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Bisexuality, Minority Stress and Intimate Partner Violence in the American South

By

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Doctor of Philosophy

Behavioral Sciences and Health Education

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Bisexuality, Minority Stress and Intimate Partner Violence in the American South

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An abstract of
a dissertation submitted to the Faculty of the
James T. Laney School of Graduate Studies of Emory University
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Abstract

Bisexuality, Minority Stress and Intimate Partner Violence in the American South

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Casey D. Hall

Intimate partner violence (IPV) a health concern of growing relevance to the lesbian, gay, bisexual, transgender (LGBT) community. More particularly, bisexual women face elevated rates of intimate partner violence in their lifetime. Researchers have begun to apply the Minority Stress framework to violence outcomes among LGBT populations; however, very little research has sought to examine the specific ways in which bisexual women experience Minority Stress. Additionally, research has begun to examine experiences of sexuality through a more multifaceted approach. A mixed-methods study was undertaken to examine possible mechanisms contributing to the experience of IPV among bisexual and multisexual women (ages 18-29) in the American South. The study included the collection of 36 in-depth life histories of multisexual women as well as survey data from 1,227 women. Main themes addressed by this dissertation included minority stress, intimate partner violence, biphobia, multi-dimensional sexuality, and sexuality development over the life course.

Findings emphasized the use of Minority Stress as one framework to explain elevated risk for IPV, the use of multi-dimensional measures of sexuality to identify subgroups who experience higher risk for stress and depression, as well as the application of a life course perspective to understand the relationship between the social environment, identity development, and sexual identity among multisexual women. Additionally, these findings suggest the need for intervention and programming that seeks to address the specific needs of bisexual and multisexual women on multiple levels of the social ecology.

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Chapter 1. Literature Review

Introduction

Intimate partner violence (IPV) in same-sex relationships has been of increasing concern in public health; however little research has examined bisexual-specific experiences of IPV (Finneran & Stephenson, 2013; Hardesty, Oswald, Khaw, & Fonseca, 2011; Murray, Mobley, Buford, & Seaman-DeJohn, 2007; Walters et al., 2013). Based on national surveillance data and a number of studies bisexual-identified women report higher rates of lifetime experience of IPV and rape than heterosexual women or lesbian women (Ford & Soto-Marquez, 2016; Martin-Storey, 2015; Olsen, Vivolo-Kantor, & Kann, 2017; Walters et al., 2013). Furthermore, a majority of bisexual women (more than twice that of heterosexual women) report at least one psychological or physical impact of IPV (Walters et al., 2013). Despite this concerning evidence questions remain regarding the mechanisms through which bisexual individuals may be at higher risk for IPV than their heterosexual or homosexual counterparts. This paucity of research largely mirrors the consistent lack of bisexual-focused research in the field of public health more broadly; however, mounting evidence such as the disparity in experience of IPV illuminates a need for more careful consideration of bisexuality in the field of public health.

Broader IPV literature has linked risk factors such as substance use, relationship status, social support, jealousy, mental health status, and relationship discord to IPV among women overall (Capaldi, Knoble, Shortt, & Kim, 2012; Hardesty et al., 2011). Additionally, literature addressing lesbian, gay and bisexual (LGB) populations has begun to identify Minority Stress and homophobic discrimination to relationship quality and experiences of IPV (Carvalho, Lewis, Derlega, Winstead, & Viggiano, 2011; Edwards & Sylaska, 2013; Frost & Meyer, 2009; Head & Milton, 2014; Murray et al., 2007; Robert Stephenson, Rentsch, Salazar, & Sullivan, 2011). Evidence of biphobic attitudes from heterosexual and lesbian communities suggests that bisexual experiences of discrimination may be uniquely isolating even

in comparison to lesbian counterparts (Greene, 2003; Herek, 2002; Moore & Norris, 2005). Broader literature on bisexual populations has identified factors that may contribute to bisexual-specific social isolation including a lack of bi-affirming individuals in social groups and discrimination from both heterosexual and homosexual populations (Drabble et al., 2005; Lewis et al., 2012; Marshal et al., 2008). Initial qualitative examination suggests that some abusive tactics are specific to biphobia and uniquely targeted to bisexual individuals (Head & Milton, 2014). Furthermore, the American South is a unique context to examine IPV and LGB identities for several reasons including a high prevalence of IPV in the region, some of fewest LGB-affirming policies, and the largest proportion of African-American/Black people in the U.S. (Walters et al., Campaign, 2016; Tiefenthaler, Farmer, & Sambira, 2005; 2013). Though IPV is elevated among African-American/Black women compared to white women, experience of IPV among African-American/Black sexual minorities is under-researched and existing research has largely focused on black gay/bisexual men (Frost, Lehavot, & Meyer, 2015; Meyer et al., 2003; Stephenson et al., 2011).

Until recently, the concept of minority stress has been applied mostly to mental health and substance abuse outcomes (Frost et al., 2015; Meyer, 1995; I. H. Meyer, 2003). Most examinations of minority stress among LGB populations has been focused mostly on all-white, middle-class lesbian or gay samples (Bowleg, 2012). Previously identified risk factors from the broader IPV literature such as substance use and mental health have been found to be elevated among bisexual populations and linked to experiences of discrimination among broader LGB populations (Drabble et al., 2005; Jorm, Korten, Rodgers, Jacomb, & Christensen, 2002; Lews et al., 2012; Marshal et al., 2008). Bisexual individuals are at higher risk of substance abuse and alcohol dependence than heterosexual and lesbian counterparts (Drabble et al., 2005; Lewis et al., 2012; Marshal et al., 2008). Bisexual women have been found to be more likely than heterosexual women to report conflict and spousal conflict due to heavy alcohol consumption (Drabble et al., 2005). However, the relationship between biphobic social isolation,

established risk factors for IPV, and experience of IPV have not been examined in-depth. Further complicating the understanding of this apparent disparity in IPV outcomes is the lack of bisexuality-centered research in public health in part due to the obfuscation of bisexual experiences with behavioral measures of bisexuality such as "women who have sex with women" (Dowsett, 1990; Glick, Muzyka, Salkin, & Lurie, 1994; Young & Meyer, 2005). Literature suggests that behavioral measures and identity measures of bisexuality result in the overlapping, but distinct populations (Bauer & Brennan, 2013; Savin-Williams, 2006; Savin-Williams, Joyner, & Rieger, 2012; Taylor, 2013). Research is needed to understand the extent to which populations identified through different measures of bisexuality are qualitatively different and how these measures influence estimates of public health outcomes in these populations, particularly behavioral outcomes such as IPV.

The NIH FY 2016-2020 Strategic Plan to Advance Research on Health and Well-being of Sexual and Gender Minorities identified a number of relevant research agendas regarding the importance of 1) examining violence among sexual minority populations, 2) developing measures (including measures of identity), and 3) incorporating a life course perspective in LGBT research (NIH, 2016). The following literature review examines IPV, bisexuality and minority stress as a theoretical framework for IPV.

Table 1.1 Impacts of IPV as Measured by NISVS
Being fearful
Being concerned for safety
Symptoms of PTSD (Nightmares, persistent memories, feeling on guard, numbness)
Injury
Need for medical care
Need for housing services
Need for victim's advocate services
Need for legal services
Contacting crisis hotlines
Missing days of work
Contracting STIs
Unwanted/forced pregnancy

Intimate Partner Violence

In the most recent National Intimate Partner and Sexual Violence Survey 37.3% of women in the U.S. overall reported lifetime experience of IPV (Black et al., 2011). Of women affected by IPV 73.4% reported at least one IPV related impact including a range of mental or physical impacts listed in Table

1.1 (Black et al., 2011). IPV can also have substantial impacts on the lives of the women affected including death in the case of intimate partner homicide (Garcia, Soria, & Hurwitz, 2007). IPV essentially encompasses any violent tactic perpetrated by a romantic or sexual partner, which ranges in domains including physical, sexual, mental/emotional, controlling behavior, coercive behaviors, forced STI or pregnancy risk, stalking, and/or a sense of unsafety in the relationship (Rabin, Jennings, Campbell, & Bair-Merritt, 2009; Stephenson et al., 2013; Stephenson et al., 2013). Early on in IPV research, an "intimate partner" was only viewed as a spouse in a presumably heterosexual male-female marriage (Gelles, 1972; Hudson & McIntosh, 1981; B. Y. Lewis, 1985; Waltermaurer, 2005). At least 33 different IPV screening tools were developed prior to the year 2003 (Waltermaurer, 2005). However, many studies and IPV screening items focus primarily on physical or sexual violence (Black et al., 2011; Rabin et al., 2009). Measurement of IPV remains varied across studies including in terms of domains of violence and time periods for reporting (Waltermaurer, 2005). Moreover, new technologies such as global positioning systems, social media, and texting pose new points of access for stalking and controlling behaviors (Southworth, Finn, Dawson, Fraser, & Tucker, 2007). Researchers also have debated the need for the development of improved measures to ensure that population-specific, culturally specific, or context-specific experiences of IPV are better captured in measures (Dutton & Goodman, 2005; Follingstad & Rogers, 2013; Kelly & Johnson, 2008; Lindhorst & Tajima, 2008; Stephenson & Finneran, 2013; Stephenson et al., 2013). Further complicating research is the conceptual interface with legal definitions of IPV behaviors, which may not always fully overlap with public health definitions that include broader behaviors that have a psychological or clinical impact on survivors of IPV (Kelly & Johnson, 2008). However, research and interventions that utilize broader definitions of violence than legal code pose a complementary issue and may not have a clear impact on law-related outcomes of IPV such as reporting, arrests, or recidivism for violent crimes (Kelly & Johnson, 2008).

IPV among lesbian, gay, and bisexual populations is of growing concern among violence researchers (Finneran & Stephenson, 2013; Ford & Soto-Marquez, 2016; Hardesty et al., 2011; Murray et al., 2007; Walters et al., 2013). Report of IPV among gay and bisexual men in same-sex couples ranges between 29.7% and 78.0% (Finneran & Stephenson, 2013; Pantalone, Schneider, Valentine, & Simoni, 2012; Waldner-Haugrud, Gratch, & Magruder, 1997). Report of IPV among lesbian or bisexual women in same-sex couples ranges between 8.5% and 73% (West, 2002). Lifetime report of IPV (rape, physical, or stalking) among lesbian women in the 2010 NISVS was 43.8% compared to 35% among heterosexual women (Walters et al., 2013). At the time of this literature review there are no published systematic reviews of bisexual-specific reports of experience of IPV. Lifetime report of IPV (rape, physical, or stalking) among bisexual women in the 2010 NISVS was 61.1% and among bisexual men was 37.3% making bisexual women and men the highest reporting sexual orientation in either binary gender category men (Walters et al., 2013). Bisexual women were also more likely to report severe physical violence (being hit with a fist, being hit by a hard object, being slammed against something or being beaten) with 49.3% reporting compared to 29.4% or lesbians and 23.6% of heterosexual women. Other studies, such as one recent study of college students has found similar elevated patterns where bisexual college women are more likely to report experience of IPV (Ford & Soto-Marquez, 2016). Teens who don't neatly fall into heterosexual or homosexual categories also have been identified as having higher risk for teen dating violence (Martin-Storey, 2015; Olsen et al., 2017). Elevated IPV among bisexual or multisexual populations appears to be consistent across the life course.

Despite bisexual-identified people making up roughly half of sexual minority population (Project, 2016; Walters et al., 2013) and bisexual women being nearly twice as likely to report IPV as heterosexual women, (Walters et al., 2013) a paucity of research addresses the unique risk factors that bisexual women confront in regard to IPV (Head & Milton, 2014). One small qualitative study in the UK examined IPV among bisexual men and women. Head and Milton (2014) approached bisexual-specific experience

of IPV through a qualitative study using grounded theory and theoretical sampling of 10 bisexual participants between the ages of 21 and 49 (8 women and 2 men) in the U.K. During the 34-83 minute telephone interviews each participant provided information about a single abusive relationship (Head & Milton, 2014). In vivo line-by-line and more focused codes were applied to thematic analysis. Themes that arose out of the data were used to construct a theory around adjusting for relationship consonance, which touched on themes of getting lost in the relationship, webs of mutual dependence and financial abuse. Bisexual-specific experiences that were highlighted included the lack of a colloquial framework for understanding of bisexual IPV, dissonance around relationship agreements and coercive behaviors related to bisexuality (Head & Milton, 2014). Additionally, the presentation by Hall and Girod (2017) addressed a qualitative sample of 23 in-depth interviews with bisexual men and women in the Metro Atlanta area who had experience IPV in their lifetime. Through an interactive social support network exercise they discussed sources of social support, community, biphobia, and IPV (Hall, 2017). The results of this study suggested that bisexual men and women may experience biphobia in multiple levels of the social ecology (within relationships, within families, within social-support networks and within community). Sources of social support frequently were identified as a source of support and a source of discrimination or biphobia. Participants linked biphobic experience to experiences of violence and to barriers in seeking formal and informal support relating to discrimination or violence. These results point toward the examination of Minority Stress as potential mechanism through which bisexual women may be put at risk for IPV.

Minority Stress

Minority stress is a framework that attempts to address the multiple dimensions of discrimination experienced by minority populations (Cochran, Sullivan, Mays, & psychology, 2003; Mays & Cochran, 2001; I. H. Meyer, 1995, 2003). Meyer (1995) further applied this theory to gay and bisexual men in relationship to mental health, particularly depression and anxiety. He theorized that minority

stress operates with 3 dimensions: intrapersonal bias, expectation of discrimination and interpersonal discrimination. The framework moves beyond experiences of discrimination and allows for intrapersonal effects of internalized discrimination or anticipation of discrimination even in the absence of direct discrimination experiences. Intrapersonal bias or discrimination are internalized negative thoughts or attitudes pertaining to one's identity. Expected or anticipated discrimination is a state of hyper vigilance or awareness due to the anticipation that one will experience discrimination. Interpersonal discrimination is the actual experience of discriminatory acts of others. Although there has been limited research directly linking minority stress to IPV there is a broader body of literature that can be used to link minority stress to IPV and risk factors for IPV that will be addressed in the following section. Most of what is known about minority stress is connected to sexual minorities in general with only a small portion of the literature addressing bisexuality specifically, so current understanding of minority stress among bisexual people largely draw from this broader literature.

Researchers have begun to test the constructs related to the concept of minority stress among bisexual people utilizing primarily qualitative research, but also some preliminary quantitate studies. Herek's (2002) work comparing heterosexual attitudes toward sexual minorities suggest that heterosexuals view bisexual people less favorably than gay men or lesbian women (Herek, 2002). Research suggests that there is overall tension among sexual minorities on the subject of bisexuality including a tendency to be less willing to date bisexual people or include bisexual people in social circles (Greene, 2003; Moore & Norris, 2005). Studies have suggested that bisexual men and women may be at a heightened risk for internalized stressors such as isolation from people or social contexts that are affirming of their sexuality, which may be uniquely elevated for bisexual populations in comparison to homosexual populations (Balsam, Beadnell, & Molina, 2013; Hequembourg & Brallier, 2009). In qualitative data bisexual participants have described a lack of social support, a sense of invisibility, negative consequences of coming out as bisexual and heightened anxiety about sexual identity

(Hequembourg & Brallier, 2009). Small cross-sectional regression studies with small non-probability samples have begun to compare bisexual women's experiences of minority stress constructs (Dyar, Feinstein, & London, 2015; Hoang, Holloway, & Mendoza, 2011). Although studies have begun to explore the nuances of minority stress among bisexual people the nuances of the structure of minority stress for bisexual people has yet to be fully explored.

In the 2015 critical review of IPV for sexual minorities in general Edwards linked sexual minority experience of minority stress to IPV (Edwards, Sylaska, & Neal, 2015). Head & Milton (2014) used qualitative interviews and found that some violent behaviors may be conceptually linked to sexual minority stress such as threats of outing, being forced to prove bisexuality through 3-somes and coercion into non-monogamy. The presentation by Hall and Girod (2017) found that participants linked biphobic experience both to experiences of violence and to barriers in seeking formal and informal support relating to discrimination or violence (Hall, 2017). Participants described biphobic attitudes of partners as influencing IPV such as increasing heightened jealousy and increased controlling behaviors; however, participants also described biphobic violence tactics such as emotional abuse that specifically attacked bisexual identity (Hall, 2017). Additionally, some qualitative research has suggested that sexual minorities may be less likely to seek support in cases of IPV due to the idea of a dual burden of sexual identity stigma as well as stigma around violence (Hardesty et al., 2011). Although quantitative studies have examined minority stress in relation to IPV among gay men and lesbians (Carvalho et al., 2011; Edwards & Sylaska, 2013), quantitative research linking minority stress to IPV among bisexual people appears to be lacking.

Minority stress also has been linked to elevation of many factors that have been found to be related to IPV in the literature including mental health, substance use, higher numbers of sexual partners and social isolation (Capaldi et al., 2012). Bisexual people may be more likely to experience mental health concerns (Jorm et al., 2002), social isolation (Balsam et al., 2013; Fox, 2013; B. Greene,

2003; Shuster, 1987), substance and alcohol use (Drabble, 2005; Lewis, Milletich, et al., 2012), conflict in relationships (Hequembourg & Brallier, 2009); and childhood sexual abuse (Hequembourg & Brallier, 2009). The broader literature on bisexual health highlights disparities in a broad array of factors that have been linked previously to IPV in the broader population and can be linked to minority stress theoretically or empirically.

Further examination of IPV and minority stress may want to take into consideration factors beyond the individual. Studies of IPV in the US regarding partner characteristics found significant partner factors for abuse rather than exclusively the survivor's characteristics (Grisso et al., 1999; R. J. Lewis, Milletich, et al., 2012; Walton-Moss, Manganello, Frye, & Campbell, 2005). This includes histories of arrest, substance abuse, poor mental health, poor education, unemployment, prior pet abuse, and ex-partner status (Bachman, 2000; Grisso et al., 1999; Walton-Moss et al., 2005). Risk factors for survivors of IPV being injured included partner's fair or poor mental health, partner's suicidality, controlling behavior, prior domestic violence arrests, and the length of the relationship (Walton-Moss et al., 2005). In the 2010 NISVS, 89% of bisexual women reported having only male perpetrators and 78.5% of bisexual men reported having only female perpetrators (Walters et al., 2013). One may assume that both bisexual men and bisexual women both would have mostly male perpetrators due to concepts of hegemonic masculinity (Connell & Messerschmidt, 2005). When taking this pattern into account across both male and female bisexual survivors of IPV it begs the question if biphobia may be a factor in "opposite" sex pairings. Bisexual women's partners' biphobia and other relevant characteristics may need to be examined to gain a full picture of how minority stress may factor into the elevated risk of IPV among bisexual women.

Although there is qualitative research linking minority stress to IPV among bisexual people and many studies demonstrating elevated risk factors of IPV among bisexual people there are not adequate quantitative studies. Possible future next-steps in approaches to examine the relationship between

minority stress and IPV in bisexual people are additional qualitative studies such as grounded theory and phenomenological approaches to establish theoretical links; scale validation of adapted scales to ensure content validity as well as internal validity of constructs in the bisexual population; mediation analyses to examine to what extent relationships between minority stress and IPV are mediated through known risk factors for IPV; and structural equation modeling to assess more complex causal pathways.

Bisexuality

Overall, bisexual-specific experiences are largely absent from the public health literature (Young & Meyer, 2005). Despite this there is renewed interest in examining the nuances of sexual identities as evidenced by the National Institutes of Health strategic plan highlights the importance of developing measures (including measures of identity) (NIH, 2016). The historical absence of bisexual experiences and voices in public health may largely be due to Public Health's long history of consolidating sexuality into behavioral measures relating to biological risk for HIV transmission (i.e. the category of men who have sex with men) (Young & Meyer, 2005). From a biological epidemiologic perspective, this behavioral categorization may elucidate the biological risk of specific sexual behaviors; however, this categorization masks bisexual people from health discourse by subsuming them under a broader behavioral measure (Young & Meyer, 2005). It also ignores intra-personal and interpersonal dimensions of sexuality, such as social sorting and experiences of discrimination which are linked to identity (Young & Meyer, 2005). Empirically, behavioral and identity measures are not reliably interchangeable within samples (Bauer & Brennan, 2013). Researchers from gender studies, psychology and sociology have suggested multidimensional approaches to examine sexual identity that distinguish identity from behavior, sexual attraction, romantic attraction, community affiliation and cultural context while allowing these dimensions to be correlated (Anderson & McCormack, 2016; Kinsey, Pomeroy, & Martin, 1948; Klein, Sepekoff, & Wolf, 1985; Pega, Gray, Veale, Binson, & Sell, 2013; Sell, 1997). Results from a national Pew study highlight that sexual minorities and especially bisexual-identified people have a variety of

experiences across these dimensions (Taylor, 2013). It is unknown how each of these dimensions relate to public health concerns and behavioral outcomes, such as IPV; however, it is important to understand the complexity of bisexual identity in order to identify plausible mechanisms through which bisexual individuals are put at higher risk for IPV.

