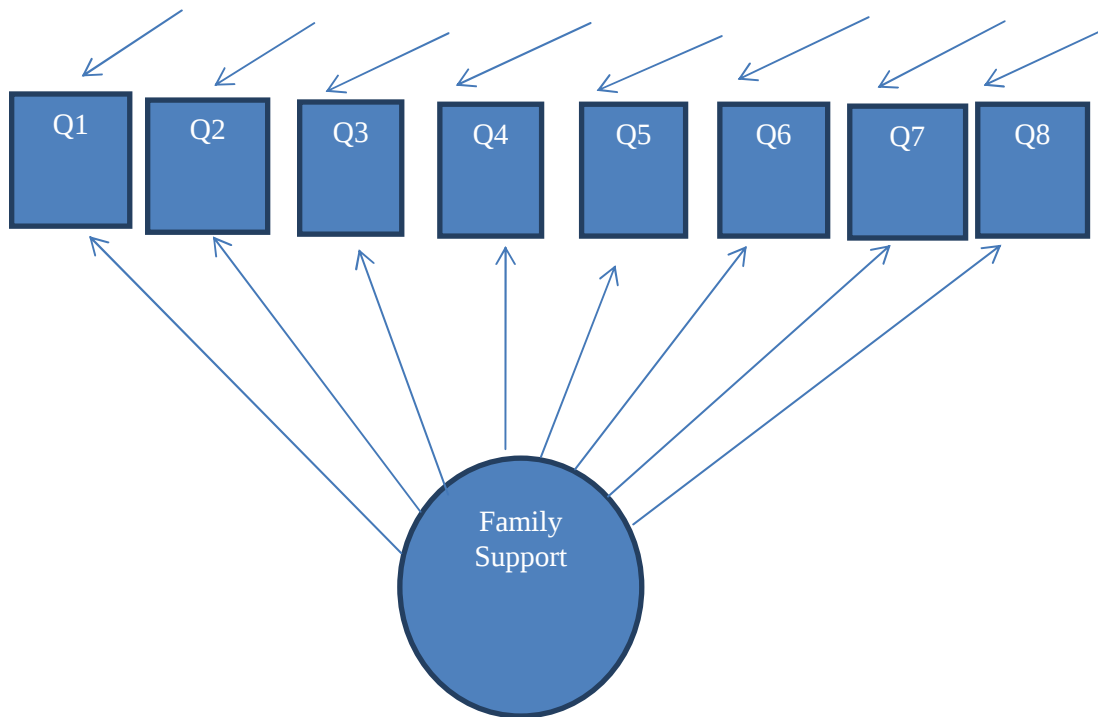
Based upon the importance of family in the literature, family support was strictly defined as biological relatives. Participants were asked to list all of the family members in their environment, who provided financial, health and emotional support by endorsing up to five possible categories: mother, father, sister, brother, and other adult relative. The participants were given one point for each category endorsed. Therefore, the score for each question could range from zero to five (0-5). The social support scale consisted of eight questions:

1. If you wanted to talk to someone about things that are very personal and private, or if a situation came up where you needed some advice, who would you talk to?

2. Who are the people who would give up some of their time and energy to help you-things like driving you someplace you needed to go, helping you do some work, going to the store for you and things like that?
3. If you needed to borrow \$25 or something valuable, who are the people who would lend or give you \$25 or something valuable?
4. Who are the people who you could expect to let you know when they like you ideas or the things that you do?
5. Who are the people that you could get together with to have fun or to relax?
6. Who are the people who you could go to for information about sex, birth control, AIDS and so on?
7. Who are the people who you would go to for information about drugs and alcohol?
8. Who are the people you feel safe talking to about having sex with men?

A latent variable for family support was created by using the scores from each of the eight questions as indicators in a confirmatory factor analysis. Figure 3.1 below shows the structure of the latent variable. The arrows flow from the latent variable toward the indicators because the model asserts that the latent Family Support variable causes the values observed on the indicators Q1 – Q8. The arrows at the top pointing down to the indicators indicate that there is also unexplained error variance in each of the indicators.

Figure 3.1. Composition of Family Support as a Latent Variable^a



^a For interpretation of the references to color in this and all other figures, the reader is referred to the electronic version of this dissertation

Substance Use

To assess substance use, participants were asked to indicate the number of times in the last 90 days that they used different substances including marijuana, powdered cocaine, crack/freebase, inhalants, PCP, heroin, Valium/Librium/Xanax, opioids, alcohol, party drugs such as uppers/stimulants (speed, meth, crystal, ice), ketamine (k, special K), hallucinogens (LSD, mushrooms) and ecstasy. The scale gives the participant the option to respond “never”, “less than once a month”, “once a month”, “2-3 times a month”, “once a week”, “2-6 times a week”, or “daily”. This variable was dichotomized to indicate if a participant had used the substance at

all in the last 90 days versus reported never using it. This particular variable was not included in the final model but in the results section is a summary of the substance usage of the sample broken down by history of sexual abuse.

Alcohol and Drug Abuse

Nine questions were asked to assess whether a participant used substances abusively (see Appendix E). It was developed by Knight, Shrier, Bravender, Farfell, Bilt and Schaffer (1999). The original scale was developed for use with 14-18 year old White, Latino, and African American youth. Examples of questions within this section include “Do you ever use alcohol or drugs to relax, feel better about yourself or fit in?” “Does your family or friends ever tell you that you should cut down on your drinking or drug use?” “Does alcohol or drug use cause your moods to change quickly, from happy to sad or vice versa?” Answers to this section of questions are either yes or no. Every yes response equals one point. Respondents’ scores could range from 0 thru 9, with 9 being the highest level of abuse. The alcohol/drug abuse score was computed based on the sum of the number of yes responses to the items on the scale. Knight, Shrier, Bravender, Farfell, Bilt and Schaffer (1999) determined that a score of 2 or higher indicated substance abuse requiring clinical intervention. The average score for this study was 3.15. The Cronbach’s alpha of the original study was .79. In this present study, it was .74.

Multiple Sex Partners

To assess the number of sex partners, participants were asked about the number of partners in the past 12 months. If the participant could not remember a specific number, the interviewers encouraged him to estimate. This question, as well as the initiation of sex and

condom use questions, were adapted from Fishbein and Coutinho (1997). They used this question in their National Institute of Mental Health multisite HIV risk prevention assessment.

Initiation of Sex

To assess the age of sexual initiation, respondents were asked, “How old were you the first time you had vaginal or anal sex?” These responses were utilized to examine if there were any differences between the age of sexual initiation of abused versus the non-abused group.

Condom Use

In order to assess unprotected sex, the participants were asked, “In the last 90 days, how often did you use condoms when you had vaginal or anal sex?” The possible answers were never, rarely, some of the time, most of the time and all of the time. These responses were, respectively coded as integers from 0-4. Therefore, those with higher scores protected themselves more often than those with lower scores. This variable was utilized as a continuous outcome variable in the model.

Survival Sex

This variable was measured by asking participants if during the past year, they were ever given drugs, money, food, clothes or a place to stay by a man in exchange for sex. If the participant reported that he had engaged in survival sex, he was asked how many times he had done this in the last year and how frequently he used condoms. The survival sex variable was dichotomized based on the respondents’ answers. Persons that reported that they had not engaged in survival sex were labeled a 1 and those that reported that they had engaged in

survival sex were labeled a 2. These answers were recoded into a dummy variable with no as a reference category (0=no survival sex, 1=engaged in survival sex).

Depression

The Depression scale (see Appendix H) within the YMHSIG was originally created by the National Institute of Mental Health. It is called the Center for Epidemiologic Studies Depression (CES-D) scale. It has been widely used for over thirty years to assess depression by having the respondent rate a series of statements according to whether he experiences them “rarely or none of the time”, “some of the time”, “occasionally” or “most of the time” during the past week. The score at the end is a depression quotient that indicates the severity of depression. A score of 16 indicates a clinically significant level of psychological distress (Freeman, Sammel, Lin, & Nelson, 2006) indicating that the respondent likely meets the criteria for depression.

One of the earlier studies that utilized the CES-D, found that the measure consistently reports high internal consistency ranging from .85 to .90 across various studies (Roberts, 1980). For this study, the Cronbach’s alpha for Depression was .82.

Sexual Abuse

A history of sexual abuse was assessed by asking one question: “Has anyone—male or female—ever forced or coerced you to engage in unwanted sexual activity?” If the participant answered yes, then he was included in the abused group. In this study, sexual abuse was coded as a dichotomous variable, where 0 = no and 1 = yes. I also ran descriptive statistics on the earliest age of reported abuse and the perpetrators of the abuse.

The preliminary data analysis employed the standard statistical tests including frequency distributions, correlations, and F-tests. Descriptive statistics were used to summarize sample observations. In order to address the research questions, and the subsequent hypotheses, several t-test, one way analysis of variance (ANOVA), and structural equation modeling analyses were performed testing the differences between groups, i.e., participants who were sexually abused and those who were not, while considering the variables of alcohol/drug abuse, family support, and depression. Before the variables were entered into a full model, the results from the statistical tests assisted in testing the hypotheses for this study.

Data Quality Assurance

In order to ensure that there were no statistical violations during the analyses, careful consideration was given to the quality of the data. Prior to performing SEM, simple ANOVAs, chi-square tests, and independent sample t-tests were conducted on the independent and mediating variables. I examined differences between the abused and non-abused groups on the main study variables which were: alcohol and other drug abuse, depression, family support, sexual abuse, plus the dependent variable condom use. Additionally, the amounts of missing data and the frequency distributions were examined to ensure that there were no highly skewed distributions or potential violations of the key assumptions of the models used in the main analyses. Multicollinearity was also assessed through examining the correlation matrix below in Table 3.1. Typically, multicollinearity presents a problem with conducting certain mathematical operations when the intercorrelations are greater than .85 (Kline, 2005). I found that there were no intercorrelations that were equal to or greater than .5. Therefore, I can conclude that multicollinearity is not an issue.

Table 3.1 below describes the correlations of the variables in the model. There are several relationships that are significant: family support and depression, and alcohol and other drug abuse and condom use. The questions that were composites of family support were highly correlated with each other.

Table 3.1

Correlation Matrix of the Variables in this Study (N=156)

Correlations													
		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Depress	Subabuse	Cndmuse	Fam Sexabuse Supp
Q1 a	Pearson	1	.20	.32	.29	.24	.38	.32	.41	.03	-.06	-.06	-.02 .09
	Correlation												
	Sig. (2-tailed)		.01**	.00**	.00**	.00**	.00**	.00**	.00**	.76	.50	.49	.80 .28
Q2 b	Pearson	.20	1	.51	.35	.32	.30	.36	.34	-.01	-.05	.05	-.24 -.09
	Correlation												
	Sig. (2-tailed)	.01		.00**	.00**	.00**	.00**	.00**	.00**	.94	.54	.51	.00** .29
Q3 c	Pearson	.32	.51	1	.44	.33	.27	.38	.26	-.12	-.14	-.07	-.05 .06
	Correlation												
	Sig. (2-tailed)	.00**	.00**		.00**	.00**	.00**	.00**	.00**	.14	.08	.39	.55 .49
Q4 d	Pearson	.29	.35	.44	1	.43	.37	.40	.27	.18	-.00	.12	.02 -.11
	Correlation												
	Sig. (2-tailed)	.00**	.00**	.00**		.00**	.00**	.00**	.00**	.02*	.26	.15	.84 .16
Q5 e	Pearson	.24	.32	.33	.43	1	.37	.41	.20	.16	-.11	.01	-.03 -.17
	Correlation												
	Sig. (2-tailed)	.00**	.00**	.00**	.00**		.00**	.00**	.01**	.05*	.16	.91	.76 .03*
Q6 f	Pearson	.38	.30	.27	.37	.37	1	.43	.34	.05	-.09	-.01	-.04 -.04
	Correlation												
	Sig. (2-tailed)	.00**	.00**	.00**	.00**	.00**		.00**	.00**	.51	.28	.86	.64 .61

Table 3.1 (continued)

		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Depres s	Subabuse	Cndmuse	Sexabuse	Fam Supp
Q7 ^g	Pearson Correlation	.32	.36	.38	.40	.41	.43	1	.38	.03	-.07	-.02	-.03	-.07
	Sig. (2-tailed)	.00**	.00**	.00**	.00**	.00**	.00*		.00*	.72	.41	.84	.75	.40
Q8 ^h	Pearson Correlation	.41	.34	.26	.27	.20	.34	.38	1	.05	-.09	.09	-.11	-.17
	Sig. (2-tailed)	.00**	.00**	.00**	.00**	.01**	.00*	.00**		.57	.25	.29	.17	.03*
Depress ⁱ	Pearson Correlation	.03	-.01	-.12	.18	.16	.05	.03	.05	1	.12	.09	.07	-.24
	Sig. (2-tailed)	.76	.94	.14	.02*	.05*	.51	.72	.57		.15	.27	.38	.00**
Subabuse ^j	Pearson Correlation	-.06	-.05	-.14	-.09	-.11	-.09	-.07	-.09	.12	1	.23	-.10	-.09
	Sig. (2-tailed)	.50	.54	.08	.26	.16	.28	.41	.25	.15		.01**	.21	.25
Cndmuse ^k	Pearson Correlation	-.06	.05	-.07	.12	.01	-.01	-.02	.09	.09	.23	1	-.11	-.14
	Sig. (2-tailed)	.50	.51	.39	.15	.91	.86	.84	.29	.27	.01**		.18	.09

		Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Depres s	Subabuse	Cndmuse	Sexabuse	Fam Supp
Sexabuse ^l	Pearson	-.02	-.24	-.05	.03	-.03	-.04	-.03	-.11	.07	-.10	-.11	1	.08
	Sig. (2-tailed)	.80	.00**	.55	.84	.76	.64	.75	.17	.38	.21	.18		.34
FamSupp ^m	Pearson	.09	-.09	.06	-.11	-.17	-.04	-.07	-.17	-.24	-.09	-.14	.08	1
	Sig. (2-tailed)	.28	.29	.49	.16	.03*	.61	.40	.03*	.00**	.25	.09	.34	

Note. ^aSomeone to talk to about private matters. ^bSomeone would give time & energy to help you. ^cSomeone would give you \$25 or something valuable. ^dSomeone would tell you if he/she likes your idea. ^eSomeone you could have fun or relax with. ^fSomeone would give you information about sex, birth control or AIDS. ^gSomeone would give you information about alcohol or drugs. ^hSomeone you could talk to about having sex with men. ⁱDepression. ^jAlcohol & drug abuse. ^kCondom use. ^lSexual abuse. ^mLatent variable of family support. * $p < .05$. ** $p < .01$.

Missing Data

I obtained the data as a complete data set from the larger study and upon receipt; the data had already been coded and cleaned. Values were considered missing under the following conditions: (a) if there was no response; (b) if the question was skipped, the data cleaner listened to the audio files to verify the participants' responses; and (c) if the question did not apply to the participant. Throughout the data set, missing data were either labeled -7 (skipped) or -9 (missing). -7 meant that the participant decided not to answer that question and -9 means that the information was just not available. Before the data was exported into Mplus, system missing values were coded -10 because Mplus does not recognize -7 or -9 as system missing. Inside Mplus, all values of -7, -9, and -10 were treated as missing.

In this sample, there were very few missing cases for each variable. There were several variables with no missing cases: sexual abuse, depression, substance abuse, education, gender identity, employment, current school attendance, residency, and age of sexual initiation. The variable with the most missing variable was condom use, with 11 missing cases. Survival sex had the next most missing cases with seven. Sexual identity had one missing case and there were two missing cases for number of sex partners in the past 12 months.

Little (1988) proposed a test for the assumption that missing data mechanisms are missing completely at random (MCAR). His test was based on the likelihood ratio statistics. MCAR can be confirmed by dividing respondents into those with and without missing data. These cases were missing completely at random. In SPSS, the Missing Values Analysis option supports Little's MCAR test. If the p value for Little's MCAR test is not significant, then it can be assumed that the data is MCAR.

