5-9-2016

Risk Factors for Sexual Assault: Can Existing Theories Explain Bisexual Women's Disproportionate Risk?

Tracy N. Hipp
Georgia State University

RISK FACTORS FOR SEXUAL ASSAULT:
CAN EXISTING THEORIES EXPLAIN BISEXUAL WOMEN'S DISPROPORTIONATE RISK?

by

TRACY N. HIPP

Under the Direction of Sarah L. Cook, Ph.D. and Kevin M. Swartout, Ph.D.

ABSTRACT

Many women experience sexual violence, but bisexual women are at particularly high risk for such victimization. Theories attempting to explain women's risk for sexual violence have focused on numerous risk factors (e.g., childhood abuse, substance use, sexual risk behavior, among others); however, many of these factors have not been explored with sexual minority survivors. The current study used multiple groups path analysis within a structural equation modeling framework in order to test a theory-driven model of victimization risk, first among a general sample of women, and then among subsamples of heterosexual, lesbian, and bisexual women. The prospective model included childhood sexual, physical, and emotional abuse as three separate exogenous variables; sexual risk behavior, alcohol use, and drug use as separate mediators; and a count-based adult sexual victimization score as the outcome. The prospective model was trimmed until it best represented the observed data for the full sample, which saw the inclusion of childhood sexual and physical abuse as the only exogenous variables, sexual risk behavior as the only mediating variable, and adult sexual victimization as the outcome. Sexual

risk behavior mediated the relationship between both childhood abuse variables and adult sexual victimization for the general sample of women. However, within the multiple groups model, sexual risk behavior mediated the relationship between childhood physical abuse and adult sexual victimization among bisexual women only. A mediational relationship between childhood sexual abuse and adult sexual victimization via sexual risk behavior approached significance among bisexual women only. A second-stage moderating effect approached significance whereby the relationship between sexual risk behavior and adult victimization was stronger for heterosexual women than for bisexual women. Additionally, the direct effect of childhood sexual abuse on adult sexual victimization was stronger for lesbian women than for bisexual women. Relationships among variables and the novel and unique findings pertaining to bisexual women's victimization risk are framed as the compounding effect of childhood trauma and social stigmatization of bisexuality. Implications and future directions are described.

INDEX WORDS: Sexual violence, Rape, Sexual assault risk factors, Sexual minority women, Lesbian, Bisexual

RISK FACTORS FOR SEXUAL ASSAULT:

CAN EXISTING THEORIES EXPLAIN BISEXUAL WOMEN'S DISPROPORTIONATE RISK?

by

TRACY N. HIPP

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

in the College of Arts and Sciences

Georgia State University

2016

RISK FACTORS FOR SEXUAL ASSAULT:

CAN EXISTING THEORIES EXPLAIN BISEXUAL WOMEN'S DISPROPORTIONATE RISK?

by

TRACY N. HIPP

Committee Chair: Sarah L. Cook, Ph.D.

Committee Co-Chair: Kevin M. Swartout, Ph.D.

Committee: Erin B. Tone, Ph.D.

Julia L. Perilla, Ph.D.

Electronic Version Approved:

Office of Graduate Studies

College of Arts and Sciences

Georgia State University

May 2016

DEDICATION

I dedicate this dissertation to my dearest friend, Laura McKelvey, the smartest, most compassionate, and resilient woman I know. With exquisitely gentle words, Laura changed the course of my professional trajectory. Thank you for helping me understand the incredible opportunity and obligation I had upon entering graduate school. In all of my work, I hold central in my mind the hope of offering something meaningful to the young woman in search of information reflecting her experience. If I can do this just once, all of this will have been worth it.

I also dedicate this dissertation to my mentor and comrade, Sarah Cook. I am indebted to Laura for putting me on this path and I am indebted to you for keeping me on it. In the most trying professional moments, your words, "I'd rather you did this work than anyone else" pushed me through. I am humbled by how much I have seen you grow in your awareness of sexual minority issues and am grateful that you have taken my words and work to heart. My community needs more professionals like you. Thank you.

Lastly, I dedicate this work to everyone who participated in the Women's Resilience Project. I am grateful that you took the time to share your experiences for such an important cause. Know that this is only the very beginning. This dissertation is but one section of one chapter of all that we still have to learn. You made all of this possible. And you are resilient.

ACKNOWLEDGEMENTS

I would like to acknowledge my committee members, Drs. Sarah Cook, Kevin Swartout, Erin Tone, and Julia Perilla, each of whom had a hand in enriching this project. When graduate students debate committee members, because we do, I always refer to you four as The Dream Team. In particular, I would like to thank Kevin Swartout for his patience and guidance while I re-learned so much of what I had lost.

I would also like to acknowledge my other half who did her very best to keep me fed and functioning during the longest grueling days of my research. We all know that the only reason I wore clean clothes each day of March was because of you. Your patience with me is awe-inspiring. I love you.

My mother has always said that, throughout my life, I forge strong friendships with excellent people. Mothers are almost always correct, and on this point, she is exact. As Emily Dickenson once said, “My friends are my estate.” Sarah, Laura, Nancy, you are my family. When I need it, you are my home. You not only make me better but you help me see myself more clearly. For everything and always, thank you. To the rest of my crew, including my parents, I love and appreciate you, and I will be able to come out and play soon.

To my VAWP team members, both past and present, this work is hard and so terribly important. Be proud of your work, gentle with yourselves, and never lose sight of how resilient you are.

Lastly, I would like to acknowledge that funding for this work came from the Society for Community Research and Action, the Georgia State University Dissertation Grant Program, and contributors who believed in this project.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1 INTRODUCTION

Prior to the last three decades, the field of psychology framed same-sex sexuality as a mental disorder, reflecting social attitudes towards gays and lesbians as being morally deviant. Nowhere in our professional history has the conflation of social norms and psychopathology been more evident (Silverstein, 1996). Empirical literature addressing the community pathologized gays and lesbians, looking for variations in their genitals, brains, and nervous systems (among other biological and physiological markers) to understand their "deficiencies". Sexual minorities were subjected to barbaric "treatments" including castrations, tissue transplantation, and hypothalamotomies (intentionally damaging areas of the brain). Until 1973, members of the psychological community did their best to prevent, control, and ultimately punish same-sex sexuality (Silverstein, 1996). With the two-part declassification of homosexuality from the DSM in 1973 and later in 1986, however, the psychological discourse evolved, producing fewer studies aimed at identifying root causes and treatments for same-sex sexual behavior (Krajeski, 1996). Nevertheless, within many fields of study, the experiences of sexual minorities have gone altogether undocumented. Psychology's historically myopic view of same-sex sexuality has delimited which topics were deemed appropriate, relevant, or worthy of study—resulting in limited understanding of health and social disparities that continue to impact the community.

Researchers and activists have attempted to understand and prevent violence against women, including sexual violence, since the 1970's. However, sexual violence research did not include the experiences of non-heterosexuals until recent decades. This emerging body of research demonstrates that sexual minority women are at increased risk of sexual assault (Rothman, Exner, & Baughman, 2011), experience worse mental health consequences of assault,

such as higher levels of post-traumatic stress disorder (PTSD; Long, Ullman, Long, Mason, & Starzynski, 2007), and may be assaulted by different types of perpetrators than heterosexuals (e.g., relative vs. stranger, partner vs. friend; Hughes, Johnson, & Wilsnack, 2001; Long et al., 2007; Wilsnack, Kristjanson, Hughes, & Benson, 2012). Nevertheless, the field still largely relies on theories and measures constructed to document presumably heterosexual women's experiences to understand sexual minority women's experiences of assault. And while some of the frequently cited risk factors for adult sexual assault have been well studied in sexual minority populations (e.g., child sexual abuse; Balsam, Lehavot, & Beadnell, 2011), others are only beginning to emerge (e.g., sexual risk behavior; Matthews et al., 2013).

The present study examined whether certain risk factors for sexual assault (e.g., sexual risk behavior, alcohol, and drug use), which have been implicated in work with the general population, mediates the relationship between child abuse and adult victimization. Further, this study examined the moderating effect of sexual orientation on these relationships to unearth distinct patterns of risk among women of diverse sexualities. A comparison across heterosexual, lesbian, and bisexual women is necessary for several reasons. 1) Research that combines bisexual and lesbian women into a single group obscures potential differences that must be understood to document accurate prevalence of certain behaviors and clarify the shared and distinct risks that sexual minority women may face. For example, combining lesbian and bisexual women into one group limits researchers' ability to identify whether rates of alcohol use vary by group and whether risk of assault due to drinking varies between lesbian and bisexual women. 2) Without a heterosexual reference group, we cannot understand whether particular risk factors are distinct to certain groups of women or whether certain factors place women

differentially at risk—potentially accounting for bisexual women's vulnerability to rape. Such insights are vital to develop culturally appropriate services and prevention efforts.

1.1 Prevalence of Sexual Violence

1.1.1 General Population

Sexual violence is a major public health problem, impacting women and men, across the lifespan (Basile, Smith, Breiding, Black, & Mahendra, 2014), across demographic groups (Black et al., 2010), in urban and rural areas (Lewis, 2003), across the U.S. (Federal Bureau of Investigation [FBI], 2013), and internationally (World Health Organization [WHO], 2014). Within the U.S., close to one in five women experience attempted or completed rape within her lifetime and half of all women will experience some form of sexual victimization (Black et al., 2011). Internationally, almost one third of all women experiences physical or sexual violence by an intimate partner, or sexual violence by a non-intimate partner (Krug, Dahlberg, Mercy, Zwi, & Lozano, 2002; WHO, 2014).

Consequences of sexual violence extend beyond the individual level, to interpersonal, communal, and societal levels (Krug et al., 2002; WHO, 2014). Sexual violence is associated with numerous physical and mental health problems for the survivor (Campbell, Sefl, & Ahrens, 2004; Centers for Disease Control [CDC], 2004; Foa & Rothbaum, 1998; Plichta, 2004; Yuan, Koss, & Stone, 2006) and can also impact third parties providing support to the survivor, such as counselors, family members, and friends (Ahrens & Campbell, 2000; Schauben & Frazier, 1995). It is a costly problem for communities (Miller, Cohen, & Wiersema, 1996; White House Council on Women and Girls & the Office of the Vice President, 2014) that can erode a sense of safety for its citizens (Riger & Gordon, 2010).

1.1.3 Sexual Minority Women

With two published exceptions (Bernhard, 2000; Descamps, Rothblum, Bradford, & Ryan, 2000), a growing body of research has indicated that sexual minority women are disproportionately affected by sexual violence (e.g. Balsam, Rothblum, & Beauchaine, 2005; Hughes et al., 2001; Hughes, Szalacha, et al., 2010; Katz-wise & Hyde, 2012; Tjaden, Thoennes, & Allison, 1999). Although the evidence of this disparity appears overwhelming, not all of these studies were as rigorously executed as the corpus of sexual violence research from which incidence and prevalence rates pertaining to the general population are drawn.

In a review of 75 peer reviewed publications between 1989-2009, Rothman and colleagues (2011) demonstrated higher reported rates of sexual assault against lesbian, gay, and bisexual (LGB) individuals when using both community and population-based samples, with estimates as high as 85% of lesbian and bisexual women in community samples and 55% in population-based samples. Of the studies reviewed, one third (n=25) used population or census-based sampling techniques. Of these 25 studies, 12 included data from lesbian and/or bisexual women and only two assessed sexual assault in adulthood and were published since 2000 (Moracco, Runyan, Bowling, and Earp, 2007; Scheer et al., 2003). Moracco and colleagues (2007) conducted a random-digit-dial study and assessed sexual victimization by asking if participants had ever been "forced to have sex and/or do sexual things" by either a stranger or someone they knew. The singular item, "forced to have sex and/or do sexual things" is likely insufficient to capture the scope of sexually violating experiences that more comprehensive and behaviorally based measures capture. A multi-item behaviorally based measure may better prompt memory recall of past coercive events while simultaneously avoiding the use of legal terms or stigmatizing labels (e.g., rape, sexual assault; Testa, VanZile-Tamsen, Livingston, & Koss, 2004). Scheer and colleagues (2003), whose data were collected in the late 1990s from

low-income communities in Northern California, assessed sexual coercion—the specific means by which coercion was assessed were not published.

Historically, research on sexual violence combined bisexual and lesbian women into a single group (i.e., sexual minority women). Since Rothman and colleagues' 2011 review, studies have continued to reveal disproportionate risk of sexual violence for sexual minorities compared to heterosexuals (e.g., Gilmore et al., 2014; Hequembourg, Livingston, & Parks, 2013); yet when rates of sexual violence are compared among heterosexual women, lesbians, and bisexual women, we see that bisexual women report more victimization (Balsam et al., 2005; Hequembourg et al., 2013; Tjaden et al., 1999; Walters, Chen, & Breiding, 2013) and heterosexual women and lesbians' reported rates may not statistically significantly differ from one another (Walters et al., 2013). Without research that compares rates (and risk factors) between these groups, practitioners and interventionists may be tempted to treat victims as a homogenous population. Yet there is a crisis facing bisexual women that cannot be addressed without direct attention.

The most recent national probability data on sexual assault demonstrate that approximately half (46.1%) of all bisexual women report rape within their lifetimes compared to one in eight (13.1%) lesbians and one in six (17.4%) heterosexual women (the difference between the latter two groups was not statistically significant; Walters et al., 2013). The same trend held when assessing sexual violence other than rape. Bisexual women reported significantly more sexual violence (e.g., unwanted contact) than lesbian or heterosexual women and there were no statistically significant differences between lesbian and heterosexual women's reported rates. Approximately 75% of bisexual women, 46.4% of lesbian women, and 43.4% of heterosexual women reported lifetime experiences of sexual violence other than rape. It is

important to note, however, that all women who are sexually victimized, including lesbians, are most frequently victimized by men (Balsam et al., 2005; Hequembourg et al., 2013; Long et al., 2007). So while lesbians may be at reduced risk of sexual violence compared to their bisexual counterparts, numerous questions remain as to why their reported rates are not lower when compared to heterosexual women.

1.2 Child Abuse and Revictimization

1.2.1 General Population

Among women who experience attempted or completed rape within their lifetime, more than half are under the age of 18 at the time of their first victimization (Tjaden & Thoennes, 2000). The term revictimization is most frequently used to describe instances when women with a childhood sexual victimization history experience sexual assault later in their adulthood (e.g., Messman-Moore & Long, 2003; Roodman & Clum, 2001). Previous sexual victimization is a robust predictor of later victimization in multiple samples, including community, college student, and clinical samples (Breitenbecher, 2001; Messman-Moore & Long, 2003).

Research on sexual revictimization in adulthood most frequently focuses on women with a history of childhood sexual abuse (e.g., Maker, Kemmelmeier, & Peterson, 2001; Najdowski & Ullman, 2011; or Roodman & Clum, 2001). However, researchers have also posited that other forms of child abuse, such as child physical abuse (CPA), should be included as a factor in predicting later sexual victimization (e.g., Messman-Moore, Walsh, & DiLillo, 2010; Polusney & Follette, 1995; Tusher & Cook, 2010). Varying forms of child abuse frequently co-occur (Cloitre et al., 2009; Messman-Moore et al., 2010) and any form of child abuse increases the odds of abuse in adulthood; experiencing multiple forms of child abuse dramatically increases these odds (Chiu et al., 2013). Additionally, experiencing multiple forms of child abuse may lead

to Complex PTSD or Developmental Trauma Disorder, the manifestation of multiple PTSD-related symptoms stemming from multiple forms of child abuse (Cloitre et al., 2009).

1.2.2 Sexual Minority Women

Emerging research suggests that sexual minority women's disproportionate risk of sexual violence in adulthood may be driven by histories of childhood sexual abuse (Balsam et al., 2011), given the well-known link between victimization in childhood and adulthood (Martin, Fisher, Warner, Krebs, & Lindquist, 2011). Others have demonstrated the importance of also including childhood physical abuse (CPA) in studies of revictimization among sexual minority women (Morris & Balsam, 2003). Both forms of abuse are statistically significant predictors of later assault among lesbians and bisexuals, with CSA having a stronger relationship to adult sexual victimization than CPA (Morris & Balsam, 2003). Further, the severity of CSA matters—sexual minority women with more severe CSA histories are more likely to be revictimized as adults (Heidt, Marx, & Gold, 2005).

At least two studies have not found that sexual minorities are more likely to experience CSA than heterosexuals (Descamp et al., 2000; Hequembourg, Parks, & Vetter, 2008). Other work in the area suggests that not only are sexual minorities more likely to experience CSA (Austin et al., 2008; Balsam et al., 2005; Hughes et al., 2001), but sexual minorities are at disproportionate risk of multiple types of violence across the lifespan compared to their heterosexual counterparts (Austin et al., 2008; Balsam et al., 2005; Katz-Wise & Hyde, 2012; Tjaden, Thoennes, & Allison, 1999). Balsam and colleagues (2005) examined lifetime victimization among a sample of 1,245 heterosexual, gay, lesbian, and bisexual siblings. Lesbian, gay, and bisexual (LGB) participants were significantly more likely to report childhood physical and sexual abuse, partner violence, and sexual violence in adulthood than their heterosexual siblings. Overall, lifetime victimization was higher for LGB siblings than heterosexual siblings.

Bisexual and lesbian women reported higher mean scores for childhood psychological abuse (22.7 bisexual, 21.1 lesbian vs. 17.5 heterosexual) and physical abuse (15.6 bisexual, 15.6 lesbian, vs. 10.8 heterosexual). Sexual minority women were also more likely to report childhood sexual abuse compared to their heterosexual siblings (47.6% bisexual, 43.6% lesbian, vs. 30.4% heterosexual). The same trends were apparent in women's reports of lifetime physical assault by a partner (49.2% bisexual, 47.5% lesbian, vs. 39% heterosexual) and overall lifetime victimization (16.9% bisexual, 15.5% lesbian, vs. 7.5% heterosexual). While Balsam and colleagues did not compare rates between lesbian and bisexual women, mean scores on each of these were highest among bisexual women.

In other research that did compare bisexual women and lesbians' victimization experiences, Hequembourg and colleagues (2013) found no significant differences in the frequency of CSA—yet bisexual women were statistically more likely to report revictimization in adulthood than lesbians (49.5% vs 30.6% respectively). Other work has been equivocal on the topic (Balsam et al., 2011; Heidt et al., 2005).

1.2.3 Theories of Revictimization

Childhood sexual abuse results in a number of negative sequelae (Breitenbecher, 2001; Finkelhor & Browne, 1985; Messman-Moore & Long, 2002; Polusny & Follette, 1995). Historically, the most frequently studied outcomes have focused on traumagenic dynamics (i.e., traumatic sexualization, betrayal, powerlessness, and stigmatization; Finkelhor & Browne, 1985) and maladaptive coping behaviors stemming from emotional avoidance (Polusney & Follette, 1995). More recently, revictimization theory has focused on ecological rather than intrapersonal factors (Messman-Moore and Long, 2003). A number of theories have attempted to explain sexual revictimization, yet most of them have not been empirically supported (Breitenbecher, 2001; Messman-Moore & Long, 2002).

Scholars have conceptually organized revictimization theories in different ways. One such approach involved organizing theories in terms of psychological functioning, social functioning, and adult interpersonal relationships (Polusny & Follette, 1995). Another systematic review of the literature used eight such categories: spurious factors (i.e., women are not more prone to experience revictmization per se but rather more likely to perceive or report it), situational or environmental variables (e.g., alcohol or drug use, number of consensual partners, etc.), disturbed interpersonal relationships (e.g., interpersonal dependency, traumatic bonding), cognitive attributions (e.g., learned helplessness that results in victims believing attempts to protect themselves from future harm is futile), self-blame and self-esteem, coping skills, perception of threat, and trauma-related symptomatology (e.g., unable to perceive or respond to threatening situations due to dissociation, PTSD, or other trauma-related symptomologies), and general psychological adjustment (e.g., depression, anxiety, self-harming behaviors). Of these eight categories, only situational variables (e.g., alcohol use, multiple sex partners) and general psychological adjustment (e.g., depression, anxiety, self-harming behaviors) have received modest empirical support (Breitenbecher, 2001).

The situational variables identified by Breitenbecher (2001) as having some amount of empirical support within the CSA literature can all be conceptualized under the theoretical framework of emotional avoidance, whereby survivors of childhood abuse seek to "temporarily avoid or alleviate negative abuse-related internal experiences…such as unpleasant thoughts, memories, and affective states associated with an abuse history" (Polusny & Follette, 1995, p. 158). Not only is emotional avoidance thought to result in maladaptive coping (e.g., sex, alcohol and drug use), but as these behaviors prove effective to stave off confronting painful memories, emotional avoidance becomes reinforced, leading to potentially chronic maladaptive

coping strategies. The behaviors used to avoid these emotions (e.g., sex, alcohol use, drug use), however, serve as additional mediating pathways to later assault, thereby facilitating the revictimization process. It is plausible that women able to adaptively respond to painful memories or internal experiences may be less likely to rely on behavioral avoidance strategies that could place them at greater risk of assault. Messman-Moore and colleagues recommend that future research examine the role of alcohol and substance use as potential causes of revictimization and examine the effectiveness of prevention programs focused on adaptive emotion regulation.