One dimension to researching IPV among bisexual populations is how one approaches the definition and measurement of bisexuality. In terms of bisexual-specific experiences of IPV research this has been predominantly defined through self-identification and in some cases behavior (Ford & Soto-Marquez, 2016; Hardesty et al., 2011; Martin-Storey, 2015; Rob Stephenson et al., 2013; Walters et al., 2013). More broadly, in public health research bisexuality has been subsumed under other categories such as “men who have sex with men” or “sexual minorities” (Young & Meyer, 2005). However, in the broader context of bisexuality research across multiple fields there is a growing understanding of multiple dimensions of sexuality (Anderson & McCormack, 2016; Kinsey et al., 1948; Klein et al., 1985; Pega et al., 2013; Sell, 1997). Methods for addressing this issue have ranged from behavioral measures, identity measures and multi-dimensional measures. However, it is not clear which approach is most relevant to public health IPV research.

Examining bisexuality in the behavioral sciences problematizes the broader public health approaches to addressing sexuality. The dominant paradigm in public health to measure sexuality by sexual behavior was likely reinforced by HIV research. Since the 1990’s examination of gay and bisexual men has been operationalized as “men who have sex with men” (MSM) (Young & Meyer, 2005). The male-specific term was coined first and later “women who have sex with women” (WSW) followed mirroring this similar construction of behavior-focused labels (Dowsett, 1990; Glick et al., 1994). These terms seem to be driven by what Young describes as 2 different perspectives: 1) an epidemiological perspective that attempts to focus on the risk associated with specific sexual behaviors (i.e. anal sex and HIV) and 2) social construction perspective that sexual partnerships do not hold the same meaning

across time and cultural contexts (Young & Meyer, 2005). However, one could argue reducing the population to a measurement of sexual risk behavior may not translate to other behavioral health research. It could be proposed that the biological risk associated with anal sex has less relevance to IPV among bisexual women than social and cultural contexts of identity. In fact, this broader paradigm likely contributes to the relative erasure of bisexual people from public health discourse as they are subsumed under a broader sex behavior narrative (Young & Meyer, 2005). This may contribute to the relative lack of population-specific studies and estimates for bisexual populations. Young also points out that it undermines sexual orientation identities, minimizes the importance of social constructions of sexuality and may not accurately reflect behaviors, because the term MSM doesn't necessarily directly men translate to men who have *anal* sex with other men (Young & Meyer, 2005). Even within the term "MSM" or "WSW" as a biological risk based approach there is an assumption that these labels coincide with the risk behavior itself. Even in HIV research one may want to consider broader dimensions of sexuality. Consider a hypothetical example: two men may have the same biological risk due to a sexual act that they have in common (i.e. anal sex); however, one could be openly bisexual, an activist and member of a broader LGBT community, while the other identifies as heterosexual, is married to woman, has never disclosed their sexual preferences outside of the context of sexual partnerships. Despite the commonality in sexual risk behavior it seems counter-intuitive to consider these two men as having the same risk profile because of this single measure. Similarly, in IPV research the selection of a behavioral sexual measure may obscure the complex interplay between social environment, experiences and identity among bisexual women. For example, may women who identify as bisexual may not be detected as "women who have sex with women," because they have never had sex with women or have not had sex with women within the given timeframe (Comeau, 2012). A woman who openly identifies as bisexual, who is married to a man, and has never had sex with another woman may experience her own risk profile regarding IPV. Similarly, using the behavioral measure of "WSW" may also obscure critical

differences between lesbian and bisexual women. To underline the point: if bisexual-identified women and lesbians were lumped together as WSW in the NISVS then the findings may have obscured the relative elevation among bisexual women which is nearly 2-fold and to an un-critical eye it could have implied a higher prevalence among lesbians (Walters et al., 2013). This is to make the point that when researchers utilize a measure of sexuality they should be aware of 1) what it truly is meant to measure (e.g. biological risk of individuals who participate in unprotected anal sex in the case of HIV and MSM), and 2) the mechanisms of risk which this underlying assumption may isolate or obfuscate.

Centering research on bisexuality can be particularly illuminating, because of the relative diversity there is among people who identify as bisexual. This is highlighted in the 2013 report from the Pew Research Center problematizes measures of bisexuality (Taylor, 2013). In the report, bisexual participants were more likely to endorse that their sexuality was not as important to their overall identity (53% compared to 25% of gay men and 21% of lesbians); less likely to endorse that their sexual orientation was a positive influence on their life (22% compared to 38% among lesbians and 46% among gay men), less likely to report that they are involved in LGBT community events or organizations (33% of bisexual men and women reported attending an LGBT event compared to 72% of gay men and 61% of lesbians; 28% of bisexual men and women had been a member of an LGBT organization compared to 49% of lesbians and 48% of gay men) (Taylor, 2013). This suggests that bisexual people may have a different tendency with regard to their relationship with their own sexual orientation and the greater LGBT community as compared to lesbians and gay men. Additionally, 84% of bisexual participants in relationships had opposite sex partner and 9% had same-sex partners, though bisexual participants overall reported a range of attraction:

- Bisexual Men: 6% opposite-sex only/mostly, 32% opposite sex somewhat more, 28% both sexes equally, 32% same sex somewhat more, and 1% same sex only/mostly

- Bisexual women: 13% opposite sex only, 34% opposite sex somewhat more, 31% both sexes about equally, 20% same sex somewhat more and 2% same sex only/mostly).

Overall, the results of the Pew survey suggest that the broader population that may be labeled bisexual, MSM or WSW have a wide range of behaviors, identity, community-affiliation and attraction. One might argue that this is a sociological issue; however, issues of measurement could drastically affect what population is captured and what population is obscured by labels used for sexuality. Additionally, depending on which approach to labeling a population a researcher takes it may capture a different cluster of related factors that may or may not influence specific risk mechanisms as they pertain to the research question. For example, selecting a behavioral measure may partially isolate a biological risk characteristic, but it may obfuscate a social factor such as discrimination.

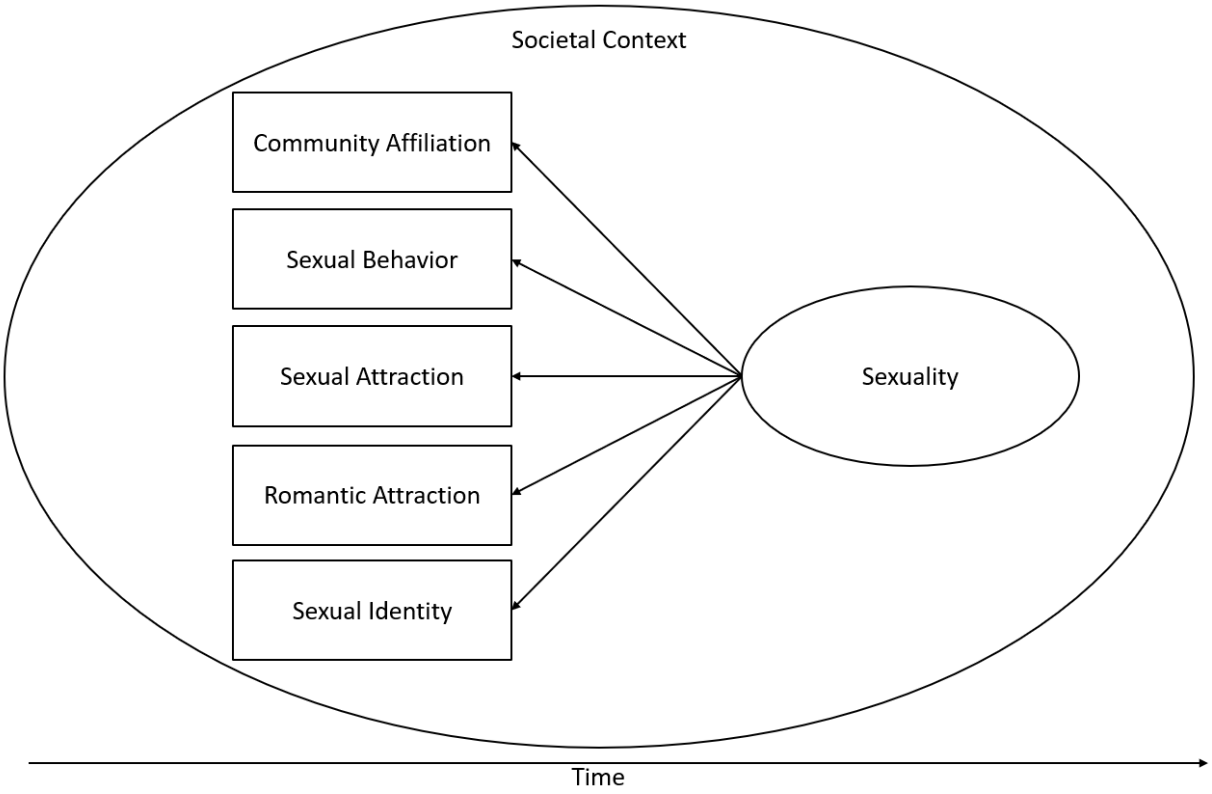
The short answer is that different measures of sexuality are likely overlapping, but distinct. Bauer & Brennan (2013) found that short-term (past year) behavioral measure of bisexuality was a poor proxy for self-reported bisexual identity: 40% (95% CI 32.6, 47.9) of U.S. bisexual identified women were captured by the behavioral question and 18.1% (95% CI 9.6, 26.6) of bisexual-identified men were captured by behavioral question (Bauer & Brennan, 2013). These results are dire. Savin-Williams (2006) suggests that 3 potential dimensions of sexuality (sexual/romantic attraction, sexual behavior, sexual identity) are not reliably predictive of each other and can result in different conclusions around prevalence of sexual minorities, the etiology of sexual orientations and the associated health profiles of sexual minority populations (Savin-Williams, 2006). Despite these preliminary assertions, the reality is that few datasets in public health have collected the data necessary to make these comparisons within datasets and across different health outcomes.

An additional complication to the measurement of sexuality through identity labels is the growing diversity in labels for people who are attracted to multiple genders. Some people identify as bisexual, pansexual, sexually fluid or other identities. Many terms have been used in research to

encompass this group more broadly including terms like multisexual, plurisexual, multisexual, polysexual, pomosexual, and sexually fluid (Hutchins & Williams, 2015; Mitchell, Davis, & Galupo, 2015; Queen & Schimel, 1997; Thompson & Morgan, 2008). Research has not concluded which single term is most appropriate to both encompass the range of identity labels, and to respect the fuller spectrum of gender identities that exist (Flanders, 2017). In this dissertation, we refer to bisexual women when participants indicated their identity as bisexual and to the broader category of labels as "multisexual" when appropriate. It is possible that people within specific labels may have different experiences or risk profiles. It is also possible that depending on the context, some populations may use a different label to describe similar constellations of experiences.

Outside of public health, researchers have suggested using more multi-dimensional measures of sexual orientation. Pega et al (2013) propose a multi-dimensional approach consisting of sexual attraction, sexual behavior and sexual identity (Pega et al., 2013). Pega argues that this may make measuring across culture and time more comparable, because for example that identities vary across societies in label. In some ways this harkens back to Kinsey's assessments of sexuality all the way back in 1948 that attempted to place human sexuality in 6 categories to allow for more fluidity (Kinsey et al., 1948; Sell, 1997). Klein's sexuality grid is on a gradient of "only same sex" to "only other sex" and has 7 dimensions each: sexual attraction, sexual behavior, sexual fantasies, emotional preference, social preference, heterosexual/homosexual lifestyle, and self-identification (Klein et al., 1985). It is however unclear how a multi-dimensional approach like Pega's or Klein's may be applied to public health in practicality for research and action-ability for prevention.

Figure 1.1 Multi-dimensional conceptual model of sexuality



Additional components that arise as potentially influential dimensions of sexuality include community affiliation, cultural contexts, and a life course perspective. Community affiliation and personal identity may be important in relation to social constructions of sexuality and experiences of discrimination and minority stress (Dyar et al., 2015; Young & Meyer, 2005). While congruence or incongruence between identity, attraction and behavior may have influences on factors such as internalized biphobia and relationship quality (Dyar et al., 2015; Hoang et al., 2011). A life course examination of sexual orientation may reveal that sexual questioning and identity changes can happen at any time and multiple times throughout a person's life (Diamond, Omoto, & Kurtzman, 2006). Research suggests that there is some fluidity over the life course in regard to how women identify their sexual orientation, which has led to some debate over how to define bisexuality (Diamond, 2008). Diamond (2006) suggests that earlier research was wrong to assume that sexual identity development

was a single event in a sexual minority person's life and that a specific sexual identity would be stable across the life course (Diamond et al., 2006). Diamond references Weinberg suggesting that the conception of sexual identity development should be understood as a choice of labels from "multiple, culture-bound, context-specific solutions to the ever-present 'problem' posed by nonnormative attractions and behaviors." (Diamond et al., 2006, p. 88; Weinberg, Williams, & Pryor, 1995). Prior qualitative research suggests for some bisexual women their identity label precedes other milestones in their sexual identity development (Comeau, 2012). Past longitudinal models suggest that this label-first identity development may be more common among sexual minority women than men who were more likely to have sexual experiences before label formation (Savin-Williams & Diamond, 2000). A more recent longitudinal study of sexual identity developmental trajectories suggests that for sexual minorities, overall identity labels tend to precede early sexual experience, whereas bisexual people tended to have later identity development than other sexual minorities (Calzo, Antonucci, Mays, & Cochran, 2011).

Some research regarding sexual minorities and IPV have found that some relevant constructs to sexual identity development such as coming out, dyadic differences in outness in couples, experience of homophobic victimization, internalized homonegativity, and partners biphobic beliefs may be relevant to IPV experiences among these populations more broadly (Edwards & Sylaska, 2013). Research regarding gay and bisexual male couples suggests that dyadic differences in outness may impact IPV among adult gay and bisexual men (Goldenberg et al., 2016). Researchers have suggested that internalized negative feelings about same-sex attraction may sometimes be projected onto partners through violence tactics (Carvalho et al., 2011). Homophobic victimization was found to be a predictor of IPV in gay men and lesbians in a meta-analysis (Kimmes et al., 2017). It is not clear if these factors play into multisexual women's experiences of IPV; however, lesbian and gay youth have been found to be more likely to integrate with LGBT social activities, to hold positive views of same-sex sexuality, and

more likely to feel comfortable being open about their sexuality than bisexual youths (Rosario, Schrimshaw, Hunter, & Braun, 2006). Additionally, qualitative research of bisexuality and IPV has found that partners of bisexual-identified individuals may perpetrate acts of violence that are motivated by biphobia (Hall, 2017). To examine bisexual identity as well as bisexual-specific experience of IPV, it is important to understand identity formation and relationship patterns among bisexual people. One critical period that may be particularly informative is emerging adulthood, as this is a period of identity exploration and formation (Arnett, 2000, 2007). Emerging adulthood is theorized as the period of intensive identify exploration (including sexual and racial identities) and when love relationships become more serious than in adolescence (Arnett, 2000, 2007). Sexual minority adolescents and emerging adults also are more likely to experience rejection from their support networks, such as parents, during this critical period (Arnett, 2007; Torkelson, 2012). Thus, it could a particularly informative period in relation to bisexual identity, social support and IPV.

Ultimately it is likely not sensible or practical to apply all potential dimensions of sexuality to public health research or interventions, because it may not be relevant to research questions, may take up too much space in survey instruments and may not be practically applied. However, ignoring this issue may result in reduced sensitivity or specificity of measurement of a population. Ignoring dimensions beyond behavioral classifications may obscure social processes related to sexual identity, but relying on simple self-identification may be subject to changes over time and social context threatening the reliability of the instrument. As such, in this proposal, I suggest the need for conceptual consideration and multiple forms of measurement in relation to the research question. Figure 1.1 presents 7 dimensions based on the literature that I would propose to be explored in relation to bisexuality: community affiliation, personal identity, sexual behavior, romantic attraction, sexual attraction, societal/cultural context and time.

Current Study and Aims

It is clear from the summary of the literature that there is an urgent need to examine IPV among bisexual women. Further research needs to examine the relationship between minority stress and IPV in order to better articulate the mechanisms through which minority stress may operate on IPV. Further exploration needs to be conducted in order to better understand the ways in which multiple dimensions of sexuality may play into mechanisms contributing to health disparities in sexual minority populations. Additionally, further exploration is necessary to understand the relationship between identity formation and risk for IPV among young multisexual women.

This dissertation research addresses three dimensions highlighted in the NIH FY 2016-2020 Strategic Plan to Advance Research on Health and Well-being of Sexual and Gender Minorities: 1) the importance of examining violence among sexual minority populations, 2) the importance of developing measures (including measures of identity), and 3) the importance of incorporating a life course perspective in LGBT research. IPV among sexual minorities is an issue of increasing concern (Carvalho et al., 2011; Edwards et al., 2015; Finneran & Stephenson, 2013; Hardesty et al., 2011; Head & Milton, 2014; Rob Stephenson & Finneran, 2013; Robert Stephenson et al., 2011). This research is especially relevant to the unique context of the Southern Census Region. The South was tied with the West Census Region for highest average weighted percentage of lifetime experience of IPV among women, at 37.5% (Black et al., 2011). Additionally, a county-level analysis found that Southern counties have low levels of IPV programming, legal services, counseling and the second lowest number of shelters (Tiefenthaler et al., 2005). According to the Human Rights Campaign, the South has the fewest state-level protections for LGBT populations of any region including workplace discrimination, housing protections, school anti-discrimination policies and hate-crimes (Campaign, 2016). These contexts may result in a uniquely hostile context for bisexual survivors of IPV. The South is home to more than half of the AA/Black

population18 and a racially diverse mixed-methods sample in this regional context will contribute a richer understanding of these constructs across race (West, 2012).

This dissertation aims to further this research through an exploratory mixed-methods study design which included an initial qualitative study to elicit in-depth life-history interviews followed by an online survey that was informed by preliminary analysis of the qualitative study. Although the data collected for this study was collected in this sequence the analyses will be presented in order of complexity beginning with the least complex conceptualization of sexuality and moving to the most contextual conceptualization of sexuality. Through this study we examine a proposed minority stress model through path analysis in Chapter 2. We examine possible sub-groups within sexuality measures through a cluster analysis in Chapter 3. Lastly, we examine multisexual women's perspectives on how their sexual identity development related to conflict and IPV in past relationships in Chapter 4. Lastly in Chapter 5 we consider these findings together and evaluate the research. Below are a summary of the aims:

Aim 1: Based on quantitative survey data collection, examine the relationship of discrimination experiences with known risk factors for IPV (social isolation, substance use, alcohol use) and experience of IPV across multiple sexual identity measures.

H1: The minority stress model will predict IPV in which higher levels of discrimination will correlate with higher levels of stress and IPV.

H2: There will be invariance between sexual identity groups (bisexual, lesbian, and heterosexual).

Aim 2: Conduct a cluster analysis using measures for multiple dimensions of sexuality in a quantitative sample of women and examine the relationship between sexuality cluster and health outcomes (stress, depression and IPV).

H3: Cluster analysis will result in solution with more than 3 clusters where factors beyond sexual identity will influence cluster membership

H4: Estimates of stress, depression and IPV experience will be higher among bisexual-majority clusters

Aim 3: Examine bisexual/multisexual identity formation in relation to relationship history among 36 women (18-29) using qualitative life history thematic analysis.

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Chapter 2. Evaluating a Minority Stress Model of Intimate Partner Violence in Bisexual Women Using Path Analysis

Abstract

Background: Intimate partner violence (IPV) has been identified as a health disparity among LGBT populations, particularly bisexual women who experience higher levels of IPV in their lifetime. Broader literature has begun to suggest that minority stress may be relevant framework for understanding IPV among LGBT populations.