As a result of the Little MCAR test Chi-square not being significant ($p=.52$), the data were missing completely at random. There was only one variable that had over one percent missing values: condom use. Condom use had 11 missing responses from participants. This was 7.05% of the total of the sample. This was a result of participants not answering this question, which could be due to respondents' sensitivity with the question. As a result of low levels of missing values, no systematic patterns were detectable. Unlike SPSS and many other software packages, Mplus does not automatically drop cases that have missing values on some of the variables. It uses the information present in incomplete cases when estimating models via the robust maximum likelihood method. This is generally accepted as being superior to listwise deletion of incomplete cases, which is what SPSS does.

In conclusion, these preliminary analyses were useful to determine that missing values probably did not pose a problem in the subsequent modeling. These preliminary analyses suggest the inclusion of condom use, sexual abuse, depression, alcohol/drug abuse and family support in the development of the model. Survival sex was not included in the model due to missing data and low involvement (.08%). The next section will address the development of this model.

Data Analysis

Outliers and Normality

Histograms of four continuous variables that were utilized in the covariate and path analyses of the model are pictured below. These include depression, alcohol and other drug abuse, condom use and family support. Alcohol and drug abuse as well as family support were normally distributed. However, depression and condom use were skewed. When I examined the

relationship between depression and condom use, I found that using the log-transformations of those variables did not reduce the skewness of them. It also did not help me to detect any effects in the models.

When a variable is normally distributed, both skewness and kurtosis have values of zero (Tabachnick & Fidell, 2007). If the ratio of skewness/standard error of skewness is less than 3, then the variable is approximately normally distributed (Kline, 2005). That would mean that it is not so skewed that it should cause problems for most statistical procedures that expect normally distributed data. There is less agreement about the kurtosis index, which is the ratio of kurtosis/standard error of kurtosis. Absolute values between 8.0 and 20.0 can be considered extreme (Kline, 2005). A conservative rule is that absolute values over 10 indicate a problem and values over 20 are more serious problems.

Substance Abuse had a skewness of 3.01 and a kurtosis of .94. Family support had a skewness of 1.66 and a kurtosis of 2.24. The kurtosis index for depression and condom use did not present a problem (.71 and .64 respectively). However, the skewness of depression and condom use indicate a more serious problem (5.1 and 6.09 respectively). Therefore, I transformed the variables by adding one and taking the natural log to identify if there would be a more normally distribution. There was no significant difference with the results once the log transformations were substituted into the full saturated model. Therefore, I decided to use the raw data.

The frequency distribution of each of the variables was examined to check for outliers. Outliers were considered those cases that were more than three standard deviations from the mean. The outliers were removed and the analyses for the full saturated model with the family support variable were run without them. The revised model revealed that the outliers did not

significantly influence the relationships within the model. Therefore, the full saturated model included the outliers.

Figure 3.2 Distribution of Depression Scores

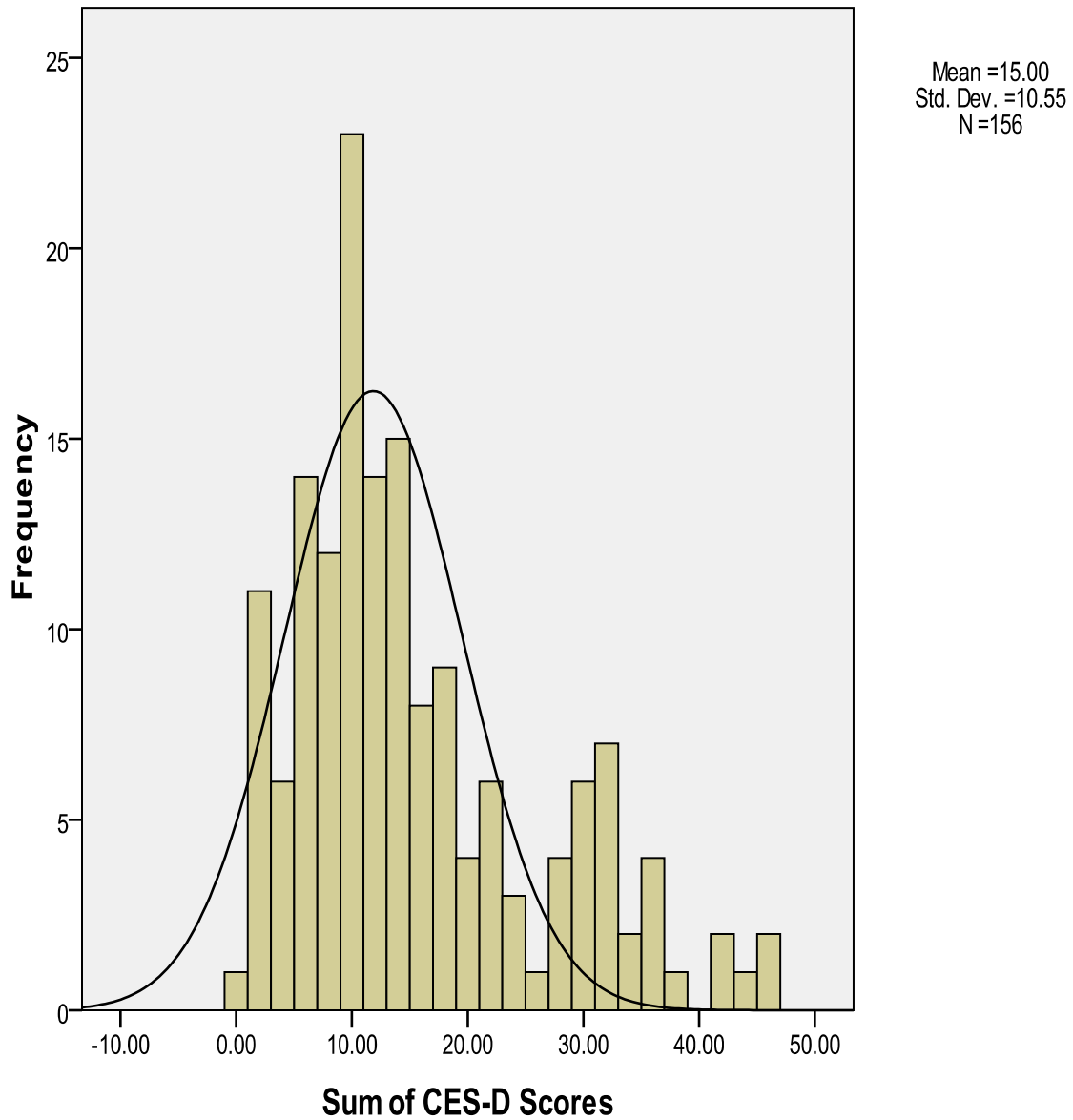


Figure 3.3 Distribution of Alcohol and Other Drug Abuse Scores

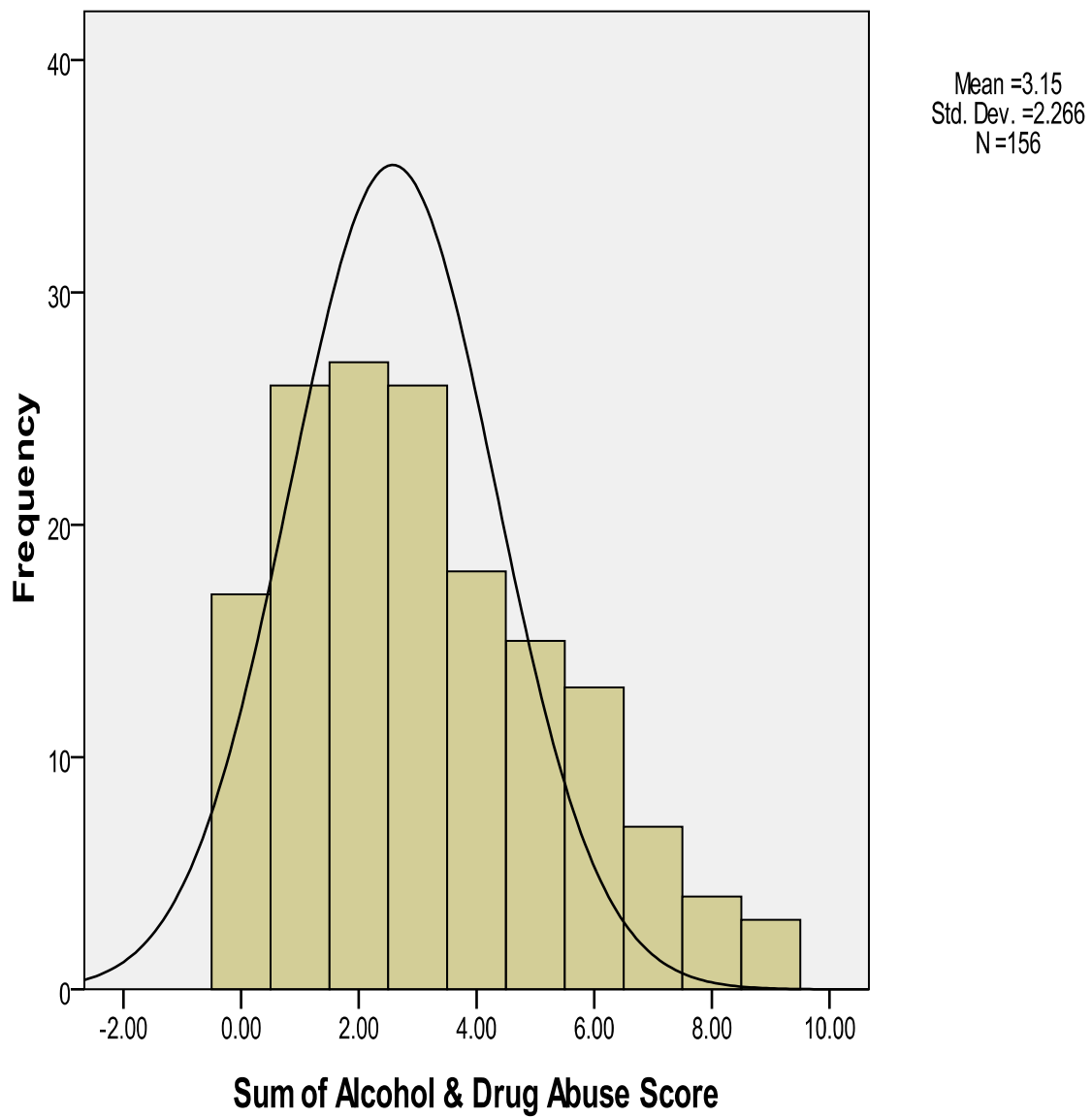
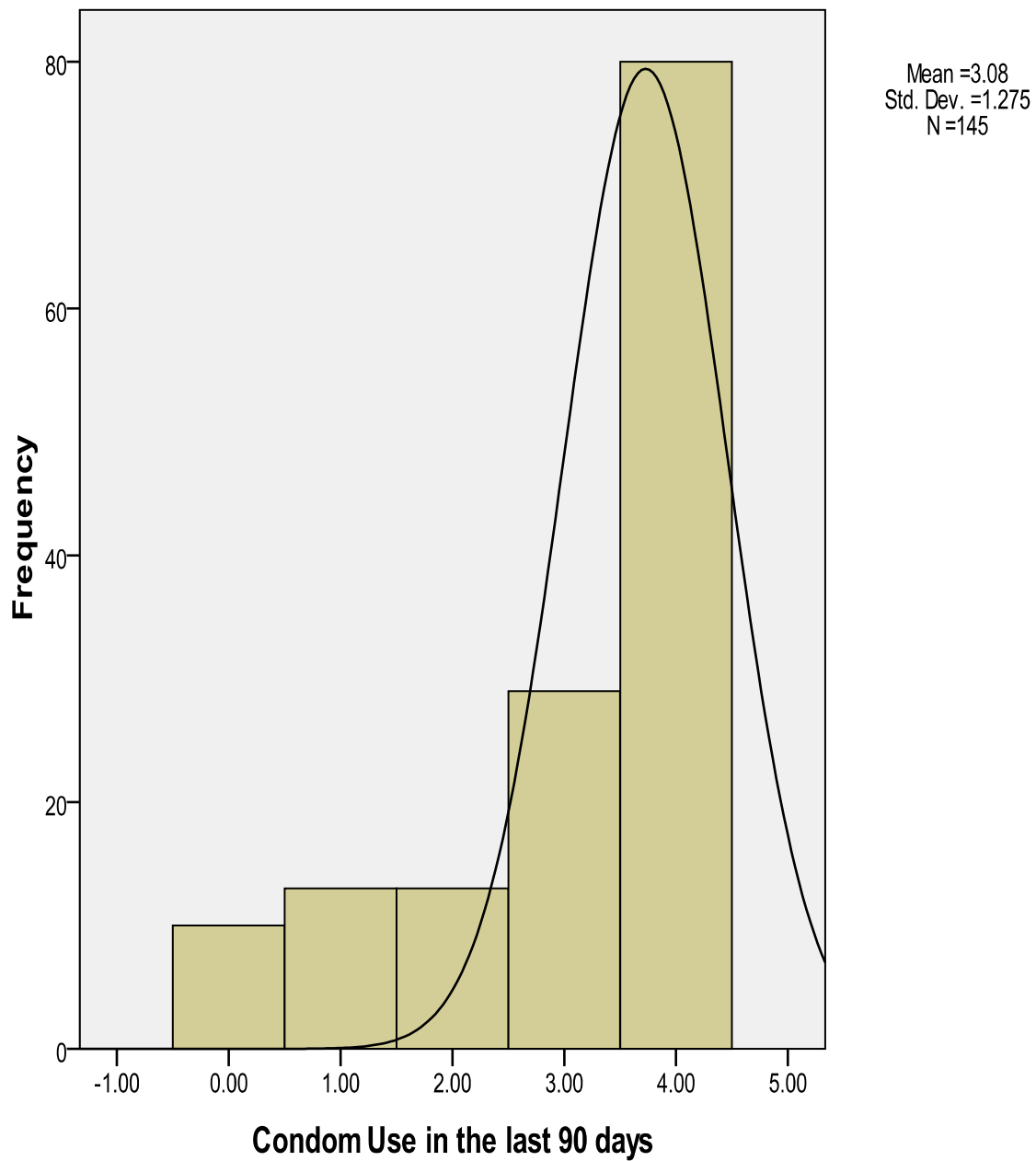
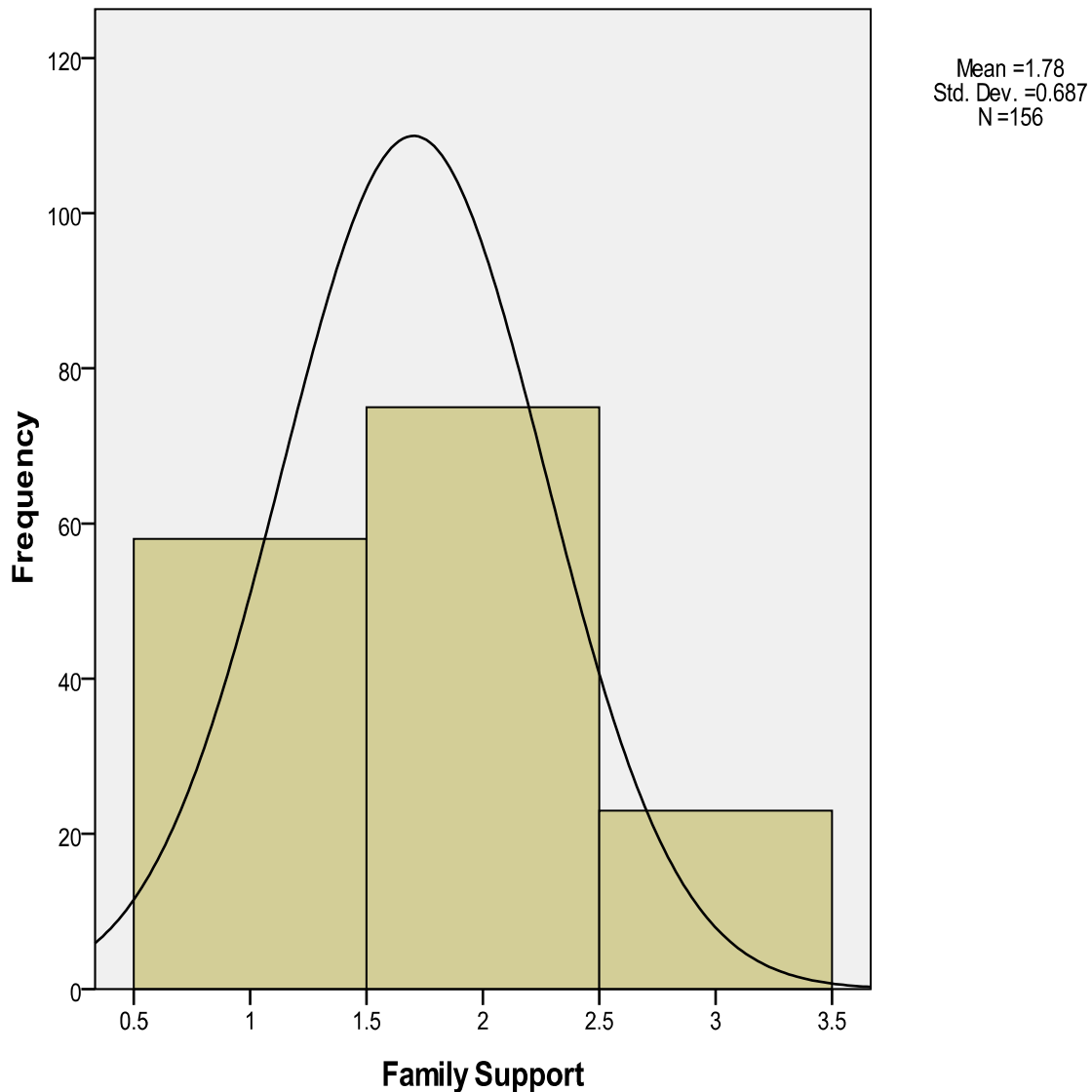