Outcomes of early trauma (e.g., CSA), may differ by various characteristics of the abuse, such as abuse severity, longevity, relationship with the abuser, and whether multiple types of abuse occurred (e.g., Beitchman et al.,1992; Cloitre et al., 2009; Elliott & Briere, 1992; Nash, Hulsey, Sexton, Harralson, & Lambert, 1993). Identifying women who attempt to buffer painful memories of the abuse by engaging in behaviors that may confer risk of revictimization, which behaviors they engage in, and how much risk those behaviors confer, are important insights to designing effective treatment, intervention, and prevention programs for survivors of early trauma. Research on revictimization, taken together, indicates that revictimization is a complex phenomenon that is not yet fully understood (Breitenbecher, 2001), particularly among sexual minority women. Nevertheless, what we do know is that it is all too common an occurrence (Balsam et al. 2011; Heidt et al., 2005; Hughes, Szalacha, et al., 2010; Morris & Balsam, 2003; Walters et al., 2013), results in numerous challenges for the victim (Cloitre et al., 2009), and will require substantial effort to prevent.

1.4 Risk Factors

1.4.1 Sexual Risk Behavior and Sexual Violence

1.4.1.1 General Population

Sexual risk behavior is a nebulous construct within the literature, operationalized differently among researchers and conceptualized differently when applied to different populations and outcomes (e.g., when applied to the topic of sexual violence compared to risk of HIV). Across studies, however, the construct is frequently framed as a) unprotected sex and b) number of sex partners (e.g., Bryan, Shmiege, & Magnan, 2011; Cooper, 2002; Epstein, Bailey, Manhart, Hill, & Hawkins, 2014; or Messman-Moore et al., 2010).

Women who experienced childhood abuse compared to those who did not display different patterns of sexual behavior. For example, women who experienced childhood abuse may engage in sex at earlier ages, may have more sex partners, and may have more permissive attitudes about sexual behavior than women who were not abused (see Messman-Moore & Long, 2003 for review). Engaging in sex early in life, which presumably leads to a greater number of lifetime sex partners, confers risk by the odds of one (or more) of those partners being a perpetrator of sexual assault—simply a matter of odds. If perpetrators are aware of women's permissive attitudes regarding sexual behavior, they may be more likely to feel entitled to sex, and therefore more likely to assault.

Sexual risk behavior is a frequently studied predictor of revictimization (Messman-Moore & Long, 2003). In a sample of 752 college women, Messman-Moore and colleagues (2010) found that both forms of child abuse (CSA and CPA) predicted sexual risk behavior and later assault by intimate partners (although not with casual partners). Sexual risk behavior included sex without protection from pregnancy or sexually transmitted infections (STIs) and sex under

the influence of drugs and alcohol. Of the risk behaviors assessed, number of lifetime sexual partners was the strongest predictor of sexual assault; however, each of the aforementioned sexual risk behaviors was also a significant predictor. Others have found that problematic substance use may mediate the relationship between childhood trauma and sexual risk behavior. Further, different sexual risk behaviors may predict adult victimization for different types of partners (i.e., romantic partners versus strangers; Testa et al., 2007).

1.4.1.2 Sexual Minority Women

The majority of research on sexual risk behavior and sexual assault within the sexual minority community focuses on gay and bisexual men. In studies to date, sexual risk behavior among men who have sex with men (MSM) has typically comprised behaviors such as unprotected anal intercourse, which may increase their risk for acquiring HIV or other STIs (e.g., Grov, Hirshfield, Remien, Humberstone, & Chiasson, 2013; or Heath, Lanoye, & Maisto, 2012). Within this body of research, sexual risk behavior is conceptualized much as it is in research conducted with the general population—what constitutes sexual risk behavior is largely discussed as negative physical outcomes from unprotected sex (i.e., unintended pregnancy or STIs).

Sexual risk behavior between women who have sex with women must be conceptualized differently. Women cannot get pregnant from other biological women and current evidence suggests they are at decreased risk of acquiring STIs through sexual contact with other women (Muzny, Kapil, Austin, Hook, & Geisler, 2014), in spite of social norms and documented behavior that demonstrates a reduced likelihood of engaging in protected sex. For example, in one large UK study, 86% of women who engaged in oral sex with other women never used a barrier method (e.g., dental dam)—only 1% reported that they always used them (Bailey,

Farquhar, Owen, & Whittaker, 2003). Thus, within the dominant framework for understanding sexual risk behavior, a majority of lesbians engage in practices that some researchers would identify as risky (i.e., unprotected sex). However, they are unlikely to experience the negative outcomes that led these practices to be designated as such.

Little attention has been paid to lesbians' sexual health (Marrazzo, 2004). As we await better understanding of risk and transmission of STIs from the medical sector, the small body of literature on sexual risk behavior among lesbians and bisexuals has examined the role of number of lifetime male or female partners on risk of sexual victimization (Hequembourg et al., 2013), or otherwise have focused on sexual risk behavior as the outcome of the study (Matthews et al., 2013). Thus it remains unclear whether sexual risk behavior, as examined within the general population, is a risk factor for sexual victimization among sexual minority women, and if so, which behaviors confer risk for assault.

1.4.1.3 Theory on Sexual Risk Behavior and Sexual Victimization

As mentioned above, survivors of early trauma may use sex as a form of emotional avoidance (Messman-Moore & Long, 2010; Polusny & Follette, 1995). Sexual risk behavior, a construct that frequently includes risk for unintended pregnancy and STIs, as well as numerous sex partners, may confer risk for adult sexual victimization by either simply producing more opportunities to engage a partner who may choose to assault, or due to a perpetrator's targeting of the victim (e.g., due to a perpetrator's perception of a woman with more permissive sexual attitudes as being available for sex; Messman-Moore & Long, 2003).

1.4.3 Alcohol Use

1.4.3.1 General Population

Both childhood sexual and physical abuse strongly predict alcohol use (Drabble, Trocki, Hughes, Korcha, & Lown, 2013), yet the role of alcohol use in adult victimization and revictimization is less clear (e.g., Messman-Moore & Long, 2003). Alcohol use has been consistently implicated in adult sexual victimization (e.g., Abbey, Zawacki, Buck, Clinton, & McAuslan, 2004; Testa & Parks, 1996)—yet the temporal relationship between alcohol use and adult victimization is debated, in part due to flawed study methodology (Breitenbecher, 2001). Competing theories suggest that alcohol use may be a proximal risk factor for assault if use leads to increased risk for later assault; however, alcohol may also serve as an outcome of assault if being used as a coping strategy amongst survivors (e.g., Ullman, 2003). It also warrants mention that across studies, researchers may assess alcohol use, problematic drinking, alcohol abuse, alcohol dependence, or a number of other classifications of alcohol consumption. Such variation impacts study findings while simultaneously making comparisons across these studies difficult.

Many studies assessing the relationship between alcohol use and sexual victimization are cross-sectional and unable to establish the directionality of this relationship. One longitudinal study with a national probability sample conducted to delineate the directionality of the alcohol-assault relationship found that sexual assault leads to alcohol abuse, rather than alcohol use preceding assault (Kilpatrick, Acierno, Resnick, Saunders, & Best, 1997). The authors theorized, although they did not directly test this idea, that alcohol use post-assault serves as a coping strategy for the traumatic event. However, other longitudinal research has found problematic drinking to precede adult victimization (e.g., Messman-Moore, Ward, & Brown, 2009; Walsh et al., 2012). One explanation for these contradictory findings may be that alcohol-victimization

studies have not controlled for levels of pre-assault drinking (Testa, Livingston, & Hoffman, 2007).

1.4.3.2 Sexual Minority Women

With one exception (Hughes et al., 2001), research has found that sexual minority women drink more and have more alcohol-related problems than heterosexual women (Cochran, Keenan, Schober, & Mays, 2000; Drabble et al., 2013; Hequembourg et al., 2008; Hughes, 2003; Hughes, 2011). Sexual minority women who are victimized in childhood are more likely to engage in problematic drinking or be dependent upon alcohol (Descamps et al., 2000; Gilmore et al., 2014; Hughes et al., 2001; Hughes, Szalacha et al., 2010) and although one study has found otherwise (Hughes et al., 2001), most research in the area suggests that alcohol use is associated with later sexual victimization among sexual minority women (Gilmore et al., 2014; Han et al., 2013; Hequembourg et al., 2013).

1.4.3.3 Theory on Alcohol and Sexual Victimization

Alcohol use has been discussed as a way to avoid emotional states resulting from childhood abuse. Alcohol use may confer risk for adult victimization by impeding a person's ability to perceive (e.g., Abbey et al., 2004) or effectively respond to the threat of victimization (e.g., through escaping the situation or defending against an assailant; Testa & Parks, 1996). Additionally, alcohol use may confer risk for later assault due to a combination of perpetrators' characteristics (Abbey et al., 2004), such as a perpetrator's perception of the victim as a willing participant (George, Cue, Lopez, Crowne, & Norris, 1995), or their perception of a woman under the influence of alcohol as a legitimate target (e.g., assaulting an intoxicated woman is not rape; Norris & Cubbins, 1992).

1.4.3.3.1 Drinking Norms

Descriptive drinking norms, an individuals' perception of how much one's peer group drinks, is a strong predictor of drinking among young people (Neighbors, Lee, Lewis, Fossos, & Larimer, 2007). Further, how much someone drinks influences perceptions of drinking norms among their peers (Cullum, Armeli, & Tennen, 2010). This relationship between descriptive norms and one's rate of drinking creates a reciprocal relationship (Cullum et al., 2010; O'Grady, Cullum, Tennen, & Armeli, 2011). If an individual perceives drinking to be more frequent among peers, that individual will engage in more drinking, and their increase in drinking reinforces the perception that drinking is even more common within their friend group.

This reciprocal relationship may be even more salient for sexual minority women who drink more and are more likely to be sexual assaulted than heterosexual women (Gilmore et al., 2014). Sexual minority women's disproportionate rates of alcohol use may be due to a number of factors. First, sexual minority women with a history of CSA may be using alcohol to cope with early trauma as a form of experiential avoidance, and the increased likelihood of drinking to cope impacts their descriptive drinking norms, which reciprocally enforces their drinking behavior (Gilmore et al., 2014). Also, regardless of child abuse history, bar culture has been described as central to the sexual minority community (e.g., Trocki, Drabble, & Midanik, 2005). Gay and lesbian bars create an opportunity for sexual minorities to gather and socialize, which is otherwise largely non-existent in daily life. In turn, going to bars is associated with more alcohol consumption (Heffernan, 1998; Trocki et al., 2005). The combination of more alcohol consumption and socializing with others who consume alcohol impacts descriptive drinking norms, which leads to increased alcohol use.

1.4.5 Drug Use

More research is needed to understand the impact of drug use on adult sexual victimization; however, effects of drug use on later victimization have been posited to operate similarly to those of alcohol use (Messman-Moore & Long, 2003). Drug abuse may create a "vicious cycle" in which substance abusers are more likely to be assaulted, which in turn leads to more substance abuse (Kilpatrick et al., 1997). This theory, advanced by Kilpatrick and colleagues, posited (though did not test) that the reciprocal relationship between drug use and victimization occurs due to contact with 'deviant men' (e.g., during the purchase of illegal drugs) and that these men may perceive women who purchase and use drugs as 'safe targets' for sexual assault. Post-assault, these women may continue to use drugs to cope with the assault. Participant sexuality was not reported in this large national probability study and research on drug use as a mechanism for revictimization is scant within the general population and nonexistent within sexual minority communities. However, this relationship deserves more attention given that sexual minority women are more likely to use drugs than heterosexual women (Cochran, Ackerman, Mays, & Ross, 2004; Scheer et al., 2003), and bisexual women are more likely to be victimized in adulthood than heterosexual women (e.g., Walters et al., 2013).

Given that sexual minority women report beginning to use alcohol at an earlier age than heterosexual women (Hughes, McCabe, Wilsnack, West, & Boyd, 2010), drink more than heterosexual women (Drabble et al., 2013; Hequembourg et al., 2008; Hughes, 2011), and may be more likely to use drugs than heterosexual women (Cochran et al., 2004; Scheer et al., 2003), it seems logical that substance use (both alcohol and drug) may be a particularly salient risk factor for sexual victimization.

1.4.7 Theories of Stress and Stigma among Sexual Minorities

Multiple theories have attempted to capture the complex processes by which living in a heterosexist society negatively impacts sexual minorities (e.g, Bandermann & Szymanski, 2014; Herek, Gillis, & Cogan, 2015; Meyer, 2013). These have been discussed in terms of heterosexist oppression (Bandermann & Szymanski, 2014), sexual stigma (Herek et al., 2015), and minority stress (Meyer, 2013). I focus on minority stress because it is the most expansive yet flexible conceptual framework to date within which to understand these dynamic processes.

1.4.7.1 Minority Stress

Minority stress emerged as a theory to describe the additive stress of prejudice and stigma experienced due to living in a society with structures and norms that do not reflect one's minority group (Meyer, 2013). Minority stress comprises three components: the stress is unique, chronic, and socially based. Minority stress is unique as it is added to the constellation of other stressors experienced by everyone: it is chronic because this stress stems from intractable social and cultural structures that demean, devalue, or exclude minorities: and it is socially based (e.g., institutionalized) rather than stemming from the individual (e.g., their genetically predisposed stress response).

Sexual minority stress is conceptualized along a distal-proximal continuum. Distal objective stressors (e.g., exclusionary policies) may take on proximal subjective importance "depending on how they are manifested in the immediate context of thought, feeling, and action" (Meyer, 2013, p. 5). For example, the extent to which a person experiences minority stress related to institutionalized exclusionary practices of same-sex adoption (distal) is dependent upon the extent to which this practice impacts that individual or someone close to them (psychologically, emotionally, or practically). The process of minority stress is not only

dependent on the distal external events, or the internalization of the events, but also the vigilance required to continuously anticipate the event. Additionally, the extent to which one conceals one's sexual orientation leads to sexual minority stress.

Sexual minority stress was illustrated in focus groups with lesbian and bisexual women who described being eroticized by heterosexual men who would become hostile when their advances were declined (Hequembourg & Brallier, 2009). Sexual minority women strategically managed the "brush-off" as a way to avoid men's advances (and their ensuing hostility) by concealing their sexual orientation. Simultaneously, women had to be continuously vigilant about if, when, how, and to whom they would disclose their sexual orientation. However, a sexual minority person is never done coming out (and therefore free of sexual minority stress) as they must renegotiate these processes with each new person they meet.

Dimensions of minority stress have a direct impact on sexual minorities' mental health (Bandermann & Szymanski, 2014; Gold, Dickstein, Marx, & Lexington, 2009; Kaysen et al., 2014; Lehavot & Simoni, 2011); however, the ways in which sexual minorities attempt to cope with minority stress may further exacerbate these negative mental health outcomes. For example, in a sample of lesbian sexual assault survivors, experiential avoidance fully mediated the relationship between internalized homophobia and post-traumatic stress disorder (Gold et al., 2009). Other work suggests that substance use may serve as a form of emotional avoidance stemming from minority stress, mediating its relationship with PTSD (Bandermann & Szymanski, 2014; Lehavot & Simoni, 2011).

1.4.7.2 Stress & Stigmatization of Bisexuals

There is a dearth of research on the unique forms of stigmatization or minority stress impacting bisexuals. However, binegativity is theorized as a set of beliefs that denigrate and

obfuscate bisexuality. For example, the belief that bisexuals are confused about their sexuality, doubt that bisexuality actual exists (i.e., everyone is either heterosexual or homosexual), fear that bisexuals are responsible for the HIV/AIDS pandemic, and the perception that bisexuals are unable to be monogamous and are therefore promiscuous, are all manifestations of stigmatization toward the bisexual community (see Yost & Thomas, 2011). Unfortunately, bisexuals experience stigma from both heterosexual and gay/lesbian populations, particularly those that endorse a binary conceptualization of sexual orientation (Hequembourg & Brallier, 2009). And although many women's sexuality is fluid rather than static (Diamond, 2008), bisexuals are still socially pressured to "pick a box", with the assumption that they will (or at least should) maintain a heterosexual or gay/lesbian identity over time.

More research is needed to understand the distinct experiences of sexual minority women with regard to: a) what constitutes risk behavior, b) if and how these behaviors differ across sexual orientations, and c) if and how risk behaviors mediate the established relationship between child abuse and subsequent sexual victimization. Given bisexual women's disproportionate vulnerability to sexual assault relative to lesbian and heterosexual women, it is imperative that researchers seek to understand the potential causes of this disparity, which may be driven by minority stress (as a precipitator of emotional avoidance) or perpetrator characteristics (e.g., perceptions of their victims as promiscuous and therefore available for sex).

1.5 The Current Study

To explore why bisexual women are at increased risk for sexual violence compared to their heterosexual or lesbian counterparts, the current project began by generating a theory-driven path model predicting adult sexual victimization (Figure 1). This model assesses whether sexual risk behavior, alcohol, and drug use, mediate the relationship between three forms of

childhood abuse (sexual, physical, and emotional) and adult sexual victimization. The inclusion of emotional abuse in this model was exploratory and a novel contribution to the sexual violence literature. Further, most work on risk factors for sexual violence has not compared experiences among heterosexual, lesbian, and bisexual women. After generating a model that best represented the full sample, I fit this model to each subgroup of women to assess whether such a theory-driven model could explain bisexual women's disproportionate risk of assault.

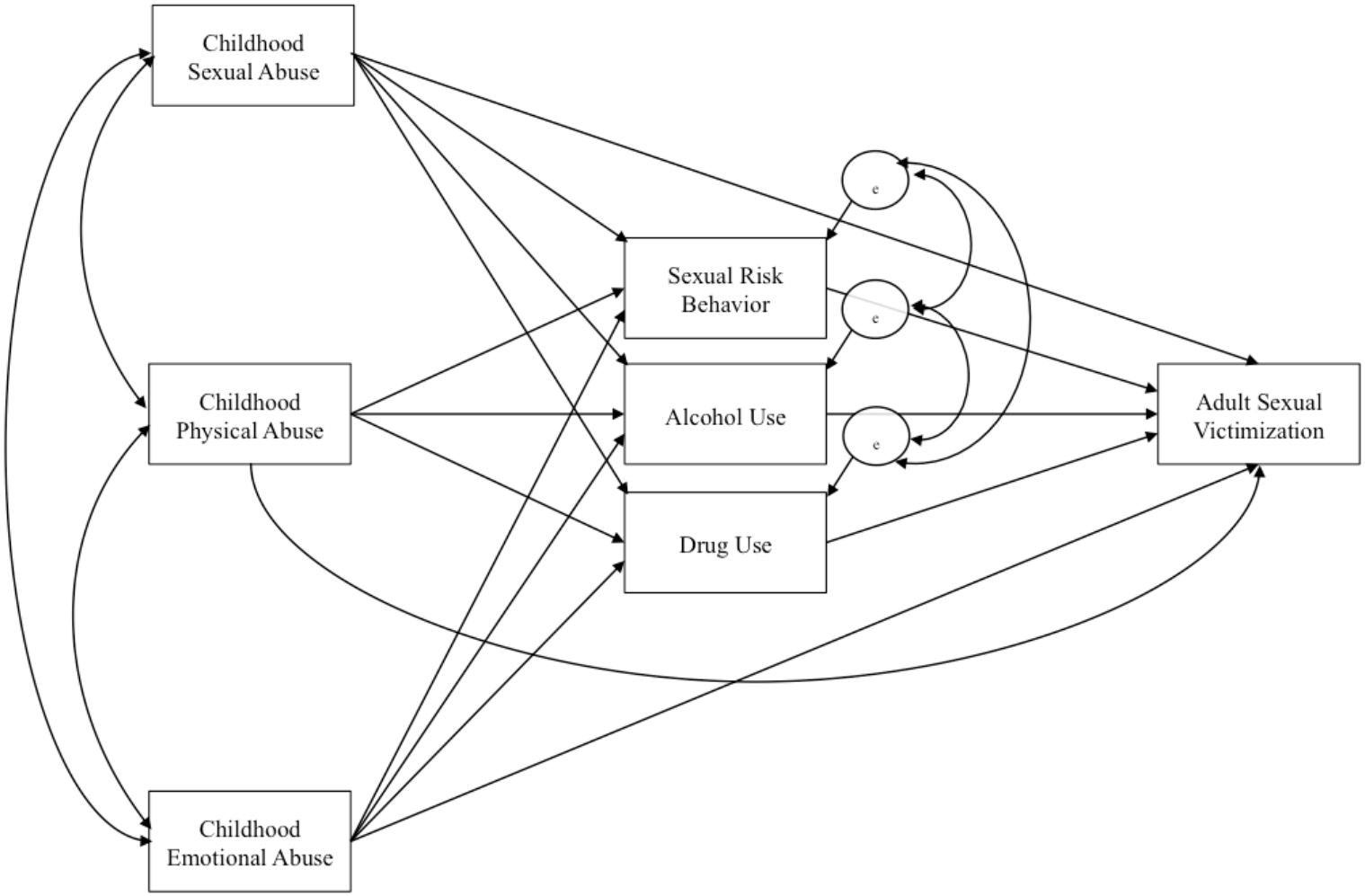


Figure 1. Hypothesized Path Model for Full Sample
Provisional path model for the full study sample depicting theory-driven hypothesized relationships.

2 METHOD

2.1 Procedure

Data were collected as part of a larger online survey study intended to explore both risk and protective factors for experiencing sexual assault amongst women of diverse sexualities. All study procedures were approved by the Georgia State University Institutional Review Board.

2.1.1 Recruitment

Women were recruited using multiple methods. Participants were recruited through social networking sites, via e-mail listservs of college campus and community-based groups, as well as through the Georgia State University online research participation site. Lastly, respondents were encouraged to share the study with other women in their networks.