Methods: This analysis examined a 3-group path analysis model in an online survey sample of 885 young adult women to test possible pathways from discrimination to IPV in the participants most recent relationships. The model was estimated to examine differences across 3 sexual orientation groups: bisexual, lesbian, and heterosexual.

Results: A minority stress model was estimated with adequate fit. Tests of invariance across sexual orientation in this 3-group model suggested invariance across these subgroups. Experience of sexual orientation discrimination was predictive of stress, depression, and intimate partner violence across sexual orientation groups.

Conclusion: This analysis supports the possible relationship between minority stress models and IPV and suggests that these pathways operate in similar ways across sexual orientation sub-groups.

Introduction

Intimate partner violence (IPV) has been identified as a prevalent health issue in gay, lesbian, and bisexual populations (Finneran & Stephenson, 2013; Ford & Soto-Marquez, 2016; Hardesty et al., 2011; Murray et al., 2007; Walters et al., 2013). This is particularly true among bisexual women. In the 2010 National Intimate Partner and Sexual Violence Survey (NISVS), 1.75 times more bisexual women reported lifetime experience of IPV as compared to heterosexual women (Walters et al., 2013). Some researchers have attributed elevation in of IPV among gay, lesbian and bisexual populations to the Minority Stress framework positing that chronic stress resulting from sexual orientation discrimination may contribute to risk for IPV; however, specific models for how minority stress may be operating on IPV in these populations have not be clearly articulated (Edwards & Sylaska, 2013; Edwards et al., 2015). Additionally, minority stress was developed for gay, lesbian, and bisexual populations more broadly without attention to specific sub-groups within sexual minority communities (Meyer, 1995). Bisexual-specific articulations of this theory still need to be explored.

Elevated risks of IPV, sexual violence, and dating violence in bisexual populations compared to heterosexual and lesbian populations have been established in adolescent, collegiate, and adult populations (Ford & Soto-Marquez, 2016; Martin-Storey, 2015; Walters et al., 2013). In the most recent NISVS, 37.3% of women in the U.S. overall reported lifetime experience of intimate partner violence (Black et al., 2011). Of women affected by intimate partner violence 73.4% reported at least one IPV related impact including a range of mental or physical impacts (Black et al., 2011). Lifetime report of IPV (rape, physical, or stalking) among bisexual women in the 2010 NISVS was 61% compared to 35% among heterosexual women (Walters et al., 2013). Bisexual women were also more likely to report severe physical violence (being hit with a fist, being hit by a hard object, being slammed against something or being beaten) with 49.3% reporting compared to 29.4% or lesbians and 23.6% of heterosexual women. Other studies, such as one recent study of college students has found similar elevated patterns where

bisexual college women are more likely to report experience of intimate partner violence (Ford & Soto-Marquez, 2016). Teens who don't neatly fall into heterosexual or homosexual categories have also been identified as having higher risk for teen dating violence (Martin-Storey, 2015; Olsen et al., 2017). Few studies have examined bisexual-specific experiences if IPV.

Two qualitative studies have attempted to explore mechanisms that may contribute to bisexual experience of IPV. Head and Milton (2014) approached bisexual-specific experience of IPV through a qualitative study using grounded theory. Bisexual-specific experiences that were highlighted included the lack of a colloquial framework for understanding of bisexual IPV, dissonance around relationship agreements and coercive behaviors related to bisexuality (Head & Milton, 2014). Additionally, the presentation by Hall and Girod (2017) addressed a qualitative sample of 23 in-depth interviews with bisexual men and women in the Metro Atlanta area who had reported intimate partner violence in their lifetime. The results of one study suggested that bisexual men and women may experience biphobia in multiple levels of their social ecology (within relationships, within families, within social-support networks and within community) (Hall, 2017). Researchers have begun to connect the concept of minority stress with IPV among sexual minority populations (Edwards & Sylaska, 2013; Edwards et al., 2015). Minority stress is a framework that attempts to address the multiple dimensions of discrimination experienced by minority populations (Cochran et al., 2003; Mays & Cochran, 2001; Meyer, 1995; Meyer, 2003). Meyer (1995) further applied this theory to gay and bisexual men in relationship to mental health, particularly depression and anxiety. He theorized that minority stress operates with 3 dimensions: intrapersonal bias, expectation of discrimination and interpersonal discrimination. In the 2015 critical review of intimate partner violence for sexual minorities in general Edwards linked sexual minority experience of minority stress to IPV (Edwards et al., 2015). Qualitative studies suggest that some violent behaviors may be conceptually linked to sexual minority stress such as

threats of outing, being forced to prove bisexuality through 3-somes and coercion into non-monogamy (Hall, 2017).

Minority stress has been linked to elevation of many factors that are related to IPV in the literature including mental health, substance use, and social isolation (Capaldi et al., 2012). It has been suggested that bisexual people are more likely to have mental health concerns (Jorm et al., 2002), may experience social isolation (Balsam et al., 2013; Fox, 2013; B. Greene, 2003; Shuster, 1987), may have higher levels of substance and alcohol use (Drabble et al., 2005; Lewis et al., 2012; Marshal et al., 2008). Bisexual), may have more conflict in relationships (Hequembourg & Brallier, 2009), and may have higher rates of childhood sexual abuse (Hequembourg & Brallier, 2009). The broader literature on bisexual health highlights disparities in a broad array of factors that have been previously linked to IPV in the broader population and can be linked to minority stress theoretically or empirically. Herek's (2002) work comparing heterosexual attitudes toward sexual minorities suggest that heterosexuals view bisexual people less favorably than gay men or lesbian women (Herek, 2002). Research suggests that there is overall tension among sexual minorities on the subject of bisexuality including a tendency to be less willing to date bisexual people or include bisexual people in social circles (Greene, 2003; Herek, 2002; Moore & Norris, 2005). In qualitative data bisexual participants have described a lack of social support, a sense of invisibility, negative consequences of coming out as bisexual and heightened anxiety about sexual identity (Hequembourg & Brallier, 2009). Small cross-sectional studies with small non-probability samples have begun to compare bisexual women's experiences of minority stress constructs (Dyar et al., 2015; Hoang et al., 2011). Although studies have begun to explore the nuances of minority stress among bisexual people, the nuances of the structure of minority stress for bisexual women has yet to be fully explored. Though there have been quantitative studies that examine minority stress in relation to IPV among gay men and lesbians (Carvalho et al., 2011; Edwards & Sylaska, 2013; Frost & Meyer, 2009;

Head & Milton, 2014; Murray et al., 2007; Stephenson et al., 2011), there does not appear to be many quantitative empirical research evaluating specific pathways among bisexual people.

Hypothesis of Current Study

Despite bisexual-identified people making up roughly half of sexual minority population (Project, 2016; Walters et al., 2013) and bisexual women being nearly twice as likely to report IPV as heterosexual women (Walters et al., 2013), a paucity of research addresses the unique risk factors that bisexual women confront (Head & Milton, 2014). This study seeks to examine a path analysis model based on theoretical constructs from the minority stress literature across 3 groups (bisexual, lesbian and heterosexual women) to first examine the relationship of minority stress pathways with IPV and second, to test for invariance across sexual identity groups. Our conceptual model depicted in Figure 2.1 shows the theorized relationships between discrimination, stress, mental health, substance abuse, social support, and intimate partner violence. First, we have included measure of experience of discrimination as a construct from minority stress framework based in Myers' work (Goldbach, Tanner-Smith, Bagwell, & Dunlap, 2014; Meyer, 1995; 2003). Relationships between discrimination as a component of minority stress, stress, depression, and substance use have been well established in the literature (Goldbach et al., 2014; Plöderl & Tremblay, 2015). Stress, depression, substance abuse have been established as correlates of IPV as well (Capaldi et al., 2012; Edwards et al., 2015). We anticipate that experience of discrimination will be positive correlated with stress, depression and substance use. Additionally, we anticipate that stress, depression, and substance use will be correlated with experience of IPV. The impact of discrimination and minority stress framework on IPV has been suggested by a number of previous analyses (Edwards et al., 2015). We anticipate that experience of discrimination will be positively correlated with experience of IPV. Previous literature suggests that social support can be a protective factor for IPV (Katerndahl, Burge, Ferrer, Becho, & Wood, 2013). We anticipate that social support will have a positive relationship with IPV. Lastly, based on previous literature we include social

support, because previous literature suggests that discrimination and biphobia may impact social support among bisexual individuals.

Based on previous literature we anticipate that depression, substance use, and IPV will be elevated in bisexual individuals compared to both lesbian and heterosexual women (Plöderl & Tremblay, 2015). Literature suggests that lack of social support and social isolation may be a key difference for bisexual individuals (Greene, 2003; Herek, 2002; Moore & Norris, 2005).

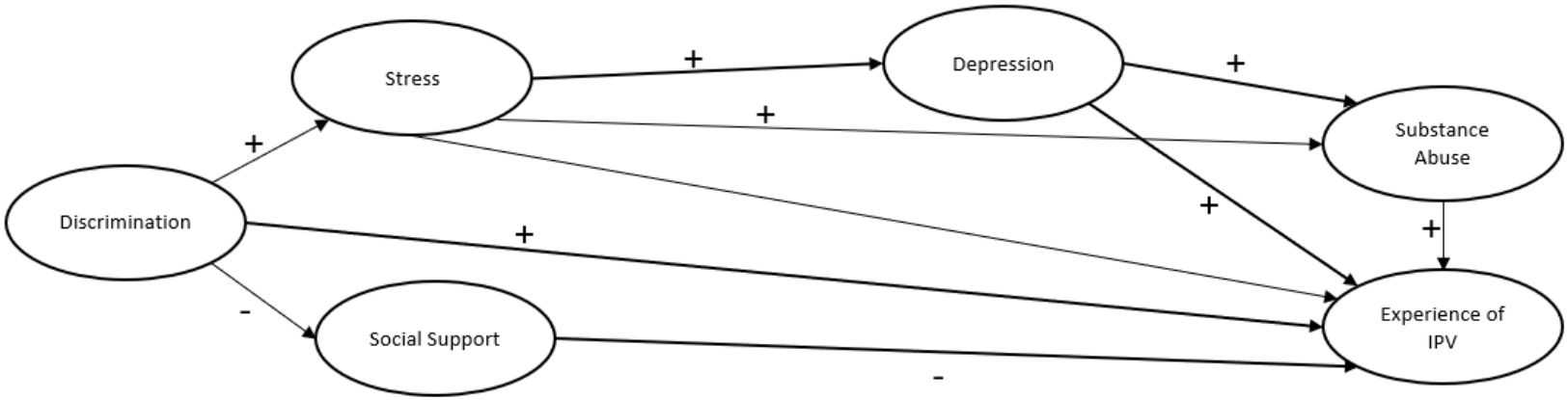
Methods

Recruitment and Sample

This study was approved by the Emory University Institutional Review Board. Participants needed to speak English, identify as female, live in the US Southern Census Region, and be between the ages of 19-29. Recruitment was conducted using online advertisements between July 2018 and October 2018 through a self-administered electronic survey that took an average of 11 minutes to complete. Advertisements were posted on a variety of online public forums and through paid placements on 3 social media platforms. Potential participants were able to opt into a raffle for one of nine $25 electronic gift cards regardless of their participation in the survey.

Through the paid advertisements 444,544 individuals viewed the advertisements. A total of 2,283 people viewed the survey landing page, 2,271 people consented to participate, 2,181 began the survey and 1,403 met the inclusion criteria. Of the 1,403 who consented and met the inclusion criteria 885 (63%) were included in this analysis because there most recent relationship occurred within the past year. This was to ensure similar recall periods for the outcome measure of IPV.

Figure 2.**1 Proposed Minority Stress Model**



Measures

Discrimination

The Every Day Discrimination Scale was used with 9 items (Williams, Yu, Jackson, & Anderson, 1997). Our analysist modified the scale to ask specifically about sexual orientation discrimination. The scale includes questions addressing examples of discrimination such as "You are treated with less respect than other people" with a time from of the past year. There were no missing. The Cronbach's alpha in the sample was 0.93.

Stress

Stress was measured with the Perceived Stress Scale with 10 items measuring symptoms of stress such as "Felt nervous or stressed" with a 5 level Likert response scale ranging from never to "Very Often" in the past year (Sheldon Cohen, Kamarck, & Mermelstein, 1983; S Cohen, Kamarck, & Mermelstein, 1994). There were no missing. The Cronbach's alpha in the sample was 0.86.

Social Support

Social support in this study was measured using the Multidimensional Scale of Perceived Social Support (MSPS) which consists of 12 items such as "there is a special person who is around when I am in need" with a 7-point Likert style response ranging from "strongly disagree" to "strongly agree" (Zimet, Dahlem, Zimet, & Farley, 1988). There were no missing. The Cronbach's alpha in the sample was 0.86.

Substance Abuse

Alcohol and drug abuse were measured using the CAGE-AID which is a short screening tool consisting of 4 "yes" or "no" items that assess if someone is at risk for alcohol or drug disorder such as "In the last year have you felt bad or guilty about your drinking?" (Brown & Rounds, 1995). There were no missing. Cronbach's alpha in the sample was 0.74.

Depression

Depression was measured with the short form of the Centre for Epidemiological Studies Depression scale CES-D with 12 items (Poulin, Hand, & Boudreau, 2005). The items include symptoms for depression such as "I could not get going" with a time frame of the past week. There were no missing. The Cronbach's alpha in the sample was 0.88.

Intimate Partner Violence

A modified scale based on items from the Revised Conflict Tactics Scale (CTS-2S) and the IPV-GBM scale was used (Straus & Douglas, 2004; Stephenson & Finneran, 2013; Stephenson et al., 2013). It included 10 items of violence behavioral measures including mental/emotional violence, physical violence, sexual violence, financial coercion, and controlling behaviors such as "My romantic partners pushed, shoved, or slapped me." There were less than 3 missing per item and missing scores were set to 0. Items were summed into a measure of "any violence" or "no violence" in the most recent relationship within the past year. The Cronbach's alpha in the samples was 0.82.

Demographics:

Age was measured in years. Race was measured as non-Hispanic white, non-Hispanic black, Latino or Hispanic, Black, Native American, Asian, and biracial/multiracial. Biracial, Native American, and Asian were combined into one category due to low numbers. Education was measured as Highschool diploma or less, Some college or an associate's degree, a bachelor's or graduate education. Annual income was measured as $30,000 or less, $30,000-$70,000, $70,000-$110,000, and $110,000 or above. Sexual orientation was measured as "lesbian," "heterosexual," or "bisexual." Participants were asked to indicate which broader identity group would best encompass their sexual identity, so that other multisexual identity labels such as pansexual would be included in the broader category of "bisexual."

Analysis

All data cleaning, univariate, and bivariate analyses were conducted in SAS 9.4 (SAS Institute, 2013). Bivariate analyses then were used to examine relationships between all variables to be included in the models.

A simultaneous group path model was conducted in MPlus version 7.4 (Muthén & Muthén, 2015). We used maximum likelihood methods. A 3-group model was estimated and modification indices were used to make theoretically-supported modifications until the goodness of fit indices approximated the recommended thresholds (Hu & Bentler, 1999). Invariance between models was assessed using a chi-square difference test.

Results

Descriptive Statistics

The average age of the sample was 23.08 years (SD=3.32). The sample was 69.04% bisexual women (n=611), 17.29% lesbian (n=153) and 13.67% heterosexual women (n=121). The sample was majority white 62.95% (n=557), 11.41% Black/African-American (n=101), 8.20% (n=71) Hispanic or Latino, and 17.63% (n=156) Asian, Native American, mixed or other. The largest education category in the sample had an associate for some college 42.74% (n=377), 18.59% (n=164) high school diploma or less, 28.80% (n=254) Bachelor's degree, 9.86% (n=87) graduation degree or higher. The largest income category in the sample made $30,000 or less annually 46.29% (n=405), 36.91% (n=323) made $30,001 to $70,000, 11.43% (n=100) made $70,001 to $110,000, and 5.37% (n=47) made $110,001 or above. Demographics and theoretical variables by sexual orientation are presented in Table 2.1.

There was a statistical difference in discrimination, stress, and depression. Average discrimination score among bisexual women was 7.37 (SD=7.69), 11.94 (SD=8.57) in lesbian women, and 1.78 (SD=5.79) in heterosexual women, $F=68.84$ (6) $P<0.001$. Average stress scores were 24.95 (SD=5.77) in Bisexual participants, 24.16 (SD=5.84) in lesbian participants, and 21.98 (SD=6.61) in heterosexual participants, $F=515.15$ (2) $P<0.001$. The depression score among bisexual participants was 17.90 (SD=7.13), 16.51 in lesbian participants (SD=7.54), and 14.41 (SD=7.75) in heterosexual participants, $F=17.03$ (2) $P<0.001$. Only 1 type of violence was statistically different. Sexual violence was reported by

22.92% (n=154) of bisexual participants, 9.60% (n=17) of lesbian participants, and 21.74% (n=30) heterosexual participants, X^2=17.03 (2) P<0.001.

Table 2.1. Demographics, mental health, and violence indicators by sexual orientation. (N=885)				
	Bisexual n (%)/x (SD)	**Lesbian n (%)/x (SD)**	**Heterosexual n (%)/x (SD)**	**Test Statistic**
Age	22.85	23.16	24.11	F= 8.97 (2)***
Race				
White (non-Hispanic)	371 (60.72%)	99 (64.71%)	87 (71.90%)	X^2=7.51 (6)
Black (non-Hispanic)	76 (12.44%)	15 (9.80%)	10 (8.26%)	
Hispanic or Latino	55 (9.00%)	11 (7.19%)	5 (4.13%)	
Mixed, Asian, Native A.	109 (17.84%)	28 (18.30%)	19 (15.70%)	
Income				
$30,000 or less	296 (48.93%)	67 (44.08%)	42 (35.59%	X^2= 14.32 (6)*
$30,001 to $70,000	222 (36.69%)	57 (37.50%)	44 (37.29%)	
$70,001 to $110,000	61 (10.08%)	18 (11.84%)	21 (17.80%)	
$110,001 or above	26 (4.30%)	10 (6.58%)	11 (9.32%)	
Education				
High School or less	122 (20.00%)	27 (17.65%)	15 (12.61%)	X^2= 19.94 (6)**
Associates or some college	273 (44.75%)	66 (43.14%)	38 (31.93%)	
Bachelor's	165 (27.05%)	44 (28.76%)	45 (37.82%)	
Graduate Degree or Higher	50 (8.20%)	16 (10.46%)	21 (17.65%)	
Discrimination	7.37 (7.69)	11.94 (8.57)	1.78 (5.79)	F= 68.94(2)***
Stress	24.95 (5.77)	24.16 (5.84)	21.98 (6.61)	F=515.15 (2)***
Depression	17.90 (7.13)	16.51 (7.54)	14.14 (7.75)	F= 17.03 (2)***
Substance Use	0.65 (1.07)	0.74 (1.12)	0.51 (1.01)	F=1.74 (2)
Experience of Violence				
Physical	89 (13.24%)	24 (13.56%)	14 (10.14%)	1.07 (2)
Injury	70 (10.42%)	15 (8.47%)	10 (7.25%)	1.65 (2)
Emotional Violence	308 (45.83%)	76 (42.94%)	63 (45.65%)	0.48 (2)
Sexual Violence	154 (22.92%)	17 (9.60%)	30 (21.74%)	15.50 (2)***
Financial Coercion	63 (9.38%)	27 (15.25%)	14 (10.14%)	5.16 (2)
Controlling behaviors	90 (13.39%)	32 (18.08%)	15 (10.87%)	3.79 (2)
Any type of Violence	374 (55.65%)	83 (46.89%)	72 (52.17%)	4.46 (2)

***P<0.001, ** P<0.01, *P<0.05

Three-group Path Model

After initial specification of the hypothesized minority stress model, modification indices were used to identify modifications to the model to improve model fit. Only modifications that could be supported by the data in combination with theory were made. Two modifications were made. First the relationship of social support on stress was added across groups. Second, the relationship of social

support on depression was added across groups. The combination of CFI > 0.96 and SRMR <0.09 were used to assess adequate fit as suggested by Hu and Bentler 1999. After the listed modifications the resulting fit indices were X^2 = 24.00 (6) P<0.001, CFI= 0.98, SRMR= 0.03. A constrained model was assessed X^2 = 59.16 (32) P<0.001, CFI= 0.97, SRMR= 0.06, which also indicated adequate fit. The models were compared to test the hypothesis that the constrained (invariant) model provided an equally good fit to the data as the unconstrained model using the the Satorra-Bentler procedure (Satorra & Bentler, 2001). The difference test yielded X^2 = 35.16 (26) P=0.11 indicating that the imposition of 26 constraints did not result in a poorer fitting model and that the more parsimonious constrained model provided equivalently good fit as the unconstrained model.