Figure 3.4. Distribution of Condom Use Scores



0=Never, 1=Rarely, 2=Some of the time, 3=Most of the time, 4=Always

Figure 3.5. Distribution of Family Support Scores



Structural Equation Modeling (SEM)

Structural equation modeling (SEM) was chosen as the best method to test the mediation and moderation hypotheses in this study for several reasons. Firstly, SEM handles observed and latent variables very well in causal modeling. It also can do confirmatory factor analysis and test the structure of the factor loadings and intercorrelations associated with latent variables.

Considering the “medium” size of the sample population of this study, SEM can garner

reasonably stable results (Kline, 2005). It can also conduct different statistical tests to examine the effects within the model. Although, there are several SEM computer programs available, all models were tested using Mplus (Muthen & Muthen, 2010) with robust maximum likelihood. This software provides many notable features such as a special maximum likelihood estimation method for raw data files that have missing at random observations and standard errors for non-normal data (Kline, 2005). There is also a robust estimation of test statistics. The unstandardized parameter estimates are reported for all of the models. For CFA, Model fit (Brown, 2006; Kline, 2005; Ryan, Huebner, Diaz, & Sanchez, 2009) was assessed by the chi-square difference of fit test (seeking $p\text{-value} < .05$), the comparative fit index and the Tucker-Lewis index (seeking .9 or higher) and the root mean square of approximation (seeking $< .10$). These fit statistics were not available for the structural models due to limits in the software and in the current methods literature.

When utilizing SEM, sample size is an important consideration. Muthen & Muthen (2002) concluded that over the years the standards have changed regarding the necessary sample size to conduct SEM. There were several rules of thumb that were proposed such as 5-10 observations per parameter, 50 observations per variable, or no less than 100 observations. However, there have been studies that have used as few as 35 subjects with a latent variable model (Tanaka, 1987). Typically, SEM has required over 150 subjects (Kline, 2005). Based on this recommendation, this study does have the necessary sample size to run the saturated and modified models.

Summary of Descriptive Statistics

A total of 352 men were screened for the study but 21% were not eligible: 53% were too old, 14% had not had sex with a man in the prior 24 months, 14% had never had sex with a man,

and 8% had already completed an interview at the time of the screening. Out of the 197 interviews that were conducted, 17 interviews were considered ineligible either because it was a duplicate interview or because more than 50% of data were missing. This readjusted the potential sample size to 180. For the purposes of these analyses, those men who did not report that they were sexually active in the previous 90 days were excluded from the sample, causing 22 individuals to be excluded. An additional case was excluded from the sample because he did not answer whether or not he had been sexually abused. Therefore, the final sample was composed of 156 cases.

CHAPTER IV: RESULTS

This chapter is organized in four sections: first descriptive statistics and sample demographics; second, the Confirmatory Factor Analysis results that demonstrated that family support can be treated as a latent variable; third, the full model testing family support as a moderator; and fourth, a simplified model without treating family support as a moderator. A *p-value* criterion of .05 was used to evaluate whether hypotheses were supported or not.

Descriptive Statistics

In this sample, 50 (32.1%) YAAMSM reported being sexually abused and 106 (67.9%) comprised the non-abused group of YAAMSM. Table 4.1 shows the demographics of the sample and compares the non-abused and abused groups. There were no significant differences between those groups with respect to the highest level of educational attainment, gender identity, employment, current enrollment in school, residency, age or income. There was a marginally significant difference $\chi^2(3) = 7.20, p = .07$ in the distribution of sexual identity between the abused and non-abused groups. The abused group had fewer gay participants and more bisexual participants. In regards to substance use, alcohol and marijuana are the most frequently used substances amongst YAAMSM. However, marijuana was the only substance where there was a significant difference between abused and non-abused YAAMSM $\chi^2(1) = 3.80, p = .05$. Sixty-two percent of those that were abused reported marijuana usage in the last 90 days compared to 45% of the non-abused group. Throughout the examination of the study variables, it was determined that there was very little difference between the groups and as a result, these factors were not controlled for the subsequent analyses. In addition to these variables, it is important to note that the overall average depression score was 15. A score of 16 indicates a clinically

significant level of psychological distress and 33% of the sample had a depression score of 16 or greater. This helps to give a synopsis of the mental health of the sample.

Table 4.1

Characteristics for Non-Abused (n=106) and Abused (n=50) YAAMSM

Variable	Not Abused		Abused		Total	Statistical Test
	n	% ^a	n	% ^a		
Highest Education Attained						$\chi^2(2)=2.76$, $p=.25$
Some high school	24	22.6	11	22	35	
High School graduate	29	27.4	8	16	37	
College or beyond	53	34	31	19.9	84	
Sexual Identity						$\chi^2(3)=7.20$, $p=.07$
Gay	82	78.1	31	63.3	113	
Bisexual	19	18.1	16	32.7	35	
Heterosexual	3	2.9	0	0	3	
Other	1	1	2	4.1	3	
Gender Identity						$\chi^2(3)=1.72$, $p=.42$
Male	96	90.6	48	96	144	
Male to Female Transgender	8	7.5	2	4	00	
Other	2	1.9	0	0	2	

Table 4.1 (continued)

Variable	Not Abused		Abused		Total	Statistical Test
	n	% ^a	n	% ^a		
Employed						$\chi^2(1)=.17,$ $p=.68$
Yes	61	57.5	27	54	88	
No	45	42.5	23	46	68	
Currently in school						$\chi^2(1)=.26,$ $p=.61$
Yes	66	62.3	29	58	95	
No	40	37.7	21	42	61	

Table 4.1 (continued)

Variable	Not Abused		Abused		Total	Statistical Test
	n	% ^a	n	% ^a		
Residency						$\chi^2(6)=8.2$, $p=.22$
Live with parents	40	37.7	17	34.7	57	
Live with other relatives	11	10.4	9	18.4	20	
Rent a dorm room	0	0	2	4.1	2	
Rent an apartment/house/Condo	44	41.5	14	28.6	58	
Own a condo/house	4	3.8	2	4.1	6	
Couch surfing at relatives' or friends' homes	6	5.7	4	8.2	10	
Other	1	.9	1	2	2	
	M	SD	M	SD		
Age	20.44	2.45	20.68	2.23		$t(154)=-.26$, $p=.79$
Income	654.41	893.34	614.08	916.33		$t(154)=-.58$, $p=.56$

Table 4.1 (continued)

	Not Abused		Abused				
Variable	n	% ^a	n	% ^a	Total	% ^a	Statistical Test
Substance Use in the last 90 days							
Alcohol	83	78.3	37	74	120	76.92	$\chi^2(1)=.35$, $p=.55$
Marijuana	48	45.28	31	62	79	50.64	$\chi^2(1)=3.80$, $p=.05$
Cocaine	2	1.90	4	8	10	6.41	$\chi^2(1)=3.43$, $p=.06$
Inhalants	4	3.77	1	2	5	3.21	$\chi^2(1)=.36$, $p=.55$
Ecstasy	4	3.77	5	10	9	5.77	$\chi^2(1)=2.42$, $p=.12$
Hallucinogens	1	.94	0	0	1	.64	$\chi^2(1)=.48$, $p=.49$
Stimulants	1	.94	0	0	1	.64	$\chi^2(1)=.48$, $p=.49$
Xanax	3	2.83	2	4	5	3.21	$\chi^2(1)=.15$, $p=.70$
Opioids	5	4.72	2	4	7	4.49	$\chi^2(1)=.04$, $p=.81$
Other drugs ^c	4	3.77	3	6	7	4.49	$\chi^2(1)=.20$, $p=.66$

^a Percentages were calculated after excluding cases with missing data from the denominator. ^b Crack, ketamine (special K), PCP and heroin were included in the survey but there were no

respondents that reported that they had used these in the last 90 days. ^c Other drugs' were left to the respondent to define.

Table 4.2 provides an overview of the sexual activities of the study participants. Only 13 people out of 156 reported that they had engaged in survival sex. This is an unbalanced distribution, which made it difficult to use the variable in SEM analyses because it had so little variability. There was not a significant difference in condom use or number of sex partners between those that were abused and those not abused. However, there were a greater percentage of non-abused men who reported always using condoms (61.5% versus 42.9%) compared to the sexually abused YAAMSM. This could be due to random chance because it was not statistically significant. There was a significant difference $\chi^2(2) = 9.08, p = .01$ between the groups in regards to the age of sexual initiation. Fifty percent of those who were abused reported that they initiated sex before 13 years old compared to 31.1% of the non-abused. Also, almost twenty percent of the non-abused had their first sexual experience between the ages of 18-21 versus four percent of the abused.

Table 4.2

Demographics of Not-Abused (n=106) and Abused (n=50) YAAMSM

Variable	Not Abused		Abused		Mean	SD	Statistical Test
	n	% ^a	n	% ^a			
Survival Sex							$\chi^2(1)=.01$, $p=.91$
No	92	91.1	44	91.7			
Yes	9	8.9	4	8.3			
Condom Use							$\chi^2(4)=4.97$, $p=.29$
Never	5	5.2	5	10.2	1.28	3.08	
Rarely	7	7.3	6	12.2			
Some of the time	8	8.3	5	10.2			
Most of the time	17	17.7	12	24.5			
Always	59	61.5	21	42.9			

Table 4.2 (continued)

Variable	Not Abused		Abused		Mean	SD	Statistical Test
	n	% ^a	n	% ^a			
Age of sexual initiation							$\chi^2(2)=9.08, p=.01$
13 and under	33	31.1	25	50	14.1	3.5	
14-17	52	49.1	23	46			
18-21	21	19.8	2	4			
Number of sex partners in previous 12 months							$\chi^2(1)=2.26, p=.13$
1 partner	26	24.5	7	14	13.2	5.67	
2 or more partners	80	75.5	43	86			

^a Percentages were calculated after excluding cases with missing data from the denominator.

Table 4.3 provides more detailed information about the abused group. The majority (74%) of the abused YAAMSM reported that they were first abused when they were younger than age thirteen. The average age at first abuse was ten years old (SD=3.92). Family (42%) and non-familial adults (42%) were most often reported as the perpetrators.

Table 4.3

Demographic Characteristics of Abused YAAMSM (n=50)

Variable	Abused	
	n	% ^a
Age of first abuse		
13 and under	37	74
14-17	7	14
18-21	5	10
Perpetrators of abuse		
Partner	4	8
Family	21	42
Peer	8	16
Other	21	42

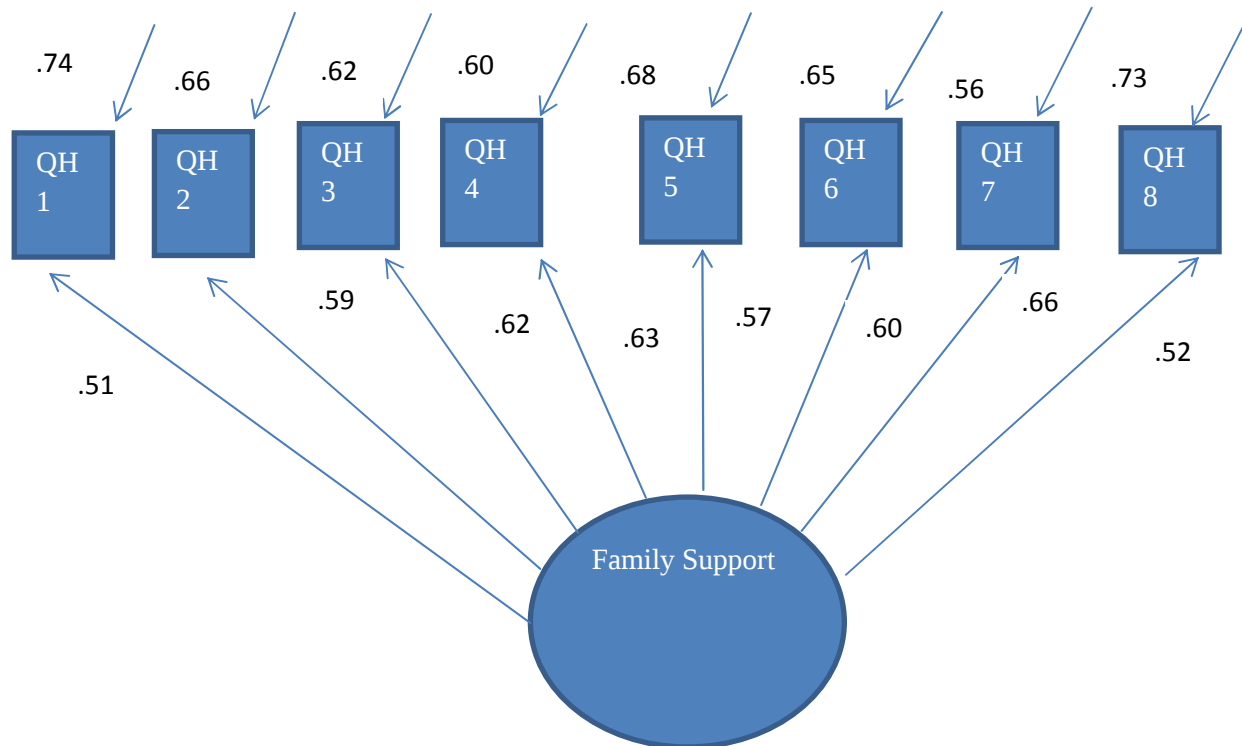
^aThe total percentages of perpetrators of abuse may not add up to 100 because the answer options were not exclusive.