Recruitment advertising described the purpose of the study: "…to learn about diverse women's experiences, both the good and the bad. Specifically, we are interested in learning about some of the challenges that women have experienced and what enables them to overcome those challenges." Recruitment language intentionally did not mention violence or sexual violence as doing so may have artificially inflated reported rates of victimization compared to the general population by successfully recruiting more women with an experience of past victimization. Further, recruitment language did not specifically address heterosexual, bisexual, or lesbian women. Past research has demonstrated that sexual minority women are keenly aware of stigmatizing stereotypes that associate women's same-sex sexuality with past negative experiences with men (Hipp, 2012; Morris & Balsam, 2003). Although recruitment language did not identify the purpose of the research as specifically investigating issues of sexual violence, this information was provided in the Informed Consent document.

2.1.2 Study Overview

All participants were presented with an online informed consent document explaining that the purpose of the research was to understand more about women's relationships and life experiences. This document explained that participants could discontinue their participation in the study at any time for any reason. Participants provided consent by clicking on a button at the bottom of the screen that read, "If you are willing to volunteer for this research, please click the continue button: Continue." Participants were not asked to provide their name or any identifying information and were free to save or print the consent document.

Participants who consented to participate in the study completed an anonymous, online survey comprising a battery of measures that assessed demographic characteristics, victimization history, sexual behaviors, substance use, relationship experiences, experiences of discrimination, and personality characteristics. The survey concluded with a debriefing form that described the importance of understanding women's relationships and life experiences, "both the good and the bad, in order to build strong and healthy communities and design social services for women with diverse experiences, interests, and needs". As part of the debriefing form, participants were thanked for providing answers to questions that may have felt personal or difficult. I provided a list of services for survivors of various forms of abuse and for support around drug and alcohol dependence. Lastly, participants were provided with my contact information for any follow up questions about their participation.

2.1.3 Incentive

To thank participants for their time, respondents were offered a screen-printed T-shirt specifically designed for this project (see Figure 2). The image on the shirt included a drawing of a tree with the word RESILIENT printed underneath the image. Three brief definitions, also generated specifically for this project, were listed below: "impervious to the effects of bending or

breaking, able to recover after hardship", "able to overcome trauma, adversity, or oppression", "a survivor". T-shirts, along with a postcard stating "YOU ARE RESILIENT", were mailed to any address of the respondents' choosing in plain poly-mailers that did not contain any information about the study on the outside of the package. Respondents were informed that, upon the completion of the study, their responses could not be connected to their identity in any way, and addresses supplied for mailing their gift could not be tied to their participation. Participants were informed that addresses would not be retained upon completion of the study. Participants were also free to decline the gift. Each of these safeguards was intended to ensure respondents' anonymity.

2.2 Sample

Participants included 388 women, age 18 and over. A Monte Carlo Simulation Study with 10,000 repetitions conducted in *M*Plus v.7.3 determined the sample size needed to detect the predicted effects for .80 power would require a minimum of approximately 300 participants. The final sample for the current study comprised 144 self-identifying heterosexual women, 108 lesbian, and 136 bisexual women; therefore, the sample afforded adequate statistical power to detect effects of interest within the hypothesized models.

2.2.1 Inclusion Criteria

To be eligible to participate in the larger study, women had to self-identify as women and be at least 18 years of age. In addition to these criteria, inclusion in the present study required that participants self-identify as heterosexual, lesbian, or bisexual, and provided responses pertaining to the primary outcome variable (i.e., adult sexual victimization).

Of the 786 women who entered the survey, 501 women were retained by the first measure used for this project and 453 by the survey midpoint. The demographic questions were presented approximately two-thirds of the way through the survey. At this point, 445 women

responded to the question, “What is your sexuality?” As the demographic questionnaire portion of the survey was positioned near the end of the survey, it is impossible to determine whether attrition was equivalent across subgroups of women.

Of the 445 women who provided an answer to the question, “What is your sexuality?”, 389 women identified as heterosexual, lesbian, or bisexual. The remaining 56 women were excluded from analyses for the current project. These women self-identified as queer (*n*=15), pansexual (*n*=14), questioning/unsure (*n*=13), asexual (*n*=6), or another descriptor (*n*=8). Of the retained sample of 389, one participant did not respond to any item on the primary outcome measure and was therefore excluded from analysis; again, leaving a usable sample of 388 women for the present analyses.

2.3 Measures and Constructs

Many of the measures described in this section were adapted slightly from their original form. Adaptations are discussed in each ensuing section, and each adapted measure is included in the Appendix.

2.3.1 Sexual Orientation

Sexual orientation was assessed in two ways. First, respondents self-selected a discrete sexual identity category. Respondents were asked to indicate their sexuality as Heterosexual, Lesbian, Bisexual, Questioning or Unsure, or ‘Another sexual orientation’. Respondents who selected ‘Another sexual orientation’ were asked to write in a response with the prompt “Please specify”. Respondents also completed the Klein Sexual Orientation Grid (KSO; Klein, 1993), answering seven questions that tap the multidimensional nature of sexuality (sexual attraction, behavior, fantasies, emotional preference, social preference, lifestyle preference, and sexual identity) over three periods of time (past, present, and ideal). For example, the question about sexual fantasies states, “Whom are your sexual fantasies about? (They may occur during

masturbation, daydreaming, as part of real life, or purely in your imagination.)" Participants indicated their response to each question on a 7-point Likert-type scale that ranges from 1 (Other sex only) to 7 (Same sex only). Scores are summed across dimensional and time period combinations to create a total sexuality score that can range from 21 to 147. Higher scores mean more same-sex orientation.

Psychometric properties of the Klein Sexual Orientation Grid have not been well-established. Floyd and Stein (2003) generated a present and ideal sexual orientation factor based on results from a principal components analysis with the KSO. The eight items retained in their analysis (questions assessing sexual attraction, behavior, fantasies, and self-identification) yielded internal consistency of .95. Others have cluster analyzed results of the KSO to identify subgroups within a bisexual sample (Weinrich & Klein, 2002). Nevertheless, the measure has been noted for its theoretical importance in sexuality research (Cramer, Chevalier, Gemberling, Stroud, & Graham, 2015). The KSO may serve to clarify inconsistencies in the data by providing information on past sexual identity or behavior. This measure may also be useful for researchers who wish to examine sexual fluidity within a sample (Lovelock, 2014). Reliability coefficients for the current sample included .96 for the full sample with $\alpha = .87$, $\alpha = .83$, and $\alpha = .81$ for heterosexual, lesbian, and bisexual women, respectively.

2.3.2 Demographic Characteristics

Participants provided demographic information regarding their age, race/ethnicity, disability status, education, annual income, geographic region, religious affiliation, marital status, and whether respondents had children, by selecting from discrete options provided.

2.3.3 Child Abuse

Child abuse was measured with the Childhood Trauma Questionnaire-Short Form (CTQ-SF; Bernstein et al., 2003). The CTQ-SF comprises 25 clinical items assessing physical, sexual,

and emotional abuse and physical and emotional neglect, as well as three validity items assessing minimization and denial of abuse. I used the three child abuse subscales for the current project.

Each subscale is composed of five questions assessing maltreatment in childhood and adolescence. A sample item from the Sexual Abuse subscale is "I was hurt if I didn't do something sexual." A sample item from the Physical Abuse subscale is "I was hit hard enough to leave bruises." Respondents answered on a 5-point Likert-type scale from 0 (Never true) to 4 (Very often true). The Sexual, Physical, and Emotional Abuse subscales were scored by reverse scoring items as needed and then calculating the mean of all items within the subscale. Higher scores reflect more of the construct (e.g., more childhood sexual abuse).

The CTQ-SF has demonstrated measurement invariance (e.g., equivalent performance in clinical and non-clinical samples or in diverse samples) and criterion-related validity (e.g., convergent and discriminant validity through corroboration with therapist ratings of childhood abuse; Bernstein et al., 2003). The CTQ-SF has demonstrated good construct and content validity with internal consistency α = .92 to .95 and test-retest reliability ranging from r = .79 to .90 (e.g., Bernstein et al., 2003; Bernstein & Fink, 1998; Kaslow et al., 2002; Thompson, Kaslow, Short, & Wyckoff, 2002). In the current study, internal consistency for the entire sample was α = .94 for the Sexual Abuse subscale, α = .92 for the Physical Abuse subscale, and α = .89 for the Emotional Abuse subscale.

2.3.4 Sexual Risk Behavior

Sexual risk behavior was measured using the 23-item Sexual Risk Survey (SRS; Turnchik & Garske, 2009), a comprehensive measure of sexual risk taking initially designed to be used with diverse college populations. The SRS has five subscales including Sexual Risk Taking with Uncommitted Partners, Risky Sex Acts, Impulsive Sexual Behaviors, Intent to Engage in Sexual Risk Behaviors, and Risky Anal Sex Acts. A sample item is, "How many times

have you had sex with someone you don't know well or just met?" The original measure asks respondents to provide the frequency of engaging in each behavior over the last six months. Researchers can use a total scale score or subscale scores.

I made slight adaptations to the original instrument to capture behaviors deemed potentially risky for women who have sex with men and/or women. For example, the item, "How many times have you had vaginal intercourse without a latex or polyurethane condom?" was adapted to read, "How many times have you had vaginal intercourse without a protective barrier (e.g., latex condom, female condom, finger cots, etc.)?" The following words in italics were added to this item, "How many times have you had vaginal intercourse *with a man* without protection against pregnancy?" One item was added, "How frequently have you shared sex toys without sterilizing them between partners?" Respondents were asked to indicate how many times in their lives they had engaged in each behavior and were presented with follow up questions for any behavior that a respondent endorsed at least once. Follow up questions included; "How old were you the first time this happened?", "How old were you the last time this happened?", and "What was the gender of the person?"

The adapted SRS was scored by calculating the frequency of sexual risk behaviors reported for all 24 items. The measure developers reported good internal consistency (α = .88 and 87; Turnchik & Garske, 2009; Turchik & Hassija, 2014), however, I was unable to locate published research that used the measure with sexual minority samples. Initial internal consistency reliability for all 24 items of the adapted SRS used for this project was α = .67 for the total sample, α = .69 for the heterosexual subsample, α = .66 for the lesbian subsample, and α = .67 for the bisexual subsample.

Due to follow up questions presented to each participant who indicated that an experience had ever happened, respondents revealed questions, concerns, and inconsistencies in the ways that they were interpreting or responding to items. Accordingly, 13 items were removed and participants' final scores were calculated by summing counts for 11 behaviors endorsed. Removing 13 items from the SRS resulted in improved reliability for the bisexual subsample (α = .80), though not for other subsamples (α = .69 heterosexual, α = .66 lesbian) or the total sample (α = .68). Lastly, due to great variability in respondents' scores, participants' sexual risk behavior scores were transformed into eight groups using equal percentile cutpoints. The resulting adapted sexual risk behavior measure used for the current project is available in Appendix A.

2.3.5 Alcohol Use

Alcohol use was assessed using an adapted version of the Alcohol Use Disorders Identification Test (AUDIT; Barbor, Higgins-Biddle, Saunders, & Monteiro, 2001). The original 10-item measure was developed by the World Health Organization to assist health care professionals in screening for hazardous and problem drinking. Most items on the AUDIT ask respondents how frequently during the past year a certain behavior occurred. The instrument was adapted slightly to ask respondents "Have you **ever**…" followed by each of the behaviors on the original AUDIT, e.g., "…been unable to stop drinking once you had started?" If respondents answered Yes, they were then asked, "How old were you the first time this occurred?" followed by the original AUDIT item, "How often **during the last year** have you found that you were not able to stop drinking once you had started?". Original response options were provided, 0 (Never), 1 (Monthly or less), 2 (2-4 Times a month), 3 (2-3 Times a week), or 4 (4 or more times a week).

The current project did not intend to assess current hazardous drinking or potential alcohol dependence (i.e., past year), but rather total lifetime alcohol use. Therefore, the adapted AUDIT was scored by summing endorsements across five original items and five adapted items (see Appendix B), yielding a possible score range of 0 to 21 with greater scores indicating more alcohol use. The AUDIT has been used in other research with sexual minority women demonstrating good internal consistency reliability (α = .88; Hequembourg et al., 2013). In the current study, reliability for the adapted AUDIT was lower, although still acceptable (α = .73).

2.3.6 Drug Use

I assessed drug use with a modified version of the Drug Use Disorders Identification Test (DUDIT; Berman, Bergman, Palmstierna, & Schlyter, 2003). The DUDIT is an 11-item measure created as a companion to the AUDIT. For the current study, the DUDIT was adapted in parallel fashion to the AUDIT. Respondents were asked to indicate whether a behavior had **ever** occurred, the age at which it first occurred, followed by the original DUDIT item (how frequently over the past year the behavior occurred). Responses were summed between six original items and five adapted items (see Appendix C) with higher scores indicating more drug use.

The DUDIT was developed to screen for high-risk drug use in clinical and non-clinical populations. The instrument has demonstrated good psychometric properties in European samples of substance abusers (Berman, Bergman & Palmstierna, 2005; Evren, Ovali, Karabulut, & Cetingok, 2014; Matuszka et al., 2014), a U.S. sample of substance abusers (Voluse et al., 2012), and with female college students (α = .88; Tarantino, Lamis, Ballard, Masuda, & Dvorak, 2015). Internal consistency for the adapted DUDIT in the current sample was good (α = .85).

2.3.8 Sexual Victimization

Lifetime sexual victimization was measured using an adapted version of the Revised Sexual Experiences Survey-Victimization Short Form (SES-SFV; Koss et al., 2007, 2008). The SES-SFV asks respondents to indicate the frequency with which they experienced seven unwanted sexual acts (e.g., "Someone had oral sex with me or made me have oral sex with them without my consent by:"), as well as which of five tactics were used to achieve the sex act (e.g., "Threatening to physically harm me or someone close to me."). In addition to indicating the tactic used to achieve each unwanted sex act, respondents indicated how frequently the behavior and tactic occurred. The original instrument asks each respondent to answer 0 – 3+ times for each time component (past year or since age 14). The adapted measure for this project asked that for any act and tactic endorsed as occurring more than once, participants provided the age at which the experience first occurred, the age at which the experience last occurred, and the gender of the perpetrator. For items endorsed as occurring once, participants were asked to indicate the age at which the behavior occurred and the gender of the perpetrator.

Guidance on SES-SFV scoring describes multiple possible methods; calculating the frequency of each sex act or tactic experienced, calculating frequencies based upon victimization severity (Non-victim, Sexual contact, Sexual coercion, Attempted rape, or Rape), or by grouping participants in mutually exclusive categories based upon their most severe victimization experience. For the current project, I generated a count variable by summing across responses for each act and tactic endorsed as occurring at or over age 14.

The SES-SFV is a widely used measure of sexual victimization due to its use of behaviorally based wording, gender neutral language, and combined assessments of acts and tactics. This measure has demonstrated excellent psychometric properties, including excellent

internal consistency with a different sample of sexual minority women (α = .94; Hequembourg et al., 2013). Internal consistency reliability for the entire sample in this research was α = .96.

Figure 2. Women's Resilience Project T-Shirt
This t-shirt was created for the Women's Resilience Project with design assistance from Sarah Neuberger of The Small Object. The t-shirt was offered to research participants as an incentive for participation in the study.

3 RESULTS

3.1 Descriptive Statistics

The sample was predominantly white (80.1%), under 35 years of age (66.1%), single (52.6%), and resided in the southeastern United States (50.8%). Primary demographic information for the sample is provided in Table 1. Secondary demographic information can be found in Appendix D.

Descriptive statistics for the full sample for each construct are presented in Table 2 and by group in Table 3. It is important to note that many of the effect sizes reported are small ($\eta^2 \approx .02$), and should be interpreted accordingly. Although the effect was small, bisexual ($M = 0.66$, $SD = 1.09$) and lesbian women ($M = 0.65$, $SD = 1.08$) experienced more childhood sexual victimization than heterosexual women ($M = 0.33$, $SD = 0.76$; [$F\{2, 385\} = 5.03$, $p < .01$, $\eta^2 = .03$]). There was also a small but significant effect of bisexual women ($M = 1.35$, $SD = 1.08$) reporting more childhood emotional abuse than heterosexual women ($M = 1.02$, $SD = 1.05$) and lesbians ($M = 1.26$, $SD = 1.24$; [$F\{2, 385\} = 3.31$, $p < .05$, $\eta^2 = .02$]). Yet there were no significant differences in women's reports of childhood physical abuse ($F[2, 385] = 2.59$, $p = .076$; overall group $M = 0.53$, $SD = 0.97$).

On average, women first began engaging in sexual risk behavior at age 19.92 ($SD = 4.43$), with bisexual women beginning significantly younger ($M = 18.57$, $SD = 3.08$) compared to heterosexual or lesbian women ($M = 20.31$, $SD = 5.12$ and $M = 21.10$, $SD = 4.6$, respectively; $F[3, 325] = 9.85$, $p < .01$, $\eta^2 = .06$). Lesbian women reported more sexual risk behavior ($M = 5.02$, $SD = 2.15$) than heterosexual ($M = 4.09$, $SD = 2.35$) or bisexual women ($M = 4.56$, $SD = 2.41$; [$F\{2, 385\} = 4.98$, $p < .01$, $\eta^2 = .03$]), although again, this effect was small.

On average, women in the sample began drinking alcohol at age 18.5 (*SD* = 4.15). There were no significant group differences in the age at which women began drinking alcohol (*F*[2, 356] = 0.39, *p* = .68) nor were there any group differences in women's overall alcohol usage (*F*[2, 385] = 1.21, *p* = .30; overall average alcohol score was *M* = 5.36, *SD* = 3.73). Women who had ever tried drugs (*n* = 164) were approximately 17 years old (*SD* = 4.68) on average the first time. There were no group differences regarding age at first drug use (*F*[2, 161] = 0.55, *p* = .58), and group differences in drug use were not statistically significant at α =.05, but did trend toward significance (*F*[2, 385] = 2.91, *p* = .06), with bisexual (*M* = 2.35, *SD* = 4.20) and lesbian women (*M* = 2.23, *SD* = 3.4) reporting slightly more drug use than heterosexual women (*M* = 1.38, *SD* = 3.30).

Lastly, of women who reported adult sexual victimization (*n* = 212), the average age of first victimization was 19.36 (*SD* = 4.45). Although bisexual women reported being slightly younger at time of first victimization on average (*M* = 18.74, *SD* = 3.85) compared to lesbian (*M* = 19.90, *SD* = 5.88) or heterosexual women (*M* = 19.71, *SD* = 3.87), this difference was not statistically significantly (*F*[2, 228] = 1.60, *p* = .20). Bisexual women in this sample reported significantly more adult victimization (*M* = 13.07, *SD* = 19.56) than their lesbian (*M* = 7.98, *SD* = 17.17) or heterosexual (*M* = 5.65, *SD* = 11.54) counterparts (*F*[2, 385] = 7.50, *p* < .01, η^2 = .04).

3.2 Correlations

Correlations among constructs for the total sample are presented in Table 4, and for each subsample of heterosexual, lesbian, and bisexual women in Table 5. Among the entire sample, all study constructs were significantly and positively correlated, with the exception of relations between sexual orientation and a) alcohol use, b) drug use and c) adult sexual victimization as

well as between d) childhood emotional abuse and alcohol use.

Among heterosexual women only, all variables were significantly positively correlated with the exceptions of the following non-significant associations: childhood sexual abuse with a) sexual risk behavior and b) alcohol use; childhood physical abuse with c) sexual risk behavior, d) alcohol use, e) drug use, or f) adult sexual victimization; and childhood emotional abuse with g) sexual risk behavior or h) alcohol use.

Among the lesbian subsample, all forms of childhood abuse as well as sexual risk behavior and alcohol use were significantly and positively associated with adult victimization. Childhood sexual abuse was also significantly and positively associated with both childhood physical and emotional abuse, which were each positively associated with one another. Lastly, sexual risk behavior was significantly and positively correlated with both alcohol and drug use, which were each positively associated with each other.

Among the bisexual subsample of women, each form of childhood abuse was significantly and positively associated with each other and each variable in the study was significantly and positively associated with adult sexual victimization. Childhood sexual abuse was significantly and positively associated with both sexual risk behavior and drug use while childhood physical abuse was significantly and positively associated with sexual risk behavior only. Childhood emotional abuse was not associated with any of the mediating risk factors (i.e., sexual risk behavior, alcohol use, or drug use). Sexual risk behavior was significantly and positively associated with both alcohol and drug use, each of which were significantly and positively associated with each other.

3.4 Model Estimation

I used Structural Equation Modeling to build a path model in *M*plus v.7.3 to simultaneously estimate relationships among variables predicting adult sexual victimization. Initially, I generated a provisional path model using Poisson regression with maximum likelihood estimation for the entire sample. Next, I fit the provisional path model to each subsample of women using known-class mixture modeling with numeric integration. Poisson regression, as an analytic approach designed for use with count data, accounted for the positively skewed distribution of the primary outcome variable (adult sexual victimization), which had a skewness statistic of 3.11 (*SE* = .12) (See Swartout, Thompson, Koss, & Su, 2014 for discussion on analytic approaches to count data in violence research). Numerical integration allows for outcome variables with different underlying distributions (e.g., normal and Poisson) to be reconciled within the same analytic model. Because traditional multiple-groups structural equation models are not possible when numerical integration is used, the current study employed a form of mixture modeling to fit models across sexual orientation groups. Known-class mixture modeling was specifically used because groupings were provided a priori (e.g., heterosexual, lesbian, bisexual), rather than generated through analyses (e.g., groupings produced due to characteristics of a latent trait). I relied on the sample-size adjusted BIC (ssaBIC) values as an indicator of fit and parsimony to compare how well the model fit the observed data at each step of model estimation for the full sample, and ultimately in the final multiple groups path model.