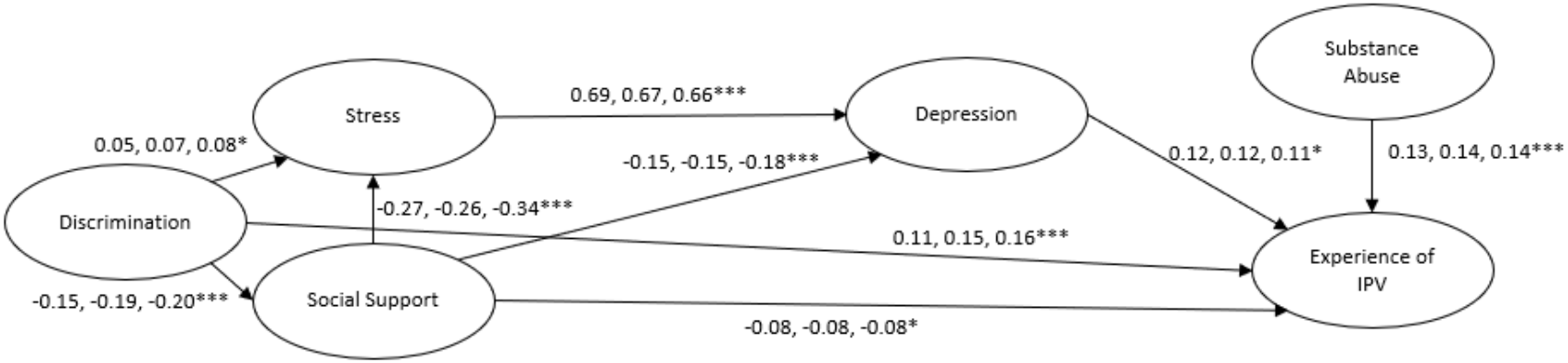
Table 2.2: 3-group model standardized estimates (n=885)

Pathway	**Heterosexual** estimate (SD)	**Bisexual** estimate (SD)	**Lesbian** estimate (SD)
Discrimination→Stress	0.05 (0.02)*	0.07 (0.03)*	0.08 (0.04)*
Discrimination→Social support	-0.15 (0.02)***	-0.19 (0.03)***	-0.20 (0.04)***
Social Support→Stress	-0.27 (0.03)***	-0.26 (0.04)***	-0.34 (0.04)***
Social Support→Depression	-0.15 (0.02)***	-0.15 (0.03)***	-0.18 (0.03)***
Stress→Depression	0.69 (0.03)***	0.67 (0.02)***	0.66 (0.03)***
Depression→Substance Abuse	0.04 (0.05)	0.04 (0.05)	0.04 (0.04)
Stress→Substance Abuse	0.04 (0.05)	-0.03 (0.05)	-0.03 (0.03)
Social Support→Substance Abuse	-0.03 (0.03)	-0.04 (0.04)	-0.03 (0.03)
Discrimination→IPV	0.11 (0.03)***	0.15 (0.04)***	0.16 (0.04)***
Social Support →IPV	-0.08 (0.03)*	-0.08 (0.03)*	-0.08 (0.03)*
Stress→IPV	0.02 (0.05)	0.02 (0.04)	0.02 (0.04)
Depression→IPV	0.12 (0.05)*	0.12 (0.05)*	0.11 (0.04)*
Substance Abuse→IPV	0.13 (0.03)***	0.14 (0.03)***	0.14 (0.03)***

*P<0.05, **P<0.01, ***P<0.001

Results from the constrained models are presented in Table 2.2 and Figure 2.2. Discrimination predicted higher levels in stress. Lower levels of social support were predicted by discrimination. Higher levels of social support predicted lower levels of stress. Higher levels of stress predicted higher levels of depression. Higher levels of social support predicted lower levels of depression.

Figure 2.2. Standardized estimates for the constrained 3-group model



Estimates are reported in order of heterosexual, bisexual, and lesbian groups. The p-values represent p-values for all three groups.

*P<0.05 **P<0.01***P<0.001

Higher levels of discrimination predicted higher likelihood of experience of IPV. Higher levels of substance abuse predicted higher likelihood of experience of IPV. Higher levels of depression predicted higher likelihood of experience of IPV. Higher levels of social support predicted lower levels of IPV.

Variance in social support explained by discrimination was 2% (heterosexual) 3% (bisexual) and 4% (lesbian). Variance in stress explained by discrimination was 8% (Heterosexual) 11% (bisexual) 13% (lesbian). Variance in IPV explained by discrimination was 7% (Heterosexual) 9% (bisexual) 9% (lesbian). Variance in CESD explained by sexual orientation discrimination was 55% (heterosexual) 55% (bisexual) 56% (lesbian).

Discussion

This study examined two important questions regarding the application of a minority stress model for sexual minorities. First, this analysis sought to examine a minority stress model in relation to IPV to identify potential pathways through which minority stress may influence IPV. Second, this analysis sought to examine a minority stress model across sexual orientations, particularly to identify any variation in this model for bisexual women. To achieve this, we tested the invariance in a 3-group model to identify if there is invariance across models by sexual orientation.

First, we estimated our hypothesized minority stress model predicting mental health outcomes and IPV, which resulted in a model with adequate fit. This result suggests that intimate partner violence is influenced by minority stress pathways through depression, discrimination, and social support.

Second, through the multigroup invariance tests, we established that there was invariance of the structural model across sexual-orientation groups. In other words, the constrained model could be estimated across all three groups with equally adequate fit indices as compared to an unconstrained model in which paths were freely estimated for *each* of the three groups. While in bivariate analyses we found mean level (or proportional representation) differences across sexual orientation groups in

experience of discrimination, stress, depression and sexual violence the results of the invariance test of the 3-group path model suggests that the minority stress pathways elaborated in this model operated similarly for all three groups in this sample. It is possible that there are variations by sexual orientation regarding constructs that were not measured in this study such as anticipated discrimination, internalized discrimination, or sexuality-affirming social support. Indeed, qualitative assessment of some of these factors suggest that there may be differences. Prior qualitative research suggests that sources of general social support may also be sources of discrimination (Hall, 2017). Further research should examine what other possible pathways may connect sexual orientation discrimination and experience of IPV.

Additionally, this model accounts for factors as measured at the individual level and does not account for factors at dyadic or community levels, which may also influence minority stress' effects on IPV (Logie, Newman, Chakrapani, Shunmugam, & medicine, 2012). Some prior research suggests that non-bisexual partners of bisexual women may employ biphobic violence tactics against bisexual partners (Hall, 2017). Future studies may examine the relationship of IPV and the extent to which partners of bisexual women may hold biphobic beliefs or are ambivalent to the sexual identity of their partners.

This 3-group model assessed differences across sexual identity but did not assess differences across race or differences in gender discrimination experiences. Further research may benefit by extending the minority stress model with an intersectional approach to explore how the combination of sexual orientation, gender, and racial discrimination may influence the relationship between minority stress and IPV (Bowleg, 2012).

Some limitations to this study are notable. This study was cross-sectional. This means that the relationships modeled in this study are correlations and can't be construed as strictly directional or causal. While this study sought to predict IPV, the relationships in this study are likely complex and

recursive and would require longitudinal data to tease out the temporality in these relationships. Sampling was not random, and generalizability may be limited. Although indices of goodness of fit were adequate, the sub-group sample sizes may have led to some inconsistencies between the CFI score and other indices of goodness of fit.

Despite these limitations there are many strengths to this study. The model for this study was developed using established theoretical frameworks and literature allowing for improved interpretability and relevance to the field. While the data was correlational, the use of path modeling techniques allows assessment theorized pathways between relevant theoretical constructs that would not be assessible through techniques such as standard linear regression. The overall sample for this study was large and included diversity along axis of racial and socio-economics, allowing for improved external validity.

This study tested minority stress pathways in relation to IPV that were suggested in previous literature, but rarely tested empirically (Edwards et al., 2015). These findings are important, because they further elaborate the mechanisms through which minority stress may operate on IPV and reinforce that social support may be a protective factor across sexual orientations. More specifically, these results suggest indirect pathways to IPV through a minority stress framework and social support as well as a direct relationship between discrimination and IPV while accounting for these indirect pathways.

Conclusion

This study underlines that minority stress theory and the experience of discrimination may be relevant to both bisexual and lesbian women's experiences of IPV. The findings also suggest that experience of discrimination may operate on IPV in a similar way across sexual orientations. Future studies should further elaborate components of the minority stress framework in relation to intimate partner violence and different relevant subgroups.

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Chapter 3. Moving beyond sexual identity labels in behavioral health research: a cluster analysis of multiple dimensions of sexuality

Abstract

Background: Public health as a field largely has used behavioral measures of sexuality, such as men who have sex with men (MSM) or women who have sex with women (WSW). Other fields have proposed multidimensional understandings and measurement of sexuality. This study examines how a multidimensional understanding of sexuality may inform research addressing health outcomes of stress, depression, and intimate partner violence in sexual minority populations.

Methods: This cluster analysis examined sexuality using 15 items in 1,227 women from an online sample. Estimates were made using the Wald Method and a range of standardizations. Indexes of optimum cluster solutions such as Pseudo T^2 and cubic clustering criterion (CCC) were used to identify the appropriate number of clusters. Clusters were used then in regression models to predict stress, depression and intimate partner violence.

Results: Five clusters were identified based on sexuality measures (deemed multisexual bisexual LGBT-affiliated, bisexual heterosexual-affiliated, heterosexual, and lesbian). Cluster membership was associated with stress and depression outcomes. Membership in Cluster 3 (bisexual women with low-LGBT affiliation) was significantly associated with a stress score that was higher than heterosexual cluster by 2.26 (0.63) points (p<0.001), and with a depression score that was higher than the heterosexual cluster by 1.21 (0.56) points (p<0.05).

Conclusion: Bisexual-identified women with low LGBT affiliation may be at higher risk for stress and depression. Future studies should consider using multiple dimensions of sexuality to identify more specific mechanisms of risk for health disparities.

Introduction

Across disciplines, researchers have considered different ways to measure sexuality. Researchers in public health have focused on behavioral measures such as "men who have sex with men" (MSM), particularly when examining HIV disparities (Young & Meyer, 2005). Researchers in other disciplines such as psychology, sociology, and anthropology have suggested a more holistic approach to measuring sexuality to include multiple dimensions beyond sexual behavior or identity (Young & Meyer, 2005). Public health researchers have identified other health disparities among sexual minority populations beyond HIV, including mental health and violence (Drabble et al., 2005; Ford & Soto-Marquez, 2016; Jorm et al., 2002; Lewis et al., 2012; Marshal et al., 2008; Martin-Storey, 2015; Olsen et al., 2017; Ross et al., 2018; Walteres et al., 2013). Bisexual individuals are at higher risk of substance abuse and alcohol dependence (Drabble et al., 2005; Lewis et al., 2012; Marshal et al., 2008). It is not known to what extent a multidimensional approach to understanding sexuality may better inform behavioral health disparities in sexual minority populations.

In the 1980s, public health began to address to address the health concerns among sexual minority populations with the HIV epidemic. Since the 1990's examination of gay and bisexual men has been operationalized as "men who have sex with men" (MSM) (Young & Meyer, 2005).The male-specific term was coined first and later "women who have sex with women" (WSW) followed mirroring this similar construction of behavior focused labels (Dowsett, 1990; Glick et al., 1994). These terms seem to be driven by what Young describes as an epidemiological perspective that attempts to focus on the biological risk associated with specific sexual behaviors (i.e. anal sex and HIV) (Young & Meyer, 2005). From a biological epidemiologic perspective, this behavioral categorization may elucidate the biological risk of specific sexual behaviors; however, this categorization masks bisexual people from health discourse by subsuming them under a broader behavioral measure. This measure ignores intra-personal and interpersonal dimensions of sexuality, such as social sorting, community-affiliations, and

experiences of discrimination that are linked to identity. There is renewed interest in examining the nuances of sexual identities, as evidenced in the NIH strategic plan, which highlights the importance of developing more comprehensive measures of personal and social identity (NIH, 2016).

Researchers from gender studies, psychology and sociology have suggested approaches that account for multiple dimensions of sexuality to examine sexual identity that distinguish identity from behavior, sexual attraction, romantic attraction, community affiliation and cultural context while allowing these dimensions to be correlated (Anderson & McCormack, 2016; Kinsey et al., 1948; Klein et al., 1985; Pega et al., 2013; Sell, 1997). Results from a national Pew Research Center study highlight that sexual minorities and especially bisexual-identified people have a variety of experiences across these dimensions (Taylor, 2013). Pega et al (2013) propose a multidimensional approach consisting of sexual attraction, sexual behavior and sexual identity (Pega et al., 2013). Pega argues that this approach may make measuring across culture and time more comparable, because labels for sexual identity may differ by culture, language, and time period. In some ways, this echoes Kinsey's assessments of sexuality from 1948, which attempted to place human sexuality in 6 categories to allow for more fluidity (Kinsey et al., 1948; Sell, 1997). Alternatively, Klein's sexuality grid is on a gradient of "only same sex" to "only other sex" and has 7 dimensions each: sexual attraction, sexual behavior, sexual fantasies, emotional preference, social preference, heterosexual/homosexual lifestyle, and self-identification (Klein et al., 1985). Due to (Anderson & McCormack, 2016). While there has been discussion in various fields about the best way to measure the complexity of sexuality public health still generally uses a limited repertoire of sexuality measures. What predicts risk for stress, depression and IPV? Is it sexual behavior which may be categorized based on biological risk for HIV, interpersonal social patterning that may be predicted by identity, by macro-social patterning that may be predicted by community affiliation, or some constellation of these factors? In addition to accounting for multiple dimensions of sexuality there is a limited understanding of how multiple dimensions of sexuality relate to each other or how they may be

used in concert to identify sub groups that may be at higher risk for health outcomes such as stress, depression, or IPV.

As aforementioned, health literature addressing sexual minority populations has established the existence of health disparities in mental health and violence. IPV in same-sex relationships has been of increasing concern in public health; however little research has examined bisexual-specific experiences of intimate partner violence (Finneran & Stephenson, 2013; Hardesty et al., 2011; Murray et al., 2007; Walters et al., 2013). Based on national surveillance data and a number of other studies, bisexual-identified women report higher rates of lifetime experience of intimate partner violence and rape than heterosexual women or lesbian women (Ford & Soto-Marquez, 2016; Martin-Storey, 2015; Olsen et al., 2017; Walters et al., 2013). Bisexual men also report higher rates of lifetime experience of intimate partner violence than heterosexual or gay men (Walters et al., 2013). Furthermore, a majority of bisexual women (more than twice that of heterosexual women) report at least one adverse psychological or physical outcome of intimate partner violence (Walters et al., 2013). It has been suggested that bisexual people are more likely to have mental health concerns (Jorm et al., 2002), may experience social isolation (Balsam et al., 2013; Fox, 2013; Shuster, 1987), may have higher levels of substance and alcohol use (Drabble et al., 2005; Lewis et al., 2012; Marshal et al., 2008), may have more conflict in relationships; and may have higher rates of childhood sexual abuse (Hequembourg & Brallier, 2009).

The purpose of this analysis is to explore and test one multidimensional approach to understand the influence of sexuality on the health outcomes of stress, depression, and IPV. Rather than categorizing individuals based off of a single identify or behavioral measure this analysis seeks to classify participants into clusters based on multiple dimensions of sexuality. This analysis has 2 primary aims. First, to identify possible sexuality sub-groups using a cluster analysis across 5 dimensions of sexuality

(identity, sexual attraction, romantic attraction, partner history, and community affiliation). Second, to examine if membership in these sub-groups predict report of stress, depression, and violence outcomes.

Methods

Recruitment and sample

Emory University Institutional Review Board approved this study. Recruitment was conducted using online advertisements between July 2018 and October 2018 through a self-administered electronic survey that took an average of 11 minutes to complete. Advertisements were posted on a variety of online public forums and through paid placements on 3 social media platforms. Potential participants were able to opt into a raffle for one of nine $25 electronic gift cards regardless of their participation in the survey. Participants needed to speak English, identify as female, live in the US Southern Census Region, and be between the ages of 18-29.

Through the paid advertisements 444,544 individuals viewed the advertisements. A total of 2,283 people viewed the survey landing page, 2,271 people consented to participate, 2,181 began the survey and 1,403 met the inclusion criteria. Of the 1,403 who consented and met the inclusion criteria 1,227 (87%) were included in the cluster analysis after list-wise deletion and 1055 (75%) were included in regression analysis after list-wise deletion.

Measures:

Sexuality

Sexual orientation was measured as “lesbian,” “heterosexual,” or “bisexual.” Sexual attraction, romantic attraction, and dating history were measured by 3 items each, one for each partner gender category (“men,” “women” and “non-binary”), with a 5-level Likert response ranging from never to “always.” In 3 additional questions, participants were asked how often they affiliate with communities that are primarily comprised of bisexual, lesbian, and heterosexual people with the same Likert response scale.

Discrimination

A modified Every Day Discrimination Scale was used to measure sexual orientation discrimination with 9 items (Williams et al., 1997). The scale was modified to ask about instances of discrimination that were attributed to sexual orientation. The scale includes questions addressing examples of discrimination such as "You are treated with less respect than other people" with a time from of the past year. The Cronbach's alpha in the sample was 0.92.

Stress

Stress was measured with the Perceived Stress Scale with 10 items measuring symptoms of stress such as "Felt nervous or stressed" with a 5 level Likert response scale ranging from never to "Very Often" in the past year (Sheldon Cohen et al., 1983; S Cohen et al., 1994). There were no missing after list-wise when calculating. The Cronbach's alpha in the sample was 0.89.

Depression

Depression was measured with the short form of the Center for Epidemiological Studies Depression scale CES-D with 12 items (Poulin et al., 2005). The items include symptoms for depression such as "I could not get going" with a time frame of the past week. There were no missing when calculating. The Cronbach's alpha in the sample was 0.88.

Intimate Partner Violence

A modified scale based on items from the Revised Conflict Tactics Scale (CTS-2S) and the IPV-GBM scale was used (Straus & Douglas, 2004; Stephenson & Finneran, 2013; Stephenson et al., 2013). It included 10 items of violence behavioral measures including mental/emotional violence, physical violence, sexual violence, financial coercion, and controlling behaviors such as "My romantic partners pushed, shoved, or slapped me". Items were summed into a measure of "any violence" or "no violence" in lifetime. There was less than 7 missing per item when calculating which were set to 0. The Cronbach's alpha in the samples was 0.82.

Demographics

Age was measured in years. Race was measured as non-Hispanic white, non-Hispanic black, Latino or Hispanic, Black, Native American, Asian, and biracial/multiracial. Biracial, Native American, and Asian were combined into one category due to low numbers. Education was measured as High school diploma or less, some college or an associate's degree, a bachelor's or graduate education. Annual income was measured as $30,000 or less, $30,000-$70,000, $70,000-$110,000, and $110,000 or above.

Analysis

All analyses were conducted in SAS 9.4. After univariate analyses and data cleaning were conducted bivariate analyses were used to examine relationships between all variables to be included in the models.

Cluster analysis was conducted due to 2 reasons: 1) the aim of identifying subgroups requires a technique that will generate latent class or clusters which are commonly producted through Latent Class Analysis or Cluster Analysis; 2) given the nature of the measures of sexuality used and the sample size a Latent Class analysis technique would be computationally taxing. We used the most common technique for estimation of clusters Ward's method of hierarchical cluster analysis procedures with z-score standardizations to calculate indexes of optimum cluster solutions including but not limited to Cubic Clustering Criterion (CCC), Pseudo F, and Pseudo t^2. Decisions were informed by statistical indices but were not strictly statistically determined (Babor et al., 1992). Resulting clusters were interpreted and summarized. The clusters were then assessed as predictors of behavioral outcomes of stress and depression in linear regressions as well as violence in logistic regressions utilizing a critical value of $P<0.05$.