Confirmatory Factor Analysis of Family Support

A confirmatory factor analysis was conducted to measure how consistently the responses from the eight questions predicted the latent variable, family support. Below Figure 4.1 is an annotated path diagram that has the parameter estimates for family support. It is evident that these eight questions are all adequately contributing to family support. The social support scale in this study had a composite reliability of .69. This level of reliability is typically deemed acceptable. This alternative measure of reliability to the Cronbach's alpha was calculated by taking the sum of the factor loadings on the eight questions and then dividing it by the sum of the

factors and the sum of the residual variances (Brown, 2006). This procedure is more accurate than Cronbach's alpha because it is calculating composite reliability as opposed to total scale reliability (Helms, Henze, Sass, & Mifsud, 2006). This alternative measure of reliability is also a direct way to take the CFA results and compute a reliability estimate.

Figure 4.1. Parameter Estimates of Family Support



Model Fit Summary of the CFA of Family Support

Below are four model fit statistics of the CFA model of family support. The Chi-Square Difference of Fit test is utilized to compare the chi-square difference between two hierarchical models (Kline, 2005). In this CFA of family support, the comparison is between the latent factor model and an independence model. If the p-value is less than .05, then there is a significant difference between the two models. This means that the full model is a better fit than

the simplified. However, if the p-value is greater than .05, then there is not a significant difference in the model. The chi-square difference of fit test revealed that the p-value was .012. The significant difference indicates that the latent factor model fits the data better than an independent model. Therefore, I reject the hypothesis that the items are uncorrelated in favor of the hypothesis that a latent factor causes them to be correlated.

After conducting confirmatory factor analysis, the goodness of fit indices revealed mixed results. The Chi-square test is a measure of absolute fit. It is a common method of testing the hypothesis that an unconstrained model fits the covariance/correlation matrix and the proposed model. If the model is a good fit to the data, the chi-square value should not be significant. A problem with this test is that the larger the sample size, the more likely the rejection of the model and the more likely a Type II error (Brown, 2006). The chi-square fit index is also very sensitive to violations of the assumption of multivariate normality. The CFA model yielded a Chi-square estimate of $\chi^2(20) = 39.07, p=.01$, indicating that the absolute fit of the model is not as good as we would prefer.

The Comparative Fit Index (CFI) measures fit relative to a more constrained model rather than absolute fit. The CFI is known to be a good index for use with small samples (Brown, 2006). It ranges from 0 to 1 and .95 (or .9 or higher) indicates a good fit. Values of .90 or higher indicate acceptable fit, if other indices also show reasonable fit (Brown, 2006). The CFI for this model was .93, which is a reasonable fit.

The Tucker-Lewis Index (Ryan et al.), which is also referred to as the non-normed fit index was also utilized to evaluate the fit of this latent construct of family support. The TLI is different from the CFI because the values can go beyond 0 and 1. However, it is interpreted

similar to the CFI-meaning that a value closer to 1 represents good model fit. For the model, the TLI was .91. Values greater than .90 indicate an adequate fit. This model is considered acceptable.

The Root Mean Square Error of Approximation (RMSEA) estimates the extent to which the latent factor model reasonably fits the population. RMSEA of .06 or less indicates good fit, and .08 -.10 suggest mediocre fit (Brown, 2006). The RMSEA value of the model was .078 (90% CI: [.04, .11]) with a *p-value* of .10. It did not significantly differ from the target value of .05 that is generally assumed to indicate close fit. These values revealed that the RMSEA is acceptable. The latent variable was a mediocre fit to the data. Based on the findings from the five fit indices described above, I conclude that the latent variable is an adequate measure of family support. Four of the five fit statistics concluded that the latent factor model was an acceptable fit. Below Table 4.4 is the correlation matrix for the data used in this study so that the results can be duplicated.

Table 4.4

Correlation matrix of the data (n=156)

	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Depres s	Sub Abuse	Cndm Use	Sex Abuse
Q1 ^a	1	.20	.32	.29	.24	.38	.32	.41	.03	-.06	-.06	-.02
Q2 ^b	.20	1	.51	.35	.32	.30	.36	.34	-.01	-.05	.05	-.24
Q3 ^c	.32	.51	1	.44	.33	.27	.38	.26	-.12	-.14	-.07	-.05
Q4 ^d	.29	.35	.44	1	.43	.37	.40	.27	.18	-.09	.12	.02
Q5 ^e	.24	.32	.33	.43	1	.37	.41	.20	.16	-.11	.01	-.03
Q6 ^f	.38	.30	.27	.37	.37	1	.43	.34	.05	-.09	-.01	-.04
Q7 ^g	.32	.36	.38	.40	.41	.43	1	.38	.03	-.07	-.02	-.03
Q8 ^h	.41	.34	.26	.27	.20	.34	.38	1	.05	-.09	.09	-.11
Depress ⁱ	.03	-.01	-.12	.18	.16	.05	.03	.05	1	.12	.09	.07
SubAbus ^j	-.06	-.05	-.14	-.09	-.11	-.09	-.07	-.09	.12	1	.23	-.10
CndmUse ^k	-.06	.05	-.07	.12	.01	-.01	-.02	.09	.09	.23	1	-.11
SexAbus ^l	-.02	-.24	-.05	.02	-.03	-.04	-.03	-.11	.07	-.10	-.11	1

Note. ^aSomeone to talk to about private matters. ^bSomeone would give time & energy to help you. ^cSomeone would give you \$25 or something valuable. ^dSomeone would tell you if he/she likes your idea. ^eSomeone you could have fun or relax with. ^fSomeone would give you information about sex, birth control or AIDS. ^gSomeone would give you information about alcohol or drugs. ^hSomeone you could talk to about having sex with men. ⁱDepression. ^jAlcohol & drug abuse. ^kCondom use. ^lSexual abuse.

Preliminary Hypotheses and Results

Below are the results of simple tests of selected hypotheses that are also answered by the SEM model. The value in reporting these is that they are simpler ways of testing and report some

of the direct links in the model. Seeing these helps clarify why many of the direct effects do not turn out significant in the SEM.

Hypothesis 1: *Sexually abused YAAMSM will report a higher incidence of depressive emotions within the past week than will non-sexually abused YAAMSM.*

To test this hypothesis, an independent samples t-test was conducted. The analyses failed to detect a statistically significant relationship between sexual abuse and depression in this sample of YAAMSM, $t(81.05) = -1.35, p = .18$. The mean CES-D score for non-abused YAAMSM was 14.16 (SD=9.77) and the abused 16.78 (SD=11.95). This hypothesis was not supported.

Hypothesis 2: *YAAMSM who have been sexually abused will report higher alcohol and substance abuse than will non-sexually abused YAAMSM.*

An independent samples t-test failed to detect a difference in the use of alcohol and other drugs, $t(154) = -1.11, p = .27$ between the two groups. The average score for non-abused YAAMSM was 3.01 (SD=2.26) and the abused YAAMSM was 3.44 (SD=2.27). These means are very similar. This hypothesis was not supported.

Hypothesis 3: *YAAMSM who have been sexually abused will report a higher incidence of unprotected anal or vaginal sex (condom use) than will non-sexually abused YAAMSM.*

An independent samples t-test was utilized to assess this hypothesis. There was a statistically significant difference between abused (M=2.78, SD=1.39) and non-abused YAAMSM (M=3.23, SD=1.19) on condom use $t(143) = 2.05, p = .04$. Therefore, this hypothesis was supported.

Hypothesis 4: *YAAMSM who have higher depressive scores on the CES-D will report a higher incidence of unprotected anal or vaginal sex (condom use).*

A Pearson correlation was used to test this hypothesis. The results revealed that depression was not significantly correlated with condom use ($r = -.08$, $N = 145$, $p = .36$). Therefore, this hypothesis was not supported.

Hypothesis 5: *YAAMSM who report a higher usage of alcohol and drugs will have a higher incidence of unprotected anal or vaginal sex (condom use).*

To test this hypothesis, a Pearson correlation was estimated. Alcohol/drug abuse was significantly correlated with condom use and had a negative relationship ($r = -.16$, $N = 145$, $p = .05$). Higher substance abuse scores were associated with lower levels of condom use. This hypothesis was supported so this path will be included in the full model.

Full Model Analyses

In order to address this study's research questions in a full model, SEM analyses were conducted. The model included five variables: sexual abuse, unprotected sex, alcohol/drug abuse, family support and depression. These variables were chosen due to the results of the previous analyses and their theoretical importance in the literature as significant covariates and potential moderators of unprotected sex. Hypothesis 6 and 7 were tested by including Family Support in the full model as a moderator of the effect of sex abuse on depression and then also on alcohol and drug abuse. Depression and alcohol and drug abuse also serve as mediators in the model. Depression is a mediator between the path from sexual abuse to depression to condom use, as well as the path from sexual abuse to depression to alcohol and drug abuse to condom use. Alcohol and drug abuse mediates the relationship between sexual abuse and condom use.

When family support is included in the model, as a moderator, with these two mediators that means that the model includes moderated mediation effects (Preacher, Rucker, & Hayes, 2007). In other words, this model tests the extent to which family support moderates how strongly sex abuse affects depression and alcohol and drug abuse. Figure 4.2 below presents a graphical depiction of the theoretical model.

Figure 4.2 Theoretical Model of Sexually Abused YAAMSM

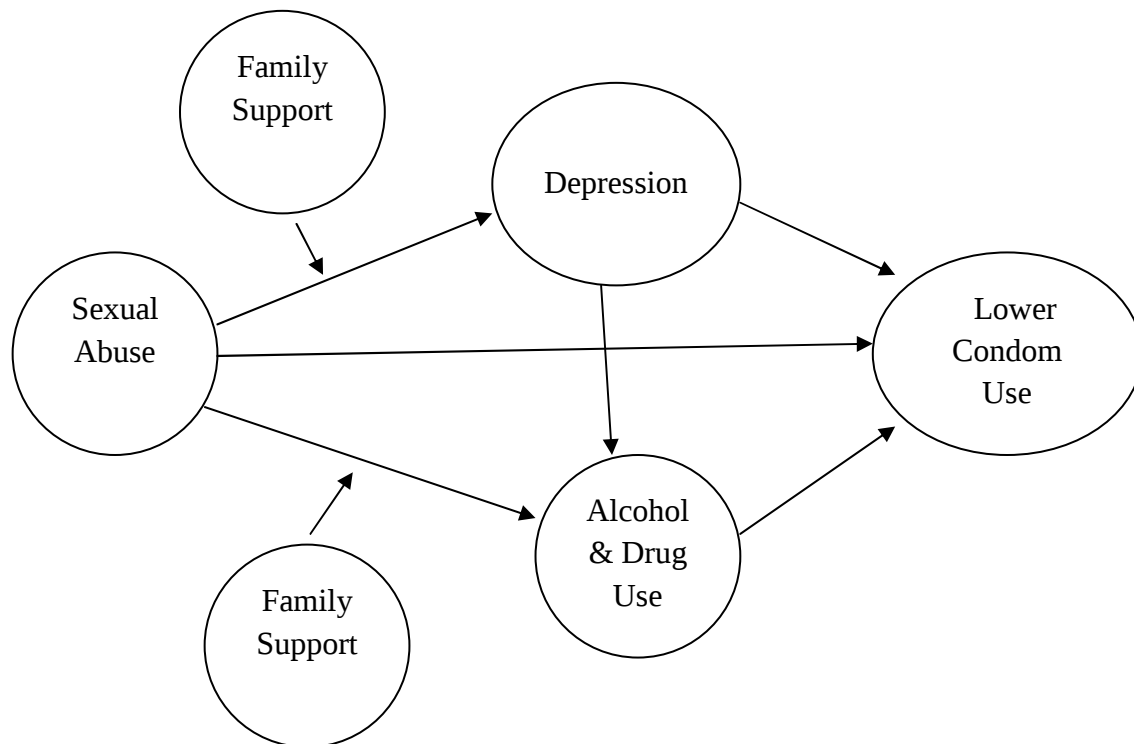
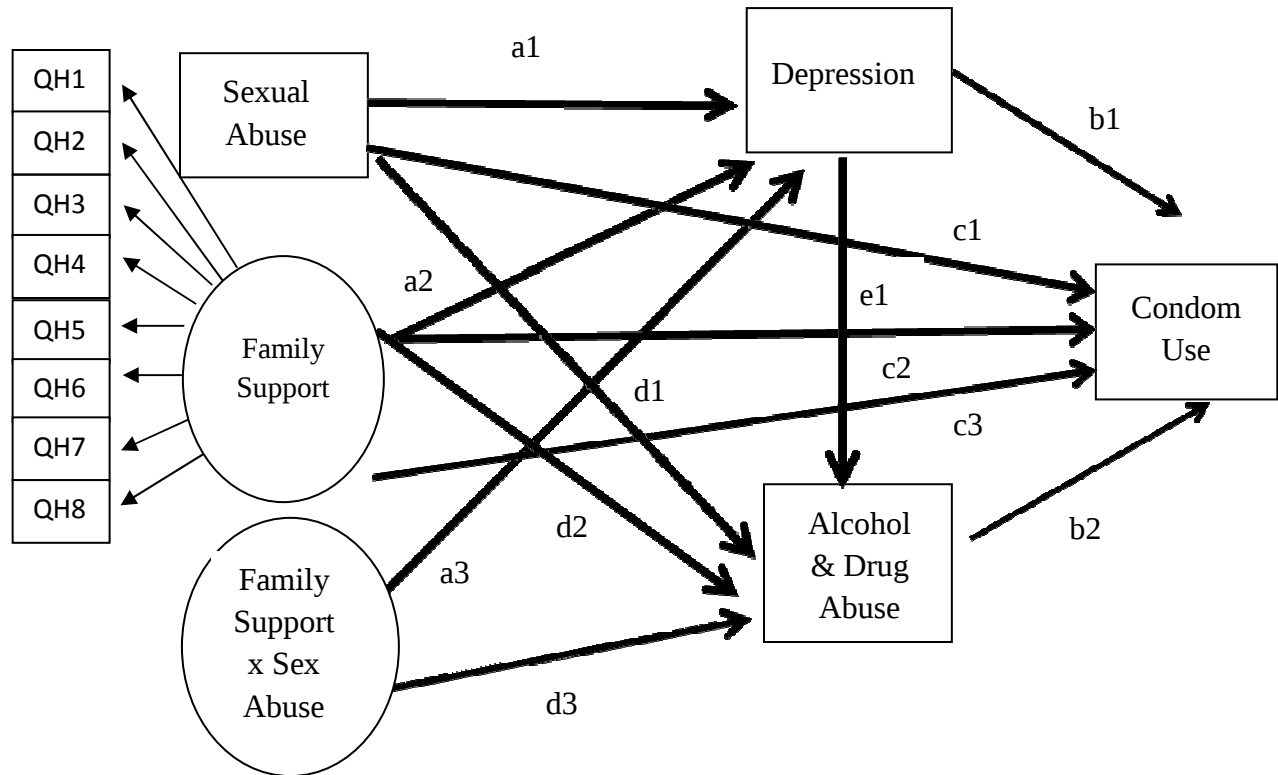


Figure 4.3 shows how the full theoretical model was tested. Preacher, Rucker and Hayes (2007) provided the recommendations on how to test the moderated mediation hypotheses and Figure 4.3 reflects that set of recommendations. The labeling of the paths in Figure 4.3 is based on the notation of Preacher et al (2007) and was adopted to make it easier to discuss how to calculate conditional indirect effects. This is not the standard notation for labeling path diagrams in SEM. Path a1 represents the first hypothesis in the prior section of the results. Path d1 is the

second hypothesis. Path c1 is the third hypothesis. Paths b1 and b2 are hypotheses four and five respectively.

Figure 4.3 Path Diagram for Testing the Theoretical Model



The additional hypotheses below will be tested in the full model.