3.4.1 Full Sample

The model-building approach began by entering each variable into the model for the full sample. Through a process of removing non-significant paths, re-estimating the model, and comparing model fit indices, I generated a path model that best fit the observed data for the full sample prior to estimating the same path model to each subgroup of women.

In step 1, controlling for the effects of age, I entered childhood sexual abuse, childhood physical abuse, and childhood emotional abuse as exogenous variables freely correlated with one another. I included sexual risk behavior, alcohol use, and drug use as endogenous mediating variables and allowed their errors to freely correlate. The outcome variable was a count-based score of adult sexual victimization. This initial candidate model is depicted in Figure 3. The ssaBIC for this initial path model was 14,458. There was a direct effect of age on adult victimization, such that as age increased, reports of adult victimization decreased. There was also a significant effect of age on sexual risk behavior such that as age increased, so did rates of sexual risk behavior. Age was not significantly associated with alcohol or drug use and served as a control variable for all further analyses.

At this step, childhood sexual assault and sexual risk behavior were the only significant predictors of adult sexual victimization. Alcohol use was not predicted by any childhood abuse variable, and sexual risk behavior was only predicted by childhood sexual abuse and childhood physical abuse, not emotional abuse. Of the mediating variables, drug use was the least significantly associated with the outcome variable (adult sexual victimization) and further, was not significantly associated with childhood sexual or physical abuse. Therefore, drug use was removed from the model in the next step.

In step 2, only drug use was removed from the model, which resulted in better model fit (ssaBIC = 12,506). Within this model, all mediators predicted adult sexual victimization. Alcohol use was not significantly predicted by any childhood abuse variable, and sexual risk behavior was only predicted by childhood sexual and physical abuse. Among all of the relationships depicted in this model, childhood emotional abuse was not significantly associated

with the outcome (adult victimization), alcohol use, or sexual risk behavior, and therefore removed in the next step.

Removing childhood emotional abuse at step 3 notably improved model fit (ssaBIC = 11,419). All relationships among study variables were significantly associated with the exception of alcohol, which was not predicted by any childhood abuse variable. Removing alcohol from the model in step 4 resulted in the most parsimonious model with best overall model fit (ssaBIC = 9,511) and resulted in significant effects for all estimated paths. Figure 4 illustrates this final model fit to the entire study sample, and Table 6 provides fit indices for each step of model estimation described above.

With the full sample fit to the final model, both childhood abuse variables significantly and positively predicted both sexual risk behavior and adult sexual victimization, with childhood sexual abuse being the strongest predictor of adult sexual victimization. Childhood sexual and physical abuse, which were significantly correlated, accounted for a significant portion of the variance in sexual risk behavior ($R^2 = .10$, $p < .01$). Incident rate ratios (IRRs) were generated for effects on the outcome by exponentiating each path coefficient. IRRs were only generated for the outcome, as this was the only count variable in the model. Holding other predictors constant, for every one standard deviation increase in childhood sexual abuse, frequency of adult sexual victimization increases by 60% and each one standard deviation increase in childhood physical abuse increases the frequency of adult sexual victimization by 16%. Lastly, for each unit increase in sexual risk behavior, incidence of sexual victimization increases by 34%. (See Table 7 for path coefficients and incidence rate ratios for the entire sample.)

3.4.2 Multiple Groups

Fitting the same model to each subgroup of women initially resulted in worse model fit (ssaBIC = 10,049) when CSA and CPA were allowed to freely correlate, as this estimated nine

new parameters (three for each group). Constraining means of each exogenous variable to be equal did not result in better model fit (ssaBIC = 10, 051), therefore, I relied on the *M*Plus default whereby the correlations between CSA and CPA for each group were fixed to zero. Trimming this path resulted in the most parsimonious multiple group model with best overall model fit (ssaBIC = 7,931), indicating that modeling subgroups of women separately better represented the observed data.

As with the full model, age served as a control variable in the multiple group analysis. There was a significant effect of age on adult victimization for heterosexual women only, such that older heterosexual women reported less adult victimization. There was a significant effect of age on sexual risk behavior for lesbian and bisexual women only, such that both older lesbian and bisexual women reported more sexual risk behavior (see Table 8).

As described in the following sections, patterns of association slightly differed between groups. Figure 5 depicts results of the multiple groups path model. Table 8 provides standardized and unstandardized coefficients for all relationships except indirect effects, which are provided in-text below.

3.4.2.1 Heterosexual Women

Among heterosexual women, sexual risk behavior did not mediate the relationship between either child abuse variable and adult sexual victimization (CSA, b = .12, SE = .10, p = .26; CPA, b = .10, SE = .09, p = .31). Further, neither childhood sexual or physical abuse predicted sexual risk behavior and accordingly did not account for a significant proportion of the variance in SRB (R^2 = .05, p = .19). Yet sexual risk behavior did significantly predict adult victimization. Additionally, childhood sexual abuse had a significant direct effect on adult victimization. Holding all other predictors constant, for each one standard deviation increase in

childhood sexual abuse, incidence of sexual victimization increases by 53%. For each unit increase in sexual risk behavior, incidence of sexual victimization increases by 46%.

3.4.2.2 Lesbian Women

The same pattern of relationships existed among lesbians as among heterosexual women. Sexual risk behavior did not mediate the relationship between either childhood abuse variable and adult sexual victimization (CSA, b = .04, SE = .05, p = .43; CPA, b = .05, SE = .06, p = .43). Neither childhood sexual or physical abuse predicted sexual risk behavior and accordingly, did not account for a significant proportion of the variance in SRB (R^2 = .08, p = .09). However, sexual risk behavior did significantly predict adult victimization. Childhood sexual abuse, although not childhood physical abuse, had a significant direct effect on adult victimization. Holding all other predictors constant, for each standard deviation increase in childhood sexual abuse, incidence of sexual victimization increases by 115%. For each unit increase in sexual risk behavior, incidence of sexual victimization increases by 30%.

3.4.2.3 Bisexual Women

Sexual risk behavior mediated the relationship between childhood physical abuse and adult victimization among bisexual women (b = .08, SE = .04, p = .046; Figure 6). The effect of childhood sexual abuse on adult sexual victimization via sexual risk behavior approached significance (b = .076, SE = .043, p = 0.075; Figure 7). Both childhood sexual and physical abuse predicted sexual risk behavior and accounted for a significant proportion of the variance (R^2 = .22, p < .01). Sexual risk behavior in turn predicted adult victimization. There was also a significant direct effect of both forms of childhood abuse on adult sexual victimization. Holding all other predictors constant, for each standard deviation increase in childhood sexual abuse or childhood physical abuse, incidence of sexual victimization increases by 38% and 25%,

respectively. For each unit increase in sexual risk behavior, incidence of sexual victimization increases by 26%.

3.4.3 Moderated Mediational Path Model

Contrasts were calculated to determine whether observed differences in path coefficients, including the indirect effect estimates, significantly differed by sexual orientation (thus moderating components of the mediational path model). Results revealed that the only statistically significant difference in coefficients was for the direct effect of childhood sexual abuse on adult sexual victimization, such that this relationship was statistically stronger for lesbian compared to bisexual women (difference in b = .45, SE = .19, p = .02; Figure 8). A second-stage moderating effect (i.e., occurring between the mediator and the outcome rather than the predictors and the mediator) approached significance, with the relationship between sexual risk behavior and adult victimization being stronger for heterosexual compared to bisexual women (difference in b = .15, SE = .08 p = .067; Figure 9).

Table 1. Primary Demographic Characteristics of Participants

Variable	Percent (n)
Sexual Orientation	
Heterosexual	37.1 (144)
Lesbian	27.8 (108)
Bisexual	35.1 (136)
Age	
18-24	34.1
25-34	32.0
35-44	14.0
45-54	11.6
55-64	5.7
65-74	2.1
75 or older	0.5
Race/Ethnicity	
White/Caucasian	80.1
Black/African American	6.0
Hispanic/Latina	3.4
Asian/Pacific Islander	3.4
Native American/American Indian	0.5
Other	6.7

Table 2. Descriptive Statistics of Study Constructs for Entire Sample

	Total Sample (*N*=388)			
Instrument	*M*	*SD*	Range	α
Sexual Orientation (KSO)	77.48	31.40	18 - 147	.96
Childhood Sexual Abuse	0.53	0.99	0 - 4	.94
Childhood Physical Abuse	0.53	0.97	0 - 4	.92
Childhood Emotional Abuse	1.21	1.12	0 - 4	.89
Sexual Risk Behavior (Original - 24 Item)	534.45	1174.84	0 - 13449	.67
Sexual Risk Behavior (Adapted - 11 Item)	86.56	223.67	0 - 2260	.68
Sexual Risk Behavior (Adapted and Grouped)	4.51	2.34	1 - 8	-
Alcohol Use	5.36	3.73	0 - 18	.73
Drug Use	1.96	3.69	0 - 22	.85
Adult Sexual Victimization	8.90	16.57	0 - 105	.96

Note: Possible range for Klein Sexual Orientation Grid is 21-147. Lowest observed in range due to respondent skipping 3 questions; Possible range for CTQ-Sexual Abuse Subscale 0-4; Possible range for original and adapted SRB 0-infinite. Possible range for adapted and grouped SRB 1-8; Possible range for Alcohol Use and Drug Use are 0-22, respectively; Possible range for the SES-SFV is 0-105.

Table 3. Descriptive Statistics for Study Constructs by Group

	Heterosexual Subsample (*n*=144)				Lesbian Subsample (*n*=108)				Bisexual Subsample (*n*=136)			
Instrument	*M*	*SD*	Range	α	*M*	*SD*	Range	α	*M*	*SD*	Range	α
Sexual Orientation (KSO)	45.33	11.91	18 - 84	.87	114.48	16.68	42 - 147	.83	81.48	15.34	35 - 118	.81
Childhood Sexual Abuse	0.33	0.76	0 - 3.8	.94	0.65	1.08	0 - 4	.94	0.66	1.09	0 - 4	.94
Childhood Physical Abuse	0.41	0.88	0 - 4	.95	0.69	1.10	0 - 4	.91	0.54	0.94	0 - 4	.91
Childhood Emotional Abuse	1.02	1.04	0 - 3.8	.88	1.26	1.24	0 - 4	.91	1.35	1.08	0 - 4	.86
Sexual Risk Behavior (Original - 24 Item)	470.49	1073.37	0 - 7213	.69	626.44	1585	0 - 13449	.66	529.13	856.53	0 - 5470	.67
Sexual Risk Behavior (Adapted - 11 Item)	63.43	175.80	0 - 1882	.69	139.24	350	0 - 2260	.66	69.21	102.41	0 - 495	.80
Sexual Risk Behavior (Adapted and Grouped)	4.09	2.35	1 - 8	-	5.02	2.15	1 - 8	-	4.56	2.41	1 - 8	-
Alcohol Use	5.00	3.46	0 - 14	.69	5.71	3.83	0 - 17	.74	5.46	3.91	0 - 18	.76
Drug Use	1.38	3.30	0 - 22	.85	2.23	3.40	0 - 14	.80	2.35	4.20	0 - 22	.88
Adult Sexual Victimization	5.65	11.54	0 - 75	.95	7.98	17.17	0 - 101	.97	13.07	19.56	0 - 105	.95

Note: Possible range for Klein Sexual Orientation Grid is 21-147. Lowest observed in range due to respondent skipping 3 questions; Possible range for CTQ-Sexual Abuse Subscale 0-4; Possible range for original and adapted RSB 0-infinite. Possible range for adapted and grouped RSB 1-8; Possible range for Alcohol Use and Drug Use are 0-22, respectively; Possible range for the SES-SFV is 0-105.

Table 4. Correlations Between Primary Study Variables for Entire Sample

	Instrument	1.	2.	3.	4.	5.	6.	7.	8.
1.	Sexual Orientation (KSO)	-	.12*	.10*	.11*	.15**	.07	.08	.05
2.	Childhood Sexual Abuse	-	-	.37**	.35**	.18**	.11*	.15**	.40**
3.	Childhood Physical Abuse	-	-	-	.63**	.20**	.12*	.12*	.28**
4.	Childhood Emotional Abuse	-	-	-	-	.11*	.09	.18**	.23**
5.	Sexual Risk Behavior	-	-	-	-	-	.50**	.32**	.30**
6.	Alcohol Use	-	-	-	-	-	-	.33**	.29**
7.	Drug Use	-	-	-	-	-	-	-	.27**
8.	Adult Sexual Assault (Count)	-	-	-	-	-	-	-	-

Note: *$p < .05$; ** $p < .01$; KSO = Klein Sexual Orientation Grid.

Table 5. Correlations Between Primary Study Variables by Group

Heterosexual	1.	2.	3.	4.	5.	6.	7.
1. Childhood Sexual Abuse	-	.40**	.39**	.15	.15	.17*	.28**
2. Childhood Physical Abuse	-	-	.62**	.16	.06	.15	.09
3. Childhood Emotional Abuse	-	-	-	.15	.04	.19*	.20*
4. Sexual Risk Behavior	-	-	-	-	.58**	.33**	.40**
5. Alcohol Use	-	-	-	-	-	.31**	.41**
6. Drug Use	-	-	-	-	-	-	.42**
7. Adult Sexual Assault (Count)	-	-	-	-	-	-	-
Lesbian	**1.**	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**
1. Childhood Sexual Abuse	-	.41**	.35**	.12	.10	.06	.56**
2. Childhood Physical Abuse	-	-	.70**	.14	.16	.10	.35**
3. Childhood Emotional Abuse	-	-	-	.04	.15	.16	.28**
4. Sexual Risk Behavior	-	-	-	-	.41**	.23*	.20*
5. Alcohol Use	-	-	-	-	-	.33**	.27**
6. Drug Use	-	-	-	-	-	-	.14
7. Adult Sexual Assault (Count)	-	-	-	-	-	-	-
Bisexual	**1.**	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**
1. Childhood Sexual Abuse	-	.30**	.28**	.21*	.08	.17*	.33**
2. Childhood Physical Abuse	-	-	.58**	.26**	.11	.08	.35**
3. Childhood Emotional Abuse	-	-	-	.09	.05	.16	.19*
4. Sexual Risk Behavior	-	-	-	-	.48**	.34**	.32**
5. Alcohol Use	-	-	-	-	-	.33**	.25**
6. Drug Use	-	-	-	-	-	-	.25**
7. Adult Sexual Assault (Count)	-	-	-	-	-	-	-

Note: *$p < .05$; ** $p < .01$.

Table 6. Model Building by Step with Model Fit Indices

Step	Exogenous Variables	Endogenous Variables	Parameters	ssaBIC
1	CSA, CPA, CEA	SRB, ALC, DRUGS	38	14,458
2	CSA, CPA, CEA	SRB, ALC	28	12,506
3	CSA, CPA	SRB, ALC	22	11,419
4	CSA, CPA	SRB	15	9,511

Note: CSA = Childhood Sexual Abuse; CPA = Childhood Physical Abuse; CEA = Childhood Emotional Abuse; SRB = Sexual RISK Behavior; ALC = Alcohol; Outcome for all = Adult Sexual Victimization; ssaBIC = sample-size adjusted BIC.

Table 7. Path Coefficients and Incident Rate Ratios for the Entire Sample

	β (*SE*)	*b*(*SE*)	*IRR* (*SE*)	*IRR* 95% CI
Adult Sexual Victimization on Childhood Sexual Abuse	0.49** (.07)	0.47** (.07)	1.60 (.11)	1.40-1.79
Adult Sexual Victimization on Childhood Physical Abuse	0.15* (.07)	0.15* (.07)	1.16 (.08)	1.01-1.31
Adult Sexual Victimization on Age	-0.24** (.06)	-0.24** (.06)	0.79 (.05)	0.70-0.87
Adult Sexual Victimization on Sexual Risk Behavior	0.29** (.04)	0.29** (.04)	1.34 (.05)	1.23-1.43
Sexual Risk Behavior on Childhood Sexual Abuse	0.13** (.05)	0.31** (.12)	-	-
Sexual Risk Behavior on Childhood Physical Abuse	0.12* (.05)	0.28* (.13)	-	-
Sexual Risk Behavior on Age	0.24** (.05)	0.41** (.09)	-	-

Note: * denotes $p < .05$; ** denotes $p < .01$; *IRR* denotes Incidence Rate Ratio; IRRs only generated for count outcome; Estimates above the line standardized with respect to X; Estimates below the line standardized with respect to X and Y.

Table 8. Path Coefficients and Incident Rate Ratios for Multiple Groups Model

Heterosexual Women	β (*SE*)	*b* (*SE*)	*IRR* (*SE*)	*IRR* 95%CI
Adult Sexual Victimization on Childhood Sexual Abuse	0.43** (.14)	0.43** (14)	1.53 (.22)	1.16-2.03
Adult Sexual Victimization on Childhood Physical Abuse	-0.01 (.27)	-0.01 (.27)	0.99 (.27)	0.09-1.68
Adult Sexual Victimization on Age	-0.30* (.13)	-0.30* (.13)	0.74 (.09)	0.57-0.95
Adult Sexual Victimization on Sexual Risk Behavior	0.38** (.06)	0.38** (.06)	1.46 (.09)	1.29-1.65
Sexual Risk Behavior on Childhood Sexual Abuse	0.11 (.09)	0.31 (.25)	-	-
Sexual Risk Behavior on Childhood Physical Abuse	0.10 (.10)	0.25 (.25)	-	-
Sexual Risk Behavior on Age	0.12 (.09)	0.20 (.16)	-	-
Lesbian Women	β (*SE*)	*b* (*SE*)	*IRR* (*SE*)	*IRR* 95%CI
Adult Sexual Victimization on Childhood Sexual Abuse	0.77** (.17)	0.77** (.17)	2.15 (.37)	1.54-3.00
Adult Sexual Victimization on Childhood Physical Abuse	0.02 (.14)	0.02 (.14)	1.02 (.14)	0.78-1.33
Adult Sexual Victimization on Age	-0.13 (.15)	-0.13 (.15)	0.88 (.13)	0.65-1.18
Adult Sexual Victimization on Sexual Risk Behavior	0.26* (.12)	0.26* (.12)	1.30 (.15)	1.03-1.63
Sexual Risk Behavior on Childhood Sexual Abuse	0.08 (.09)	0.16 (.18)	-	-
Sexual Risk Behavior on Childhood Physical Abuse	0.10 (.10)	0.19 (.21)	-	-
Sexual Risk Behavior on Age	0.23** (.09)	0.35* (.14)	-	-
Bisexual Women	β (*SE*)	*b* (*SE*)	*IRR* (*SE*)	*IRR* 95%CI
Adult Sexual Victimization on Childhood Sexual Abuse	0.32** (.08)	0.32** (.08)	1.38 (.11)	1.18-1.56
Adult Sexual Victimization on Childhood Physical Abuse	0.22** (.08)	0.22** (.08)	1.25 (.10)	1.06-1.44
Adult Sexual Victimization on Age	-0.14 (.08)	-0.14 (.08)	0.87 (.07)	0.74-0.99
Adult Sexual Victimization on Sexual Risk Behavior	0.23** (.05)	0.23** (.05)	1.26 (.07)	1.14-1.37
Sexual Risk Behavior on Childhood Sexual Abuse	0.15* (.08)	0.33* (.17)	-	-
Sexual Risk Behavior on Childhood Physical Abuse	0.13* (.06)	0.35* (.15)	-	-
Sexual Risk Behavior on Age	0.39** (.07)	0.87** (.16)	-	-

Note: * denotes $p < .05$; ** denotes $p < .01$; *IRR* denotes Incidence Rate Ratio; IRRs only generated for count outcome; Estimates above the line standardized with respect to X; Estimates below the line standardized with respect to X and Y.