Results

Sample Characteristics

The age of the sample ranged from 18 to 29 with a mean age of 22.81 (3.32). The sample was majority white with 60.47% non-Hispanic white 13.20% non-Hispanic black 8.48% Hispanic or Latino and 15.85% Indian, Asian, Multiple-race or "other." Education varied with 19.45% with high school or less, 43.57% completed an associate's degree or some college, 27.46% completed a bachelor's degree, 9.52% completed a graduate degree or higher. Nearly half had lower incomes with 46.98% 30,000 or less, 36.03% $30,001-$70,000, 11.46% $70,001-$110,000, 5.53% 110,001 or above. The sample included an over sampling of bisexual and lesbian women with 68.70% identifying as bisexual, 18.34% lesbian, and 12.96% heterosexual. See Table 3.1 for demographics by sexual orientation.

Cluster analysis

The indexes of optimum cluster solutions were examined across estimations with Ward's procedures and different standardizations (Aceclus, Z-score, and Euclidean Distance). The resulting indexes varied, but overall suggested 4 to 5 clusters. Using Aceclus the Pseudo T^2 and CCC peaked around 5. Using Z-score the Pseudo T^2 peaked around 4 and CCC began increasing above 4 clusters. Z-scores were used to estimate clusters, because they appeared to provide more stability of estimates.

The 2-cluster solution resulted in a Cluster 1 (n=1062) which consisted primarily of bisexual and lesbian participants and a Cluster 2 (n=165) which consisted primarily of heterosexual participants.

The 3-cluster solution resulted in a Cluster 1 (n=228) which consisted primarily of lesbian-identified participants, a Cluster 2 (n=164) which consisted primarily of heterosexual participants and a Cluster 3 (n=835) which consisted primarily of bisexual participants.

The 4-cluster solution resulted in a Cluster 1 (n=463) and Cluster 2 (n=432) both that primarily consisted of bisexual-identified participants. Cluster 1 had weaker connections to the LGBT community

Table 3.1. Demographics and sexuality measures across sexual orientation.				
	Bisexual n (%)/x (SD)	**Lesbian n (%)/x (SD)**	**Heterosexual n (%)/x (SD)**	**Test Statistic**
Age	22.60 (3.29)	22.86 (3.34)	23.84 (3.30)	F=9.44(2)***
Race				
White	496 (58.84)	140 (62.22)	106 (66.67)	X^2= 8.48 (6)
Black	117 (13.88)	23 (14.47)	22 (9.78)	
Latino	8 (5.03)	77 (9.13)	19 (8.44)	
Mixed, Asian, Native A.	22 (13.84)	153 (18.15)	44 (19.56)	
Income				
$30,000 or less	330 (49.33)	51 (38.35)	78 (44.57)	X^2= 12.93 (6)*
$30,001 to $70,000	241 (36.02)	47 (35.54)	64 (36.57)	
$70,001 to $110,000	68 (10.16)	23 (20.54)	21 (12.00)	
$110,001 or above	30 (4.48)	12 (9.02)	12 (6.86)	
Education				
High School or less	137 (20.33)	34 (19.21)	21 (15.44)	X^2= 26.12 (6)***
Associates or some college	312 (46.29)	77 (43.50)	41 (30.15)	
Bachelor's	173 (25.67)	49 (27.68)	49 (36.03)	
Graduate Degree or Higher	52 (7.72)	17 (9.60)	25 (18.38)	
Discrimination	7.45 (7.71)	12.06 (8.54)	1.80 (5.77)	F=73.42(2)***
Stress	24.95 (5.69)	24.10 (5.92)	22.03 (6.55)	F=15.24(2)***
Depression	17.85(7.15)	16.61(7.53)	14.06 (7.64)	F=16.78(2)***
Any Violence				
Yes	553 (76.49)	130 (68.78)	100 (69.93)	X^2= 6.24(2)*
No	170 (23.51)	59 (31.22)	43 (30.07)	
Sexual Attraction				
Men	2.54 (0.86)	0.76 (0.79)	3.31 (0.79)	F=531.12(2)***
Women	2.80 (0.81)	3.58 (0.64)	1.00 (0.89)	F=511.59(2)***
Non-binary	2.18(0.98)	1.88 (0.88)	0.70 (0.81)	F=162.52(2)***
Romantic Attraction				
Men	2.47(0.95)	0.51(0.80)	3.48(0.70)	F=598.34(2)***
Women	2.64(0.89)	3.58(0.62)	0.77(0.86)	F=522.02(2)***
Non-binary	2.02 (1.00)	1.85(2)	0.54(0.74)	F=155.23(2)***
Dating History				
Men	2.71(0.96)	0.96 (0.92)	3.56 (0.86)	F=423.30(2)***
Women	1.50 (1.03)	3.01(0.94)	0.26 (0.49)	F=396.97(2)***
Non-binary	0.54(0.85)	0.59(0.94)	0.04 (0.35)	F=27.23(2)***
Community Affiliation				
Bisexual	1.80 (1.13)	1.53 (1.09)	0.89 (1.06)	F=45.29(2)***
Lesbian	1.91 (1.08)	2.29 (0.99)	1.07 (1.00)	F=62.16(2)***
Heterosexual	2.36 (1.06)	2.11 (1.03)	2.96 (1.08)	F=31.00(2)***

***P<0.001, ** P<0.01, *P<0.05

than Cluster 2. Cluster 1 also had weaker attraction and dating history with non-binary individuals than Cluster 2. Cluster 1 also had fewer female partners than Cluster 2.

Table 3.2: Five sexuality subtypes defined by distinctive characteristics		
Cluster 1	Fluid, LGBT-connected	Primarily bisexual-identified, more female relationships, more non-binary partners, strong affiliation with LGBT communities combined with lower affiliation with heterosexual communities
Cluster 2	Binary, LGBT-connected	Primarily bisexual-identified, more male partners, fewer non-binary partners, affiliation with LGBT communities and heterosexual communities.
Cluster 3	Binary, Heterosexual-connected	Primarily bisexual-identified, more male partners, fewer non-binary partners, lower attraction to non-binary people, low LGBT community affiliation, and stronger heterosexual community affiliation
Cluster 4	Heterosexual, male-attraction, heterosexual-connected	Primarily Heterosexual-identified, strong attraction to males, primarily male partners, weaker ties to LGBT-communities, strong ties to heterosexual communities
Cluster 5	Lesbian, female-attraction, Lesbian-connected.	Primarily Lesbian-identified, strong attraction to women, primarily female partners, strong times to Lesbian-communities and heterosexual communities

The final cluster analysis resulted in 5 different clusters whose characteristics are summarized in Table 3.2. Three of the clusters consisted primarily of bisexual-identified participants. Of the 3 clusters that consisted of primarily bisexual-identified participants the Cluster 1 tended to have dating history with non-binary partners and a deeper connection to LGBT communities. For this reason, this cluster is termed “fluid, LGBT-connected.” The second cluster consisted of primarily bisexual-identified participants who had fewer non-binary partners and a strong affiliation with LGBT communities. This cluster is termed “binary, LGBT-connected.” The last of the 3 clusters were primarily bisexual-identified,

Table 3.3 Bivariate examination of 5 clusters and sexuality measures						
	Cluster 1 n=172	Cluster 2 n=372	Cluster 3 n=304	Cluster 4 n=157	Cluster 5 n=222	
Sexual Identity						M-H X^2
Bisexual	168 (97.67%)	369 (99.19%)	303 (99.67)	0 (0.00%)	3 (0.24%)	852.95***
Lesbian	3 (1.74%)	2 (0.54%)	1 (0.33%)	0 (0.00%)	219 (98.65%)	648.31***
Straight	1 (0.58%)	1 (0.27%)	0 (0.00%)	157(100.00%)	0 (0.00%)	120.67***
Sexual Attraction						F-statistic
Men	2.39±0.80	2.73±0.80	2.42±0.85	3.31±0.79	0.70±0.69	303.01***
Women	2.95±0.75	3.00±0.71	2.47±0.86	0.97±0.85	3.59±0.64	304.62***
Non-binary	2.83±0.72	2.48±0.79	1.46±0.89	0.68 ±0.76	1.84±0.85	214.63***
Romantic Attraction						
Men	2.26±0.78	2.56±0.94	2.50±0.92	3.49±0.70	0.45±0.70	331.86***
Women	2.88±0.73	2.84±0.81	2.26±0.94	0.74±0.81	3.60±0.61	325.78***
Non-binary	2.76±0.67	2.29±0.82	1.28±0.90	0.51±0.69	1.83±0.97	211.83***
Dating History						
Men	2.35±0.86	2.81±0.94	2.82±0.98	3.56±0.86	0.92±0.87	237.08***
Women	2.37±0.78	1.31±0.93	1.22±1.01	0.22±0.49	3.06±0.87	309.44***
Non-binary	1.19±0.81	0.22±0.42	0.17±0.40	0.01±0.16	0.58±0.93	320.75***
Community Affiliation						
Bisexual	2.45±1.04	2.25±0.91	0.90±0.83	0.86±1.02	1.51±1.07	141.33***
Lesbian	2.51±0.94	2.39±0.80	1.00±0.84	1.04±1.08	2.29±0.98	167.13***
Heterosexual	1.95±1.062	3.57±0.88	2.34±1.18	2.96±1.07	2.10±1.04	26.86***

with lower attraction and dating history with non-binary people. This cluster had weaker ties to the LGBT communities and stronger ties to heterosexual communities. This cluster was termed “binary, heterosexual-connected.” Cluster 4 consisted of primarily heterosexual participants, and Cluster 5 consisted primarily of lesbian-identified participants.

Table 3 shows the bivariate analysis of the clusters which indicates that the X^2 and F-statistics for each of the criteria were statistically significant. The patterns in Table 3 correspond with the distinctive characteristics described in Table 2. While all clusters had some variation in each criteria, there were clear patterns that differentiated the clusters.

Regression Analysis

Lastly the clusters were used to predict 3 health outcomes: stress, depression, and experience of IPV as indicated in Table 4. In simple linear and logistic regressions, the clusters were predictive of stress and depression, but not predictive of IPV. In the simple linear regressions predicting stress and depression all 3 lesbian or bisexual majority clusters had higher stress scores. These results were robust in the multi-variable. These results were robust for Cluster 3 “Binary, heterosexual-connected” which had a statistically significant higher perceived stress scale (PSS) score by 2.26 (0.63) points as compared to Cluster 4 “heterosexual” ($P<0.001$) and Cluster 2 “Binary, LGBT-connected” which had 1.26 (0.62) point higher stress score as compared to Cluster 4 ($P<0.05$).

In addition, participants with an income of $30,000 or less had 1.76 (0.82) point higher stress score as compared to participants with an income of $110,001 or above ($P<0.05$). Participants with lower levels of education had higher stress scores as compared to those with graduate degrees 3.77 (0.08) points for those with a high school education or less, and 2.41 (0.71) for those with an Associates or some college ($P<0.001$). Lastly, for every 1-point increase in the Daily Discrimination Scale stress scores increased by 0.09 (0.02) ($P<0.001$).

Table 3.4.. Linear Regressions Predicting Stress and Depression, Logistic Regression Predicting Any IPV Using Sexuality Clusters.						
	Outcome = Stress (PSS)		Outcome = Depression (CESD)		Outcome = Any Violence	
Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Intercept	21.99 (0.49)***	21.60 (1.94)***	13.94 (0.61)***	-7.75 (1.82)***	0.86 (0.18)***	-2.68 (0.89)***
Sexuality Clusters						
Cluster 1	2.74 (0.69)***	0.82 (0.75)	3.98 (0.61)***	0.47 (0.66)	0.24 (0.26)	-0.10(0.31)
Cluster 2	2.61 (0.59)***	1.26 (0.62)*	3.28 (0.73)***	0.43 (0.54)	0.25 (0.22)	-0.03 (0.25)
Cluster 3	3.52 (0.61)***	2.26 (0.63)***	4.66 (0.76)***	1.21 (0.56)*	0.40 (24)	0.25 (0.26)
Cluster 4	-	-	-	-	-	-
Cluster 5	2.12 (0.65)**	0.55 (0.70)	2.74 (0.81)***	-0.43 (0.62)	0.00 (0.24)	-0.48 (0.28)
Age		-0.10 (0.58)		0.07 (0.06)		0.09 (0.03)**
Race						
White		-		-		-
Black		1.00 (0.58)		-0.16 (0.51)		0.40 (0.26)
Latino		0.41 (0.68)		-0.62 (0.60)		0.41 (0.31)
Mixed, Asian, Native American		-0.16 (0.49)		-0.07 (0.43)		0.46 (0.21)*
Income						
$30,000 or less		1.76 (0.82)*		0.10 (0.73)		-0.26 (0.34)
$30,001 to $70,000		0.96 (0.84)		0.43 (0.74)		-0.10 (0.35)
$70,001 to $110,000		0.15 (0.94)		0.33 (0.83)		-0.06 (0.39)
$110,001 or above		-		-		-
Education						
High School or less		3.77 (0.80)***		1.22 (0.72)		0.09 (0.34)
Associates or some college		2.41 (0.71)***		1.24 (0.63)*		0.13 (0.30)
Bachelor's		0.69 (0.69)		0.39 (0.61)		0.13 (0.29)
Graduate Degree or Higher		-		-		-
Discrimination		0.09 (0.02)***		0.11 (0.02)***		0.06 (0.01)***
Stress				0.86 (0.03)***		0.03 (0.01)**
Model indices						
R^2	0.03	0.13	0.04	0.55	0.00	0.06
F-value (df)	8.61 (4)***	9.32 (15)***	10.05(4)***	74.62 (16)***		
X^2 (df)					4.65 (4)	55.47 (17)***

In the multi-variable model predicting depression, the results were robust only for Cluster 3, which had 1.21 (0.56) point higher score as compared to Cluster 4 (P<0.05). Those who had an associates or some college had 1.24 (0.63) points increase in CESD score as compared to those with a graduate degree. For each 1-point increase in discrimination the CESD score increased by 0.11 (0.02) and for every 1-point increased in stress the CESD score was higher by 0.86 (0.03) (P<0.001).

While the clusters were not predictive of experience of IPV, each 1-point increase in discrimination score increased log-odds of IPV by 0.06 (0.01) (P<0.001). So, for a participant with a daily discrimination score 1 standard deviation above the mean had 1.66 (1.16, 2.37) times the odds of experiencing IPV as someone with a score of 0. Each 1-point increase in stress score increased log-odds of IPV by 0.03 (0.01) (P<0.01). For a moderate stress score of 15 this translates to 2.30 (1.59, 3.35) times the odds of experiencing IPV as compared to someone with a 0 score. For a high stress score of 27 this translates to 5.00 (2.44, 10.28) times the odds as compared to someone with a 0 score. Each 1-year increase in age increased the log-odds of IPV by 0.09 (0.03) (P<0.01). Participants who were multiracial, Asian, Native American or other had an increase of 0.46 (0.21) the log-odds of IPV as compared to white participants, which translates to 1.50 (1.04, 2.41) times the odds of white participants (P<0.05).

Discussion

The results of this analysis suggest that techniques that account for a more nuanced and multidimensional approach to the measurement of sexuality may be informative to health outcomes such as stress and depression. Previous public health literature has largely used a single measure of sexuality such as sexual identity or sexual behavior. This study identified clusters based on multiple dimensions of sexuality in order to classify subgroups. The categories used to identify clusters align with previous studies from broader literature which suggested a multidimensional approach to measuring sexuality (Anderson & McCormack, 2016; Kinsey et al., 1948; Klein et al., 1985; Pega et al., 2013; Sell, 1997). In this analysis five meaningful and interpretable subgroups were identified through the cluster

analysis with 3 primarily bisexual-identified clusters emerging with differentiation along axes of community affiliation, attraction, and dating history.

This analysis reinforces the observation that there is variation within sexual identity categories. Even lesbian-identified and heterosexual-identified women in this sample did not respond exclusively as expected (e.g. exclusively attracted to women or exclusively attracted to men respectively). This aligns with other studies that have found that sexuality is more fluid even within common categories such as "heterosexual" as there are men who identify as heterosexual who have sex with or partner with other men (Carrillo & Hoffman, 2018; Persson et al., 2017). There are limitations in using a single conventional categorization to measure sexuality such as identity or sexual behavior. It may be more relevant to think mechanistically about patterns of risk that may be relevant to the outcome. Designations like "WSW" are based on previous constructs such as "MSM" which were created due to biological risk for HIV (Young & Meyer, 2005). Additionally, this analysis suggests that examining sexuality from a multidimensional perspective may be informative to health outcomes, specifically stress and depression. These models suggest that bisexual-identified women with more binary dating and attraction patterns and weaker links to LGBT community may be at higher risk for stress and depression than their heterosexual counterparts. This pattern was not robust for all clusters with a bisexual or lesbian majority, which suggests that this is a subset of primarily bisexual-identified women who may be at higher risk for stress and depression. These results could have implications for understandings of sexual minority health disparities such as the commonly used Minority Stress framework which posits that LGBT people experience discrimination, which leads to elevated chronic stress, and ultimately deleterious health outcomes (Dyar et al., 2015; Hequembourg & Brallier, 2009; I. H. Meyer, 1995). In these models stress and discrimination were predictive of depression and IPV, which is consistent with the Minority Stress framework; however, we see that a specific subset of bisexual women with weaker ties to the LGBT community were also at higher risk for stress and depression.

There appears to be more at play than just identity. Previous literature suggests that affiliation with LGBT-affirming community can be a protective factor for a variety of adverse health outcomes and predictive of positive health outcomes including resilience (Meyer & Diversity, 2015; Snapp, Watson, Russell, Diaz, & Ryan, 2015). Additionally, literature has suggested that bisexual women may experience biphobic attitudes from family, friends, and partners (Greene, 2003; Hall, 2017; Herek, 2002). Bisexual women with limited connections to LGBT community may have less bi-affirming social support. This may be an important distinction of targeting interventions, because without approaching sexuality from multidimensional standpoint this subgroup may be adequately reached. For example, this subgroup may not be easily reached through conventional LGBT-venue based techniques or through advertising LGBT cultural competency. Further research should identify how to reach this population and how to promote bi-affirming social support.

Future health outcomes studies should consider multiple dimensions of sexuality. Ultimately it is not sensible or practical to apply all potential dimensions of sexuality to all public health research or interventions, because it may not be relevant to the research questions, may take up too much space in survey instruments. However, a shorter more easily applied measure of sexuality may be developed for to balance ease of application with nuanced measurement of sexuality. However; ignoring this issue may result in reduced sensitivity or specificity of measurement of a population. Ignoring dimensions beyond behavioral classifications may obscure social processes related to sexual identity but relying on simple self-identification may be subject to changes over time and social context threatening the reliability of the instrument. When researchers utilize a measure of sexuality they should be consider 1) what it truly is meant to measure (e.g. biological risk of individuals who participate in unprotected anal sex in the case of HIV and MSM), and 2) the mechanisms of risk which this underlying assumption may isolate or obfuscate.

There were some limitations and strengths to note for this analysis. It did not include a probability sample which limits generalizability and did not include a wide range of gender identities including non-binary, male participants or some sexual identities such as asexual. While bisexual and lesbian women were over-sampled the sample size may also impact the results. Future analyses should include a larger sample of heterosexual-identified women, and a range of gender identities. This analysis utilized a large sample of 1,227 participants and had diversity along race and socio-economics which increases external validity. This study also used multiple more nuanced dimensions of sexuality that were identified through previous literature and utilized cluster analysis which generates possible clusters from the data rather than imposing subgroups

Conclusion

When identifying subgroups public health research should examine multiple dimensions of sexuality beyond biological risk as approximated by measures based in sex behavior, such as "MSM." Translating this measure as "WSW" in health research may obscure health disparities or social mechanisms driving health disparities, such as elevated stress or depression. This analysis suggests that a subset of primarily bisexual-identified women who have weaker ties to the LGBT community may be at higher risk for stress and depression. Future research should consider using multifaceted measurement of sexuality to better identify subgroups that may be at heightened risk for adverse health outcomes.

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Chapter 4. Examining sexuality development, conflict and intimate partner violence in a qualitative sample of young adult bisexual and multisexual women

Abstract

Background: Intimate partner violence (IPV) is a health disparity among sexual minorities. Bisexual women have been identified as a population that has elevated experiences of IPV. Additionally, sexual identity development has been identified as a complex process in adolescent youth. Multisexual (i.e. bisexual, pansexual, and fluid) women may experience identity development differently than their homosexual or lesbian peers. This study seeks to examine the relationship between sexual identity development and IPV experiences of young adult multisexual women.