Hypothesis 6: *YAAMSM who have been sexually abused but have a high level of family support will report lower depressive scores on the CES-D than sexually abused YAAMSM who have low levels of family support.*

Hypothesis 7: *YAAMSM who have been sexually abused but have a high level of family support will report lower Alcohol and Drug Abuse scores than sexually abused YAAMSM who have low levels of family support.*

Hypothesis 8: *Depression has an effect on condom use that is mediated by alcohol/drug abuse.*

Hypothesis 9: *Depression is also a mediator of the effect of sexual abuse on condom use.*

Hypothesis 10: *Alcohol and drug abuse partially mediates the effect sexual abuse has on condom use.*

The last model presented in this chapter is identical to the full model but excludes the interaction of sexual abuse and family support, which removes the influence that family support, as a moderating-mediator potentially has on the model. The unstandardized regression coefficients are reported in these models.

Model One: Full model with Family Support as a Moderator

Table 4.5 shows the parameter estimates and statistics of the full model. The results showed that the significant relationships were between depression and alcohol and drug abuse (coefficient=0.05, $t = 2.72$, $p=.01$), family support and condom use (coefficient=.56, $t = 1.97$, $p=.05$), and the interaction term between family support and sexual abuse and condom use (coefficient=-1.29, $t = -2.10$, $p=.04$). This means that as a participant's depressive score increased, his alcohol and substance abuse score would also increase. In addition, those who had more family support were more likely to use condoms. The relationship between sexual abuse and condom use approached significance (coefficient=-.39, $t = -1.72$, $p=.09$). Neither sexual abuse nor depression were significant direct predictors of condom use. In fact, the coefficient for the direct path from depression to condom use was -.01, which indicated a very weak relationship.

Table 4.5

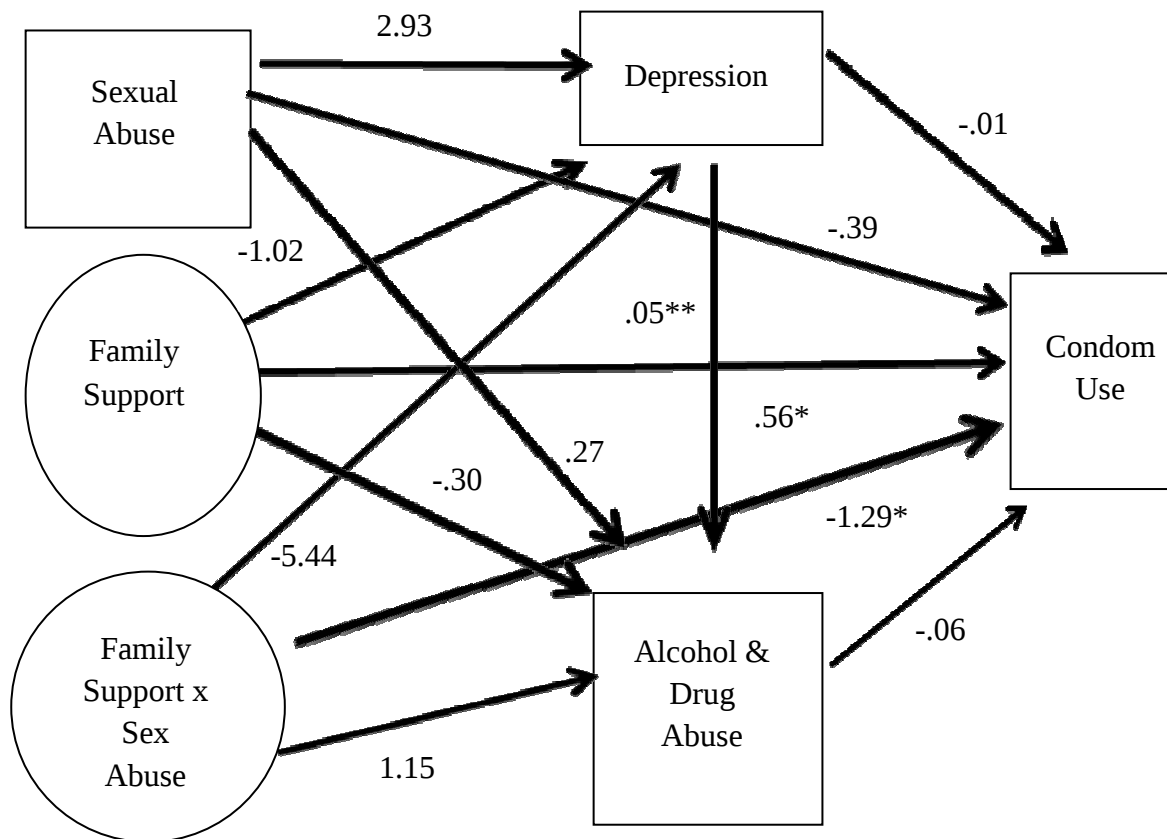
Estimates of Full Model with Family Support

Path	Estimate	95% Confidence Interval	<i>p-value</i>
SA ^a → D ^b	2.93	[-.56, 6.43]	.13
FS ^c → D	-1.02	[-5.84, 3.81]	.64
FS x SA ^d → D	-5.44	[-13.08, 2.20]	.18
D → CU ^e	-.01	[-.03, .01]	.50
AA ^f → CU	-.06	[-.15, .03]	.20
SA → CU	-.39	[-.83,.04]	.09
FS → CU	.56	[-.06, 1.17]	.05
FS x SA → CU	-1.26	[-2.30,-.27]	.04
SA → AA	.27	[-.48,1.01]	.48
FS → AA	-.30	[-1.35,.75]	.56
FS x SA → AA	1.15	[-.48,2.77]	.14
D → AA	.05	[-.02,.09]	.01

Note. ^aSexual Abuse. ^bDepression. ^cFamily Support. ^dInteraction term of family support & sexual abuse. ^eCondom use. ^fAlcohol and Drug Abuse.

Figure 4.4 below shows the statistics of the full model. It was hypothesized that family support would moderate depression and alcohol/drug abuse for those who have been sexually abused. The interaction term of family support and sexual abuse was not a statistically significant predictor of either depression (coefficient=-5.44, $t = -.46$, $p=.18$) or alcohol/drug abuse (coefficient=1.15, $t = 2.72$, $p=.14$).

Figure 4.4. Estimates of Full Model with Family Support



Conditional Indirect Effects

It is essential to measure the effect of conditional indirect effects in order to clarify the actual nature of a significant moderated mediation effect. I examined the effects of sexual abuse (based on different levels of family support) on condom use and the conditional indirect effects of the mediational pathways through depression, alcohol and drug abuse or through both of them. In order to assess the conditional indirect effects of family support in this model, the mean was set to zero and I calculated high and low values of family support by adding or subtracting one standard deviation from the mean, yielding values of .439 and -.439 respectively. Table 4.6 below displays the results from the analysis, which were based on the recommendations of

Preacher et al (2007). For example, among the participants who had low levels of family support, depression did not mediate the effect of sexual abuse on condom use (coefficient = 0.04, $p = .56$). There were no statistically significant conditional indirect effects of family support on any of the mediational pathways.

Table 4.6

Conditional Indirect Effects of Sexual Abuse on Condom Use through Depression and Alcohol Abuse at Different Levels of Family Support

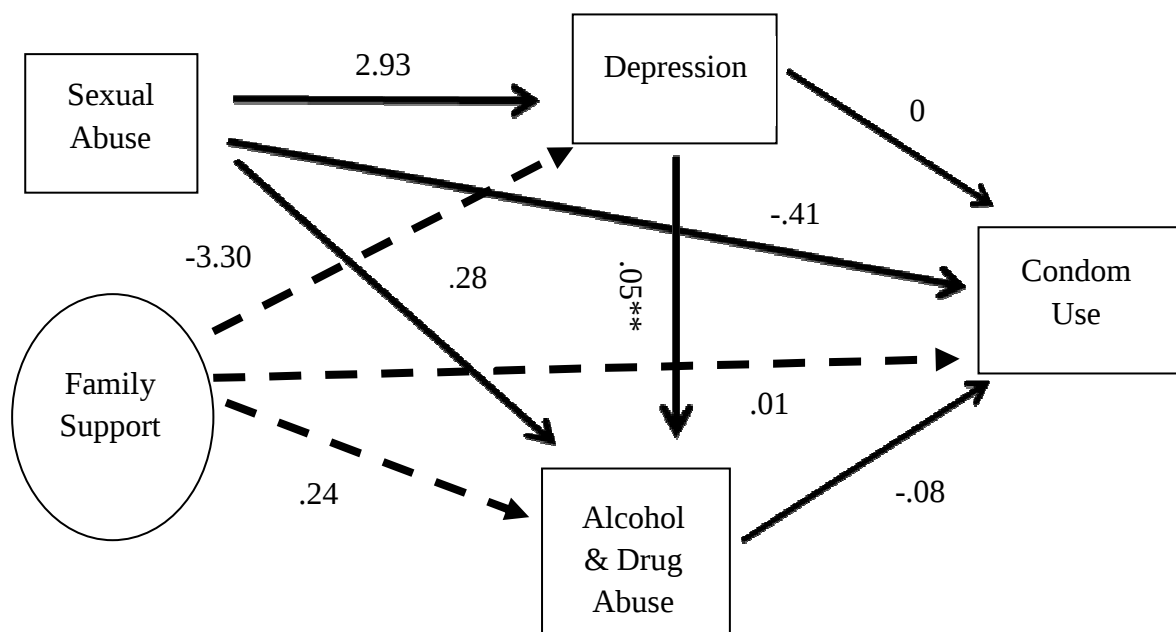
Path	Estimate	95% Confidence Interval	<i>p-value</i>
FS ^a low ^b : SA ^c →D ^d →CU ^e	-.04	[-.17, .09]	.56
FS mean ^f : SA→D→CU	-.02	[-.10, .05]	.57
FS high ^g : SA→D→CU	0	[-.04, .03]	.82
FS low: SA→AA ^h →CU	.01	[-.05, .08]	.68
FS mean: SA→AA→CU	-.02	[-.07, .04]	.55
FS high: SA→AA→CU	-.05	[-.13, .04]	.28
FS low: SA→D→AA→CU	-.02	[-.05, .02]	.36
FS mean: SA→D→AA→CU	0	[-.03, .01]	.35
FS high: SA→D→AA→CU	0	[-.01, .01]	.80

Note. ^aFamily support. ^bLow family support. ^cSexual abuse. ^dDepression. ^eCondom use. ^fAverage family support. ^gHigh family support. ^hAlcohol and drug abuse.

Model Two: Full Model Without Family Support as a Moderating Mediator

Figure 4.5 is a graphical depiction of the full model after the path coefficients from the FSxSA interaction term were constrained to be zero. This removed the moderator effect of family support in the model. Table 4.7 has the specific parameter estimates of the model. The only path that remained significant was the relationship between Depression and alcohol/drug abuse (coefficient=.05, $t = 2.64$, $p=.01$). There were three relationships that were close to significance: alcohol/drug abuse and condom use (coefficient=-.08, $t = -1.83$, $p=.07$), sexual abuse and condom use (coefficient=-.41, $t = -1.80$, $p=.07$) and family support and depression (coefficient=-3.30, $t = -1.77$, $p= .08$).

Figure 4.5. Estimates of the Full Model without the Interaction Term



Note. The paths with dashed arrows were constrained to zero to remove the moderator effect of family support

Table 4.7

Estimates of Full Model Without Family Support

Path	Estimate	95% Confidence Interval	<i>p-value</i>
SA ^a → D ^b	2.85	[-.91,6.61]	.14
FS ^c → D	-3.37	[-7.10,.36]	.08
FS x SA ^d → D	0	[0,0]	999 ^e
D → CU ^f	0	[-.02,.02]	.84
AA ^g → CU	-.08	[-.17,.01]	.07
SA → CU	-.41	[-.86,.04]	.07
FS → CU	.01	[-.57,.58]	.98
FS x SA → CU	0	[0,0]	999 ^a
SA → AA	.29	[-.45,1.02]	.44
FS → AA	.24	[-.57,1.05]	.56
FS x SA → AA	0	[0,0]	999 ^a
D → AA	.05	[.01,.08]	.01

Note. ^aSexual abuse. ^bDepression. ^cFamily support. ^dInteraction term of family support and sexual abuse. ^eThese p-values are due to the fact that these relationships were constrained to zero. ^fCondom use. ^gAlcohol and drug abuse.

Model Fit Statistics

Many of the traditional fit statistics were not available because I had to use a latent variable as a moderator. Also, the list of fit statistics is limited to the current state of the methods literature, as well as the software that was used for analysis. Mplus provides the log-likelihood statistic, the AIC and BIC. The log-likelihood statistic compares two models and the model with the lowest statistic is the model that best fits the data. The Akaike information criterion (AIC)

utilizes the same criteria as the log likelihood statistic in that the smallest estimate represents the best approximation to the true model. The min (AIC) is the model selection approach is wholistic, rather than piecemeal (Gagne & Dayton). The Bayesian information criterion (De Groot, Dilorenzo, Sylla, & Bick, 2006) is similar to the AIC but it offers more of a penalty for adding parameters than the AIC does.

The full model fit statistics revealed the following. The log likelihood values for the full and reduced model were -2942.83 and -2948.55 (respectively). The chi-square difference test statistic was 10.79 with three degrees of freedom and the p-value of the log likelihood ratio was .01. The p-value indicates that the likelihood ratio test that formally compares the full model to the reduced model says the full model fits better, but that is inconsistent with the fact that neither the interaction terms that represent the moderator effects nor the conditional indirect effects are significant. The AIC for the full model was 5969.66 and the simplified model was 5975.11. The BIC for the full model was 6097.76 and the simplified model was 6094.05. The BIC determined that the simplified model was a better approximation to the true model. On the contrary, the log likelihood ratio, and the AIC suggest that the full model is a better model. This implies that there is some moderation occurring. However, I could not detect it.

CHAPTER V: DISCUSSION AND IMPLICATIONS

Purpose of the Study

This study examined the relationship between several predictor variables (sexual abuse, family support, depression and alcohol/drug abuse) and the outcome of condom use among young African American MSM. The preliminary data analysis employed standard statistical tests including frequency distributions, correlations, and F-tests. Descriptive statistics were used to summarize sample observations. Preliminary analyses using frequency distributions, correlations and F-tests were conducted to explore the relationships between the variables. In order to address the research questions, and the subsequent hypotheses, t-test, one way analysis of variance (ANOVA), and structural equation modeling analyses were performed testing the relationship between groups, i.e., participants who were sexually abused and those who were not, while considering the variables of alcohol/drug abuse, family support, and depression. In the sections below, a summary of the study will be presented, followed by a discussion of the main findings, and then a discussion of this study's strengths and weaknesses, implications for theory, research and practice, and proposed future research directions.

Summary of the Study

This study was a secondary data analysis of a comprehensive needs assessment of YAAMSM residing in Michigan between the ages of 13 and 25 years old. The participants were recruited between March 2009 and July 2009 through fliers and posters, respondent-driven sampling and venue-based sampling strategies. The Young Men's Health Interview Guide was administered during a 36-138 minute digitally-recorded interview with participants. Copies of

the parts of the survey that were utilized for this study are provided in Appendices E, F, G, H, I. The total sample included 180 participants and for this study, 156 were included.

Major Findings

Preliminary Analyses

The primary outcome variable of the study (unprotected sex, measured by reported condom use) showed that of the 145 people who engaged in anal intercourse in the past 90 days, 44% (N = 65) reported inconsistent condom use and 55.2% (N = 80) reported always using condoms. The depression scores (CES-D) revealed that while two thirds of the sample did not meet a clinical cut off for depression, one third had a score that demonstrated a clinically significant level for depression. Sexual abuse was an important predictor variable in this study and 50 (32.1%) participants reporting sexual abuse in the past and 106 (67.9%) none. In regards to family support, the sample reported feeling unsupported by biological kin, especially in the area of emotional support. Within the eight questions that composed the latent variable family support, the question that had the highest responses was regarding if the YAAMSM had someone that would let them borrow \$25 or something valuable. This question had an average of 1.81 indicating that out of a possible five family members, the YAAMSM felt less than two of them would assist them. Three of the questions had an average higher than one and five questions had an average of one or lower. The question that received the lowest average score was regarding safety in talking with family members about having sex with men, which received an average of .62. Overall, many of the YAAMSM felt well supported by family members in respect to financial support, but unsupported when it came to emotional support related to being a MSM.