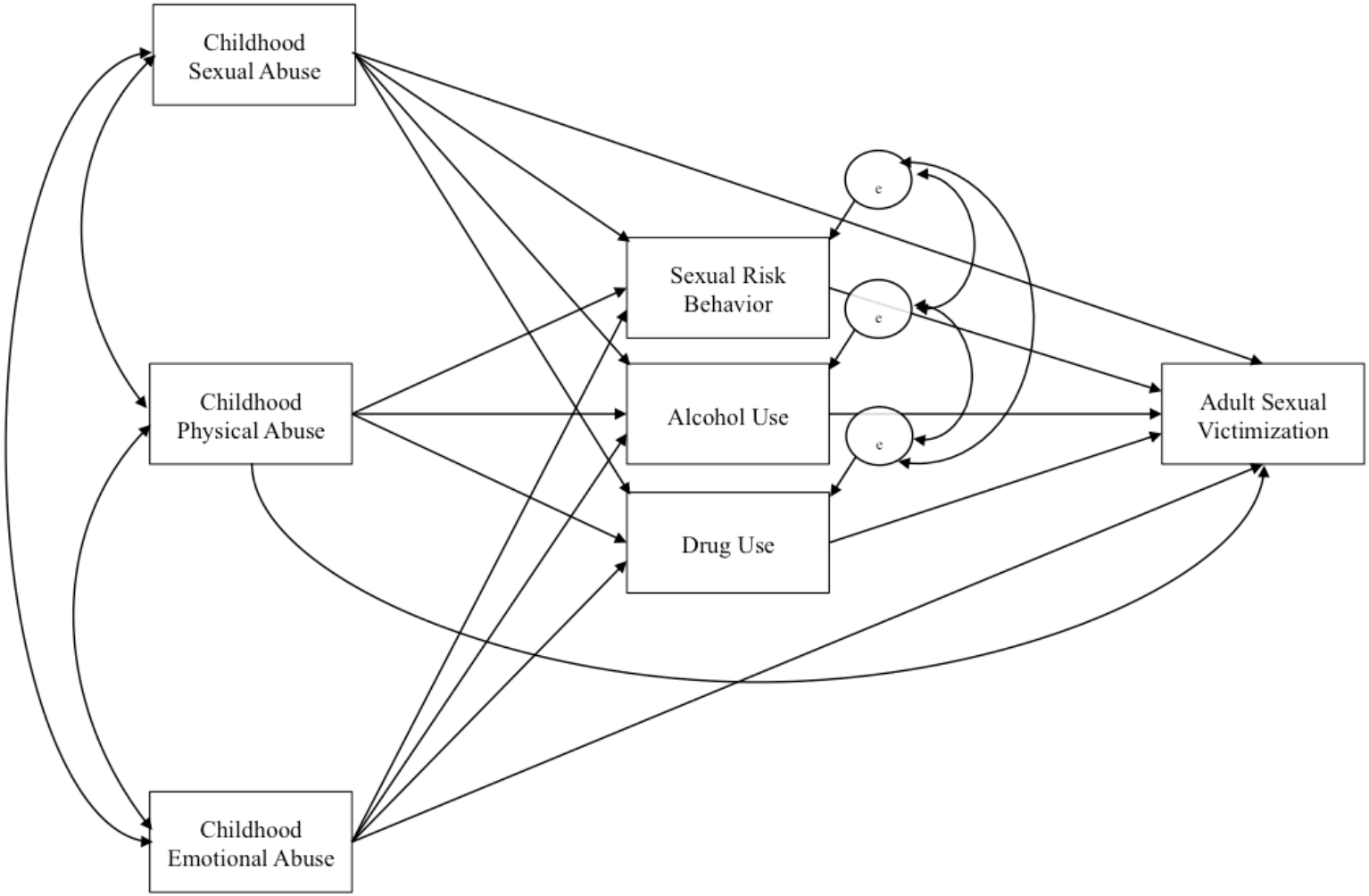


Figure 3. Provisional Path Model for Entire Sample
Figure depicts model estimation at step 1 where exogenous variables are free to correlate as are the errors of endogenous mediating variables.

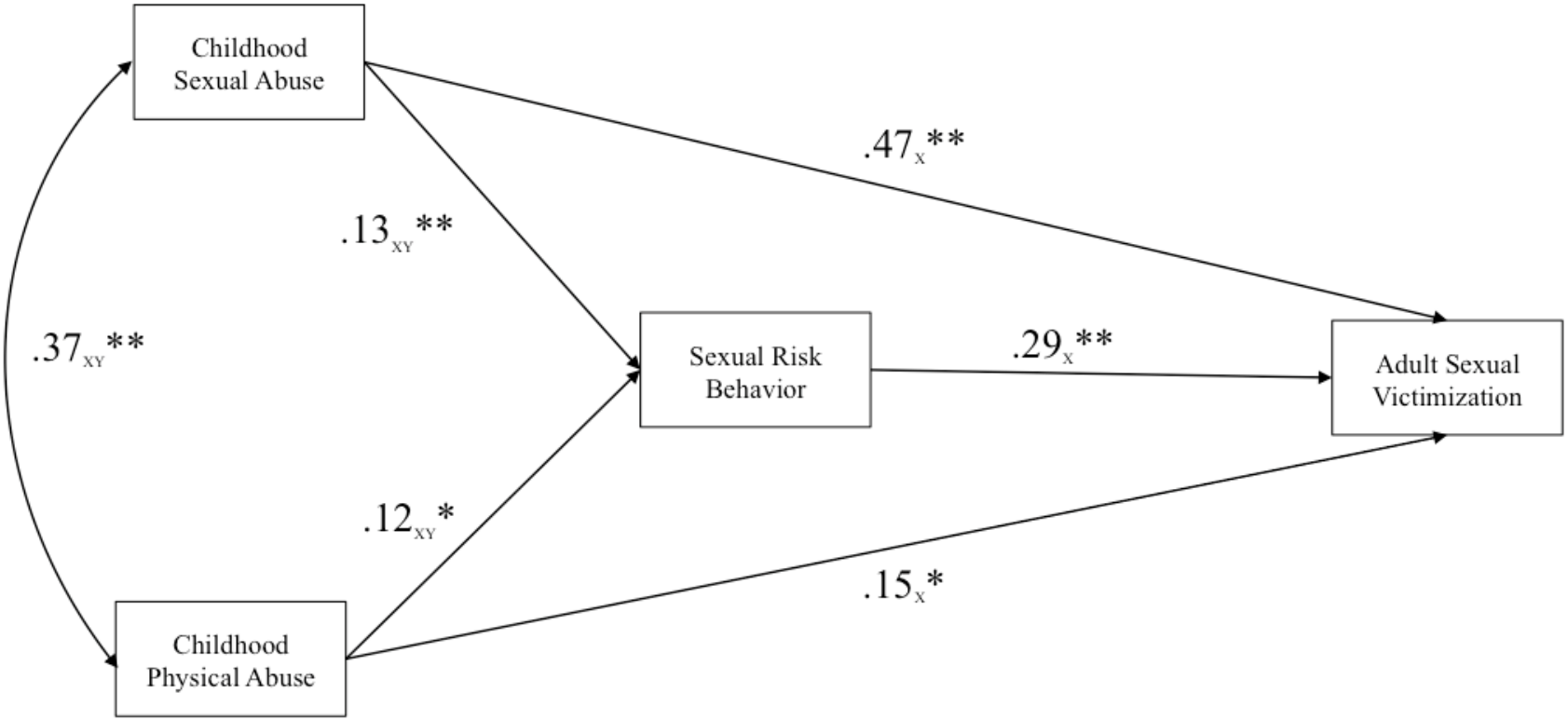
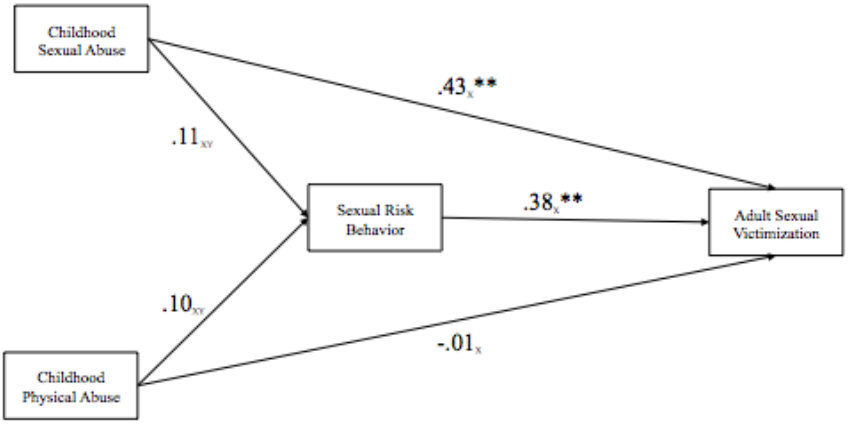
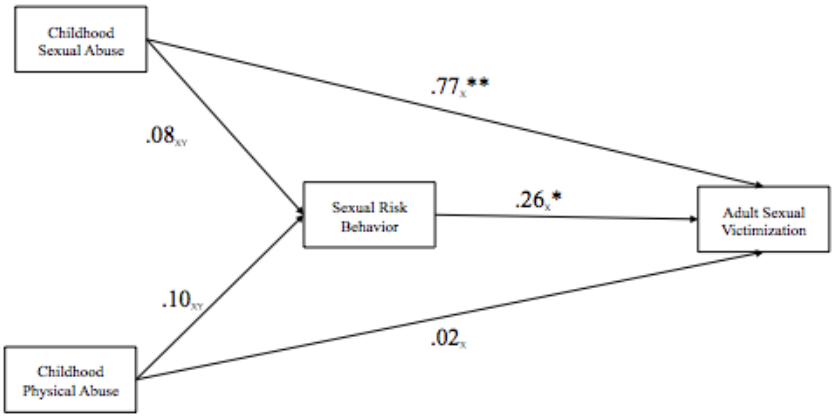


Figure 4. Final Mediational Path Model for Entire Sample
Full group mediational path models with standardized coefficients reported. Note: XY denotes standardized to both X and Y variables; X denotes standardized to only X variables; * $p < .05$; ** $p < .001$.

a) Heterosexual



b) Lesbian



c) Bisexual

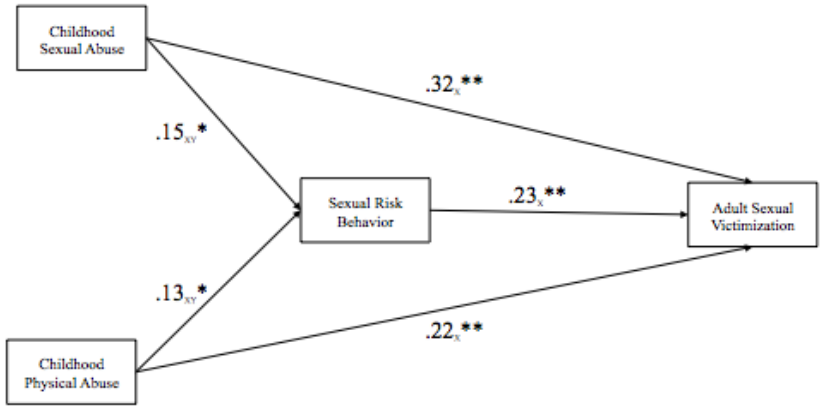


Figure 5. Final Multiple Group Mediational Path Model
Multiple group mediational path models provided for each subsample of women. Standardized coefficients reported. Note: XY denotes standardized to both X and Y variables; X denotes standardized to only X variables; * $p < .05$; ** $p < .001$.

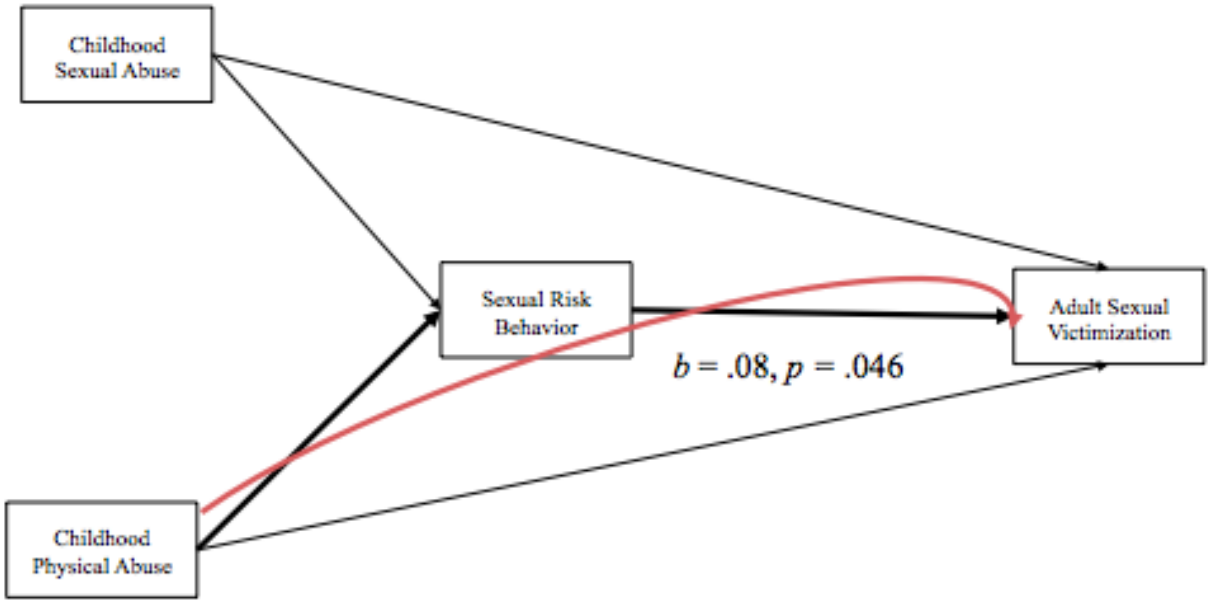


Figure 6. Significant Indirect Effect of Sexual Risk Behavior among Bisexual Women
This model illustrates a significant indirect effect of childhood physical abuse on adult sexual victimization via sexual risk behavior among bisexual women. Unstandardized coefficient provided.

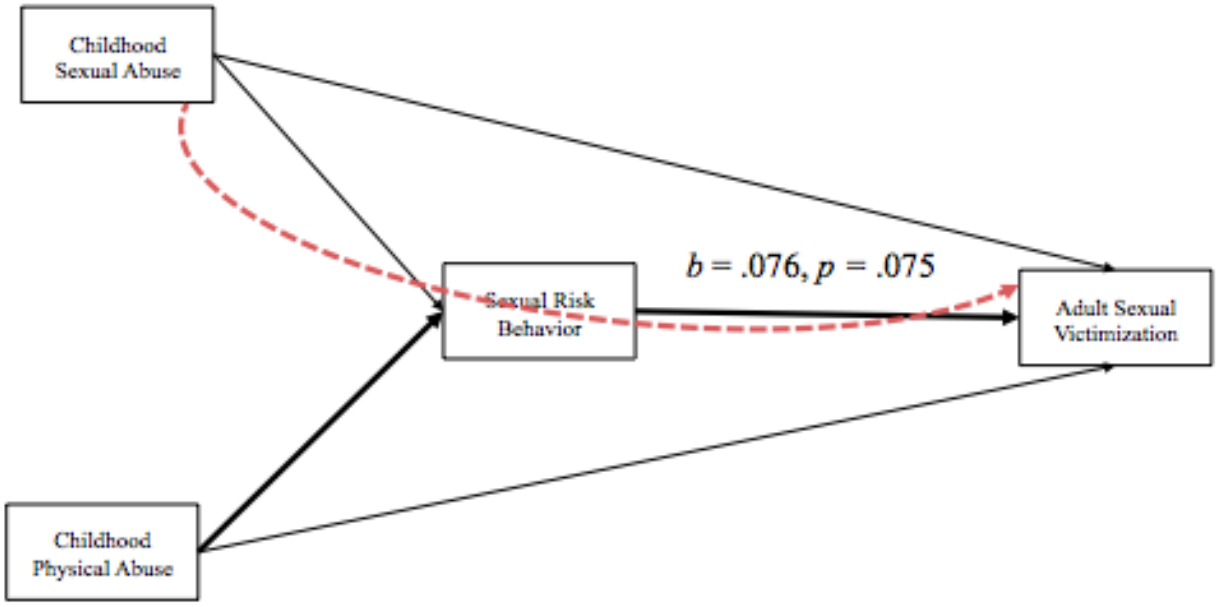


Figure 7. Indirect Effect of Sexual Risk Behavior Approaching Significance among Bisexual Women

This model illustrates that the indirect effect of childhood sexual abuse on adult sexual victimization via sexual risk behavior approaches significance for the bisexual subsample of women. Unstandardized coefficient provided.

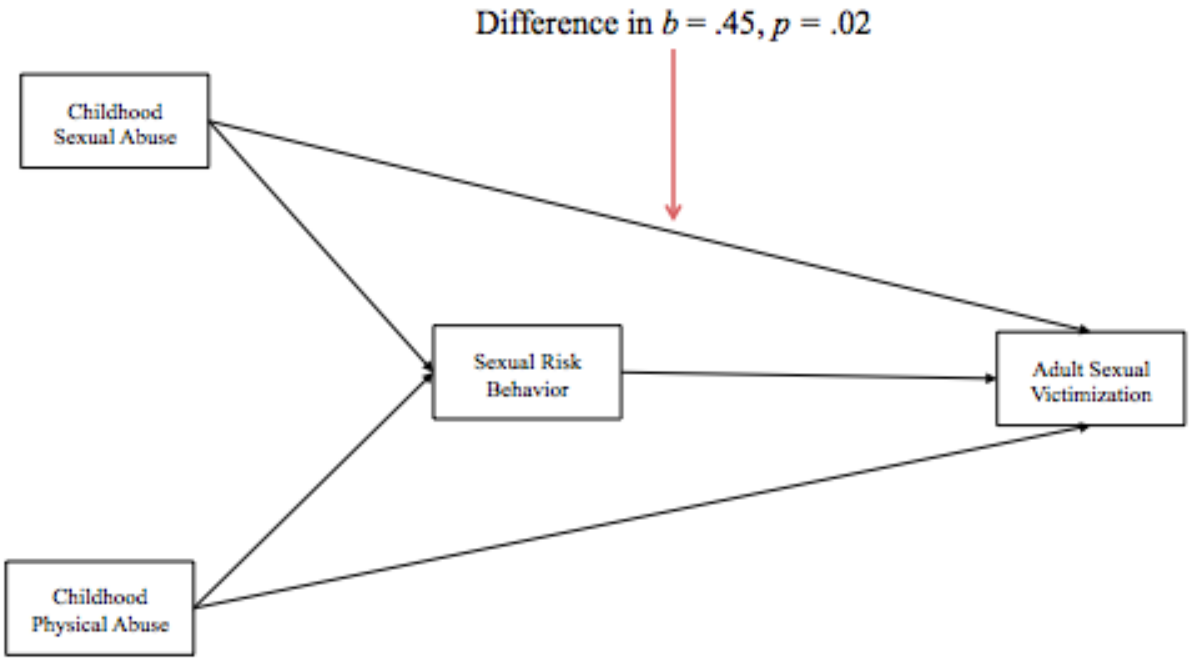


Figure 8. Significant Direct Effect of Childhood Sexual Abuse among Lesbian Compared to Bisexual Women

This model illustrates a significant direct effect of childhood sexual abuse on adult sexual victimization among lesbian compared to heterosexual women, such that the relationship is stronger for the lesbian subsample. Unstandardized coefficient provided.

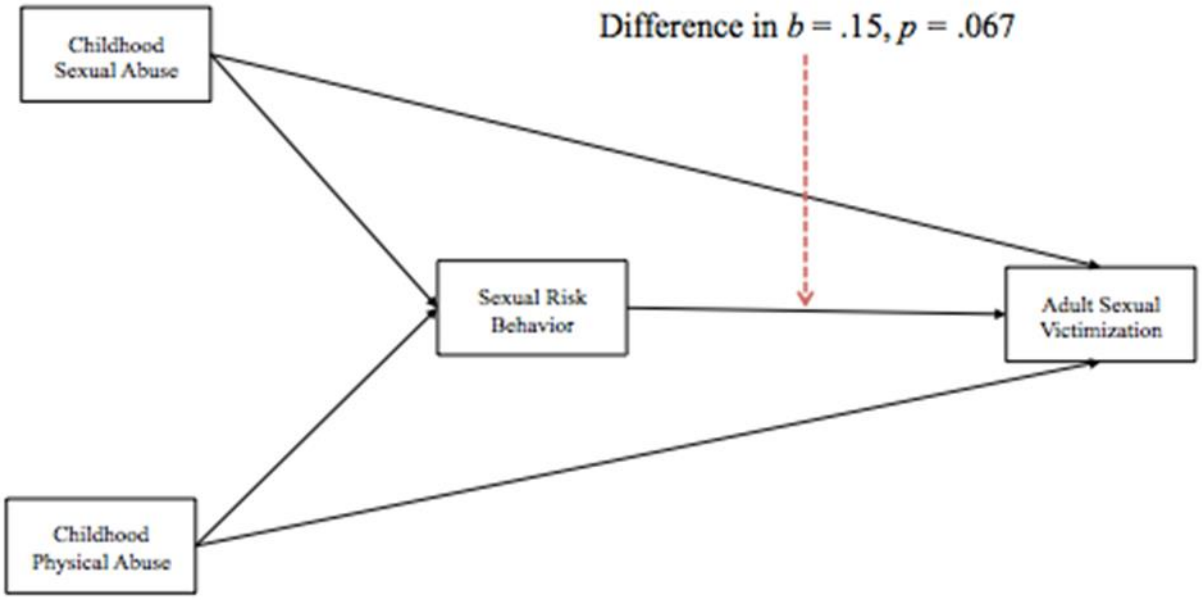


Figure 9. Second-Stage Moderation Approaching Significance among Heterosexual Compared to Bisexual Women

This model illustrates a second-stage moderation approaching significance—with sexual risk behavior as a stronger predictor of adult sexual victimization among heterosexual women compared to bisexual women. Unstandardized coefficient provided.

4 DISCUSSION

In this study's sample, bisexual women experienced significantly more adult sexual victimization than heterosexual women or lesbians. This finding has been reported by numerous others (e.g., Hequembourg et al., 2013; Hughes, McCabe et al., 2010; Hughes, Szalacha et al., 2010; Walters et al., 2013), yet it remains unclear why bisexual women are at disproportionate risk. To answer this question, a theory-driven model of sexual victimization risk was first estimated for the entire study sample. The inclusion of childhood emotional abuse in this model was exploratory, as majority research on sexual victimization focuses on the role of childhood sexual abuse (and to a lesser extent childhood physical abuse). Therefore, it was not surprising that removing childhood emotional abuse from the model would better represent study data.

