

MALE SAME-SEX INTIMATE PARTNER VIOLENCE: SYNDEMIC THEORY
MINORITY STRESS THEORY & THE COMMUNITY
OF PROTECTIVE MEASURES

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by
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University of Missouri-Kansas City, 2015

ABSTRACT

Intimate partner violence is an underreported, stigmatized, and deleterious reality affecting a higher proportion of men who have sex with men (MSM) than their heterosexual counterparts. The constructs of two theories have shown strong associations with male same-sex intimate partner violence (MSSIPV). Syndemic theory suggests that many health conditions do not occur in a vacuum, but rather act synergistically, with factors reinforcing each other. Constructs of syndemic theory for MSSIPV include depression, sexual compulsivity, poly-substance use, childhood sexual abuse, and HIV infection. Minority stress theory suggests that many health conditions, including MSSIPV, may be a function of discrimination, perceived stigma, and internalized homophobia. Less is known about potential protective measures against MSSIPV, a construct captured by the community of

protective measures theory which includes such factors as social support, sexual orientation “outness” (the extent to which a person’s sexual orientation is known to their family, friends, co-workers and others), and safe sex behaviors (or the lack of high-risk sexual behaviors). The goal of this dissertation study was to investigate the relative contributions of the three theories to two outcome variables of MSSIPV: victimization and perpetration. This secondary analysis of an existing dataset of the correlates of syndemic theory, minority stress theory, and the community protective measures was performed to provide new information for developing interventions to address MSSIPV.

APPROVAL PAGE

The faculty listed below, appointed by the Dean of Graduate Studies, have examined a dissertation titled, “Male Same-Sex Intimate Partner Violence: Syndemic Theory, Minority Stress Theory, & the Community of Protective Measures,” presented by Matt L. Pimentel, candidate for the Doctor of Philosophy degree, and certify that in their opinion it is worthy of acceptance.

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This dissertation is dedicated to two important entities in my life that died during the last few years. First, to my beloved and beautiful baby, Louis. My constantly wayward dog that was killed on November 19, 2013, an event that changed my life forever. I will miss him always. To my mom who died on February 16, 2015. I wish she could have seen me finish my Ph.D., it saddens me that she could not last longer. I hope somewhere, somehow, she is proud of me.

Finally, to the millions of gay and bisexual men who are victims or perpetrators of intimate partner violence, I hope this work provides a voice of acknowledgement.

CHAPTER 1

INTRODUCTION

Problem

The Centers for Disease Control (CDC) describes same-sex intimate partner violence as a serious health problem affecting American men and women, gay and straight (CDC, 2012). Harm can occur in the physical, sexual, or psychological spheres. Same-sex intimate partner violence is domestic violence and is known by similar terms, including family violence, intimate partner violence, and MSSIPV (Siemieniuk et al., 2013). This violence results in social, ethical, and health harm to those who are the victims and the perpetrators (Potter, Fountain, & Stapleton, 2012). One million gay men may experience some form of intimate partner violence in their lifetime (Stephenson, Khosropour, & Sullivan, 2010).

Male same-sex intimate partner violence (MSSIPV) is a subgroup of a larger overarching problem of intimate partner violence (IPV) investigated in the last few decades by numerous researchers. IPV encompasses physical, psychological, emotional, sexual, and injury components between those that are legally married, in the same living quarters, or in a dating relationship (Stewart, MacMillan, & Wathen, 2013). IPV is prevalent in many diverse communities, causing health problems such as depression, anxiety, physical trauma and injury, homicides, suicidal ideation (Finneran & Stephenson, 2013).

MSSIPV causes similar negative health outcomes among MSM (men who have sex with men), a population that has a history of being marginalized and stigmatized by the majority population (Chen, Jacobs, & Rovi, 2013). For this dissertation study, MSM has been referred to gay men, bisexual men, transgendered men, or any man who has sex with another

man. Through structural equation modeling, researchers have shown that MSM suffer from higher rates of depression, substance use, HIV-risk taking behaviors, and suicide ideation than their heterosexual counterparts do (Mustanski, Andrews, Herrick, Stall, & Schnarrs, 2014). The stigma of MSSIPV also plays a heavy role in this violence. Many gay men do not want to discuss this violence, for fear of adding another layer of discrimination against their community (Murray & Mobley, 2010). Social shaming and outing to family members and employers are other factors that play a role in MSSIPV and must be addressed to “de-stigmatize” MSSIPV.

Rates of MSSIPV vary considerably due to a lack of uniform definition and standardized instruments concerning what constitutes or defines MSSIPV. A systematic review of studies of MSSIPV published from 1999 through 2011 showed a variance in prevalence of any form (psychological, physical or sexual) of lifetime MSSIPV between 29.7% to 78% (Finneran & Stephenson, 2013). Lifetime physical abuse rates ranged from 13% to 45.1%, lifetime sexual abuse rates from 5% to 33.1%, and lifetime psychological abuse rates from 5.4% to 72.5%. Two studies on MSSIPV with random sampling techniques have findings on the lower end of the spectrum (29.7% lifetime MSSIPV, lifetime physical 13%, lifetime sexual abuse 5%) when compared to Finneran and Stephenson’s systematic review (Greenwood, 2002; Tjaden, Thoennes, & Allison, 1999). Specific injuries are rarely outlined in the literature and when this data is available, findings are usually shown as grouped data.