Preliminary findings concluded that there were no statistically significant differences between the abused and non-abused groups with respect to the highest level of educational attainment, gender identity, employment, current enrollment in school, residency, age, income, condom use, or number of sex partners. While alcohol and marijuana were the most frequent substances used in the sample, marijuana was the only substance where there was a significant difference between the abused and non-abused groups. Sixty-two percent of those that were sexually abused reported marijuana usage in the last 90 days compared to 45% of the non-abused group. There was also a significant difference between the groups in regards to the age of sexual initiation. Fifty percent of those that were abused reported that they initiated sex before 13 years old compared to 31.1% of the non-abused.

This study hypothesized that sexually abused YAAMSM would report higher depressive scores, higher alcohol/drug abuse scores, and a higher incidence of reporting unprotected anal or vaginal sex. None of these hypotheses were supported by the analyses. The analyses did conclude that those with higher alcohol/drug abuse scores had lower levels of condom use.

Full Model Analyses

Two full models were analyzed to test the remaining hypotheses for this study. The first model tested the following pathways: 1. Sexual abuse to depression 2. Sexual abuse to alcohol/drug abuse 3. Depression to alcohol/drug abuse 4. Depression to condom use 5. Alcohol/drug abuse to condom use. It also included family support as a moderator of sexually abused YAAMSM and depression and then sexually abused YAAMSM and alcohol/drug abuse. The second model included the same pathways and interrelationships between the variables as the first model but the influence of family support was removed. The second model was

compared to the first model to determine the extent that family support was mediating and/or moderating different relationships.

Model One Findings: When family support was included as a moderator in the full model of sexually abused YAAMSM, the results showed significant relationships between depression and alcohol and drug abuse, family support and condom use, and the interaction between family support and sexual abuse and condom use. The relationship between sexual abuse and depression was not significant. From this finding, it appears that sexually abused YAAMSM cope with the trauma through self-medicating, more than psychological distancing. While depression was not directly associated with condom use, it was significantly related to alcohol/drug abuse. Respondents who had higher depressive scores also had higher alcohol/drug abuse scores. Another major finding was regarding family support. Those who had more family support were more likely to use condoms. However, neither sexual abuse nor depression were significant direct predictors of condom use. In short, in this particular sample, those reporting higher alcohol/drug abuse were more likely to use condoms inconsistently and those who were more depressed abused alcohol/drugs more.

Model Two Findings: In this model, the family support variable was removed as a moderator. The only path that was statistically significant was the relationship between depression and alcohol/drug abuse (also significant in model 1). Those who reported higher depressive symptoms also reported higher alcohol/drug abuse scores. There were three relationships that approached significance: alcohol/drug abuse and condom use, sexual abuse and condom use and family support and depression. Those who had higher alcohol/drug abuse scores reported using condoms consistently less frequently. This was also the case for those who were sexually abused. Sexually abused YAAMSM reported using condoms more inconsistently.

Those who reported more family support also reported fewer depressive symptoms. The relationships between sexual abuse and depression, depression and condom use, and sexual abuse and alcohol/drug abuse were not significant. This means that those who were sexually abused were not more likely to report more depressive symptoms. In addition, those who had more depressive symptoms did not report more inconsistent condom use. Lastly, sexually abused YAAMSM did not report higher alcohol/drug abuse scores.

Because the path between depression and alcohol or drug abuse was significant in both models, this led me to test the conditional indirect effects of family support, but after the analyses there were no statistically significant conditional indirect effects of family support on any of the mediational pathways. However, the model fit statistics revealed that the first model was a better fit than the second model without family support. Therefore, it is evident that family support does have an effect on the model but I was not able to capture that in these models. In both models, depression was not a significant predictor of condom use nor did sexual abuse have a significant relationship with depression or alcohol/drug abuse.

Condom Use

Forty four percent of the current sample reported inconsistent condom use. The literature surrounding condom use with this population is clear that considerable percentages of African American MSM report unprotected anal intercourse. A study of 758 African American MSM between the ages of 18-25 reported that 26.5% of the sample had engaged in unprotected anal intercourse in the past three months (Hart et al., 2004). Another study of 541 MSM aged 15-22 years old in New York City found that 46.1% of the men reported unprotected anal sex with a male partner in the previous six months (Koblin et al., 2000). In this study, 44% of the sample

reported inconsistently using condoms when engaging in anal sex. Compared to the literature, this sample seems to engage in relatively normal percentages of inconsistent condom use among this population. Although, the percentages reported in this study were not uncommon, these rates do put young MSM at an increased risk of acquiring HIV.

Family support and condom use. In this study, there was a statistically significant relationship between family support and condom use in model one. Those who had family support were more likely to practice consistently using condoms than those that reported lower levels of family support. The literature in this area is very small and inconclusive. One study of 171 African American and Puerto Rican adolescent males found that the males who reported high levels of family support were less likely to engage in unprotected sex (Voisin, 2002). However, another study provided contrarian results. A study of 245 LGBT young adults aged 21-25 concluded that there was no strong association between family acceptance in adolescence and unprotected anal or vaginal intercourse (Ryan, Russell, Huebner, Diaz, & Sanchez, 2010). This was the only sexual health risk behavior in that study that was not associated with family acceptance, which was a predictor of social support. I believe that the difference in the findings of the two studies could revolve around cultural differences in the sample populations. The first study was composed of minority males, whereas the second study excluded African American males. In addition, the role of parents could be less important in predicting sexual behavior of young adults (Ryan et al., 2010) than adolescents (Voisin, 2002). Family has served as a significant buffer for African Americans in facing daily discrimination and prejudice (Williams et al., 2004). Based on the findings in my study, there are implications for service or health providers in assessing the risk of gay young adults by asking about their relationships with their families and familial support because it could be associated with their condom use.

Sexual abuse and condom use. There was not a direct significant relationship between sexual abuse and condom use in either model. The literature surrounding the relationship between these two variables is inconclusive. Some studies have found that there is no difference between sexually abused MSM and non-abused MSM in regards to condom use (Brennan, Hellerstedt, Ross, & Welles, 2007; Zierler et al., 1991). For example, one study of 936 homosexual and bisexual men concluded that childhood sexual abuse was not associated with unprotected sex (Brennan et al., 2007). However, several other studies have found that sexual abuse is associated with unprotected sex within the MSM community, particularly as it relates to adolescents (Jinich et al., 1998; Lenderking et al., 1997; O' Leary, Purcell, Remien, & Gomez, 2003). Many of these studies include HIV infected MSM who report a history of sexual abuse. In this study, the path between sexual abuse and condom use approached significance with a *p-value* of .09. The YAAMSM who were sexually abused reported consistently using condoms less often than the non-abused, 42.9 % and 61.5% respectively. This trend is congruent with the literature which shows that MSM who have been sexually abused are less likely to use condoms (Jinich et al., 1998; Lenderking et al., 1997). In a multi-site study of 1,941 gay and bisexual men, sexually abused men were more likely to engage in unprotected anal sex with non-primary partners in the previous twelve months: 21.4% vs 15.0% (Jinich et al., 1998). Another study of 327 homosexual and bisexual men (Lenderking et al., 1997) found a significant difference between abused men and non-abused men. Abused men reported higher rates of unprotected anal intercourse in the past six months compared to non-abused men (32.8 and 24.2 respectively). The research in this area is inconclusive but this sample supports that sexual abuse is not directly associated with inconsistent condom use for YAAMSM. Further research is needed to explore why this difference exists. It is likely that the attributions for abuse are

different depending on who the perpetrator is and at what age the abuse started. Also, perhaps, the sample size needs to be slightly larger to see the significance of sexual abuse on condom use.

Condom use and depression. In both models, it was theorized that those that reported more depressive symptoms would engage in more unprotected sex compared to those with fewer depressive symptoms. However, both models found that there was no association between depression and condom use. This is not congruent with numerous studies that have found an association between depressive symptoms and unprotected anal intercourse among samples of African American adolescents (Brown et al., 2006; DiClemente et al., 2001; Seth, Raiji, DiClemente, Wingood, & Rose, 2009). Furthermore, other studies of African American homosexual and bisexual men, have concluded that there is a significant association between depression and unprotected sex (Marks, Bingman, & Duval, 1998; Myers, Javanbakht, Martinez, & Obediah, 2003). It is possible that my study was incongruent with the other studies because the other studies utilized different methods of defining unprotected sex, as well as different assessment tools to determine psychopathology like the Symptom Checklist-90 Revised and the Structured Clinical Interview for DSM Disorders.

Alcohol and Drug Abuse

Similar to the findings in this study, the literature supports a significant negative relationship between alcohol and drug use and abuse and condom use indicating that alcohol and drug use interfere with safer sex practices (Zea, Reisen, & Diaz, 2003). In a study composed of 3316 multi-ethnic 15-22 year old MSM, positive age-adjusted associations with HIV were found for sex while on crack or inhalants and injection drug use (Harawa et al., 2004). For the current study, the sample reported very little drug use besides alcohol and marijuana. This finding was

more congruent with a study of 719 15-22 year old men in San Francisco, which found that alcohol and marijuana were the drugs that were used most often (Waldo, McFarland, Katz, MacKellar, & Valleroy, 2000). This was also true in a different study of 231 gay and bisexual youth living with HIV, in which most of the youth reported using “gateway” drugs, such as tobacco, alcohol and marijuana at a young age (Solorio, Swendeman, & Rotheram-Borus, 2003).

Alcohol/Drug abuse and condom use. In the first model in the study, there was a significant relationship between alcohol/drug abuse and condom use. When participants scored higher on their risk for alcohol/drug abuse, they reported using condoms inconsistently more often. In the second model, the association between alcohol/drug abuse and condom use approached significance but was not statistically significant. In both models, alcohol/drug abuse had a significant relationship with condom use.

In regards to alcohol/drug use, 76.92% of the YAAMSM reported drinking alcohol in the past 90 days and 50.64% reported marijuana usage. There was very little usage of other drugs reported such as methamphetamines, ecstasy, speed, uppers and LSD. These party drugs have been specifically associated with risky sex before and during sex (Arreola, Neilands, Pollack, Paul, & Catania, 2008; Zierler et al., 1991). This study suggests that it is not only these party drugs that place individuals at risk but for sexually abused MSM, alcohol and marijuana are also place an individual at risk.

Alcohol/Drug abuse and sexual abuse. The research posits that chemical substance abuse is associated with sexual abuse (Zierler et al., 1991). In this study, there was a statistically significant difference between the abused and non-abused YAAMSM that had used marijuana in the past 90 days (62% and 45.28% respectively). It is plausible that sexually abused YAAMSM

prefer to cope through substance use and abuse. In a multisite study of 4295 MSM, almost forty percent reported CSA and they were more likely to use illicit substances and alcohol (Mimiaga et al., 2009). In addition, marijuana was found to be a mediator between CSA and unprotected anal intercourse.

Family support and alcohol/drug abuse. Both models concluded that family support did not have a statistically significant relationship with alcohol/drug abuse for sexually abused YAAMSM. This demonstrated that indeed family support does not decrease the alcohol/drug abuse of sexually abused YAAMSM. This concurs with the findings of a study of 11,153 lesbian, gay, and bisexual young adults (Needham & Austin, 2010). In that study parental support was able to partially or fully mediate negative health outcomes such as depressive symptoms and suicidal thoughts but it was not effective at mediating the heavy drinking in the sample. The investigators of that study propose that future research should compare the parental and peer support and conjecture that perhaps peers have a greater influence in regards to alcohol and drug abuse and lesbian, gay and bisexual adolescents transitioning into young adulthood.

Other studies have found that parental support can be inversely related to substance use (Ryan et.al, 2009; Ashby Wills, Resko, Ainette & Mendoza, 2004). One study of 1,826 multiethnic adolescents found that parental support did suppress the substance use and peers increased substance use among the participants (Ashby Wills et al., 2004). In this study, the average age of participants was 12.3 years old and it was not composed of exclusively lesbian, gay and bisexual youth. Considering how young the sample is, it is understandable that the participants may be more influenced by their parents than with the slightly older YAAMSM in my study. Ryan et, al (2009) also concluded that those with greater family support have lower alcohol and substance abuse. Ryan et al (2009) reported that young lesbian, bisexual, gay, and transgender young

adults that had higher levels of family rejection were 3.4 times more likely to report illegal drug use. The study by Ryan et al (2009) defined family only in terms of the parent or caregiver, whereas my study was more broad in defining family as mother, father, brother, sister or other adult relative.

Sexual Abuse and Depression

Both models in this study concluded that there was not a statistically significant relationship between sexual abuse and depression. However, the sexually abused YAAMSM in this study reported an average score of 16.78 and non-abused YAAMSM had an average score of 14.4 on the Center for Epidemiologic Studies Depression (CES-D) scale. Other studies of sexually abused individuals have supported the relationship between sexual abuse and depression (Arreola et al., 2008; Nagy, Adcock, & Nagy, 2009; Williams et al., 2008). Sexually abused men who exhibit symptoms of depression are more likely to use alcohol and other drugs as a coping mechanism (Catania et al., 2008). The findings from the alcohol/drug abuse scale were supported in this study in that the analyses did conclude that out of a scale of nine points, the sexually abused YAAMSM had an average score of 3.44, while the non-abused had an average score of 3.01. A score over 2 indicates a high risk for alcohol/drug abuse. In this sample, although, the abused YAAMSM had a higher score, both groups reported high levels of alcohol/drug abuse. Indirectly, depression is an important variable to consider in the risky sexual behaviors of this sample.

Family support and depression. Contrary to this study's hypotheses, the analyses revealed that there was no significant relationship between family support and depression. In other words, high levels of family support do not significantly buffer the effects of the abuse and

the mental wellbeing of YAAMSM. This is not consistent with other studies that have concluded that family support can buffer the effects of stress-related crises such as depression (Hays, Turner, & Coates, 1992; Turner, Hays, & Coates, 1993). In a 23 year follow-up study of 393 depressed individuals, those who had higher familial support reported lower levels of depression and were more likely to recover quicker from depression (Kamen, Cosgrove, McKellar, Cronkite, & Moos, 2011). Another study of 409 HIV positive men and women, emotional support from family/friends was associated with lower levels of depression in both men and women (Gordillo et al., 2009). These findings speak to the important role of familial support. It is possible that my study resulted in different outcomes from other studies because many of the YAAMSM were sexually abused by family members. More in-depth analyses would need to be conducted to discover the influence that a familial perpetrator of abuse would have on the level of family support reported by YAAMSM. This could change the potentially positive effect that family support would normally provide.

Survival Sex and Sexual Abuse

Contrary to the literature (Brennan et al., 2007; Sikkemma et al., 2007; Widom & Kuhns, 1996), this sample did not report high rates of engagement in survival sex. In fact, only 13 participants out of 180 reported any sort of engagement in survival sex. Those 13 individuals that had engaged in survival sex only reported participating in it an average of five times in the past year. This is contrary to the findings of other studies. For example, among a sample of 202 HIV positive sexually abused men and women, Sikkemma et al. (2007) found that 49% had reported trading sex for money or drugs within the previous twelve months. Another study of 186 men and women (Zierler et al., 1991) concluded that childhood sexual abuse survivors were four times more likely to report working as a prostitute during their lifetime than those that

reported no history of abuse. Men that were survivors of childhood sexual abuse were eight times more likely to report that they had worked as a prostitute than non-sexually abused men (Arreola, Neilands, Pollack, Paul, & Catania, 2005; Bogart et al., 2005; Brennan et al., 2007; Dilorio, Hartwell, & Hansen, 2002). In this study, the sexually abused YAAMSM did not have a higher engagement in survival sex than did the non-abused YAAMSM. In fact, it was a fairly equal split between abused and non-abused YAAMSM. In some of the previously mentioned studies, the samples were predominately White, older, included women and recruited at pride festivals. It is plausible that men at pride festivals and other public venues are more open about their sexual orientation and engage in risky sexual behaviors (Koblin et. al, 2000). Moreover, older men have a longer sexual history and so they would have a greater potential likelihood of engaging in survival sex. Lastly, women are at an increased risk of sex trading due to numerous factors including drug addictions, a higher likelihood of a history of sexual abuse or a lack of basic necessities for herself or her children (Miller, 1999). These sampling differences are potential reasons why there was a difference in the findings of this study and the other studies that included the populations mentioned above.