Methods: This analysis examined life history interviews including sexual identity development and relationship histories among 36 multisexual women in the Metro-Atlanta area. Participants described their sexual identity development and up to 5 different relationships through an interactive life history activity. A total of 150 relationship histories were collected. Interviews were transcribed verbatim and the intersection of sexual identity development and relationship conflict was thematically analyzed.

Results: Participants described a complex reconciliation process between their feelings, dating experiences, and identity labels that evolved over time for nearly all participants. They described their sexual identity development through key events that either triggered or anchored their memory of their sexual identity development. Outness was a salient issue leading to conflict in first relationships with women or transgender partners. A range of violent experiences were present in relationships with all genders; however, participants spoke about physical violence and sexual coercion nearly exclusively in relationships with men, particularly with their first male partners. Participants also described biphobic tactics of violence.

Conclusion: This analysis highlights the importance of a sexual identity development and life course perspective when considering the prevalence of IPV among bisexual women and multisexual women more broadly. Future research should seek to develop integrated interventions to address sexual identity, relationship skills, and IPV among multisexual adolescents and their potential partners.

Introduction

Bisexual adults, young adults, and multisexual adolescents have higher levels of intimate partner violence (IPV), sexual assault, and dating violence at a range of ages (Ford & Soto-Marquez, 2016; Martin-Storey, 2015; Walters et al., 2013). This literature highlights an emerging recognition of a disparity in experience of violence. Moreover, the consistency of this finding across a range of ages, particularly the findings among adolescents, suggests that this health disparity may benefit from being examined with a life course perspective.

Intimate partner violence in same-sex relationships has been of growing concern in public health; however, little research has examined bisexual-specific experiences of IPV (Finneran & Stephenson, 2013; Hardesty et al., 2011; Murray et al., 2007). Elevated risks of IPV, sexual violence, and dating violence in bisexual populations compared to heterosexual and lesbian populations has been established in adolescent, collegiate, and adult populations (Ford & Soto-Marquez, 2016; Martin-Storey, 2015; Walters et al., 2013). Bisexual-identified women report higher rates of lifetime experience of intimate partner violence (IPV) and rape than heterosexual women or lesbian women (Ford & Soto-Marquez, 2016; Walters et al., 2013). In a 2010 national representative sample, 61.1% of bisexual women, 43.8% of lesbians, and 35.0% of heterosexual women reported lifetime experience of any form of IPV (Walters et al., 2013). Nearly half of bisexual women reported being raped in their lifetime with 81% of bisexual survivors reporting the first time before the age of 24 (Walters et al., 2013). Further, 57.4% of bisexual women, 33.5% of lesbian women, and 28.2% of heterosexual women reported at least one psychological or physical negative impact from violence (Walters et al., 2013).

One challenge in the literature regarding terminology is how to label people who have attraction to more than one gender. Some people identify as bisexual, pansexual, sexually fluid or other identities. Many terms have been used in research to encompass this group more broadly including terms like

multisexual, plurisexual, multisexual, polysexual, pomosexual, and sexually fluid (Hutchins & Williams, 2015; Mitchell et al., 2015; Queen & Schimel, 1997; Thompson & Morgan, 2008). Research has not concluded which single term is most appropriate to both encompass the range of identity labels, and to respect the fuller spectrum of gender identities that exist (Flanders, 2017). In this analysis we will refer to the broader category of labels as "multisexual." This is to avoid using a term that assumes the referent group is people who are only attracted to one gender.

Life course perspectives have been applied to IPV research, particularly in regard to adverse childhood experiences and experiences of IPV in adolescence and adulthood (Bensley, Van Eenwyk, & Simmons, 2003; Mair, Cunradi, & Todd, 2012). Childhood exposures to violence have been connected to lifetime exposure to violence and perpetration of violence (Armour & Sleath, 2014; Carbone-Lopez, Rennison, & Macmillan, 2012; Kimber et al., 2018; Moylan et al., 2010). While this finding has been replicated, this literature largely has addressed heterosexual people with lower quality research methods (Kimber et al., 2018). Researchers have begun to apply more complex analysis of the relationship of violence and life course-relevant exposures such as economic dependence and IPV (Christy, 2017). However, in reviewing the literature, there appears to be an absence of life course perspectives relating to sexual minority groups and particularly in relation to sexual identity development and experience of IPV among multisexuals.

A life course examination of sexual orientation may reveal that sexual questioning and identity changes can happen at any time and multiple times throughout a person’s life (Diamond et al., 2006). Research suggests that there is some fluidity over the life course in regard to how women identify their sexual orientation, which has led to some debate over how to define bisexuality (Diamond, 2008). Diamond (2006) suggests that earlier research was wrong to assume that sexual identity development was a single event in a sexual minority person’s life and that a specific sexual identity would be stable across the life course (Diamond et al., 2006). Diamond references Weinberg suggesting that the

conception of sexual identity development should be understood as a choice of labels from “multiple, culture-bound, context-specific solutions to the ever-present ‘problem’ posed by nonnormative attractions and behaviors.” (Diamond et al., 2006, p. 88; Weinberg et al., 1995). Prior qualitative research suggests for some bisexual women their identity label precedes other milestones in their sexual identity development (Comeau, 2012). Past longitudinal models suggest that this label-first identity development may be more common among sexual minority women than men who were more likely to have sexual experiences before label formation (Savin-Williams & Diamond, 2000). A more recent longitudinal study of sexual identity developmental trajectories suggests that for sexual minorities, overall identity labels tend to precede early sexual experience, whereas bisexual people tendto have later identity development than other sexual minorities (Calzo et al., 2011).

Some research regarding sexual minorities and IPV has found that some relevant constructs to sexual identity development such as coming out, dyadic differences in outness in couples, experience of homophobic victimization, internalized homonegativity, and partners biphobic beliefs may be relevant to IPV experiences among these populations more broadly (Edwards & Sylaska, 2013). Research regarding gay and bisexual male couples suggests that dyadic differences in outness may influence the risk of experiencing? IPV among adult gay and bisexual men (Goldenberg et al., 2016). Researchers have suggested that internalized negative feelings about same-sex attraction may sometimes be projected onto partners through violence tactics (Carvalho et al., 2011). Homophobic victimization was associated with exposure to/perpetration of IPV in gay men and lesbians in a meta-analysis (Kimmes et al., 2017). It is not clear if these factors play into multisexual women’s experiences of IPV; however, lesbian and gay youth have been found to be more likely to integrate with LGBT social activities, to hold positive views of same-sex sexuality, and more likely to feel comfortable being open about their sexuality than bisexual youths (Rosario et al., 2006). Additionally, qualitative research of bisexuality and IPV has found that partners of bisexual-identified individuals may perpetrate acts of violence that are motivated by

biphobia (Hall, 2017). Further investigation is needed to understand if these factors impact the relationship between multisexual women's sexual identity development and IPV.

The current study examines experiences of IPV among multisexual women through a retrospective life history approach to identify unique life course-related factors that may be at play in adolescent and young adult multisexual women's experiences such as social factors relating to sexual identity development. More specifically this study 1) synthesize the way that participants described their sexual identity development, and 2) examine the ways in which participants connected their experiences of conflict and violence within relationships to aspects of their sexual identity development.

Methods

Data collection and Recruitment

This study was approved by the Emory University IRB. Advertisements were posted on free online forums such as Facebook groups, Craigslist and Reddit. Paid advertisements were posted through Facebook, which reaches Tumblr, Instagram, and Twitter as well. When an individual clicked on the advertisement they were brought to an online screening survey. Participants were eligible if they were woman-identified, ages 18-29 years old, and Living in the Metro Atlanta Area. They also needed to meet at least one of three sexuality criteria: 1) identify as Bisexual, 2) report attraction to multiple genders, or 3) have a lifetime relationship history that included more than one gender. Participants then provided information to be contacted for an interview.

Online recruitment techniques were used, because despite their limitations these techniques have been show to achieve a diversity in LGBT samples including participants in less-urban settings (Guillory et al., 2018; Warren, Smalley, Barefoot, & Technology, 2015). Given that the goal of this study was to identify a qualitative sample of information-rich interviews rather than generalizable representative sample, that a census approach would be resource intensive and that a venue-based

approach may include only women who participate in LGBT events the online approach was deemed the most appropriate. Of the 56,364 people who saw the paid advertisements, 3,239 people clicked on the advertisements and 608 started the survey. Only 33 people started the survey from unpaid posts. Of the 641 who started the survey, 464 were eligible to participate and 311 provided contact information. Participants were contacted via e-mail or phone depending on their preference. Participants were contacted until interview slots were filled. A total of 36 participants were interviewed. Given the depth and length of the research exercise online or phone data collection was deemed inappropriate. Only in-person interviews were conducted.

Demographics of the participants are presented in Table 4.1. The average age was 23.81 (SD=2.53) and the average time living in Atlanta was 10.81 years (n=8.63). The sample was racially mixed with the largest racial group being non-Hispanic white at 33% (n=12), then 23% (n=9) Black, 19% (n=7) Latina/Hispanic, 11% (n=4) Asian and 3% (n=1) Middle Eastern or North African. Relationship status variated with 42% (n=16) dating, 22% (n=8) single, 22% (n=8) cohabitating, and 14% (n=5) married. Most participants preferred the term bisexual 47% (n=17), pansexual 19% (n=7), queer 17% (n=6), Lesbian or homoflexible 8% (n=3), and fluid 3% (n=1). All participants had attraction to multiple genders, with 61% (n=22) reporting attraction to a mixture of genders, 22% (n=8) reporting attraction primarily toward women, and 17% (n=6) reporting attraction to mostly males. Most participants had a dating history with partners from multiple genders with 44% (n=16) reporting a mixture of genders, 31% (n=11) reporting mostly males, 14% (n=5) reporting mostly women, 8% (n=3) reporting only men and 3% (n=1) reporting only women.

Individual interviews were conducted at a public location of the participant's choosing. After consenting to participate, the interviewer led participants through the creation of a timeline which included major milestones regarding sexual identity such as label changes, coming out, and shifts in attraction. Interviewers then led participants through a semi-structured interview which included

Table 4.1 Participant Characteristics (N=36)

Variable	Percentage	n
Gender		
Cis Female	97%	35
Transgender Female	3%	1
Race		
Non-Hispanic black	23%	9
Non-Hispanic white	33%	12
Latina/Hispanic	19%	7
Mixed Race	8%	3
Asian	11%	4
Middle-Eastern/North African	3%	1
Age (Mean)	23.81 (SD=2.53)	
Time in Atlanta (Mean)	10.81 (SD= 8.63)	
Relationship Status		
Married	14%	5
Cohabitating	22%	8
Dating	42%	15
Single	22%	8
Sexual Orientation Label		
Bisexual	47%	17
Pansexual	19%	7
Queer	17%	6
Lesbian or Homoflexible	8%	3
Fluid	3%	1
Sexual Attraction		
Mostly Females	22%	8
Multiple Sexes	61%	22
Mostly Males	17%	6
Dating History		
Exclusively Females	3%	1
Mostly Females	14%	5
Multiple Sexes	44%	16
Mostly Males	31%	11
Exclusively Males	8%	3
Education		
High School Diploma	8%	3
Associates Degree or Some College	39%	14
Bachelor's Degree	36%	13
Graduate Degree	11%	6
Income		
$10,000 or less	11%	4
$10,001 to $30,000	36%	13
$30,001 to $50,000	14%	5
$50,001 to $70,000	14%	5
$70,001 to $90,000	8%	3
$90,001 +	16%	6

creating relationship timelines for up to 5 past or current relationships, including a minimum of the participant's first relationship and the participant's most recent relationship. The participants described each relationship, each partner and the type of social support they had during each relationship. If the participant did not describe concrete forms of violence in a relationship, then the relationship was screened for intimate partner violence using an adapted form of the GBM-IPV Screener (Stephenson & Finneran, 2013; Stephenson et al., 2013). Interviews were recorded and transcribed verbatim. The interviews lasted an average of 91 minutes (SD=21). Quotations are attributed to fictional pseudonyms that were applied to participants during the analysis process to avoid dehumanizing participants through the use of identification numbers.

Analysis

This analysis consisted of a mixture of a thematic and life course approach. Three coders developed a thematic codebook, tested codes, modified the codebook, and applied finalized codes through consensus coding. First, coders wrote memos to identify inductive codes. Inductive codes and deductive codes then were applied to the transcripts. Coders met to discuss discrepancies between codes and to refine the codebook. The codebook was refined four times and the final codebook was applied by at least two coders in each transcript. The final codebook consisted of 26 different thematic codes.

This analysis 1) synthesizes the way that participants described their sexual identity development, and 2) examines the ways in which participants connected their experiences of conflict and violence to aspects of their sexual identity development. To achieve these goals, this analysis examined the intersection of 2 codes: sexual identity and conflict/violence. Salient patterns at the intersection of these themes were then summarized.

As described above, sexual identity trajectories were examined thematically (as the participants explicitly described their observations of their own trajectory). In addition, timelines generated were examined for sequencing of experiences and partners. Relationships were classified based on partner characteristics such as gender, as well as their relative role in the sequencing of the timeline such as the first relationship with a male, or the first same-sex relationship. Key milestones in sexual identity development such as coming out were also examined for their relative role in sequencing such as if a participant described coming out prior to their first relationship or at a different point in their relationship history. Examination of themes as well as relationship timelines were used to inform the analysis presented below.

Results

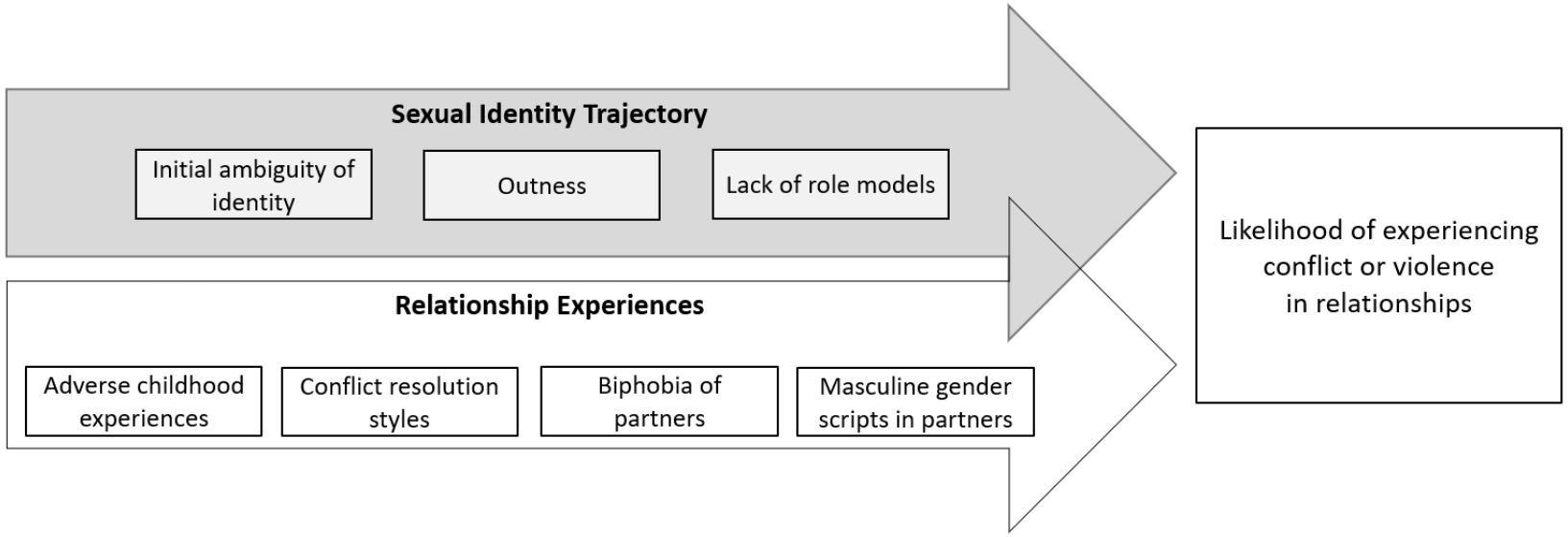
Sexuality Trajectories: " the label doesn't really fit because I don't really identify with it – even though I do:"

Participants described a range of experiences in relation to their sexuality trajectories, including shifts in sexual attraction, shifts in sexual identity, first experiences such as the first time dating a particular gender, and major milestones such as coming out. Timing and patterns in these trajectories varied greatly; however, participants did discuss several key themes relating to their trajectories.

A major theme when discussing sexuality trajectories was the challenge of reconciling feelings, experiences, and identity labels with seemingly limited options or language. Nearly all participants described a period in their life when they were not sure how to label their romantic or sexual feelings and many participants described a continued struggle with the limitations of existing sexual orientation categories.

Olivia, 24, describes a very common experience in the sample of weighing between different labels for multisexuality such as pansexual, bisexual, and fluid. When asked about her primary identities

Figure 4.1: Conceptual Model



she was reluctant to select a label for her sexual orientation because she doesn't feel like any of the existing labels perfect capture her sexuality.

> *Honestly, I just identify as a person. (laughs) I know like – I know that's like super generic but like I do. I just kind of like – I feel like I'm just me, and I just kind of live my truth, you know? And it kind of – It took me a while to get there, so now that I'm there, I'm just going to be like 100% unapologetic about it, you know? So I guess identity is a concern. I guess I'm cis. I was born female, and I believe myself to be a woman. But as far as sexuality, I would definitely consider myself to be fluid. For a long time I considered myself to be bi. And that just didn't – After a while didn't really fit, but pan doesn't really fit for some reason, so I just kind of prefer fluid. I kind of like – I'm here, I'm there, I'm everywhere, you know? Olivia, 24*

Similarly, Imani, 20, describes the prevalence of monosexual labels such as lesbian or heterosexual and emphasized how long it took her to find out about labels that encompass multisexuality.

> *Yeah. It's always been kind of in the bisexual realm, because I knew I liked men, but I also liked women, and at first I was like that's not a lesbian, but I don't know what it's called. So I was like finally I – like it took a long time before I knew like other things besides like lesbian, gay, because they don't teach you anything else besides those two things. So it was really nice to like finally find something that I can identify as well. Imani 20*

Some participants questioned the authenticity of labels without experiences that they perceived as justifying the label. For example, if they had not had a same-sex relationship. Lila, 21, describes how she does not affiliate with the broader LGBT community and hasn't had a meaningful same-sex relationship.

> *So I guess for the purposes of this I call myself pansexual but the label doesn't really fit because I don't really identify with – even though I do – that is my sexual preference, I just don't really feel like a part of the LGBTQ community because I've never actually dated a woman, and then I just don't feel – like, I grew up – my family is incredibly liberal and very accepting, so I just didn't really struggle with my identity at all. So when I was probably 13 I realized that I was also attracted to women in addition to men, and it was just kind of this, like – like, there was some distress around it but generally it was just kind of this I'll figure it out when I get there, if I ever date a woman then I'll just deal with it then. Lila, 21*

Beyond experiences, some participants struggled with multisexual labels because their attraction toward multiple genders was not equivalent. For example, Jordan, 26, describes the tension between her sexual attraction toward men and her romantic attraction toward women as well as her explicitly stated aspiration to only be in relationships with women.

> *Like I could identify as homosexual – homo flexible, but I want to be a lesbia, because I don't want to deal with men, but at the same time, I still deal with them because I was bi for a long time. I started claiming bi when I was like 13 or 14, you know? And I had my first sexual relation with a women when I was like – well, a girl when I was like 12, you know? So that's the one that's most important to me, because like that's what I want to identify as, you know, because I decided sometime last year or this year that I don't want to deal with men on a relationship level anymore because I don't like their mentality. I don't like how they think. So I just want to deal with women, but women are just as bad as men, but it's what I prefer. Jordan, 26*

Participants also frequently framed their identity development around key "trigger" or "anchor" events, such as their first sexual or romantic experience with a specific gender, experience with media

that caused them to think about their sexuality, or conversations with people who openly identify as LGBT.

Linda, 26, demonstrates a common type of experience that participants described as anchoring their initial understanding of her identity: an experience with another woman that confirmed her previous feelings. It was an experience that validated her feelings.