More surprising was that alcohol and drug use did not meaningfully contribute to the explanatory model, and thus were removed to generate the best fitting model for the overall study population. Past research has produced volumes on the role of alcohol in sexual victimization. The directionality debate notwithstanding, alcohol has been consistently implicated as a risk factor for adult victimization within the general population (e.g., Abbey et al., 2004; Messman-Moore et al., 2009; Walsh et al., 2012) and in samples of sexual minority women (e.g. Han et al., 2013; Hequembourg et al., 2013). Yet for the current study, only sexual risk behavior was consistently predicted by childhood abuse and predictive of adult victimization, therefore, only sexual risk behavior was retained within the final model.

4.1 The Role of Sexual Risk Behavior and the Moderating Effect of Sexual Orientation

For the entire study sample, sexual risk behavior mediated the relationship between both childhood sexual and physical abuse and later adult sexual victimization. Past research has found this same effect for sexual risk behavior with intimate partners, although not with strangers

(Messman-Moore et al., 2010). This construct has been assessed in different ways by different researchers, when assessing sexual risk behavior within different communities, and when studying sexual risk behavior as a mediator rather than an outcome variable. Items used to assess sexual risk behavior in the current sample are provided in Appendix A so that future investigators may compare results.

Upon comparing the mediating role of sexual risk behavior among women of different sexual orientations in the current study, I found that sexual risk behavior significantly mediated the relationship between childhood physical abuse and adult victimization and only did so among bisexual women. Sexual risk behavior came close to mediating the relationship between childhood sexual abuse and adult victimization for bisexual women, but this relationship was not statistically significant. Interpreting this effect in comparison to extant research is difficult—sexual risk behavior has not been studied as a predictor of adult victimization among sexual minority women with the potential exception of one study that found number of lifetime sexual partners predicted adult victimization (Hequembourg et al., 2013).

I posit that this relationship is significant only among bisexual women due to a number of factors. First, although age at which child abuse occurred was not captured in this study, by definition, child abuse occurs during vulnerable periods when youth are learning to master certain skills, such as the ability to regulate their emotions. Further, as sexual identity development occurs across a span of years, early trauma likely also occurred at the same time. While youth are growing into an understanding of their sexuality, many sexual minority youth are also growing into an understanding of heterosexuality as the 'normal' way to be. I suggest that most youth are not raised in environments where sexuality is conceptualized as fluid and dynamic. Therefore, the propensity to buffer painful memories and experiences of child abuse

(i.e., experiential avoidance), coupled with social pressure to identify their sexual orientation may lead to sexual risk behavior, such as engaging in sex at younger ages, having more sex partners, or frequenting spaces where one can meet women like them. I suggest that differences between lesbian and bisexual women's experiences may be due to a unique form of sexual minority stress, characterized by binegativity. Social stigma that questions the legitimacy of a fluid or non-binary sexuality is a painful experience that, when enacted by partners who perceive bisexual women as sexually available, may turn violent.

Theories of cognitive dissonance may provide a framework within which to understand why perpetrators target bisexual women. Although there are many related and expanded theories of cognitive dissonance, I focus here on the classic theory advanced by Festinger some six decades ago (Festinger, 1957; see Harmon-Jones & Harmon-Jones, 2007 for review). Dissonance occurs when two or more cognitions are in conflict (e.g., John notes that Jane has only ever dated women, but now Jane has a boyfriend). Cognitive dissonance theory posits that an individual will undergo a series of processes of adding or subtracting, emphasizing or de-emphasizing certain cognitions in order to reduce dissonance. For example, John could decide that perhaps Jane is actually straight (adding), that it is just a phase and not a real romantic relationship (subtracting), Jane will go back to dating women (emphasizing), or this one guy may be an exception (de-emphasizing). Depending on the individual, their cognitions, and the attitudes with which they entered the situation (e.g., sexuality is binary/fluid, same-sex behavior is fine/same-sex behavior is wrong), we may see binegativity (e.g., 'it's just a phase') or in the worst cases, hostility. Cognitive dissonance theory coupled with attributions such as 'bisexual women are promiscuous and available for sex' may help to explain why some men who 'decide Jane is actually straight' may engage in coercion. Additionally, many heterosexual men's eroticization of same-sex

sexuality could further worsen this scenario. Lastly, the concept of 'corrective rape' (Brown, 2012), rape committed against sexual minority women to punish or 'cure' them of their same-sex sexuality, likely applies in some scenarios.

A heterosexist society that enforces normative gender roles facilitates a context in which men may simultaneously eroticize and denigrate sexual minority women. Such hostility and the desire to assert power and control over sexual minority women (and their non-conforming behaviors) are reflected within Malamuth's confluence model of sexual aggression (Malamuth, Heavey, & Linz, 1996). This model, along with cultural stereotypes framing bisexuals as sexually promiscuous, may provide a framework for understanding those who perpetrate sexual assault against sexual minority women and bring us closer to understanding why bisexual women are disproportionately targeted.

Regardless of childhood abuse, sexual risk behavior directly predicted adult sexual victimization for women in the full sample and for women within each group. This relationship was strongest for heterosexual women, suggesting second-stage moderation, but this relationship was not statistically significant. These findings make intuitive sense as we know that the majority of women, regardless of their sexual orientation, are victimized by men (Balsam et al., 2005; Hequembourg et al., 2013; Long et al., 2007). As more sexual encounters increase opportunities for perpetrators to assault their victims, we would anticipate that this would be strongest among women who have sex with men.

In the current study, childhood sexual abuse and childhood physical abuse both directly predicted adult sexual victimization. When assessed across self-identified sexual orientation groups, childhood sexual abuse directly predicted adult victimization for all women, but this relationship was stronger for lesbians than for bisexual women. Further, childhood physical

abuse directly predicted adult victimization only among bisexual women. These relationships are consistent with most, although not all, other study findings (Balsam et al., 2011; Han et al., 2013; Hequembourg et al., 2013; Hughes, Szalacha et al., 2010; Morris & Balsam, 2003; Messman-Moore & Long, 2003; Roodman & Clum, 2001). Few studies have examined the role of childhood physical abuse (CPA) in adult sexual victimization among sexual minority women. However, Morris and Balsam's (2003) previous findings did yield this relationship for their sample of sexual minority women. One unanswered question is why this relationship only exists among bisexual women and not among lesbian or heterosexual women.

4.2 Risky Sex and Sexual Orientation: A Paradigm Shift

As discussed previously, the concept of sexual risk behavior is nebulous, at best. In research regarding sexual risk behavior, the core construct is prototypically conceptualized as behavior that increases one's risk of becoming pregnant or acquiring STIs. In much of this research, sexual risk behavior is either studied as an outcome in and of itself or as a mediator for various other negative health outcomes. When sexual risk behavior is studied in relation to sexual victimization, it is frequently measured by number of lifetime sex partners and frequency of unprotected sex. Conceptualizing what risky sex might mean among women who have sex with women (or women and men) requires more careful thought, and likely a paradigm shift.

Studies that query sexual minority women on their frequency of unprotected sex are, on the one hand, conflating majority same-sex sexual behavior with risk. On the other hand, such an approach entirely misses sexual behavior that may indeed increase women's risk of later assault. For this reason, the present study used a subset of items from an established measure of sexual risk behavior (SRS; Turchik & Garske, 2009**)**. These questions queried not only the number of individuals that a participant had engaged in sexual behavior with, but also other behaviors such

as leaving an event with a stranger to have sex (or intent to do so), and frequency of having sex with strangers or individuals who were friends but not romantic partners. In spite of attempts to improve measurement of sexual risk behavior among women diverse in sexual orientation, my changes to this measure did not improve its reliability for heterosexual or lesbian women in the current sample, but only (although substantially) for bisexual women.

This research revealed that questions attempting to solicit information about risky sexual practices might in fact be drawing information about non-consensual experiences rather than only consensual ones, an obvious problematic conflation for research on sexual violence. Responses from excluded survey items suggested that questions regarding unanticipated sexual experiences, experiences that a respondent later regretted, or even frequency of various sexual practices without adequate protection may garner information from past sexual assaults. Further, most questions on the SRS do not anticipate (or distinguish) between committed couples and casual partners. Further, none distinguish between those who may or may not be trying to conceive a child. Due to these concerns, multiple items on the SRS were excluded from analyses. Researchers assessing sexual risk behavior in future studies should consider how such questions may be interpreted by respondents, and design assessments of sexual risk accordingly.

At the nexus of this discussion of risky sex and sexual victimization is the painful fact that bisexual women are socially stigmatized by both heterosexual and gay/lesbian communities and are continuously confronted with stereotypes about being both promiscuous and indecisive (Hequembourg & Brallier, 2009). Research findings such as these could serve to confirm such stereotypes to the uncritical reader. Yet findings from this study indicate that bisexual women are not engaging in more sexual risk behavior (lesbians are) and sexual risk behavior is not a stronger predictor of adult victimization for bisexual women than other women. Sexual risk

behavior simply plays a stronger role in the revictimization relationship from childhood abuse to adult victimization and for some reason, bisexual women are more likely to engage in sexual risk behavior after experiencing childhood abuse compared to heterosexual or lesbian women (who likely cope with early abuse by other means unexplored in this study). To the critical reader, one might surmise that a) other risk factors undergird the revictimization relationship for heterosexual and lesbian women and b) the very stereotypes surrounding bisexual women's availability for sex (rather than bisexual women's behavior) may be what drives bisexual women's disproportionate rates of adult victimization. As perpetrators are the only factor to truly cause sexual assault, it may be that sexual partners of bisexual women, aware of or endorsing said stereotypes of bisexual women, feel entitled to sex with them, therefore being more inclined to perpetrate assault. Stated differently, perpetrators of sexual assault may target bisexual women strategically because they assume bisexual women are open to sexual behavior with anyone, therefore sexually available to the perpetrator. Future work on the topic should explore perpetrators' motivations or justifications for assaulting bisexual women. Cognitive dissonance theory (Festinger, 1957) and the confluence model of sexual aggression (Malamuth et al., 1996) may serve as jumping off points in this endeavor.

Some may be surprised to learn that lesbians engage in more sexual risk behavior than heterosexual or bisexual women, and that older women report more sexual risk behavior than younger. It is important to remember, however, that older women have had more time to engage in sex, whether 'risky' or not. Further, although times are changing and lesbian and bisexual youth have more avenues to meet prospective partners (e.g., social media, online dating), women interested in meeting other women were historically forced to do so by going to intentional spaces such as lesbian bars. The likelihood of meeting a single, compatible woman in one's daily

life is substantially lower than for women who seek to meet a single, compatible man. Therefore, it may appear that lesbians are engaging in more sexual risk behaviors because of the simple way that lesbians know how to meet other lesbians in their communities. Further, bisexual women hoping to meet other women would also, by the same logic, be more inclined to meet women who are strangers in public spaces, therefore appearing to engage in more sexual risk behavior in studies such as this one. Qualitative investigation of situational or environmental factors surrounding lesbian and bisexual women's experiences of sexual violence may shed light on the types of behaviors researchers may wish to investigate as 'risky sexual behavior'. I recommend identifying and then investigating a constellation of situational and environmental risk factors revealed through qualitative work, and then, depending upon the findings, decide whether such behaviors are best described as 'risky sexual behavior', or whether our investigative efforts might be best characterized by different language. It is my opinion that language such as "risky sexual behavior" or even "sexual risk behavior" may, however unintentionally, suggests that the victim bears some responsibility for the assault.

In spite of social pressure to identify within a binary sexual orientation, bisexual women remain open to partners of either (or multiple) genders. It is possible that bisexual women may also be more open to answering questions pertaining to their experiences of violence and/or their sexual behavior. If bisexual women are in fact more likely to openly and honestly respond to sensitive questions, and heterosexual women and lesbians are comparatively less candid about these topics, this could influence results in all comparative research, such as the current project.

Finally, work on sexual assault risk factors historically did not assess sexual orientation. Given the over-representation of bisexual women amongst survivors, it is possible that previous work may have coincidentally captured experiences more common among bisexual women than

women of other sexualities. There is no way to answer this question. The only direction is forward, and before us is a community in need of our attention.

4.3 Considerations

Although this study focuses on risk factors for sexual assault, and the analytic approach used implies causality between the described relationships, we know for certain that the only thing that causes sexual assault is a perpetrator. Women should be free to engage in any behaviors they choose without fear of sexual victimization. Yet as decades of research have demonstrated, rates of sexual violence have not declined (Campbell & Wasco, 2005). In the interim of awaiting radically effective perpetration prevention programing, understanding risk factors for sexual assault may provide our communities the information necessary to decrease their risk of victimization.

It is also important to consider that, consistent with most other research in the field, the current project relied on discrete self-labeling of heterosexual, lesbian, and bisexual women. While the project did solicit responses to a continuous measure of sexual orientation, and women also described other discrete self-labeling options (e.g., queer, pansexual), my desire was to examine the differences between these groups of women as they a) identify themselves and b) have been identified in other studies (i.e., for comparison purposes). Nevertheless, sexual orientation, how we label and define it, is a continuously evolving facet of our social world. The language we use and meanings we attach to that language have dramatically changed in recent decades. Many of these labels are as political as they are social. From homosexual to gay, and gay to gay/lesbian, with the emergence of queer, pansexual, demisexual, and homoflexible (among numerous others), it is conceivable that study results could differ along these dimensions. It is inconceivable, however, that researchers could keep pace with evolving labels

in such time as would be practicably useful to our communities. Therefore, this project also relied on the guidance of the largest LGBT think-tank in the country, which advises researchers to use four discrete categories of sexual orientation to produce the most usable data possible (Williams Institute, 2009).

4.4 Limitations

Attrition was high in this study, likely due to the length of the survey. While placing demographic questions toward the end of the survey may have buffered some level of response bias, their placement was also a trade-off for being able to investigate whether attrition differed among groups based on sexual orientation.

This project relied on an adapted measure of sexual risk behavior that had not been empirically validated with sexually diverse samples. More work is needed to understand what constitutes sexual risk behavior among sexual minority women. Logically, the next step must then be to determine how best to measure it.

The Sexual Experience Survey (Koss et al., 2007), although the best currently available instrument to measure sexual violence, does not determine the number of discrete sexual assaults experienced, rather, the number of times a tactic was used to achieve a given non-consensual sexual act, or the number of acts involved in a single experience. Although this caveat may seem fastidious, many assume that research using the SES-SFV generates an outcome variable representing total number of sexual assaults. However, multiple tactics may have been used to achieve the same act (e.g., someone may have held a woman down and threatened her) or numerous non-consensual acts may have been perpetrated within the same event (e.g., vaginally penetrating a woman and forcing her to perform oral sex).

Lastly, the current project used women's current self-labeling of their sexual orientation. Past assaults may have occurred before a respondent began identifying in the way that they did at the time of their participation in the study. Researchers should consider this point when assessing sexual assault between groups based on sexual orientation. As assessed in the current study, and likely with most others, we are not in fact assessing the sexual orientation of the person at the time of assault, rather the sexual orientation of the person at the time of the research who was once assaulted. Researchers may wish to consider how this impacts conclusions drawn regarding incidence and prevalence of sexual assault against sexually diverse women.

4.5 Future Directions

This project used an approach that involved first generating a model that best fit the full study sample prior to fitting the model to each group of women in the sample. The next step in the life of this project is to generate a model for each subsample of women separately prior to comparing the model fit with each group. As evidenced by this project, risk factors for sexual assault vary depending upon sexual orientation, therefore these groups of women may need to be treated as separate populations when developing and advancing theory.

Another next step in the life of this project will be to examine the role of emotion dysregulation as a more proximal mediating factor in survivors of early trauma. Research with sexual minority women suggests that alcohol use may lead to sexual risk behavior (Matthews et al., 2013). Research with the general population suggests that emotion dysregulation leads to sexual risk behavior but may also lead to alcohol and substance use (Messman-Moore et al., 2010). Next steps involve testing whether emotion dysregulation mediates (or moderates) the relationships between childhood trauma, numerous risk factors, and later sexual victimization.

Lastly, I will examine protective factors amongst sexual minority women who have experienced childhood trauma, to understand what qualities, relationships, or experiences permit women to persist in spite of the hardship they have endured. Work on sexual violence, child abuse, and experiences of LGBTQ+ communities frequently use a deficits-based approach. Future work that illuminates the strengths of these populations may go far in legitimizing survivors' experiences while acknowledging what buffers the negative sequelae sexual violence researches study. Such work could infuse treatment and prevention programming with necessary insights for women's long-term wellbeing. Simultaneously, I assert that survivors are inherently resilient and are due a strengths-based framing of their experiences.

5 CONCLUSION

Bisexual women report more experiences of sexual violence than their heterosexual or lesbian counterparts; however, researchers have yet to determine what may account for their disproportionate rates. This study is the first to investigate a number of risk factors for adult sexual victimization among heterosexual, lesbian, and bisexual women. The data are thought provoking. In some ways they replicate findings from existing studies with the general population, but in other ways, they challenge the scientific status quo. For example, childhood emotional abuse was not a risk factor for adult sexual victimization in the full sample, in spite of guiding theory that suggests childhood emotional abuse is linked to numerous negative experiences later in life, including revictimization. Alcohol and drug use are thought to be coping strategies for child abuse victims, and given the attention afforded alcohol use in published sexual violence research, current theory would suggest that alcohol use would have played a central role in predicting sexual assault victimization. However, only sexual risk behavior, the potentially least understood and most understudied risk factor among sexual minority women, consistently predicted adult victimization and was predicted by childhood abuse in the full sample, therefore becoming the central story in this research. Most surprising, child abuse only predicted sexual risk behavior among bisexual women, suggesting that heterosexual women and lesbians likely cope with early trauma in different ways. The finding that sexual risk behavior mediates the relationship between early trauma and later sexual victimization for bisexual women may be due to the compounding forces of emotional avoidance resulting from early trauma and a unique form of minority stress that devalues and marginalizes bisexual women. The ways in which perpetrators view bisexual women, much less bisexual women who have survived

early trauma, warrant attention in future work attempting to understand bisexual women's disproportionate rates of assault.

As borne out by this research, women's experiences are not homogenous. Future work should approach modeling women's victimization separately by group in order to develop a more comprehensive understanding of what factors exacerbate or mitigate women's risk of assault. Lastly, although these analyses imply causality, readers should be keenly aware that the only true cause of sexual assault is the individual who chooses to perpetrate the act. While examining risk and protective factors for diverse women may equip our communities with the information necessary to choose behavioral alternatives that may decrease risk of assault, there is no substitute for research on why perpetrators choose the behaviors they do. Nevertheless, there is a crisis facing bisexual women. Addressing this problem may very well begin with socially ingrained assumptions about the very nature of sexuality.

REFERENCES

Abbey, A., Zawacki, T., Buck, P. O., Clinton, A. M., & McAuslan, P. (2004). Sexual assault and alcohol consumption: What do we know about their relationship and what types of research are still needed? *Aggression and Violent Behavior, 9,* 271-303.

Ahrens, C. E. & Campbell, R. (2000). Assisting rape victims as they recover from rape: The impact on friends. *Journal of Interpersonal Violence, 15,* 959-986.

Austin, S. B., Jun, H., Jackson, B., Spiegelman, D., Rich-Edwards, J., Corliss, H. L., & Wright, R. J. (2008). Disparities in child abuse victimization in lesbian, bisexual, and heterosexual women in the Nurses' Health Study II. *Journal of Women's Health, 17,* 597-606.

Bailey, J. V., Farquhar, C., Owen, C., & Whittaker, D. (2003). Sexual behaviour of lesbians and bisexual women. *Sexually Transmitted Infections, 79,* 147-150.

Balsam, K. F., Lehavot, K., & Beadnell, B. (2011). Sexual revictimization and mental health: A comparison of lesbians, gay men, and heterosexual women. *Journal of Interpersonal Violence, 26,* 1798-1814.

Balsam, K. F., Rothblum, E. D., & Beauchaine, T. P. (2005). Victimization over the life span: A comparison of lesbian, gay, bisexual, and heterosexual siblings. *Journal of Consulting and Clinical Psychology, 73,* 477-487.

Bandermann, K. M. & Szymanski, D. M. (2014). Exploring coping mediators between heterosexist oppression and posttraumatic stress symptoms among lesbian, gay, and bisexual persons. *Psychology of Sexual Orientation and Gender Diversity, 1,* 213-224.

Barbor, T., Higgins-Biddle, J., Saunders, J., & Monteiro, M. (2001). *The Alcohol Use Disorders Identification Test: Guidelines for use in primary care.* Geneva, Switzerland: World Health Organization, Department of Mental Health and Substance Dependence.

Basile, K. C., Smith, S. G., Breiding, M. J., Black, M. C., & Mahendra, R. (2014). *Sexual violence surveillance: Uniform definitions and recommended data elements Version 2.0*. Atlanta, Georgia: Centers for Disease Control and Prevention National Center for Injury Prevention and Control.

Beitchman, J H., Zucker, K. J., Hood, J. E., DaCosta, G. A., Akman, D., & Cassavia, E. (1992). A review of the long-term effects of child sexual abuse. *Child Abuse & Neglect, 16,* 101-118.

Berman, A. H., Bergman, H., Palmstierna, T., & Schlyter, F. (2003). DUDIT (Drug Use Disorders Identification Test) Manual. Stockholm: Karolinska Institutet.

Berman, A. H., Bergman, H., & Palmstierna, T. (2005). Evaluation of the Drug Use Disorders Identification Test (DUDIT) in criminal justice and detoxification settings and in a Swedish population sample. *European Addiction Research, 11,* 22-31.

Bernhard, L. A. (2000). Physical and sexual violence experienced by lesbian and heterosexual women. *Violence Against Women, 6,* 68-79.