Discussion of Methodologies: Limitations

This study's findings are subject to several limitations. The models and variables presented were theoretically based. The self-report assessment of sexual abuse has limitations such as possible over-reporting or under-reporting (Arreola et al., 2005; Bogart et al., 2005; Brennan et al., 2007; Dilorio et al., 2002). Subject to social desirability, over-reporting of risky sexual behaviors could occur if the participant felt that this would increase their sense of masculinity or popularity. Also, these discrepancies could have been the result of shame, societal stigma surrounding male sexual victimization, distrust and discomfort with the

interviewer. In addition, recall error is a common concern when dealing with retrospective reflections on developmental events (Catania et al., 2008). In order to ensure that accurate information was collected, all of the interviewers were given intense sensitivity training in order to help the participants to feel comfortable asking difficult questions with a population that was likely distrusting. The participants received an assurance of confidentiality and voluntary participation and the interviews were conducted in confidential settings of the participant's choosing.

Another limitation of this study was that the severity and duration of sexual abuse was not measured. The scale utilized to assess sexual abuse did not help to determine if the abuse was an isolated incident or a repetitive trauma. The extent of the abuse may have some influence on subsequent mental health and risk behaviors (Brown et al., 2006; DiClemente et al., 2001; Seth, Raiji, DiClemente, Wingood, & Rose, 2009) but the current data set was not able to tease this apart. Another limitation was that the assessment tool of abuse did ask about the perceived impact of the sexual trauma. Also, although the participants were asked about the age of first occurrence, I was not able to compare sexual trauma in childhood to adolescence to adulthood. The present study lacked sufficient statistical power to detect true effects with such a relatively small number of those that reported sexual abuse. Perhaps, the study needs a larger sample, in order to derive more differences in the sample.

Another limitation was that many of the organizations that we recruited at had educational programs that taught YAAMSM about the dangers of risky sexual behaviors. Therefore, their knowledge and training about sexually transmitted infections and HIV/AIDS may be greater than YAAMSM in the general population. In addition, these gay organizations

may serve as a protective mechanism emotionally from familial and societal rejection and marginalization.

Lastly, this study looked specifically at support from biological family. It is apparent from the findings that there are other mediators operating that were unmeasured in this study that helped the sexually abused YAAMSM to be resilient. I elected to not examine the influence of other sources of support such as gay family, adult non-relatives or religious/spiritual sources. However, the parent study did examine these factors. Also, it would be interesting to let the participants define family. Based on the findings, it is clear that some sexually abused YAAMSM do not engage in self-destructive practices. What are their motivations and what makes them so resilient?

Discussion of Methodologies: Strengths

Notwithstanding limitations such as the ones mentioned, the study has a number of counter-balancing strengths. First, this study employs a rigorous survey and associated methodology that was previously used in other studies, and adds to the small body of existing evidence on this topic (Fishbein & Coutinho, 1997; Knight, Shrier, Bravender, Farfell, Bilt and Schaffer, 1999; Widom, Dutton, Czaja, & DuMont, 2005; Wolfe, Scott, Reitzel-Jaffe, Wekerle, Grasley, & Pittman, 2001).

Second, this study was able to recruit a very difficult population. Some were recruited via gay-identified venues and community organizations, which the literature says that frequently minority MSM do not frequent (Silvestre, Hylton, Johnson, & Houston, 2006). We were probably able to recruit at gay venues because many of the venues were situated in African American communities or were frequented heavily by African Americans.

Lastly, this study focused on one ethnic minority group, which enabled more detailed analyses regarding the subculture issues of young MSM since they have been usually neglected. The findings for this study may be generalizeable to young African American MSM, who are similar to those who participated in this study. This includes those who socialize in areas or businesses frequented by large numbers of other young African American MSM. These observations offer valuable insights to both researchers and practitioners interested in culturally sensitive treatment and prevention for YAAMSM.

Discussion of Miller's Model

This study was modeled after Miller's Model (1999), which examined the relationship between sexually abused women and their HIV risk. The model presented several causal pathways and key variables that mediated an increased likelihood of HIV acquisition: 1) Initiating and/or increasing substance abuse as a means of coping; 2) issues with sexual adjustment, which increases sexual risk taking; and 3) psychopathology (primarily depression) which is related to an increased likelihood of engaging in HIV risk related behaviors. This study found that there was only one pathway to an increased risk of HIV contraction for YAAMSM: depression to alcohol/drug abuse to unprotected sex. Those who reported more depressive symptoms, also reported more risk regarding alcohol/drug abuse. Consequently, higher alcohol/drug abuse was associated with an increased likelihood for unprotected sex, which puts them at risk for HIV/AIDS.

Unlike, Miller's Model, this study did not find that sexual abuse had a direct relationship with depression nor with alcohol/drug abuse. Therefore, those who had been sexually abused did not have a significantly increased probability of utilizing alcohol and substance abuse to cope

with their trauma. I believe that this hypothesis was not supported in this sample because Miller's Model does not accurately describe the factors that influence sexually abused YAAMSM to be at risk of HIV/AIDS. There was also not a significant relationship between abused and non-abused YAAMSM in regards to the number of sex partners within the last year. This sample was very sexually active and averaged thirteen sex partners on average in a twelve month period. Sexually abused YAAMSM did report younger ages of sex initiation. This finding supports Miller's Model because sexually abused YAAMSM did initiate their sexual risk taking earlier than non-abused YAAMSM. Lastly, Miller's Model postulated that those that were sexually abused would report higher depressive symptoms. In this study, although the sexually abused men reported more depressive symptoms, there was no significant difference between the depressive symptoms of abused and non-abused YAAMSM. Overall, Miller's model did not accurately predict the relationships between sexual abuse and the other factors within the YAAMSM sample. Therefore, I would not recommend its utility with this population without modifications such as adding other potential protective factors to moderate behavior such as self-esteem, self-efficacy, peer support and also incorporate variables to account for the developmental stages of such a young sample.

Future Implications

It is apparent that the prevention research agenda for African American MSM would benefit from reframing the conceptualization of risk as a function of social and interpersonal determinants rather than only individual behavioral factors. In order to be more effective, prevention research should focus on multiple sources of influence on African American MSM relationships and behaviors. It is important for researchers and practitioners to further understand the great HIV prevalence disparity between not only African Americans and Whites but

specifically, African American MSM. It is evident in the rising statistics of the HIV/AIDS cases of African American MSM that the scarcity of information is doing this particular population a fatal disservice.

These findings signal a critical and wide-spread public health problem and underscore a need to evaluate and intensify prevention efforts for YAAMSM. Researchers and practitioners need to more fully examine the sexual abuse histories of YAAMSM because this is just one of the factors that put them at risk for HIV infection. A finding in this study that aligns with other research findings was that those who were sexually abused were more likely to be depressed and abuse alcohol and drugs, potentially, as a coping mechanism. Understanding psychological distancing, self-medication, and self-destructive behaviors is imperative, in order to develop targeted interventions that will reduce the risk taking behaviors with YAAMSM. Any adapted interventions should be thoroughly evaluated for effectiveness and sustainability, in order to meet the unique characteristics of YAAMSM.

Mental health professionals and physicians need to be trained and informed about the increased risk of sexual abuse among YAAMSM. Service providers need specialized HIV prevention services on how to address childhood sexual abuse. Then, they can provide information, resources and referrals to YAAMSM so that they can receive the help that they need.

There are great gaps in this area of literature and filling them would expand the knowledge in this field and provide more information on a very hidden but highly at risk population. Future research should focus on the in-depth effects of victimization similar to the research that has been conducted on female victims. It would be helpful to learn about the duration and severity of sexual abuse of YAAMSM. A more robust multidimensional construct

would allow for a more complete understanding of the mechanisms involved in the influence that sexual abuse might be influencing HIV-risk related behaviors. Also, it would be interesting to explore more about how sexual abuse by a non-family member relates to YAAMSM consistently using condoms. What is their motivation for using condoms consistently? Is there a heightened sensitivity to keep their future partners safe? Future research should also explore the influence that sexual abuse by a family member has on a family member. What are the specific family support factors that lead a YAAMSM that has been sexually abused by a family member to feel more or less depressed? Lastly, future research could also focus on how child sexual abuse affects future sexual relations such as condom negotiation. Do sexually abused YAAMSM lack the self-efficacy to negotiate condom use?

Conclusion

To address the gaps between epidemiologic, psychosocial and behavioral data on HIV risk among young African American men who have sex with men, this study set out to explore two goals. The first goal was to provide descriptive statistics and basic research on sexual abuse of YAAMSM. The second goal was to adapt Miller's model of sexual abuse and HIV risk amongst white women to YAAMSM. The present study is illustrative that sexual abuse adds a layer of risk for HIV infection among YAAMSM. There was one path that led to increased unprotected sex: 1. Depression to alcohol/drug abuse to condom use. The adapted Miller model highlights the importance of a range of indicators and specific behaviors that place YAAMSM at risk for HIV infection and re-infection. While far from comprehensive, this study advances the literature on YAAMSM with histories of sexual abuse in several important ways: (a) by being one of only a few studies that have focused on a sample of exclusively young African American men who have sex with men; (b) by providing empirical data that shed light on the importance of

culture in the design and delivery of treatment and prevention strategies; and (c) by suggesting new implications for researchers, and practitioners. Finally, this study has shown how YAAMSM cope with sexual abuse through depression, alcohol/drug abuse and unprotected sex put them at risk for HIV infection.

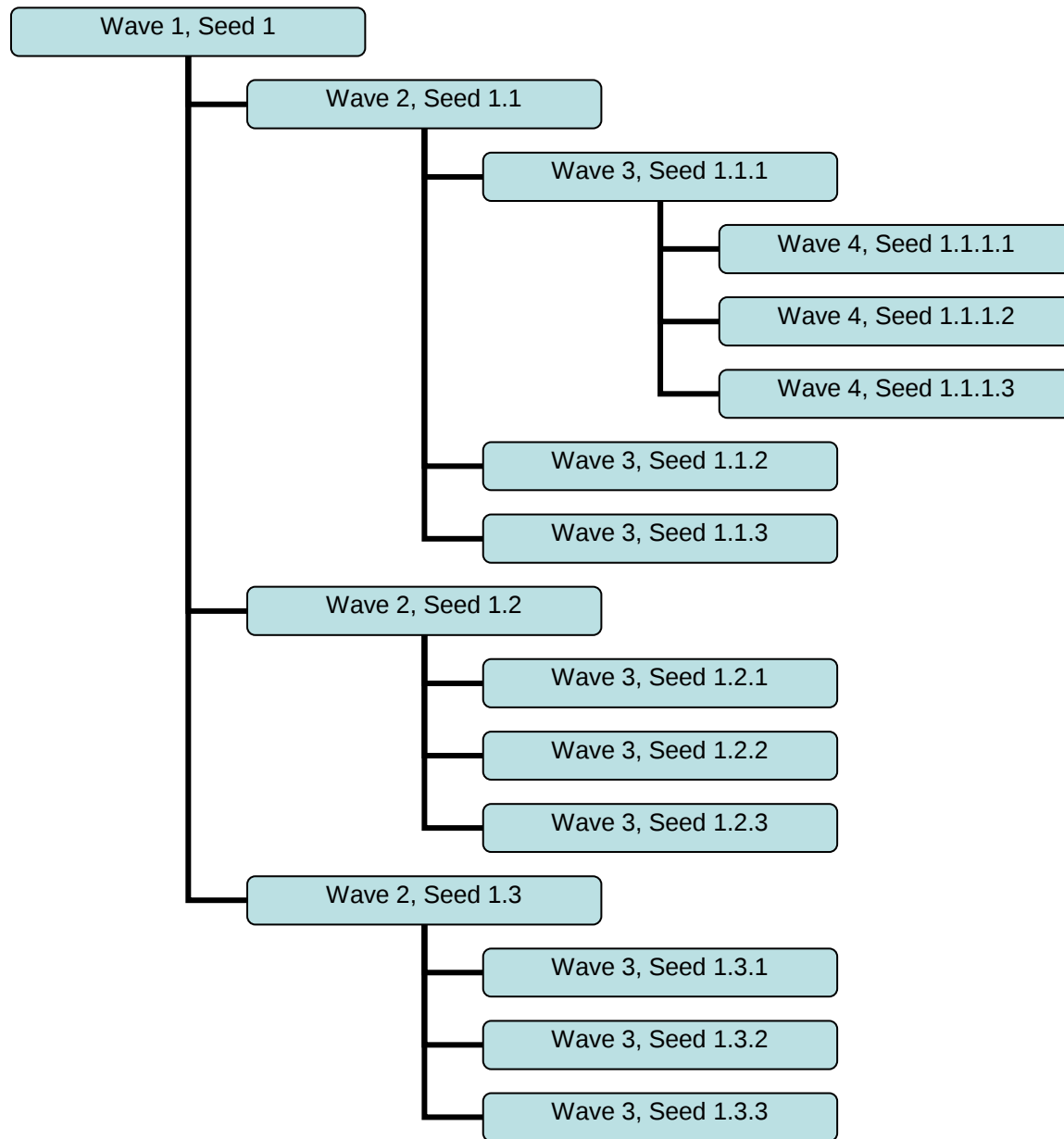
This study is significant because there are no other studies that have tried to exclusively examine how a history of sexual abuse can influence the sexual experiences, motivations and behaviors of young African American men who have sex with men. The results of this study will shed light upon a population that has been largely ignored in many ways: by race, gender, sexual orientation, age and abusive experience. The high rates of HIV/AIDS amongst this population cannot be hidden. It is devastating communities of YAAMSM. As researchers, we have an obligation to explore how we can understand the contextual and social implications that cause people to be at a greater risk for HIV and disseminate that important information to practitioners so that this insidious disease does not victimize more people.

APPENDIX

APPENDIX A

Respondent Driven Sampling Chain Referral

Figure 5.1. Respondent Driven Sampling Chain Referral



APPENDIX B

Recruitment Coupon

Figure 5.2. Recruitment Coupon



APPENDIX C

Eligibility Criteria Screening Guide

Young Men's Health Study

Prescreening Form

Hi, thank you for calling the Young Men's Health Study. Researchers from Michigan State University are conducting a study on the sexual health of young men in Michigan. As part of this study, we are conducting face-to-face interviews with young men.