> *[It] was life changing because that's when, I kind of affirmed to myself that, you know what, it's at the beginning I didn't think much of it but it was kind of like an affirmation of how I felt towards just my attraction to people. And yeah, it was kind of life changing for me, eye opening, like oh, okay. Understanding just because we both had that mutual understanding and we didn't think anything we were doing or anything of how we felt was weird. Linda, 26*

Isabella, 27, demonstrates another common type of "trigger" experience, which was exposure to media, that made her think about her attraction toward women when she hadn't previously contemplated her sexuality.

> *So eight, I will never forget, I had just taken a shower, I was wrapped in my towel – this is totally not even remotely needed for this conversation but I'm telling this story I guess, and I was watching a TV show and it was – it wasn't the best scene in the world and it was something like a girl and a guy kind of getting into it but it was really sexual and I just remember thinking looking at the girl and being like, what is this I'm feeling and I just – I remember I thought about that scene for a while and I didn't really know why., Isabella, 27*

Conflict and Violence: "I think he needed to feel in control."

Participants described many forms of relationship conflict ranging from calm discussions to physical violence. Most participants described a range of conflict experiences with 86% (n=31) reporting any relationship with at least one form of violence and 55% (n=20) reporting more than one relationship

with at least one form of violence. Discussion was the most common form of conflict resolution in relationships that were not described as violent. Calm discussions were generally framed as the healthiest forms of conflict. However, several participants sometimes framed long-lasting emotionally charged discussions with limited resolution as "Lesbian processing." Mia, 25, described this as ample, but poor communication about emotional topics.

> *Like if she had like a panic attack, I give attention, and then within the next few days it would be like when I had to give you a whole lot of attention for that panic attack it made me feel really like unheard or something like that, and it's just very internal and very circular, and no time to like have emotions outside of what we were feeling for each other, and like we weren't dealing with the – the residual emotional energy from caring for each other when we should have been, instead of just going back into the relationship and it compounded, which like that makes lesbian processing sound like the worst thing, because we did talk a lot about our feelings and how we felt it wasn't just like – it wasn't all negative, you know? There were some benefits to it, because we were actually communicating. But sometimes we weren't communicating well.l Mia, 25*

Common forms of conflict resolution that were framed as problematic by participants that were discussed included glossing over unresolved conflicts and stonewalling. The majority of participants described some form of problematic conflict resolution in at least 1 relationship. Patricia, 26, talked about when she would completely shut down and stop talking, because she felt like trying to resolve or the conflict with her partner was futile.

> *Most of the time, I was like I was so tired of fighting that I was like, okay, I was just stop talking. And I remember that I used to say, okay, think about it and when you get your mind straight we talk again because this don't make sense. And yeah, basically it was this. Like I was just -- I would*

stop talking to her, like I'm tired of fighting and you don't listen to me and so I'm done. (laughs) Basically was like this because I was really, really tired of fighting. Patricia, 26

Of the 150 relationships discussed by participants 65 (43%) were identified as having at least one form of relationship violence. Violence was described in partnerships with female and male partners with 40% (n=23) of female partners and 48% (n=41) or male partners being described as violent. Mental/emotional violence was the most frequently described form of relationship violence. This included insults, criticism, and threats among other examples. Amy, 21, describes one of her earlier relationships where emotional violence was a component of the violence she experienced in the relationship. Many participants described emotional violence in the context of other forms of violence.

I was like that girl dating the cool older guy, and he also was a drug dealer, so there's that little element of risk, and plus at the time I had a lot of emotional problems, so this was also the same time I started using drugs to cope, but very quickly it completely flipped. Like he would get rough with me, he would like demand things from me. He would call me stupid. He would be like – like you can't find any place to belong, and this was hard because I thought I found somebody who could take care of me. You know, I think a lot – like reflecting on it, I think what I wanted was not even to be in that relationship, it was just to be with somebody who gave a shit about me and that also wanted to like be with me and experience like what I was into. Amy, 21

Emotional violence ranged from insults to consistent threats and often overlapped with controlling behaviors. As Meighan, 23, ascribes an underlying desire for control to the range of abusive tactics that her ex-boyfriend used in their relationship.

I think he needed to feel in control. And when he felt in control, he was nice and we had good times and we had good conversations and things like that. I think when I decided I didn't want to do things his way or I – any time – I tried to leave all the time. Like I tried to break up with

him, oh my god, like seven or eight times over the year, and that's when things would get really bad. Like for example, he would jump out of my car when I was driving down the highway and one time I thought I killed him. He would – we were – one time I tried to break up with him in a park and he got up and just started yelling really loudly and I was terrified because I thought someone was going to call the cops, and in hindsight, I wish they had. ID311, Meighan, 23

The second most frequently discussed form of violence was sexual coercion. More than half of the participants discussed some form of sexual coercion. The theme of sexual coercion in early relationships with male partners was very pervasive in the data. Many of the participants had complex understandings of the coercion they experienced as Olivia describes feeling pressured into sex during her first sexual experience without being physically forced.

It wasn't so much physical entrapment as it was sort of like emotional entrapment. I think that dude definitely knew what he was doing. He definitely knew that, you know, I was inexperienced, didn't know what I was doing, didn't really understand – not that I didn't understand. I'm not going to give myself like – like I knew what I was doing, but it was just like I don't know, I think if he had took a step back and had like really asked me, you know, like are you okay with this or something like that, then it probably would have never happened, you know? So that's why I consider it to be more like entrapment sort of. Confusing I guess because like it's really confusing because it's more like it's – like it's a consent thing. Like technically I consented, but in my mind I didn't really, and that doesn't – and I know that doesn't mean that he did anything wrong to the point where like in illegal territory. Morally I think he knew it was wrong, but I think like legally you know, I didn't say no, so – I think that's why it was confusing. Olivia, 24

Participants also discussed physical forms of violence; however, they were much less frequent than other forms of violence. Physical forms of violence were discussed predominantly in relationships

with male partners. Participants described only a few female partners employing physical violence or threating physical violence.

> *He would like hit me, you know? And after a certain while you would just learn to keep your mouth shut, because you don't want to get hit. Like that sucks. You know, you especially don't want to get hit by someone that you love and you're completely dependent on. That was the thing that was the scariest about it, because like I really had nowhere to go. I felt like I had nowhere to go when I was with him. Amy, 21*

Linking sexual identity development trajectories to conflict and violence

Participants linked conflict and violence to a several key themes relating to sexual identity trajectories. These included issues around ambiguity, outness, first time with men, sexual coercion, survivorship and biphobic abuse tactics.

Ambiguity, outness, and discomfort: "She was not like accepting of her own sexuality at the time, and was very much like in denial about it."

Ambiguity around their own sexual identity often was described as a reason for ambiguous relationship arrangements, particularly among early relationships with female partners. Participants described their own undeveloped understanding of their sexuality and their partners' undeveloped understanding of their own sexuality as contributing to inconsistent, non-committal, confusing, and sometimes conflict-rich relationships. Ambiguity in their understanding of sexual identity was also linked with conflicts with being out, such as if one partner was open about their sexuality while the other was closeted. This identity ambiguity and incongruence in level of openness about sexuality were frequent attributions to conflict in early relationships with women and transgender partners. Amanda, 23, describes how her first relationship with a woman was punctuated by long periods of separation in part due to her ex's discomfort with her own sexuality.

> *It was definitely off and on from that time period, especially after age like 19, then sometimes we would go like a month or more without talking to each other, and then we would just like see each other and hook up. We would go through phases of like are we going to be together, are we going to date and everything, and then we wouldn't, and it was definitely intense. I was definitely in love with her. I would say she was definitely in love with me, and she was very sexy. That was a big part of our relationship was sex. But it was not a balanced relationship because she was not like accepting of her own sexuality at the time, and was very much like in denial about it. -Amanda, 23*

Adverse childhood experiences, survivorship, and relationships: "I would attribute a lot of that to damage that I've had in previous relationships."

Adverse childhood experiences and being a survivor of violence were brought up as both impactful dimensions of identity and contributing factors to relationship violence by participants. A small subset of participants identified themselves as survivors of violence, which was generally portrayed a political identity and a lens through which they experienced relationships. Participants also identified ways that being a survivor of violence or dating a survivor of violence sometimes compounded conflicts in relationships. One way survivor-hood was described as compounding conflict was the challenge of navigating triggering experiences within relationships that could elicit strong emotional reactions for participants or partners who are survivors of violence. Participants also described past experiences of violence being possible reasons for their partners' perpetration of violence.

> *I think it stems from anger from what her parents had – like their issues. I think it stems from that, where it's something that's happened in her past that she just can't get over, and she kind of used me as like a punching bag almost. Not to actually punch, but a punching bag to get like the stress out. -Kiara, 21*

Olivia, 24, describes struggling to voice her disinterest in sexual activity with her ex-boyfriend and attributes her inability to communicate about consent in that moment to past experiences with sexual coercion. This connection influences her understanding of her experiences with sexual coercion

> *I think for me it was a miscommunication I already have issues saying no to things sexually because of this, you know, we had to look back and talk about it, and he like profusely apologized. He did not realize that I felt cornered, and so I would say yes, but unintentionally… I think I would attribute a lot of that to damage that I've had in previous relationships. For example, when I didn't want to do something, and I didn't feel comfortable enough to say it, I feel like that wasn't necessarily his fault. I think that I have difficulty communicating certain things because it's gone poorly for me in the past. So yes. I think it's a matter of like me needing healing so that I can help him. Because like you know, I have to help him help me basically, so that's what I would attribute it to I think. -Olivia, 24*

First time with a man and sexual coercion: "it's a pretty common script, I would say, in America"

Descriptions of sexual coercion in participants' first relationship with a male partner were pervasive and salient. No participant described their first relationship with a female partner as sexually coercive. Descriptions of sexual coercion were discussed both decisively and sometimes in more nuanced terms. For some participants coercion was obvious as it happened, some described attempted sexual coercion, and others described not realizing that their first male partner was being sexually coercive until reflection upon the experience later.

> *That I very quickly got into a situation where we were doing a lot of sexual stuff that I was not even not comfortable with didn't know what it was did not know what was going on and that's such a hard place to be as a 12 year old because I knew that it felt good but then I also knew that*

I went home and felt sick and he – I asked him to stop and he just kept doing it because he was 14 and part of me says he should have listened to me and he should have respected me and the other part of me is he was 14 he didn't know that he needed to listen to me because he didn't have anyone telling him that kind of thing. - Alex 27

Participants frequently attributed forms of violence perpetrated by male partners, particularly sexual coercion or assaultto toxic masculinity, traditional masculine norms, and/or expectations of young men. Many participants who experienced violence in relationships with male partners linked masculine socialization, entitlement, and a desire for control in a relationship as primary motivating factors of violence. These factors were sometimes described as being compounded by the use of substances or a male partner's sense of lack of control in their own life in general.

I attribute that to the narrative that we have in our society about how men should – like need to initiate and keep pushing until somebody says yes. I think I was just so eager to be accepted, I was doing what needed to be done, even though I wasn't quite ready. And this is the – it's a pretty common script, I would say, in America. -, Erika, 25

Makayla, 22, described how her ex-boyfriend didn't initially fit masculine stereotypes and how his older brother tried to influence him to make him be more masculine including mimicking his brother's violence tactics.

There was – his brother, his older brother, who's a Marines guy, and he looked up to him, WG really looked up to his older brother, and his older brother was a brute guy, he was very tough and rough, and like, [my ex] is just super sensitive, and like, later, way later, like, around this time, maybe a year or two from now, I found out that [my ex] is bisexual, but he was a really sensitive guy. His brother would try to toughen him up and not really be there for him as a big brother should be. You have your parents coming at you harshly, not expecting great things from you and

> *putting you down and putting you last, and then he's living in his brother's shadow. At the same time, he's admiring his brother and maybe he wanted to be like his brother and just did everything his brother did, because his brother would punch walls too, punch walls, punch punching bags, punch a lot of things, just punching all the time. But [my ex] punched walls specifically and it scared the crap out of me.* -ID109, Makayla 22

Biphobic tactics

Participants also described violence tactics that were motivated by a partner's biphobia or that overlapped with acts of biphobic discrimination within the context of a relationship. These biphobic violence tactics took several forms including attempts to police a partner's bisexuality through controlling behaviors, sexual coercion motivated by biphobic stereotypes of promiscuity, and emotional violence that criticizes a partner's multisexuality. Sometimes biphobic violence tactics were described in conjunction with other violence tactics, but other times participants described biphobic violence tactics as the only form of violence that a partner perpetrated. Biphobic violence tactics were described as being perpetrated by lesbian, non-binary, and heterosexual male partners. Mia, 25, described a queer male partner who generally was supportive of the LGBT community as lashing out with biphobic emotional violence that played off stereotypes of promiscuity in bisexual people.

> *[He was] another one of these like academic queers who are like, yeah, gender's a spectrum, sexuality's a spectrum, yay, queerness, bisexuality, yeah. Though I did have like occasionally he gave me some shit for like my relationships with some cis men in my past… Just like some kind of slut shaming stuff. It was just like – like when he was angry, like lashing out. It was just like weird. Like I didn't even pick up on it. He had to apologize to me, because I wasn't looking for that kind of behavior from him. - Mia, 25*

Lisa, 23, identified as a lesbian for a long time despite her awareness of her attraction to men and non-binary people. During that period, she perpetrated biphobic violence tactics and attempted to police her partners' attraction to men. She describes this behavior as stemming from her discomfort with her own attraction to men.

> *I think it honestly was my own uncertainties about my sexuality. I was like well, I think I might like guys but -- I definitely like girls. I don't think that was like a false thing. But I was insecure that they might feel the same way I did, really. So if one of them was just being honest, they'd be like, yeah, maybe I'd date a guy, I don't know, I'd be like, what, that's horrible. No. Or like, I don't know, if they told me something a little too icky about their past, I'd be like, ugh, I feel nauseous. But it's ridiculous because my past is no different than theirs or I have no reason to feel that way about them. It was really just my own insecurities in myself that I projected onto them.* -Lisa, 23

Morena, 22, described her realization that her experience of violence in a relationship with an ex-girlfriend was in part motivated by her ex-girlfriend's biphobic views. Through her growing understanding of the connection between her experiences of violence and her identity as a bisexual, she was motivated to reaffirm her sexual identity.

> *And that sort of relates to me like coming back out as bisexual. I started using that term a lot more like in the last year, because I was realizing how my experiences in sexual violence intersected with my bisexuality and realizing how much internalized biphobia I had from just realizing how much I had like shied away from that term because of biphobia….I don't remember what happened, but I realized that for the first time that my bisexuality had been a motivator of my abuse. I'm sure I would have been abused either way, but there's definitely part of my abusive relationship that was in response to me having an interest with men and the threat of that, so I started to understand like*

bisexuality as like really connected to trauma, and [I] just started being more assertive in that identity -Morena, 22

Discussion

The participants in this study largely framed their sexual identity development in terms of reconciling feelings, experiences, and sexual identity. Multisexuality takes on multiple labels such as queer, bisexual, pansexual, fluid, and no-label. Simultaneously, people who fall under the broader umbrella of multisexuality includes people who identify as lesbian or heterosexual and have attraction to multiple genders, and sexual or romantic experiences with multiple genders. This study underlines the extent to which current labels fail to sufficiently capture the feelings, experiences, and values of multisexual women. This echoes literature that suggests many nuances in the way people conceptualize multisexual identities (Hutchins & Williams, 2015; Mitchell et al., 2015; Queen & Schimel, 1997; Thompson & Morgan, 2008). As participants noted, dominant cultural narratives still largely obscure multisexual identities and experiences, thus limiting the language and models with which young people with attraction to multiple genders interpret their feelings and experiences. A longitudinal study examining identity shift in lesbian, bisexual, and unlabeled women found that participants were more likely to shift into a "non-label" identity than other identities (Diamond, 2008). Additionally, this study also highlights the complexity of bisexual and pansexual identity including women who identify as bisexual or pansexual without ever dating a woman which aligns with Comeau's work (2012). The findings of this study suggest that multisexual women may not always conceptualize their identity development as either label-first or experience-first, but rather reconciliation of feelings, identity and experience. The results suggest that the failure of cultural scripts and language to describe the experience of multisexuality may create challenges for multisexual youth as they navigate their early dating experiences and identities. Some studies suggest that development in the realm of sexual identity

may facilitate development in other aspects of identity (Konik & Stewart, 2004). The complexities of these largely internal negotiations between identity labels, feelings, experiences, and the boarder environment should be further explored in the context of the life course. Underestanding these processes may elucidate ways to minimize vulnerable periods and increase resilience for young multisexual women.

The participants of this study described a wide range of conflict and forms of IPV. Though this was a small non-probability sample of 36 individuals and their 150 relationship stories the majority of participants described at least one violent relationship. This aligns closely with previous studies including probability samples that have found that bisexual women report elevated experience of sexual assault, dating violence, and IPV (Ford & Soto-Marquez, 2016; Martin-Storey, 2015; Walters et al., 2013). This study provided qualitative descriptions of forms of violence that multisexual women experience as well as to what these women attributed these experiences of violence. Emotional violence was the most common form of violence reported. Additionally, a salient form of violence in this data was sexual coercion which is also consistent with surveillance data (Walters et al., 2013). Lastly, participants described forms of violence that were uniquely motivated by biphobic motivations termed biphobic violence tactics, which is consistent with a prior qualitative study of bisexual men and women's experience of IPV (Hall, 2017). While some forms of violence (sexual coercion and physical violence) were more commonly described in relationships with male partners, participants described violence in relationships with all genders. This was consistent with surveillance data that suggests that the majority of bisexual women report exclusively male perpetrators for rape, sexual assault, and IPV (Walters et al., 2013).

Conflict in early relationships with women and transgender partners frequently were described as being subject to complications resulting from nascent understandings of same-sex attraction and sexual identities. Though the concept of a "sensitive period" is largely used in relation to biological risk

this life course concept may be relevant to understandings of the occurrence of conflict in early relationships involving people who are still articulating their understandings of their sexual identity (Kuh et al., 2003). Participants linked the lack of models and language for multisexuality as well as feelings or fear or shame to inconsistency and conflict in these early relationships. In many cases participants described forming romantic relationships before having the language to describe their feelings or before fully forming their sexual identity. Participants also identified being a survivor of adverse childhood experiences or prior relationship violence as critical factors in their own understandings of relationships which may speak to and contextualize previous findings in the heterosexual-focused literature suggesting that previous exposure to violence can impact experience of violence later in life (Armour & Sleath, 2014; Carbone-Lopez et al., 2012; Kimber et al., 2018; Moylan et al., 2010). These results suggest that future research should explore how young multisexual women may benefit from media representation, modeling, language, or programming that helps provide language and examples of multisexuality during sensitive periods in the identity development trajectories of multisexual people and their potential partners. This may take the form of relationship skills interventions for adolescents and youth that integrate identity related content that is informed by understandings of multisexuality. Interventions aimed at assisting with identity development and relationship skills may benefit both multisexual adolescents and the potential future partners of multisexual people. Qualitative research has suggested that sexual minority youth may benefit from support and modeling in order to facilitate their sexual identity development (Konik & Stewart, 2004). Initiatives such as comprehensive sexual education approaches that incorporate a range of sexual identities and experiences may be beneficial for multisexual women and their potential partners.

The results of this study also suggest that violence researchers and practitioners should consider measuring and researching biphobic violence tactics and their effect on bisexual women. Bisexual women may be uniquely vulnerable to experience microaggressions that target their sexual identity

within romantic relationships in part due to many of their partners not sharing their sexual identity. Additionally, many stereotypes of bisexual women align with what would be perceived as undesirable traits for a romantic partner such as a lack of commitment and a propensity for promiscuity. These stereotypes may compound violence tactics that are motivated by jealousy or control as well as sexual coercion. Future research should seek to understand motivations for these biphobic violence tactics as well as their effect on multisexual women who experience them.

Additionally, it should be noted that many factors that the participants identified were related to partner characteristics, relationship characteristics, and relating to higher levels of the social ecology. Participants described partners employing biphobic violence tactics which suggest that at least some of the violence that multisexual women experience is due to biphobia. In addition, male gender roles were highlighted as a key component of sexual coercion in early relationships with men. Additionally, participants described problematic conflict resolution in relationships. Participants also described factors at higher levels of the social ecology such as the apparent lack of rolemodels for multisexual identity development or relationships for multisexual people in the media. All together these observations suggest the need for public health practitioners to address these issues beyond just the individual multisexual woman, but also their potential partners and higher levels of the social ecology. Future studies should examine the partners of bisexual women, relationship characteristics and structural factors that may contribute to the relationship between multisexual identity development and experience of IPV.