Bernstein, D. P. & Fink, L. (1998). *Childhood Trauma Questionnaire: A retrospective self report manual.* San Antonio, TX: The Psychological Corporation.

Bernstein, D. P., Stein, J. A., Newcomb, M. D., Walker, E., Pogge, D., Ahluvalia, T., …Zule, W. (2003). Development and validation of a brief screening version of the Childhood Trauma Questionnaire. *Child Abuse & Neglect, 27, 169-190.*

Black, M. C., Basile, K. C., Breiding, M. J., Smith, S. G., Walters, M. L., Merrick, M. T., … Stevens, M. R. (2011). *The National Intimate Partner and Sexual Violence Survey (NISVS): 2010 Summary Report.* Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Breitenbecher, K. H. (2001). Sexual revictimization among women: A review of the literature focusing on empirical investigations. *Aggression and Violent Behavior, 6,* 415-432.

Brown, R. (2012). Corrective rape in South Africa: A continuing plight despite an international human rights response. *Annual Survey of International & Comparative Law, 18,* 45-263.

Bryan, A. D., Shmiege, S. J. & Magnan, R. E. (2012). Marijuana use and sexual risk behaviors among high-risk adolescents: Trajectories, risk factors, and event-level relationships. *Developmental Psychology, 48,* 1429-1442.

Campbell, R., Sefl, T., & Ahrens, C. E. (2004). The impact of rape on women's sexual health risk behaviors. *Health Psychology, 23,* 1, 67-74.

Campbell, R. & Wasco, S. M. (2005). Understanding rape and sexual assault: 20 years of progress and future directions. *Journal of Interpersonal Violence, 20,* 127-131.

Chiu, G. R., Lutfey, K. E., Litman, H. J., Link, C. L., Hall, S. A., & McKinlay, J. B. (2013). Prevalence and overlap of childhood and adult physical, sexual, and emotional abuse: A descriptive analysis of results from the Boston Area Community Health (BACH) survey. *Violence and Victims, 28,* 381-402.

Centers for Disease Control and Prevention. (2004). CDC's rape prevention and education grant program: Preventing sexual violence in the United States 2004. Retrieved from http://www.cdc.gov/ncipc/pub-res/pdf/RPE%20AAG.pdf

Cloitre, M., Stolbach, B. C., Herman, J. L., van der Kolk, B., Pynoos, R., Wang, J., & Petkova, E. (2009). A developmental approach to complex PTSD: Childhood and adult cumulative trauma as predictors of symptom complexity. *Journal of Traumatic Stress, 22,* 399-408.

Cochran, S. D., Keenan, C., Schober, C., & Mays, V. M. (2000). Estimates of alcohol use and clinical treatment needs among homosexually active men and women in the US population. *Journal of Consulting and Clinical Psychology, 68,* 1062-1071.

Cochran, S. D., Ackerman, D., Mays, V. M., & Ross, M. W. (2004). Prevalence of non-medical drug use and dependence among homosexually active men and women in the US population. *Addiction, 99,* 989-998.

Cooper, M. L. (2002). Alcohol use and sexual risk behaviors among college students and youth: Evaluating the evidence. *Journal of Studies on Alcohol, Sup. 4,* 101-117.

Cramer, R. J., Chevalier, C., Gemberling, T. M., Strout, C. H., & Graham, J. (2015). A confirmatory factor analytic evaluation of the Klein Sexual Orientation Grid. *Psychology of Sexual Orientation and Gender Diversity, 2,* 123-129.

Cullum, J., Armeli, S., & Tennen, H. (2010). Drinking norm-behavior association over time using retrospective and daily measures. *Journal of Studies on Alcohol and Drugs, 71,* 769-777.

Descamps, M. J., Rothblum, E., Bradford, J., & Ryan, C. (2000). Mental health impact of child sexual abuse, intimate partner violence, and hate crimes in the National Lesbian Health Care Survey. *Journal of Gay & Lesbian Social Services, 11,* 27-55.

Diamond, L. M. (2008). *Sexual fluidity: Understanding women's love and desire.* Cambridge, MA: Harvard University Press.

Drabble, L., Trocki, K. F., Hughes, T. L., Korcha, R. A., & Lown, A. E. (2013). Sexual orientation differences in the relationship between victimization and hazardous drinking among women in the National Alcohol Survey. *Psychology of Addictive Behaviors, 77,* 639-648.

Elliot, D. M. & Briere, J. (1992). Sexual abuse trauma among professional women: Validating the Trauma Symptom Checklist-40 (TSC-40). *Child Abuse & Neglect, 16,* 391-398.

Epstein, M., Bailey, J. A., Manhart, L. E., Hill, K. G., & Hawkins, J. D. (2014). Sexual risk behavior in young adulthood: Broadening the scope beyond early sexual initiation. *Journal of Sex Research, 51,* 721-730.

Evren, C., Ovali, E., Karabulut, V., & Cetingok, S. (2014). Psychometric properties of the Drug Use Disorders Identification Test (DUDIT) in heroin dependent adults and adolescents with drug use disorder. *Bulletin of Clinical Psychopharmacology, 24,* 39-48.

Federal Bureau of Investigation (2013). [Table 4 Uniform Crime Reports illustrating rates of rape by state]. *Crime in the United States by Region, Geographic Division, and State, 2012-2013.* Retrieved from http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2013/crime-in-the-u.s.-2013/tables/4tabledatadecoverviewpdf/table_4_crime_in_the_united_states_by_region_geographic_division_and_state_2012-2013.xls.

Festinger, L. (1957). *A Theory of cognitive dissonance*. Stanford, CA: Stanford University Press.

Finkelhor, D. & Browne, A. (1985). The traumatic impact of child sexual abuse: A conceptualization. *American Journal of Orthopsychiatry, 55,* 530-541.

Floyd, F. J. & Stein, T. S. (2003). Sexual orientation identity formation among gay, lesbian, and bisexual youths: Multiple patterns of milestone experiences. *Journal of Research on Adolescence, 12,* 167-191.

Foa, E. B., & Rothbaum, B. O. (1998). Treating the trauma of rape: Cognitive behavioral therapy for PTSD. New York: Guilford.

George, W. H., Cue, K. L., Lopez, P. A., Crowe, L. C., & Norris, J. (1995). Self-reported alcohol expectancies and postdrinking sexual inferences about women. *Journal of Applied Social Psychology, 25,* 164-186.

Gold, S. D., Dickstein, B. D., Marx, B. P., & Lexington, J. M. (2009). Psychological outcomes among lesbian sexual assault survivors: An examination of the roles of internalized homophobia and experiential avoidance. *Psychology of Women Quarterly, 33,* 54-66.

Gilmore, A. K., Koo, K. H., Nguyen, H. V., Granato, H. F., Hughes, T. L., & Kaysen, D. (2014). Sexual assault, drinking norms, and drinking behavior among a national sample of lesbian and bisexual women. *Addictive Behaviors, 39,* 630-636.

Grov, C., Hirshfield, S., Remien, R. H., Humberstone, M., & Chiasson, M. A. (2013). Exploring the venue's role in sexual risk behaviors among gay and bisexual men: An event-level analysis from a national online survey in the US. *Archives of sexual behavior, 42,* 291-302.

Han, S. C., Gallagher, M. W., Franz, M. R., Chen, M. S., Cabral, F. M., & Marx, B. P. (2013). Childhood sexual abuse, alcohol use, and PTSD symptoms as predictors of adult sexual assault among lesbians and gay men. *Journal of Interpersonal Violence, 28,* 2505-2520.

Harmon-Jones, E. & Harmon-Jones, C. (2007). Cognitive dissonance theory after 50 years of development. *Zeitschrift für Sozialpsychologie, 38,* 7-16.

Heath, J. Lanoye, A., & Maisto, S. A. (2012). The role of alcohol and substance use in sexual risk behaviors among older men who have sex with men: A review and critique of the current literature. *AIDS and Behavior, 16,* 578-589.

Heffernan, K. (1998). The nature and predictors of substance use among lesbians. *Addictive Behaviors, 23,* 517-528.

Heidt, J. M., Marx, B. P., & Gold, S. D. (2005). Sexual revictimization among sexual minorities: A preliminary study. *Journal of Traumatic Stress, 18,* 533-540.

Hequembourg, A. L. & Brallier, S. A. (2009). An exploration of sexual minority stress across the lines of gender and sexual identity. *Journal of Homosexuality, 56,* 273-298.

Hequembourg, A. L., Livingston, J. A., & Parks, K. A. (2013). Sexual victimization and associated risks among lesbian and bisexual women. *Violence Against Women.* Advance online publication. doi:10.1177/1077801213490557

Hequembourg, A. L., Parks, K. A., Vetter, C. (2008). Sexual identity and gender differences in substance use and violence: An exploratory study. *Journal of LGBT Issues in Counseling, 2,* 174-198.

Herek, G. M., Gillis, J. R., & Cogan, J. C. (2015). Internalized stigma among sexual minority adults: Insights from a social psychological perspective. *Stigma and Health, 1*, 18-34.

Hipp, T. N. (2012). Sexual minority women's experiences of sexual violence: A phenomenological inquiry (Masters thesis). Retrieved from http://scholarworks.gsu.edu/psych_theses/99/

Hughes, T. L. (2011). Alcohol use and alcohol related problems among sexual minority women. *Alcoholism Treatment Quarterly, 29,* 403-435.

Hughes, T. L. (2003). Lesbians' drinking patterns: Beyond the data. *Substance Use and Misuse, 38,* 1739-1758.

Hughes, T. L., Johnson, T., & Wilsnack, S. C. (2001). Sexual assault and alcohol abuse: A comparison of lesbians and heterosexual women. *Journal of Substance Abuse, 13,* 515-532.

Hughes, T. L., Szalacha, L. A., Johnson, T. P., Kinnison, K. E., Wilsnack, S. C., & Cho, Y. (2010). Sexual victimization and hazardous drinking among heterosexual and sexual minority women. *Addictive Behaviors, 35,* 1152-1156.

Hughes, T., McCabe, S. E., Wilsnack, S. C., West, B. T., & Boyd, C. J. (2010). Victimization and substance use disorders in a national sample of heterosexual and sexual minority women and men. *Addiction, 105,* 2130-2140.

Kaslow, N. J., Thompson, M. P., Okun, A., Price, A., Young, S., Bender, M., Wychoff, S., Twomey, H., Goldin, J., & Parker, R. (2002). Risk and protective factors for suicidal behavior in abused African American women. *Journal of Consulting and Clinical Psychology, 70,* 311-319.

Katz-Wise, S. L. & Hyde, J. S. (2012). Victimization experiences of lesbian, gay, and bisexual individuals: A meta-analysis. *Journal of Sex Research, 49,* 142-167.

Kaysen, D., Kulesza, M., Balsam, K. F., Rhew, I. C., Blayney, J. A., Lehavot, K., & Hughes, T. L. (2014). Coping as a mediator of internalized homophobia and psychological distress among young adult sexual minority women. *Sexual Orientation and Gender Diversity, 1,* 225-233.

Kilpatrick, D. G., Acierno, R., Resnick, H. S., Saunders, B. E., & Best, C. L. (1997). A 2-year longitudinal analysis of the relationship between violent assault and substance use in women. *Journal of Consulting and Clinical Psychology, 65,* 834-847.

Klein, F. (1993). *The Bisexual Option.* New York: Haworth Press.

Koss, M., Abbey, A., Campbell, R., Cook, S., Norris, J., Testa, M., …& White, J. (2007). Revising the SES: A collaboration process to improve assessment of sexual aggression and victimization. *Psychology of Women Quarterly, 31,* 357-370.

Koss, M., Abbey, A., Campbell, R., Cook, S., Norris, J., Testa, M., …& White, J. (2008). Revising the SES: A collaboration process to improve assessment of sexual aggression and victimization: Erratum. *Psychology of Women Quarterly, 32,* 493.

Krajeski, J. (1996). Homosexuality and the mental health professions. In R. P. Cabaj & T. S. Stein (Eds.), *Textbook of homosexuality and mental health* (pp. 3-16). Washington DC: American Psychiatric Press, Inc.

Krug, E. G., Dahlberg, L. L., Mercy, J. A., Zwi, A. B., & Lozano, R. (Eds.). (2002). Sexual violence, *World Report on Violence and Health* (pp. 147-181). Geneva, Switzerland: World Health Organization.

Lehavot, K. & Simoni, J. M. (2011). The impact of minority stress on mental health and substance use among sexual minority women. *Journal of Consulting and Clinical Psychology, 79,* 159-170.

Lewis, S. H. (2003). *Unspoken crimes: Sexual assault in rural America*. Enola, Pennsylvania: National Sexual Violence Resource Center.

Long, S. M., Ullman, S. E., Long, L. M., Mason, G. E., & Starzynski, L. L. (2007). Women's experiences of male-perpetrated sexual assault by sexual orientation. *Violence and Victims, 22*, 684-701.

Lovelock, J. M. (2014). Using the Klein Sexual Orientation Grid in Sociological Studies. *Journal of Bisexuality, 14,* 457-467.

Maker, A. H., Kemmelmeier, M., & Peterson, C. (2001). Child sexual abuse, peer sexual abuse, and sexual assault in adulthood: A multi-risk model of revictimization. *Journal of Traumatic Stress, 14,* 351-368.

Malamuth, N. M., Heavey, C. L., & Linz, D. (1996). The confluence model of sexual aggression: Combining hostile masculinity and impersonal sex. *Journal of Offender Rehabilitation, 23*, 13-37.

Marrazzo, J. M. (2004). Barrier to infectious disease care among lesbians. *Emerging Infectious Diseases, 10,* 1974-1978.

Martin, S. L., Fisher, B. S., Warner, T. D., Krebs, C. P., & Lindquist, C. H. (2011). Women's sexual orientations and their experiences of sexual assault before and during university. *Women's Health Issues, 21,* 199-205.

Matthews, A. K., Cho, Y. I, Hughes, T., Wilsnack, S. C., Johnson, T., & Martin, K. (2013). The relationships of sexual identity, hazardous drinking, and drinking expectancies with sexual risk behaviorss in a community sample of lesbian and bisexual women. *Journal of the American Psychiatric Nurses Association, 19,* 259-270.

Matuszka, B., Bacskai, E., Berman, A. H., Czobor, P., Sinadinovic, K., & Gerevich, J. (2014). Psychometric characteristics of the Drug Use Disorders Identification Test (DUDIT) and

the Drug Use Disorders Identification Test-Extended (DUDIT-E) among young drug users in Hungary. *International Journal of Behavioral Medicine, 21,* 547-555.

Messman-Moore, T. L., Walsh, K. L., & DiLillo, D. (2010). Emotion dysregulation and sexual risk behaviors in revictimization. *Child Abuse & Neglect, 34,* 967-976.

Messman-Moore, T. L., Ward, R. M., & Brown, A. L. (2009). Substance use and PTSD symptoms impact the likelihood of rape and revictimization in college women. Journal of *Interpersonal Violence, 24,* 499-521.

Messman-Moore, T. L. & Long, P. J. (2002). Alcohol and substance use disorders as predictors of child to adult sexual revictimization in a sample of community women. *Violence and Victims, 17,* 319-340.

Messman-Moore, T. L. & Long, P. J. (2003). The role of child sexual abuse sequelae in the sexual revictimization of women: An empirical review and theoretical reformulation. *Clinical Psychology Review, 23,* 537-571.

Meyer, I. H. (2013). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychology of Sexual Orientation and Gender Diversity, 1,* 3-26.

Miller, T. R., Cohen, M. A., & Wiersema, B. (1996). *Victim costs and consequences: A new look.* Retrieved from https://www.ncjrs.gov/pdffiles/victcost.pdf.

Moracco, K. E., Runyan, C. W., Bowling, J. M., & Earp, J. A. (2007). Women's experiences with violence: A national study. *Women's Health Issues, 17,* 3-12.

Morris, J. F. & Balsam, K. F. (2003). Lesbian and bisexual women's experiences of victimization: Mental health, revictimization, and sexual identity development. *Journal of Lesbian Studies, 7,* 67-85.

Muzny, C. A., Kapil, R., Austin, E. L., Hook, E. W., & Geisler, W. M. (2014). Lower sexually transmissible infection prevalence among liftetime exclusive women who have sex with women compared with women who have sex with women and men. *Sexual Health, 11,* 592-593.

Najdowski, C. J. & Ullman, S. E. (2011). The effects of revictimization on coping and depression in female sexual assault victims. *Journal of Traumatic Stress, 24,* 218-221.

Nash, M. R., Hulsey, T. L., Sexton, M. C., Harralson, T. L., & Lambert, W. (1993). Long-term sequelae of childhood sexual abuse: Perceived family environment, psychopathology, and dissociation. *Journal of Consulting and Clinical Psychology, 61,* 276-283.

Neighbors, C., Lee, C. M., Lewis, M. A., Fossos, N., & Larimer, M. E. (2007). Are social norms the best predictor of outcomes among heavy-drinking college students? *Journal of Studies on Alcohol and Drugs, 68,* 556-565.

Norris, J. & Cubbins, L. A. (1992). Dating, drinking, and rape: Effects of victim's and assailant's alcohol consumption on judgments of their behavior and traits. *Psychology of Women Quarterly, 16,* 179-191.

O'Grady, M. A., Cullum, J., Tennen, H., & Armeli, S. (2011). Daily relationship between event-specific drinking norms and alcohol use: A four-year longitudinal study. *Journal of Studies on Alcohol and Drugs, 72,* 633-641.

Plichta, S. B. (2004). Intimate partner violence and physical health consequences policy and practice implications. *Journal of Interpersonal Violence, 19,* 1296-1323.

Polusny, M. A. & Follette, V. M. (1995). Long-term correlates of child sexual abuse: Theory and review of the empirical literature. *Applied & Preventive Psychology, 4,* 143-166.

Riger, S. & Gordon, M. T. (2010). The fear of rape: A study in social control. *Journal of Social Issues, 37,* 71-92.

Roodman, A. A. & Clum, G. A. (2001). Revictimization rates and method variance: A meta-analysis. *Clinical Psychology Review, 21,* 183-204.

Rothman, E. F., Exner, D., & Baughman, A. L. (2011). The prevalence of sexual assault against people who identify as gay, lesbian, or bisexual in the United States: A systematic review. *Trauma, Violence, & Abuse, 12,* 55-66.

Schauben, L. J. & Frazier, P.A. (1995). Vicarious trauma: The effects on female counselors of working with sexual violence survivors. *Psychology of Women quarterly, 19,* 49-64.

Scheer, S., Parks, C. A., McFarland, W., Page-Shafer, K., Delgado, V., Ruiz, J. D., … Klausner, J. (2003). Self-reported sexual identity, sexual behaviors and health risks: Examples from a population-based survey of young women. *Journal of Lesbian Studies, 7,* 69-83.

Silverstein, C. (1996). History of treatment. In R. P. Cabaj & T. S. Stein (Eds.), *Textbook of homosexuality and mental health* (pp. 3-16). Washington DC: American Psychiatric Press, Inc.

Swartout, K. M., Thompson, M. P., Koss, M. P., & Su, N. (2014). What is the best way to analyze less frequent forms of violence? The case of sexual aggression. *Psychology of Violence, 5*, 305-313.

Tarantino, N., Lamis, D. A., Ballard, E. D., Masuda, A., & Dvorak, R. D. (2015). Parent-child conflict and drug use in college women: A moderated mediation model of self-control and mindfulness. *Journal of Counseling Psychology, 62,* 303-313.

Testa, M. & Livingston, J. A. (2009). Alcohol consumption and women's vulnerability to sexual assault: Can reducing women's drinking prevent rape? *Substance Use & Misuse, 44,* 1349-1376.

Testa, M., Livingston, J. A., & Hoffman, J. H. (2007). Does sexual victimization predict subsequent alcohol consumption? A prospective study among a community sample of women. *Addictive Behaviors, 32,* 2926-2939.

Testa, M. & Parks, K. A. (1996). The role of women's alcohol consumption in sexual victimization. *Aggression and Violent Behavior, 1,* 217-234.

Testa, M., VanZile-Tamsen, C., & Livingston, J. A., & Koss, M. (2004). Assessing women's experiences of sexual aggression using the Sexual Experiences Survey: Evidence for validity and implications for research. *Psychology of Women Quarterly, 28,* 256-265.

Thompson, M. P., Kaslow, N. J., Short, L. M., & Wyckoff, S. (2002). The mediating roles of perceived social support and resources in the self-efficacy-suicide attempts relation among African American abused women. *Journal of Consulting and Clinical Psychology, 70,* 942-949.

Tjaden, P., & Thoennes, N. (2000). Consequences of violence against women: Research report. Washington, DC: National Institute of Justice and the Centers for Disease Control and Prevention.

Tjaden, P., Thoeness, N., & Allison, C. J. (1999). Comparing violence over the life span in samples of same-sex and opposite sex cohabitants. *Violence and Victims, 14,* 413-425.

Trocki, K., Drabble, L., & Midanik, L. (2005). Use of heavier drinking contexts among heterosexuals, homosexuals and bisexuals: Results from a national probability survey. *Journal of Studies on Alcohol,* 105-110.

Turchik, J. A. & Garske, J. P. (2009). Measurement of sexual risk taking among college students. *Archives of Sexual Behavior, 38,* 936-948.