Researchers have discussed two main theories, syndemic theory and minority stress theory, as a way to understand the negative mental and medical outcomes for MSM (Meyer, 2003; Stall, Friedman, & Catania, 2008). The variables of syndemic theory (childhood sexual

abuse, substance use, depression, HIV-infection, and sexual compulsivity), raise the risk of victimization and perpetration MSSIPV (Pantalone, Rood, Morris, & Simoni, 2014; Valentine, Bankoff, & Pantalone, 2013). Though the correlations between minority stress and MSSIPV are not as voluminous as syndemic theory, the variables of minority stress theory (discrimination, internalized homophobia, and perceived stigma), have been associated with increased rates of MSSIPV (Finneran, Chard, Sineath, Sullivan, & Stepheneon, 2012; Stephenson, Rentsch, Salazar, & Sullivan, 2011).

A third theory, the community of protective measures, encompasses social support, sexual orientation “outness”, and the lack of high-risk sexual behaviors. While researchers have broached the subject of social supports and “outness”, they have not directly assessed their relationship to MSSIPV (Stephenson et al., 2011; Valentine et al., 2013). Conjoining the concepts of social support, sexual orientation “outness”, and the lack of high-risk sexual behaviors may be construed as resilience. Resilience is a protective factor and those with it have the ability to withstand negative physical and mental health outcomes (Olliffe et al., 2014; Puckett, Woodward, Mereish, & Pantalone, 2014). Resilience can be learned at an early age when strong social supports exist and can countermand physical and mental health challenges (Herrick, 2011; Puckett et al., 2014). Learning social skills during adolescence to thwart bullying and torment by peers provides gay men with the chance to avoid depression, substance use, suicide attempts, high-risk sexual behavior, and exposure to violence (Saewyc, 2011). Growing up in a supportive household can be a building block enable resilience in young gay men. Resilience can be fostered by social support and acceptance from families and those in the community. LGBT youth who have positive reinforcement from peers and parents, who are taught safer sex messages, and who are not subject to

violence in childhood homes, show signs of resilience when going into adulthood (Edwards & Sylaska, 2013). Having strong social ties with families while coming “out” to them and discussing sexual practices openly is key to forming strong social supports and developing resilience for adolescents (Ryan, Russell, Huebner, Diaz, & Sanchez, 2010).

Specific Aims and Research Questions

The overall goal of this dissertation has been to better understand the relative contributions of the three theories to predict lifetime MSSIPV victimization and perpetration rates. Specifically, I propose to compare the contribution of 1) variables of syndemic theory (depression, childhood sexual abuse, poly-drug use, and sexual compulsivity), 2) variables of minority stress theory (internalized homophobia, perceived stigma, and discrimination, and 3) the theoretical triad of social support, “outness” and safer sex engagement (or the community of protective measures) to predict lifetime MSSIPV victimization and perpetration rates.

The following research question will guide the study: What are the relative contributions of each of the three theories (syndemic theory, minority stress theory and the community of protective measures) to predict lifetime risk of physical MSSIPV victimization and perpetration? Based on preliminary work and review of the literature, the following are hypothesized for this study.

Hypothesis

There is a difference in the three theories of syndemic theory, minority stress theory, and the community of protective measures in their ability to predict the victimization and perpetration of MSSIPV.

Null Hypothesis

There is no difference in the three theories of syndemic theory, minority stress theory, and the community of protective measures in their statistical ability to predict the victimization and perpetration of MSSIPV.

Definition of Terms

Gay men/gay man. Gay man is an identity which is self-proclaimed by an individual person (Ferri, 2004). In this dissertation, gay men/gay man will be used when researchers explicitly state they studied “gay men.”

Men who have sex with men (MSM). MSM is a public health generated term that incorporates any man who has sex with another man (Bowen, Williams, & Horvath, 2004) This can include gay men, bisexual men, transgendered men, or self-proclaimed “straight men,” who process same-sex sexual encounters.

Male same sex intimate partner violence. “A pattern of violent and cohesive behaviors whereby a gay man seeks to control the thoughts, beliefs, or conduct of an intimate partner or to punish the intimate (partner) for resisting the perpetrator’s control” (Hart, 1986), p. 17). Control can be by force, or physical, emotional/psychological, sexual, and/or by any sort of controlling behavior (Frankland & Brown, 2014).

Syndemic theory. A syndemic is a combination of interrelated variables that explains negative health outcomes for specific populations (Singer, 1996). The term was applied by researchers describing gay, bisexual, and transgendered men or men who have sex with men (MSM), where certain variables would together be more deleterious for gay men’s health outcomes compared to one variable alone (Stall et al., 2008). Variables shown to have a

syndemic relationship with MSSPIV are childhood sexual abuse, sexual compulsivity (the uncontrollable urge to have sex with one or many individuals), HIV-infection, depression, and poly-drug use (Stephenson et al., 2011). In this study, poly-drug use will encompass the use of three or more drugs within the past 90 days.