This study has some limitations. This is a qualitative analysis of a small non-probability sample, with high levels of education, so the results can't be generalized to a population. Additionally, this study examined relationships through the collection of retrospective life histories. Future studies should seek longitudinal approaches to avoid recall biases. While the study has some limitations it had many strengths. This study employed an interactive approach to ground the conversation in more concrete

discussions and to assist with recall. The study also collected approximately 150 relationship histories from 36 participants. Additionally, codebook development and coding was conducted with a team of 3 through an iterative processes to ensure consistency.

Conclusion

This study provides insight and voice to the experiences of multisexual women. Future research is needed to examine experiences of violence among multisexual women from a life course perspective. Future analysis should utilize larger, more representative samples and longitudinal techniques to reduce biases and to begin to assess the temporality of the relationship between sexual identity development and intimate partner violence. Future research should also approach this examining through multi-level techniques to account for dyadic characteristics, and influences at the higher levels of the social ecology. Interventionists and public health practitioners should incorporate understandings of multisexual women's identity development into existing interventions and develop intervention strategies that directly address the needs of multisexual women and their potential partners.

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Chapter 5. Summary and Conclusion

Introduction

Chapter 1 established that Intimate partner violence (IPV) in same-sex relationships has been of growing concern in public health and that very little research has examined bisexual-specific experiences of IPV or mechanisms through which bisexual women are put at higher risk for IPV (Finneran & Stephenson, 2013; Hardesty et al., 2011; Murray et al., 2007). Elevated risks of IPV, sexual violence, and dating violence in bisexual populations compared to heterosexual and lesbian populations has been established across stages in life course of bisexual women (Ford & Soto-Marquez, 2016; Martin-Storey, 2015; Walters et al., 2013). Bisexual-identified women report higher rates of lifetime experience of IPV and rape than both heterosexual women or lesbian women (Ford & Soto-Marquez, 2016; Walters et al., 2013). In a 2010 national representative sample, 61.1% of bisexual women, 43.8% of lesbians, and 35.0% of heterosexual women reported lifetime experience of any form of IPV (Walters et al., 2013). Nearly half of bisexual women reported being raped in their lifetime with 81% of bisexual survivors reporting the first time before the age of 24 (Walters et al., 2013). Further, 57.4% of bisexual women, 33.5% of lesbian women, and 28.2% of heterosexual women reported at least one psychological or physical negative impact from violence (Walters et al., 2013).

This mixed-methods dissertation research makes significant contributions to the understanding of IPV among bisexual and other multisexual women. In-depth life histories, a cluster analysis and a path analysis were used to address 3 primary aims: 1) to examine sexual identity development trajectories relative to experiences of IPV, 2) to examine multiple dimensions of sexuality relative to behavioral health outcomes and 3) to compare a minority stress model across bisexual, lesbian, and heterosexual women.

Minority Stress

Researchers of sexual minority health have begun to connect the constructs of Minority Stress framework to IPV, including experiences of discrimination, internalized discrimination and anticipated discrimination (Carvalho et al., 2011; Edwards & Sylaska, 2013; Frost & Meyer, 2009; Head & Milton, 2014; Murray et al., 2007; Stephenson et al., 2011). Minority stress has been linked to elevation of many factors that are related to IPV in the literature, including mental health, substance use, and social isolation (Capaldi et al., 2012). It has been suggested that bisexual people are more likely to have mental health concerns, experience social isolation, report higher levels of substance and alcohol use, and have more conflict in relationships (Balsam et al., 2013; Drabble et al., 2005; Fox, 2013; Greene et al., 2003; Hequembourg & Brallier, 2009; Jorm et al., 2002; Lewis et al., 2012; Marshal et al., 2008; Shuster, 1987). The ways in which minority stress relates to IPV and the extent to which minority stress is similar across different identities is unclear and have not been fully explored.

Chapter 2 sought to test a model of minority stress that included mental health pathways, a substance use pathway, and a social support pathway in relationship to IPV. We tested the model fit of a 3-group path model including these pathways and found an adequate model fit. We assessed the invariance of the model across bisexual, lesbian, and heterosexual groups. We found that the model was invariant across groups, which means that these constructs operated roughly the same way across groups.

Consistent with our hypothesis, IPV was shown to be impacted through mental health pathways and social support pathways. Additionally, substance use was associated with IPV, but did not have a statically significant pathway stemming from discrimination. There was also a significant direct effect of discrimination on IPV. These results are consistent with literature in that discrimination was associated with heightened stress and that discrimination was also associated with higher depression (Herek &

Garnets, 2007; R. J. Lewis, Kholodkov, & Derlega, 2012). This was also consistent with literature that suggests that bisexual people experience social isolation (Greene et al., 2003; Herek, 2002; Moore & Norris, 2005). These findings also confirm the literature suggesting that IPV itself is directly impacted by minority stress, though the effect was small after accounting for other pathways (Edwards & Sylaska, 2013; Edwards et al., 2015). These results did differ from previous literature in that substance use was not correlated with discrimination or stress (Goldbach et al., 2014).

Inconsistent with our hypothesis, we found that the model was invariant across sexual identity subgroups in that a constrained model provided similarly adequate fit to an unconstrained model. This means that the theorized model operated similarly (rather than distinctly) across all 3 sexual identity subgroups. While this is inconsistent with our hypothesis based on previous literature, it does not negate the qualitatively different experiences that bisexual and other multiseuxal women may have (Greene et al., 2003; Herek, 2002; Moore & Norris, 2005). Additionally, we used discrimination as our primary exogenous variable; however, differences may exist in regard to internalized discrimination or anticipated discrimination. Indeed, previous literature suggests that lesbian and gay youth have been found to be more likely to integrate with LGBT social activities, to hold positive views of same-sex sexuality, and more likely to feel comfortable being open about their sexuality than bisexual youths (Rosario et al., 2006). It may be pertinent to examine differences in internalized discrimination and anticipated discrimination across bisexual and lesbian samples. The qualitative findings of this dissertation also suggest that there may be other differences that impact experience of conflict and violence in early relationships of multisexual women such as having relationships while one's sexual identity is still forming and the biphobica of romantic and sexual partners that multisexual women encounter.

Dimensions of Sexuality

In Chapter 1 we suggested that using techniques to identify subgroups through a more multi-dimensional measures of sexual orientation may be pertinent to our understandings of behavioral health. The field of public health has been critiqued for using measures of sexual identity that are primarily based on biological risk factors for sexual transmitted infections (Young & Meyer, 2005). Furthermore, researchers have suggested that behavioral measures of bisexuality may not consistently capture the same population as identity measures (Bauer & Brennan, 2013; Savin-Williams, 2006). Researchers outside of public health propose a multi-dimensional approach consisting of sexual attraction, sexual behavior and sexual identity (Kinsey et al., 1948; Klein et al., 1985; Pega et al., 2013; Sell, 1997). Additional relevant factors that may impact sexual identity and vary for individuals with sexually fluid or multisexual identities include community affiliation (Dyar et al., 2015; Young & Meyer, 2005). It is also possible that congruence or incongruence between identity, attraction and behavior may influence factors such as internalized biphobia and relationship quality (Dyar et al., 2015; Hoang et al., 2011).

Chapter 3 examined measures of sexual identity, sexual attraction, romantic attraction, and community affiliation through a cluster analysis and regression analysis of 1,227 participants. Adjustments were made to these measures in response to critiques of the Klein Grid which suggest that it is not inclusive of attraction to non-binary people and that it is difficult to implement (Anderson & McCormack, 2016). The cluster analysis found an adequate 5 group solution which included 3 subgroups that were made up of primarily bisexual-identified people, a primarily lesbian group, and a primarily heterosexual group. These 3 bisexual-majority sub-groups included a group that had attraction to all genders including non-binary, and a stronger connection to LGBT communities. The second subgroup had primarily binary attraction (toward men and women, but not non-binary) and strong connection to LGBT communities. The third group had primarily binary attraction and weaker ties to LGBT

communities. The results of regressions using the clusters as predictors suggested that classification in Cluster 2 and Cluster 3 were significant predictors of stress and Cluster 3 was a significant predictor of depression. These two subgroups (Clusters 2 and 3) had primarily binary attraction, with more dating history with male partners. Cluster 3 also reported weaker ties to the LGBT community. This suggests that subgroups within the broader bisexual population may be at higher risk of adverse psychological outcomes such as a stress and depression.

These findings align with research that suggests that social support, particularly LGBT-affirming or bi-affirming social support can be a protective factor (Meyer et al., 2015; Snapp et al., 2015). This along with the previous literature suggesting that bisexual women may face isolation support the lack of bi-affirming social support as a significant risk factor for bisexual women's mental health (Greene, 2003; Herek, 2002).

Sexual Identity Development

This study also aimed to address sexual identity development and IPV through a life course perspective. Previous literature has addressed IPV through life course perspectives including considering adverse childhood experiences and previous exposure to violence as risk factors for experience of violence (Armour & Sleath, 2014; Bensley et al., 2003; Carbone-Lopez et al., 2012; Kimber et al., 2018; Mair et al., 2012; Moylan et al., 2010).While this finding has been consistently replicated, this literature has largely addressed heterosexual people (Kimber et al., 2018). Previous research has also suggested that sexual orientation evolves over the life course and that definitions of sexual identity are formed in response to contextual and culture-specific factors (Diamond, 2008; Diamond et al., 2006). Prior research has documented different trajectories including label-first sexual identity development, or experience-first sexual identity development (Calzo et al., 2011; Comeau, 2012; Savin-Williams &

Diamond, 2000). Previous literature has not attempted to examine sexual identity development in relation to IPV risk along the life course of bisexual or other multisexual women.

Chapter 4 examined 36 in-depth life history interviews with multsexual women that incorporated both self-reported sexual identity development trajectories and relationship histories. Participants described sexual identity development trajectories as a negotiation or an evolution of the relationship between their feelings, experiences and identities. A key theme that arose from the interviews was the connection between ambiguity in early sexual identity development and conflict in early same-sex and different sex couplings. This pattern may be understood though the concept of a "sensitive period" in which multisexual women may experience more vulnerability to conflict and violence in early relationships (Kuh et al., 2003). Sexual coercion by male partners, especially first male partners, was a salient pattern. This aligns with public health surveillance data which suggests that the majority of bisexual women who experience rape, sexual assault, and IPV report only male perpetrators (98.3%, 87.5%, and 89.5% of bisexual women respectively) (Walters et al., 2013). Some participants described previous adverse experiences and exposure to violence as influential in the way they approached relationships, which is consistent with previous literature suggesting that previous exposure to violence may have impacts on experience of violence later in life (Armour & Sleath, 2014; Bensley et al., 2003; Carbone-Lopez et al., 2012; Kimber et al., 2018; Mair et al., 2012; Moylan et al., 2010). This contextual data suggests that this connection may be complex because participants connected previous experiences with violence to modeling violent behaviors for violent partners and to creating difficult-to-navigate conversations within relationships that could lead to conflict. Participants also described biphobic violence tactics that were linked to a partners' discomfort with bisexual stereotypes. This aligns with previous qualitative research and broader research that suggests prevalent biphobia among heterosexual and gay/lesbian people (Greene, 2003; Hall, 2017; Herek, 2002).

Evaluation of the Dissertation Research

Limitations

The quantitative data from this dissertation was cross-sectional. This means that the data cannot be used to make assumptions about causality. However, it does provide some insight into possible pathways through which multisexual women's experiences of IPV are related to sexual identity development, dimensions of sexual identity, and minority stress. Future studies should employ longitudinal analysis to better assess causal pathways relating to these constructs. Sampling in these datasets were non-probability samples, which means that there is limited generalizability from these findings. In particular, we may have missed women who do not actively utilize online social media platforms. While we used behavioral measures for IPV to attempt to reduce social desirability bias, all responses were based on self-report measures, which means there may have been some response bias or recall bias. Ultimately these three studies have many strengths and collectively make meaningful contributions to this understudied field.

Strengths

Overall this research sought to create a more in-depth understanding of possible mechanisms through which bisexual and other multisexual women may be put at risk for experience of IPV. A major strength of this research was the employment of a mixed-methods approach, which allowed for triangulation of qualitative and quantitative data to provide a richer understanding of the social mechanisms that were examined. The use of structural equation modeling allowed for an examination of the Minority Stress Model from structural perspective across sexual identity populations. The use of the cluster analysis allowed for a data-driven approach that assessed individual constellations of sexuality measures. The use of a retrospective life course approach allowed for rich contextualization of participant experiences. The quantitative survey included a sizable sample (N=1,227) which increased

power and allowed for more variation in the sample. The use of theory, including the minority stress model, allowed this research to be embedded in and build upon previous bodies of literature.

Implications for Research and Practice

Future Research

The results of this study suggest that minority stress is a salient area of inquiry for IPV research in bisexual women. Chapter 2 affirmed that a minority stress model assessed through path analysis had good fit and that the model did was invariant across sexual identities. This suggests that a minority stress model may be relevant to mechanisms of IPV risk and that these mechanisms as they were articulated in this model may not vary greatly across sexual identity groups. Future research may benefit from examining additional mechanisms through which minority stress may operate, including internalized discrimination, anticipated discrimination, and intersectional understandings of different forms of discrimination (e.g. racial and gender discrimination). Chapter 3 suggested that certain subsets of bisexual women may be at higher risk for components of the minority stress pathway, including higher risk for stress and depression. Although members of these groups tended to be bisexual, they varied by their level of connection to LGBT communities, their partner history, and their attraction. Future research should consider measuring sexuality in a multi-dimensional way to better understand subpopulations and specific dimensions of sexuality that may be linked to vulnerability to IPV through minority stress mechanisms.

This research also suggests the importance of measuring sexuality through multiple dimensions. Chapter 3 found a suitable 5-cluster model identifying 5 different sub-groups within a sample of participants who identified with 3 different sexual identity labels. Chapter 4 found that participants described reconciling feelings, identity labels, and experiences in a process that could last years. Participants described using different labels over time to describe their sexuality. These findings suggest

that moving beyond just one label or relying solely on behavioral measures of sexuality, may allow for a more nuanced understanding of health disparities that bisexual and multisexual women face.

Lastly, these findings suggest that researchers should consider examining sexual identity development and IPV from a prospective life course perspective approach because aspects of sexual identity development may lead to sensitive periods of vulnerability for conflict and violence in early relationships for multisexual women. Particular attention may need to be made to first relationships. Longitudinal studies may shed more light on how these developments overtime could influence IPV. Researchers should also consider measuring biphobic abuse tactics and biphobic microaggressions within the context of romantic relationships.

The results of these studies together also raise the question of measurement and standard measures of violence. While the field is moving toward having standardized measures that are validated and relevant to multiple populations, the qualitative findings of this study highlight that there are violence tactics that are motivated by and meant to perpetuate biphobia. It is not clear if these tactics are captured in the quantitative standard behavioral self-report measures or the scale used in this study that was based on items from the Conflict Tactic Scale 2 short form and the IPV-GBM Scale (Straus & Douglas, 2004; Stephenson & Finneran, 2013; Stephenson et al., 2013). Further studies are needed such as cognitive interviewing with bisexual women to determine if these types of experiences are being captured in measurement. Additionally, the data from the CDC NISVS measure IPV as sexual violence, physical violence, or stalking, which varies from our measure which included physical, sexual, emotional, controlling behaviors, and financial domains (Walters et al., 2013). It is possible that disparities in violence may be obscured in the second chapter, which could have contributed to null findings in the model predicting violence. It may be necessary to examine disparities in individual domains of violence, because some domains may be common across groups; while there may be disparity in other domains.

While we made efforts to ensure that the sample in this dissertation is diverse, there are a few considerations to be made regarding the sample. First, sampling strategies for ensuring that online advertisements primarily reached people in the Southern Census Region used states rather than cities to target the advertisements. This means that advertisements should have reached both rural and urban participants. By nature of the geographic limitations the qualitative sample is primarily urban. Previous literature suggests that there may be differences in LGBT populations by rural or urban residence such as health insurance, mental health, and social characteristics (Fischer et al., 2014; Horvath et al., 2014; Warren et al., 2015). Research does suggest that it is possible to recruit rural LGBT populations using online advertisements (Warren et al., 2015). Additional considerations should also be made regarding online sampling versus other means. Online sampling was utilized in this study as means of ensuring that bisexual women who do not affiliate with LGBT groups would be captured; however, it should be noted that an online sample may require additional considerations. Researchers have not reached consensus in the field; however, there are some studies that suggest that social media use is associated with negative mental health outcomes (Pantic, 2014). It is possible that the samples in this study may have elevated mental health outcomes such as stress and depression in part due to the social media use. The degree to which participants reside within an urban or rural community was not measured in this study; however, future studies should examine bisexual populations across this axis. Similarly, prior examination of differences between online and in-person recruitment have not specifically sought to discern the impact of sampling techniques on samples of bisexual women. Future studies should examine the effectiveness and characteristics of online versus in-person samples of bisexual women.

Implications for Public Health Practice

Overall, this work suggests that bisexual and other multisexual women may have unique experiences that require interventions that are sensitive to the more nuanced experiences of more diverse sexual-identity groups. While this research did not specifically address intervention, it has

several implications which interventionists may take into consideration. The findings reported in Chapter 3 suggests that identity development and relationship skills may be relevant targets of intervention. Interventions aimed at assisting with identity development and relationship skills may benefit both multisexual adolescents and the potential future partners of multisexual people. Qualitative research has suggested that sexual minority youth may benefit from support and modeling in order to facilitate their sexual identity development (Konik & Stewart, 2004). Given the dynamic identity development processes described by participants, it may benefit multisexual youth to be exposed to interventions that increase their understanding of their sexuality as well as their relationship skills. LGBT-focused sexual education interventions have been shown to increase sexual identity self-acceptance, relationship communication skills and safer sex practices (Mustanski, Greene, Ryan, & Whitton, 2015). LGBT adolescents show a preference for small-group, single dyadic interventions to build relationship skills (Green et al., 2015). Additionally, life skills interventions based in Cognitive Behavioral Therapy may help LGBT youth cope with minority stress (Craig, Austin, & Review, 2016). School-based and community interventions to prevent dating violence in adolescents have shown some success in reducing perpetration (Wolfe et al., 2009). Integrative life-skills interventions could potentially seek to address sexual identity, cognitive skills, and relationship skills among multisexual adolescent women and their potential partners.

This dissertation research also highlights the potential multi-level nature of possible causal mechanisms such as participants' description of a lack of role models, lack of media representation, lack of community support for bisexuality, as well as the presence of biphobic abuse tactics within relationships in Chapter 4. Additionally, the minority stress model tested in Chapter 2 is made inherently multi-level with the inclusion of discrimination and social support constructs (i.e., individuals nested within social contexts). Chapter 3 included measures of community affiliation, which also implies higher levels of the social ecology. Taken together, these findings highlight the need for interventions on

multiple levels of the social ecology and could suggest multi-level intervention approaches to improve connection to bi-affirming social supports, reduce exposure to biphobic discrimination, reduce the biphobia in potential partners of multisexual people, increase relationship skills in potential partners of multisexual people and increase access to culturally appropriate services for multisexual people. Violence prevention literature has begun to suggest multi-level and multi-sectoral strategies to improve prevention and access to intervention for women who may face IPV (Casey, Lindhorst, & Abuse, 2009; Taft & Small, 2014). Similarly, homophobic and biphobic stigma have been found to be influenced by multiple levels of the social ecology (Berg, Ross, Weatherburn, Schmidt, & medicine, 2013; Hall, 2017). Public health practitioners and interventionists should consider structural and multi-level interventions to reduce biphobia and violence beyond intervening on multisexual populations to include partnerships, social support networks and communities in which bisexual and multisexual women are embedded.

Conclusion

This dissertation makes significant contributions to an understanding of bisexual and multisexual women's experiences of IPV. Furthermore, it highlights the need for research and intervention that approaches this important health disparity with careful attention to minority stress, the multidimensionality of sexuality, and the evolution of sexual identity across the life course. These findings should be used to inform the development of interventions tailored to multisexual experiences that support multisexual women through their identity development and relationship dynamics in early relationships. By doing so public health practitioners may reduce periods of vulnerability, increase resiliency, and increase relationship quality in young multisexual women.

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