Turchik, J. A. & Hassija, C. M. (2014). Female sexual victimization among college students: Assault severity, health risk behaviors, and sexual functioning. *Journal of Interpersonal Violence.* doi: 10.1177/0886260513520230

Tusher, C. P. & Cook, S. L. (2010). Comparing revictimization in two groups of marginalized women. *Journal of Interpersonal Violence, 25,* 1893-1911.

Ullman, S. E. (2003). A critical review of field studies on the link of alcohol and adult sexual assault in women. *Aggression and Violent Behavior, 8,* 471-486.

Voluse, A. C., Gioia, C. J., Sobell, L., Dum, M., Sobell, M. B., & Simco, E. R. (2012). Psychometric properties of the drug use disorders identification test (DUDIT) with substance abusers in outpatient and residential treatment. *Addictive Behaviors, 37,* 36-41.

Walsh, K., Danielson, C. K., McCauley, J. L., Saunders, B. E., Kilpatrick, D. G., & Resnick, H. S. (2012). National prevalence of posttraumatic stress disorder among sexually revictimized adolescent, college, and adult household-residing women. *JAMA Psychiatry, 69*, 935-942.

Walters, M. L., Chen, J., & Breiding, M. J. (2013). *The National Intimate Partner and Sexual Violence Survey (NISVS): 2010 Findings on victimization by sexual orientation.* Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention.

Watson, L. B., Matheny, K. B., Gagne, P., Brack, G., & Ancis, J. R. (2012). A model linking diverse women's child sexual abuse history with sexual risk taking. *Psychology of Women Quarterly, 37,* 22-37.

Weinrich, J. D. & Klein, F. (2002). Bi-gay, bi-straight, and bi-bi: Three bisexual subgroups identified using cluster analysis of the Klein Sexual Orientation Grid. *Journal of Bisexuality, 2,* 109-139.

White House Council on Women and Girls & the Office of the Vice President. (2014). *Rape and sexual assault: A renewed call to action.* Retrieved from https://www.whitehouse.gov/sites/default/files/docs/sexual_assault_report_1-21-14.pdf.

The Williams Institute. (2009). *Best practices for asking questions about sexual orientation on surveys.* Los Angeles, CA: The Williams Institute, UCLA School of Law, UC Los Angeles.

Wilsnack, S. C., Kristjanson, A. F., Hughes, T. L., & Benson, P. W. (2012). Characteristics of childhood sexual abuse in lesbians and heterosexual women. *Child Abuse & Neglect, 36,* 260-265.

World Health Organization. (2014). *Violence against women: Intimate partner and sexual violence against women*. (WHO Fact Sheet No. 239).

Yost, M. R. & Thomas, G. D. (2011). Gender and binegitivity: Men's and women's attitudes toward male and female bisexuals. *Archives of Sexual Behavior, 41,* 691-702.

Yuan, N. P., Koss, M. P., & Stone, M. (2006). The psychological consequences of sexual trauma. National On-line Resource Center on Violence Against Women. Accessed from http://new.vawnet.org/Assoc_Files_VAWnet/AR_PsychConsequences.pdf.

APPENDICES

Appendix A: Adapted Sexual Risk Survey (Turchik & Garske, 2009)

Only 11 items for the 23-item SRS were retained for the current project.

Instructions: The following questions ask about your intimate and sexual encounters. Please read each of the following questions carefully. Some of the questions ask whether a certain behavior occurred during a specific period of time (e.g., **in the past year**) while others ask if something has **ever** happened.

If you do not know how frequently a behavior took place, try to estimate the number as close as you can. Thinking about the average number of times the behavior happened per week or per month might make it easier to estimate an accurate number, especially if the behavior happened fairly regularly.

If you had multiple partners, try to think how long you were with each partner, the number of sexual encounters you had with each, and try to get an accurate estimate of the total number of each behavior.

If the question does not apply to you or you have never engaged in the behavior in the question, put a "0" in the box. Please do not leave items blank.

Remember that in the following questions, "sex" includes oral, anal, and vaginal sex and that "sexual behavior" includes passionate kissing, making out, fondling, petting, oral-to-anal stimulation, and hand-to-genital stimulation.

Question	**Response Options**		
Please read each question carefully and, to the best of your ability, indicate how frequently each behavior occurred.			
1. How many partners have you engaged in sexual behavior with but not had sex with?	0 (None)		
Approximately how old were you **the first time** this happened?			
What was the gender of this person?	Male	Female	
2. How many times have you left a social event with someone you just met?	0 (Never)		
Approximately how old were you **the first time** this happened?			
What was the gender of this person?	Male	Female	
Approximately how old were you **the last time** this happened?			
What was the gender of this person?	Male	Female	
3. How many times have you "hooked	0		

up" but not had sex with someone you didn't know or didn't know well?	(Never)		
Approximately how old were you **the first time** this happened?			
What was the gender of this person?	Male	Female	
Approximately how old were you **the last time** this happened?			
What was the gender of this person?	Male	Female	
4. How many times have you gone out to bars/parties/social events with the intent of "hooking up" and engaging in sexual behavior but not having sex with someone?	0 (Never)		
Approximately how old were you **the first time** this happened?			
What was the gender of this person?	Male	Female	
Approximately how old were you **the last time** this happened?			
What was the gender of this person?	Male	Female	
5. How many times have you gone out to bars/parties/social events with the intent of "hooking up" and having sex with someone?	0 (Never)		
Approximately how old were you **the first time** this happened?			
What was the gender of this person?	Male	Female	
Approximately how old were you **the last time** this happened?			
What was the gender of this person?	Male	Female	
6. How many partners have you had sex with?	0 (None)		
Approximately how old were you **the first time** you had sex?			
What was the gender of this person?	Male	Female	
Approximately how old were you **the last time** you had sex?			
What was the gender of this person?	Male	Female	
7. How many people have you had sex with that you know but are not involved in any sort of relationship with (i.e., "friends with benefits", "fuck buddies")?	0 (None)		
Approximately how old were you **the first time** this happened?			
What was the gender of this person?	Male	Female	
Approximately how old were you **the**			

last time this happened?			
What was the gender of this person?	Male	Female	
8. How many times have you had sex with someone you don't know well or just met?	0 (Never)		
Approximately how old were you **the first time** this happened?			
What was the gender of this person?	Male	Female	
Approximately how old were you **the last time** this happened?			
What was the gender of this person?	Male	Female	
9. How many times have you had sex with a new partner before discussing sexual history, IV drug use, disease status and other current sexual partners?	0 (Never)		
Approximately how old were you **the first time** this happened?			
What was the gender of this person?	Male	Female	
Approximately how old were you **the last time** this happened?			
What was the gender of this person?	Male	Female	
10. How many times (that you know of) have you had sex with someone who has had many sexual partners?	0 (Never)		
Approximately how old were you **the first time** this happened?			
What was the gender of this person?	Male	Female	
Approximately how old were you **the last time** this happened?			
What was the gender of this person?	Male	Female	
11. How many partners (that you know of) have you had sex with who had been sexually active before you were with them but had not been tested for STIs/HIV?	0 (None)		
Approximately how old were you **the first time** this happened?			
What was the gender of this person?	Male	Female	
Approximately how old were you **the last time** this happened?			
What was the gender of this person?	Male	Female	

Appendix B: Adapted AUDIT (Barbor et al., 2001)

Only "ever" questions retained for the current project.

Instructions: This next set of questions asks about alcohol use. Please read each question closely. Some questions ask about alcohol use within a certain period of time (e.g. **during the last year**) while other questions ask about drinking behavior **ever** in your life. By alcohol we mean beer, wine, cocktails, hard liquor, etc. "A drink" means one beer, glass of wine, one shot, etc. Please answer as accurately and honestly as possible.

- At what age did you first try alcohol?
- At what age would you say you began drinking? (For some people this might be different, if you tried sip of alcohol when you were young but didn't begin consuming alcohol on an occasional or regular basis until a little later.)
- Thinking back across all of different years and phases of your life, at what age were you drinking the most?

Questions	0	1	2	3	4
1. How often do you have a drink containing alcohol?	Never	Monthly or less	2-4 times a month	2-3 times a week	4 or more times a week
2. How many drinks containing alcohol do you have on a typical day you are drinking?	1 or 2	3 or 4	5 or 6	7 to 9	10 or more
3. How often do you have more drinks on one occasion?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily
E4. Have you **ever** been unable to stop drinking once you had started?	No		Yes		
If yes, approximately how old were you the first time you experienced this?					
E5. Have you **ever** failed to do what was expected of you because of drinking?	No		Yes		
If yes, how old were you the first time this happened?					
E6. Have you **ever** needed a drink first thing in the morning to get yourself going after a heavy drinking session?	No		Yes		
If yes, how old were you the first time this happened?					

E7. Have you **ever** had a feeling of guilt or remorse after drinking?	No		Yes		
If yes, how old were you the first time you felt this way?					
E8. Have you **ever** been unable to remember what happened the night before because of your drinking?	No		Yes		
If yes, how old were you the first time this happened?					
*The last two questions refer to **anytime** during your life:*					
9. Have you or someone else been injured because of your drinking?	No		Yes, but not in the past year		Yes, during the past year
If yes but not in the past year: Approximately how old were you?					
If yes: Has it happened more than once?	No		Yes		
If yes: Approximately how old were you the other times?					
10. Has a relative, friend, doctor, or other health care worker been concerned about your drinking and suggested you cut down?	No		Yes, but not in the past year		Yes, during the past year
If yes but not in the past year: Approximately how old were you?					
If yes: Has it happened more than once?	No		Yes		
If yes: Approximately how old were you the other times?					

Appendix C: Adapted DUDIT (Berman et al., 2003)

Only "ever" items retained for the current project.

Instructions: The next questions are about drugs. First we'll ask you what type of drugs you have tried. Then we will ask you other questions about drug use. Please read each question closely. Some questions ask about drug use within a certain period of time (e.g. **during the last year**) while other questions ask about **ever** in your life. Please answer as correctly and honestly as possible by indicated which answer is right for you.

The following chart shows some different types of drugs. Please check which type of drugs you have **ever** tried by clicking the appropriate box on the top.

Cannabis	**Amphetamines**	**Cocaine**	**Opiates**	**Hallucinogens**	**Solvents/ Inhalants**	**GHB and others**
Marijuana	Methamphetamine	Crack	Smoked heroin	Ecstasy	Thinner	GHB
Hash	Phenmetraline	Freebase	Heroin	LSD (lysergic acid)	Trichlorethylene	Anabolic steroids
Hash oil	Khat	Coca leaves	Opium	Peyote	Gasoline/petrol	Laughing gas (Halothane)
	Betel nut			PCP, angel dust (Phencyclidine)	Gas	Amyl nitrate (Poppers)
	Ritaline			Psilocybin	Solution	Anticholinergic compounds
	Methylphenidate			DMT (Dimethyltrptamine)	Glue	

Pills and medicines count as drugs when you take:

- More of them or take them more often than the doctor has prescribed for you
- Pills because you want to have fun, feel good, get "high", or wonder what sort of effect they have on you
- Pills that you have received from a relative or a friend
- Pills that you have bought on the "black market" or stolen

Please indicate whether you have ever taken either type of drug how they were not intended (as indicated in the list above). Some common types of each type of drug are listed in the chart below, but may not include all types of prescription drugs.

Sleeping Pills/Sedatives			**Painkillers**		
Alprazolam	Glutethimide	Rohypnol	Actiq	Durogesic	OxyNorm
Amobarbital	Halcion	Secobarbital	Coccilana-Etyfin	Fentanyl	Panocod
Apodorm	Herminevrin	Sobril	Citodon	Ketodur	Panocod forte
Apozepam	Iktorivil	Sonata	Citodon forte	Ketogan	Paraflex comp
Aprobarbital	Imovane	Stesolid	Dexodon	Kodein	Somadril
Butabarbital	Mephobarbital	Stilnoct	Depolan	Maxidon	Spasmofen

Butalbital	Meprobamate	Talbutal	Dexofen	Metadon	Subutex
Chloral hydrate	Methaqualone	Temesta	Dilaudid	Morfin	Temgesic
Diazepam	Methohexital	Thiamyal	Distalegesic	Nobligan	Tiparol
Dormicum	Mogadon	Thiopental	Dolcontin	Norflex	Tradolan
Ethcholorvynol	Nitrazepam	Triazolam	Doleron	Norgesic	Tramadul
Fenemal	Oxascand	Xanor	Dolotard	Opidol	Treo comp
Flunitrazepam	Pentobarbital	Zopiklon	Doloxene	OxyContin	
Fluscand	Phenobarbital				

- If none are checked from either list:
  - I've never tried drugs/I've tried drugs not on this list
    - If "I've never tried drugs" – skip to next measure

- How old were you when you the first time you tried drugs?
- How old were you the last time you did drugs?

Question	0	1	2	3	4
1. How often do you use drugs other than alcohol?	Never	Once a month or less often	2-4 times a month	2-3 times a week	4 times a week or more often
2. Do you use more than one type of drug on the same occasion?	Never	Once a month or less often	2-4 times a month	2-3 times a week	4 times a week or more often
3. How many times do you take drugs on a typical day when you use drugs?	0	1-2	3-4	5-6	7 or more
4. How often are you influenced heavily by drugs?	Never	Less often than once a month	Every month	Every week	Daily or almost every day
E5. Have you **ever** felt that your longing for drugs was so strong that you could not resist it?	No		Yes		
If yes, approximately how old were you the first time you felt this way?					
E6. Have you **ever** been unable to stop taking drugs once you started?	No		Yes		
If yes, how old were you the first time this happened?					
E7. Have you **ever** taken drugs and then neglected to do something you should have done?	No		Yes		
If yes, how old were you the first time this happened?					
E8. Have you **ever** needed to take	No		Yes		

a drug the morning after heavy drug use the day before?					
If yes, how old were you the first time this happened?					
E9. Have you **ever** had guilt feelings or a bad conscience because you used drugs?	No		Yes		
If yes, how old were you the first time you felt this way?					
*The last two questions refer to **anytime** during your life:*					
10. Have you or anyone else been hurt (mentally or physically) because you used drugs?	No		Yes, but not over the past year		Yes, over the past year
If yes but not in the past year: Approximately how old were you?					
If yes: Has it happened more than once?	No		Yes		
If yes: Approximately how old were you the other times?					
11. Has a relative or a friend, a doctor or a nurse, or anyone else been worried about your drug use or said to you that you should stop using drugs?	No		Yes, but not over the past year		Yes, over the past year
If yes but not in the past year: Approximately how old were you?					
If yes: Has it happened more than once?	No		Yes		
If yes: Approximately how old were you the other times?					

Appendix D: Adapted Sexual Experiences Survey – SFV (Koss et al., 2007; 2008)

Instructions: The following questions concern sexual experiences that you may have had that were unwanted. We know that these are personal questions. We do not ask your name or other identifying information anywhere within this survey, therefore your information is completely confidential. We hope that this helps you to feel comfortable answering each question honestly.

Click the button in the box showing the number of times each experience has happened to you. If several experiences occurred on the same occasion—for example, if one night someone told you some lies and had sex with you when you were drunk, you would click both boxes a and c. The past 12 months refers to the past year going back from today. Since age 14 refers to your life starting on your 14th birthday and stopping one year ago from today.

Sexual Experiences	Number of Times			
1. Someone fondled, kissed or rubbed up against the private areas of my body (lips, breast/chest, crotch or butt) or removed some of my clothes without my consent (*but did not attempt sexual penetration*) by:	0	1	2	3+
a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.				
b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.				
c. Taking advantage of me when I was too drunk or out of it to stop what was happening.				
d. Threatening to physically harm me or someone close to me.				
e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.				
For each item indicated as 1 time, participants were asked: How old were you when this occurred?				
And, what was the gender of the person?	Male	Female		
*For each item indicated as 2 or more times, we will ask: How old were you **the first time** this happened?*				
What was the gender of the person?	Male	Female		
*For each item indicated as 2 or more times, we will ask: How old were you **the***				

***last time** this happened?*				
What was the gender of the person?	Male		Female	
2. Someone had oral sex with me or made me have oral sex with them without my consent by:	0	1	2	3+
a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.				
b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.				
c. Taking advantage of me when I was too drunk or out of it to stop what was happening.				
d. Threatening to physically harm me or someone close to me.				
e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.				
How old were you when this occurred?				
What was the gender of the person?	Male		Female	
*For each item indicated as 2 or more times: How old were you **the first time** this happened?*				
What was the gender of the person?	Male		Female	
*How old were you **the last time** this happened?*				
What was the gender of the person?	Male		Female	
3. A man put his penis into my vagina, or someone inserted fingers or objects without my consent by:	0	1	2	3+
a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.				
b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.				
c. Taking advantage of me when I was too drunk or out of it to stop what was happening.				

d. Threatening to physically harm me or someone close to me.				
e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.				
How old were you when this occurred?				
What was the gender of the person?	Male		Female	
*For each item indicated as 2 or more times: How old were you **the first time** this happened?*				
What was the gender of the person?	Male		Female	
*How old were you **the last time** this happened?*				
What was the gender of the person?	Male		Female	
4. A man put his penis into my butt, or someone inserted fingers or objects without my consent by:	0	1	2	3+
a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.				
b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.				
c. Taking advantage of me when I was too drunk or out of it to stop what was happening.				
d. Threatening to physically harm me or someone close to me.				
e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.				
How old were you when this occurred?				
What was the gender of the person?	Male		Female	
*For each item indicated as 2 or more times: How old were you **the first time** this happened?*				
What was the gender of the person?	Male		Female	
*How old were you **the last time** this happened?*				
What was the gender of the person?	Male		Female	
5. Even though it did not happen, someone TRIED to have oral sex with me, or make me have oral sex with them with-out my	0	1	2	3+

consent by:				
a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.				
b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.				
c. Taking advantage of me when I was too drunk or out of it to stop what was happening.				
d. Threatening to physically harm me or someone close to me.				
e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.				
How old were you when this occurred?				
What was the gender of the person?	Male		Female	
*For each item indicated as 2 or more times: How old were you **the first time** this happened?*				
What was the gender of the person?	Male		Female	
*How old were you **the last time** this happened?*				
What was the gender of the person?	Male		Female	
6. Even though it did not happen, a man TRIED to put his penis into my vagina, or someone tried to stick in fingers or objects without my consent by:	0	1	2	3+
a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.				
b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.				
c. Taking advantage of me when I was too drunk or out of it to stop what was happening.				
d. Threatening to physically harm me or someone close to me.				
e. Using force, for example holding me				

down with their body weight, pinning my arms, or having a weapon.					
How old were you when this occurred?					
What was the gender of the person?	Male		Female		
*For each item indicated as 2 or more times: How old were you **the first time** this happened?*					
What was the gender of the person?	Male		Female		
*How old were you **the last time** this happened?*					
What was the gender of the person?	Male		Female		
7. Even though it did not happen, a man TRIED to put his penis into my butt, or someone tried to stick in objects or fingers without my consent by:	0	1	2	3+	
a. Telling lies, threatening to end the relationship, threatening to spread rumors about me, making promises I knew were untrue, or continually verbally pressuring me after I said I didn't want to.					
b. Showing displeasure, criticizing my sexuality or attractiveness, getting angry but not using physical force, after I said I didn't want to.					
c. Taking advantage of me when I was too drunk or out of it to stop what was happening.					
d. Threatening to physically harm me or someone close to me.					
e. Using force, for example holding me down with their body weight, pinning my arms, or having a weapon.					
How old were you when this occurred?					
What was the gender of the person?	Male		Female		
*For each item indicated as 2 or more times: How old were you **the first time** this happened?*					
What was the gender of the person?	Male		Female		
*How old were you **the last time** this happened?*					
What was the gender of the person?	Male		Female		
8. Did any of the experiences described in this survey happen to you one or more times?	Yes		No		
9. Have you ever been raped?	Yes		No		

Appendix E: Secondary Demographic Characteristics

Variable	Percent
Disability Status	
Mental Health	31.2
Learning	10.1
Sensory	4.4
Mobility	2.8
Other	5.4
Education Status	
Some High School	0.5
High School Diploma	8.2
Some College	23.7
Trade, Technical, or Vocational Training	5.7
4-Year College Degree	27.3
Masters Degree	23.5
Professional Degree	4.4
Doctorate Degree	6.7
Employment Status	
Employed for Wages	51.7
Student	28.4
Self-Employed	9.6
Homemaker	2.8
OOW - Looking for Work	2.6
OOW - Not Looking for Work	1.3
Retired	1.8
Unable to Work	1.8
Annual Income	
Less than $25,000	44.4
$25,000-$34,999	15.1
$35,000-$49,999	11.5
$50,000-$74,999	14.9
$75,000-$99,999	6.8
Over $100,000	7.3

Variable	Percent
Geographic Region	
Southeast (AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA, WV)	50.8
Northeast (CT, DC, DE, MA, MD, ME, NH, NJ, NY, PA, RI, VT)	14.7
West (AK, CA, CO, HI, ID, MT, NV, OR, UT, WA, WY)	12.9
Midwest (IA, IL, IN, KS, MI, MN, MO, ND, NE, OH, SD, WI)	11.1
Southwest (AZ, NM, OK, TX)	3.1
Other	7.5
Religious Affiliation**	
Atheist	23.4
Agnostic	20.1
Protestant	16.4
Roman Catholic	5.5
Martial Status	
Single (Never married)	52.6
Married or Domestic Partnership	38.9
Divorced	7.7
Separated	0.5
Widowed	0.3
Children	
No Children	74.9
Children 12 Years or Older	14.5
Children Under 12	10.6

Note: *OOW = Out of work; **Only Religious Affiliations with over 5% endorsement displayed.