QUESTION	ELIGIBLE	INELIGIBLE
1. To start, I will need your coupon number to determine your eligibility? May I have your coupon number, please? _____ <i>Coupon #</i>	☐ Yes "Great. Thanks." <i>Proceed to the next question.</i>	☐ No "Could you locate your coupon and call back, please? Thank you."
2. Can I ask you a few questions to see if you are eligible to participate in the interview? Your responses will be kept completely confidential.	☐ Yes	☐ No "Unfortunately, I am unable to determine your eligibility without asking more questions. Thank you for your time."
3. Which of the following best describes your relationship with the person that gave you this coupon?	☐ Friend ☐ Relative ☐ Partner ☐ Other _____	☐ No Relationship ☐ I found it ☐ Partner ☐ Other _____
4. Have you ever been interviewed for this project before today?	☐ No	☐ Yes
5. How old are you? _____ <i>Age</i>	☐ 13 – 24	☐ <13 or >24 ☐ Declined to answer

6. How would you describe your racial background?	☐ Black or African American ☐ Mixed/Multiracial including Black or African American	☐ American Indian/Alaska Native ☐ Asian ☐ Latino/Hispanic ☐ Native Hawaiian/ Pacific Islander ☐ White ☐ Declined to answer ☐ Mixed/Multiracial with other than Black or African American
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7. Regardless of how you think about yourself now, were you born male or female?	☐ Male	☐ Female
8. Now I need to ask you a few questions related to your sexual behavior. I won't ask your name and all your responses will be kept completely confidential. Is it all right if we continue?	☐ Yes <i>Proceed to next question.</i>	☐ No ☐ Declined to answer "Unfortunately, I am unable to determine your eligibility without asking more questions. Thank you for your time."
9. Have you had sexual contact with anyone in the last 24 months? By sexual contact I mean vaginal, oral, or anal sex with another person.	☐ Yes	☐ No ☐ Declined to answer
10. Has this sexual contact been with men, women, or both?	☐ Men ☐ Both men and women	☐ Women only ☐ Declined to answer
11. Do you currently live in	☐ Yes	☐ No

Michigan?	ZIP Code _____	☐ Declined to answer
12. <u>Interviewer:</u> Is this person eligible to participate? <i>Eligibility is determined by having <u>all</u> responses fall under the eligible column.</i>	☐ YES “Thank you very much for the information you provided. Based on your answers to these questions, you are eligible to participant in the interview. Are you interested in setting up a time to meet?” <i>If yes, set up an interview within the next 10 days.</i> <i>If no, “Thank you for your time. If you change your mind, please feel free to call back again.”</i>	☐ NO “Participants for this research project are selected based on the questions you were just asked. Based on your answers, it turns out you’re not eligible to participant in the interview. Thank you for taking the time to speak with me.”

APPENDIX D

Consent Form for Participation of Human Subjects in Research

Michigan State University

Project Title: Statewide needs assessment of young African American MSM: The Michigan Young Men's Health Study

Primary Investigator: Dr. Robin Lin Miller

Associate Professor

Department of Psychology

Michigan State University

East Lansing, MI 48824

What is this Project About?

You are being asked to participate in a research study. The purpose of this research is to learn more about how young African American men who have had sex with men think about their sexuality, sexual health, and risk for HIV infection. We would like to learn about the role that sex plays in your life and the lives of your peers. We are also interested in learning about other factors that may affect your risk, such as drug use and sources of stress in your life, and to hear your opinion on ways to help you remain safe from exposure to HIV. We are interested in interviewing you to learn more about these issues so that people who work on HIV prevention in the state can improve their ability to lower the rates of HIV among young men your age. This research is being performed by researchers at Michigan State University (MSU) in collaboration with the Michigan Department of Community Health and with a team of young African American men who have sex with men from around the state who helped us to design the project and the questions that we want to ask you.

What is Involved in Participating in this Project?

If you volunteer for this research study, you will be asked to participate in one interview. It will take approximately 1 hour to complete. During the interview I will ask you questions about your sexual history. I will also ask questions about HIV and other sexually transmitted diseases, as well as how you and your peers think about sexual orientation and identity. Other questions I will ask about include questions about your relationships to people in your life such as your family, your experiences of health care, your drug use behaviors, your mental health, and different kinds of violence that you may have experienced. All of these questions are very personal. But we think they are important to ask about so that we can understand the things that may put young men at risk of HIV and other sexually transmitted infections.

Your participation in this study is completely voluntary. In other words, it is up to you if you want to participate. If you do want to participate, you can decide not to answer any question and you are free to stop the interview at any time with no penalty or negative consequences. Your participation will not affect your relationship with the state of Michigan, MSU, or any other institution.

At the end of the interview, I will give you \$25 to compensate you for your time. You will still receive the \$25 if you refuse to answer some of the questions or if you decide to stop the interview and end it early. At the end of the interview, I will also ask you to help us by recruiting up to three other men who you know who might want to participate. For each of those young men who are eligible to be in the study, have not already done the interview, and who decide that they want to participate in it, we will provide you an additional \$5 to thank you for your help in making the study successful.

Also, if it is okay with you, I would like to tape record the interview. I would like to tape record the interview because I will not be able to write down everything you say. The only people who will listen to the tape are the members of the research staff. To keep the information you tell us private, during the project we will keep the tape in a locked file cabinet in a locked room. We will destroy the tape once we have typed out what you said. Your name will not appear anywhere on the typed out copy of the tape recording. You can also have me turn off the tape recorder at any time.

What Are the Potential Risks and Benefits of Participating?

The topic of sex is very sensitive and it may be upsetting for you to talk about your experiences. All of the interviewers in this project have been trained on how to be respectful of individuals' sexual experiences. You may experience some loss of privacy and discomfort in answering questions.

Remember, if there are any questions that you do not want to answer, you do not have to; you can stop the interview at any time or you can request that we do not use some of your answers to certain questions. If you would like to take a break from the interview, you can. You can ask that the tape recorder be turned off at any time. There will not be any negative consequences for these requests.

A potential benefit is having the opportunity to share your experiences and opinions. Some people have told us that they appreciate our interest and concern in these issues. Additionally, the valuable information that you share may help us learn about ways in which we may be able to promote the sexual health of sexually active African American young men.

How Will Confidentiality Be Protected?

All information that you give us will be kept strictly confidential and private. Your name or any information that could identify you will not be used by us except to contact you if a recruitment coupon is returned to us by someone you know. Once all your coupons are returned or we have completed interviews with 180 men, we will destroy your contact information. We will assign you a number that will be used to mark your interview and the interview tape, until the tape is destroyed. Your interview will be kept in a locked file cabinet in a locked office. Your identity will not be revealed in any reports of what participants in the interview said; instead, all of your information will be combined with the rest of the participants' information and reported as a group. Your privacy will be protected to the maximum extent allowable by law.

After the interview, a research assistant will type up a copy of the interview. Until this paper copy is made, the tape will be kept on a secure computer in a locked room. Once this paper copy is made, the

tape will be destroyed. On this paper copy of the interview, you will be given an identification number so that your real name appears nowhere in print other than on this consent form. This form will be kept in a separate room in a locked file and will not be linked to the information that you provide in the interview. In any written reports of the interview data, data from all interviews will be combined and anywhere we use quotes you will be referred to by your identification number. The identities of all research participants will remain anonymous. The data will be kept for 5 years in order to allow time for analysis and report writing. After this time, all records will be destroyed. Only the research staff and the Institutional Review Board will have access to the data.

If you age 17 or younger and at any time indicate to us that you have been a victim of physical or sexual abuse, maltreatment, mental injury and/or neglect by an adult known to you, then we must file a complaint with Child Protective Services. We will only use your name in such a report if you give us permission to do so. Child Protective Services may then investigate the report further. In the event of a request for further investigation your confidentiality will be protected to the maximum extent allowable by law. We will only file a complaint with Child Protective Services if the adult is known to you and if the adult has not already been charged with the crime that is reported.

Who Can Be Contacted With Questions?

If you have any questions as we proceed through the interview, please ask me. If you have concerns or questions about this study, such as scientific issues, how to do any part of it, or to report an injury, please contact Dr. Robin Lin Miller, Department of Psychology, 134A Psychology Building, Michigan State University, East Lansing, MI 48824-1118. Email: mill1493@msu.edu. Phone: (517) 432-3267.

If you have any questions or concerns regarding your rights as a study participant, or are dissatisfied at any time with any aspect of this study, you may contact – anonymously if you wish –MSU’s Human Research Protection Programs, at 517-355-2180, FAX 517-432-4503, or e-mail irb@msu.edu, or regular mail at: 202 Olds Hall, MSU, East Lansing, MI 48824.

You will receive a copy of this form to keep for your records.

Permission to Participate:

I voluntarily agree to participate in this research study.

Participant signature

Date

I voluntarily agree to be tape recorded.

Participant signature

Date

APPENDIX E

Substance Use Scale

P. Substance Use

Now I would like to ask you some questions about alcohol and drug use. How many times have you used the following substances in the last 90 days (3 months)? If you haven't used the substances mentioned, just say "never."

[SHOW CARD P]

	Past 90 days							
	Never [01]	Less than once a month [02]	Once a month [03]	2-3 times a month [04]	Once a week [05]	2-6 times a week [06]	Daily [07]	Refused [99]
P1. Alcohol	☐	☐	☐	☐	☐	☐	☐	☐
P2. Marijuana (Pot, Herb, Weed) or Hashish (Hash)	☐	☐	☐	☐	☐	☐	☐	☐
P3. Powdered Cocaine (Coke, Snow)	☐	☐	☐	☐	☐	☐	☐	☐
P4. Crack/Freebase	☐	☐	☐	☐	☐	☐	☐	☐
P5. Inhalants (Poppers)	☐	☐	☐	☐	☐	☐	☐	☐
P6. Ecstasy	☐	☐	☐	☐	☐	☐	☐	☐
P7. Ketamine (K, Special K)	☐	☐	☐	☐	☐	☐	☐	☐
P8. Hallucinogens (LSD, Mushrooms)	☐	☐	☐	☐	☐	☐	☐	☐
P9. PCP (Angel Dust)	☐	☐	☐	☐	☐	☐	☐	☐
P10. Heroin (H)	☐	☐	☐	☐	☐	☐	☐	☐
P11. Uppers/stimulants (Speed, Meth, Crystal, Ice)	☐	☐	☐	☐	☐	☐	☐	☐
P12. Valium/Librium/Xanax	☐	☐	☐	☐	☐	☐	☐	☐
P13. Opioids (Codeine, Opium OxyContin, Percodan)	☐	☐	☐	☐	☐	☐	☐	☐
P14. Other: _____	☐	☐	☐	☐	☐	☐	☐	☐

IF ALL ANSWERS ARE 'NEVER' OR RESPONDENT ONLY USED ALCOHOL OR MARIJUANA GO TO SECTION Q.

APPENDIX F

Alcohol and Other Drug Abuse Scale

Q. Alcohol and Other Drug Abuse (Knight, Shrier, Bravender, Farfell, Bilt, & Schaffer, 1999)

I have a few more questions about your drug or alcohol use. For the following questions, please answer "yes" or "no."

	YES [01]	NO [02]
Q1. Have you ever ridden in a car driven by someone (including yourself) who was high or had been using alcohol?	☐	☐
Q2. Do you ever use alcohol or drugs to relax, feel better about yourself, or fit in?	☐	☐
Q3. Do you ever use alcohol or drugs while you are by yourself (alone)?	☐	☐
Q4. Has anyone (parent, teacher, friend) ever thought you had a problem with alcohol or drugs?	☐	☐
Q5. Do you ever forget things you did while you were using alcohol or drugs?	☐	☐
Q6. Have you ever gotten into trouble while you were using alcohol or drugs?	☐	☐
Q7. Does alcohol or drug use cause your moods to change quickly, from happy to sad or vice versa?	☐	☐
Q8. Does your family or friends ever tell you that you should cut down on your drinking or drug use?	☐	☐
Q9. Does your alcohol or drug use ever make you do something that you would not normally do-like breaking rules, missing curfew, breaking the law, or having sex with someone?	☐	☐

APPENDIX G

Center for Epidemiological Studies Depression Scale (CES-D)

R. Depression (CES-D)

Now I'd like to talk to you about your emotions and how you have been feeling lately.

I am going to read you a list of some of the ways you may have felt or behaved. Please tell me how often you have felt this way *during the past week*. **[SHOW CARD R]**

	Rarely or None of the Time (Less than 1 day) [01]	Some or A little of the Time (1-2 days) [02]	Occasionally or a Moderate Amount of the Time (3-4 days) [03]	Most or All of the Time (5-7 days) [04]
R1. I was bothered by things that usually don't bother me.	☐	☐	☐	☐
R2. I did not feel like eating; my appetite was poor.	☐	☐	☐	☐
R3. I felt that I could not shake off the blues even with help from my family or friends.	☐	☐	☐	☐
R4. I felt that I was just as good as other people.	☐	☐	☐	☐
R5. I had trouble keeping my mind on what I was doing.	☐	☐	☐	☐
R6. I felt depressed.	☐	☐	☐	☐
R7. I felt that everything I did was an effort.	☐	☐	☐	☐
R8. I felt hopeful about the future.	☐	☐	☐	☐
R9. I thought my life had been a failure.	☐	☐	☐	☐
R10. I felt fearful.	☐	☐	☐	☐
R11. My sleep was restless.	☐	☐	☐	☐
R12. I was happy.	☐	☐	☐	☐
R13. I talked less than usual.	☐	☐	☐	☐
R14. I felt lonely.	☐	☐	☐	☐
R15. People were unfriendly.	☐	☐	☐	☐
R16. I enjoyed life.	☐	☐	☐	☐
R17. I had crying spells.	☐	☐	☐	☐
R18. I felt sad.	☐	☐	☐	☐

R19. I felt that people disliked me.	☐	☐	☐	☐
R20. I could not get "going."	☐	☐	☐	☐

Appendix H.

Physical, Psychological and Sexual Abuse Scale

T. Physical, Psychological, and Sexual Abuse

I'm going to read some statements that describe some experiences you may have had in the past. For each statement, tell me if anyone has ever done the following things to you. For each thing that has happened, tell me how old you were the first time it happened and what your relationship is to the person or people who did it. **[SHOW CARD T]**

	NO [02]	YES [01]	Age when this first happen ed	Relationship of person/people who have done this
T1. Have you ever been shot at, stabbed, struck, kicked, punched, slapped around or otherwise physically harmed?	☐	☐		☐ Current or former sexual partner ☐ Family member ☐ Peer ☐ Other
T2. Have you ever been threatened with any kind of a weapon, like a knife, gun, baseball bat, frying pan, scissors, stick, rock or bottle?	☐	☐		☐ Current or former sexual partner ☐ Family member ☐ Peer ☐ Other
T3. Has anyone ever threatened you in a face-to-face confrontation?	☐	☐		☐ Current or former sexual partner ☐ Family member ☐ Peer ☐ Other
T4. Have you ever been actually assaulted with any kind of a weapon, like a knife, gun, baseball bat, frying pan, scissors, stick, rock, or bottle?	☐	☐		☐ Current or former sexual partner ☐ Family member ☐ Peer ☐ Other
T5. Has anyone—male or female—ever forced or coerced you to engage in unwanted sexual activity? <i>[Probe: By unwanted sexual activity we mean oral or anal intercourse, or someone inserting an object or their fingers in your anus (butt).]</i>	☐	☐		☐ Current or former sexual partner ☐ Family member ☐ Peer ☐ Other
T6. Other than what we just talked about, did anyone, male or female, ever <i>attempt to—but not actually—</i> force you to engage in unwanted sexual activity? <i>[Probe: By unwanted sexual activity we mean attempted oral or anal intercourse, or attempted insertion of their fingers or an object in your anus (butt)]</i>	☐	☐		☐ Current or former sexual partner ☐ Family member ☐ Peer ☐ Other

	NO [02]	YES [01]	Age when this first happen ed	Relationship of person/people who have done this
T7. Has anyone ever tried to hurt your feeling intentionally by bringing up something bad that happened to you or that you had done in the past?	☐	☐		☐ Current or former sexual partner ☐ Family member ☐ Peer ☐ Other
T8. Has anyone ever made you feel uncomfortable by keeping track of whom you were with and where you were?	☐	☐		☐ Current or former sexual partner ☐ Family member ☐ Peer ☐ Other
T9. Has anyone ever ridiculed or made fun of you, in a non-playful way, in front of others?	☐	☐		☐ Current or former sexual partner ☐ Family member ☐ Peer ☐ Other
T10. Has anyone ever intentionally insulted you with put-downs or name-calling?	☐	☐		☐ Current or former sexual partner ☐ Family member ☐ Peer ☐ Other
T11. Has anyone ever threatened to stop supporting you financially?	☐	☐		☐ Current or former sexual partner ☐ Family member ☐ Peer ☐ Other

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