Minority stress theory. Meyer (1995) proposed a theoretical theory of minority stress, which was based on the constructs of sex, race, and sexual orientation. Meyer (1995) suggested that the conventional or mainstream culture ascribes “defectiveness” to those that do not mirror the majority. Minority individuals may incorporate and internalize societal messages, whether overt or slight, into their psyches (Brooks, 1981). The repeated, unmediated occurrences of these stressors lead to maladaptive responses and negative mental health conditions. The tenants of minority stress theory are discrimination, perceived stigma, and internalized homophobia (or rejection of one’s sexual minority identity).

Community of protective measures. The combination of gay men’s “outness”, social supports, and lack of high-risk sexual behavior, or “safer sex behavior” is a theory that is being suggested in this dissertation. Safe sex practices include the use of pre-sexual exposure prophylactic medication, condom use 100% of the time, and limiting the number of sexual partners (Kubicek, McNeeley, & Collins, 2014). “Outness” occurs when gay men disclose their sexual minority identity to others rather than live covertly or lie about their attraction to other men (Ross et al., 2013). Social support describes the presence of people in one’s life that can nurture and care when needed in an array of life situations (Latkin et al., 2011).

Assumptions

This study will assume the following:

1. Gay men have higher rates of MSSIPV syndemic variables of sexual compulsivity, and depression than their male heterosexual counterparts (Stall et al., 2008).
2. Gay men have high rates of minority stress variables of discrimination, perceived stigma, and internalized homophobia (Meyer, 1995; Meyer & Dean, 1995).
3. Protective measures such as resilience, social support, “outness”, and safe sex practices are present in the lives of many gay men (Kurtz, Buttram, Surratt, & Stall, 2012; Stephenson et al., 2011)

Limitations

Potential limitations of this study include those inherent in all cross-sectional studies.

1. Cross sectional studies suggest relationships between variables that are associations, rather than causative (Shadish, Cook, & Campbell, 2002).
2. Survey research relies on self-report, which may be inaccurate because of the need of social acceptability of respondents (Polit & Beck, 2012b). Recall bias may also be present.
3. Information obtained from cross-sectional surveys can be superficial, and fail to capture the complexity of the behavior being studied (Polit & Beck, 2012b).
4. Convenience sampling methods may limit the generalizability of the findings of this research (Shadish et al., 2002).

Significance and Innovation

This study will be a secondary analysis of data collected in July 2013 in a non-urban area of the Central Coast of California during a gay pride event. Participants were from urban and non-urban areas. The purpose of this study is to examine how the three theories can predict lifetime victimization and perpetration rates of MSSIPV. Studies conducted with urban samples have found depression, childhood sexual abuse, and substance use as correlates of MSSIPV (Balsam, Rothblum, & Beauchaine, 2005; Friedman et al., 2011; Stall et al., 2008). Syndemic theory and minority stress theory have been associated with poor mental health outcomes and high HIV risk taking among gay men (das Nair & Butler, 2012; Dyer et al., 2012; Herrick et al., 2012; Meyer, 1995). No study has directly compared the correlates of syndemic theory and minority stress theory in predicting lifetime rates of MSSIPV. This study will go further comparing the two prior theories along with the constructs of the community of protective measures.

CHAPTER 2

LITERATURE REVIEW

Another factor worth investigating among MSM who experience MSSIPV is the difference between urban and non-urban dwelling men. Few studies have focused on the non-urban (suburban and rural) prevalence of MSSIPV. There are limited resources for those exposed to MSSIPV in non-urban areas (Lee & Quam, 2013). Generally, many non-urban areas are governed by social conservatives who range from not accepting to hostility toward the LGBT community (Bowen, Horvath, & Williams, 2007). While this will not be investigated in this dissertation, a review of the topic is included in the form of the below published manuscript (Chapter 2A).

Theories of the Study

This study will be guided by the variables of three theories: syndemic theory, minority stress theory, and a triad of community of protective measures (Meyer, 1995; Stall et al., 2008). Stall et al. (2003) proposed a general syndemic theory for gay men by utilizing an older theory Substance use, Violence, and AIDS (SAVA) that focused on untoward mental health outcomes when negative correlates act synergistically (Singer, 1996). Others have proposed links between syndemic variables such as depression, childhood sexual abuse, and drug addiction and MSSIPV (Finneran & Stephenson, 2013; Mize & Shackelford, 2008; Mustanski et al., 2014). Meyer (2003) proposed that the trifecta of internalized homophobia, perceived societal stigma, and discrimination, the tenants of minority stress theory, lead to negative coping mechanisms, and negative health outcomes. One of these negative health outcomes may be the perpetration or the victimization of MSSIPV (Dispenza, 2011). The

community of protective measures proposes that the variables of social support, sexual identity “outness”, and the lack of high-risk sexual behaviors, may serve as protective measures from both forms of MSSIPV. The diagram below describes the hypothesized constructs and relationships between MSSIPV, minority stress variables, syndemic theory variables, and the community of protective measures proposed for this dissertation.

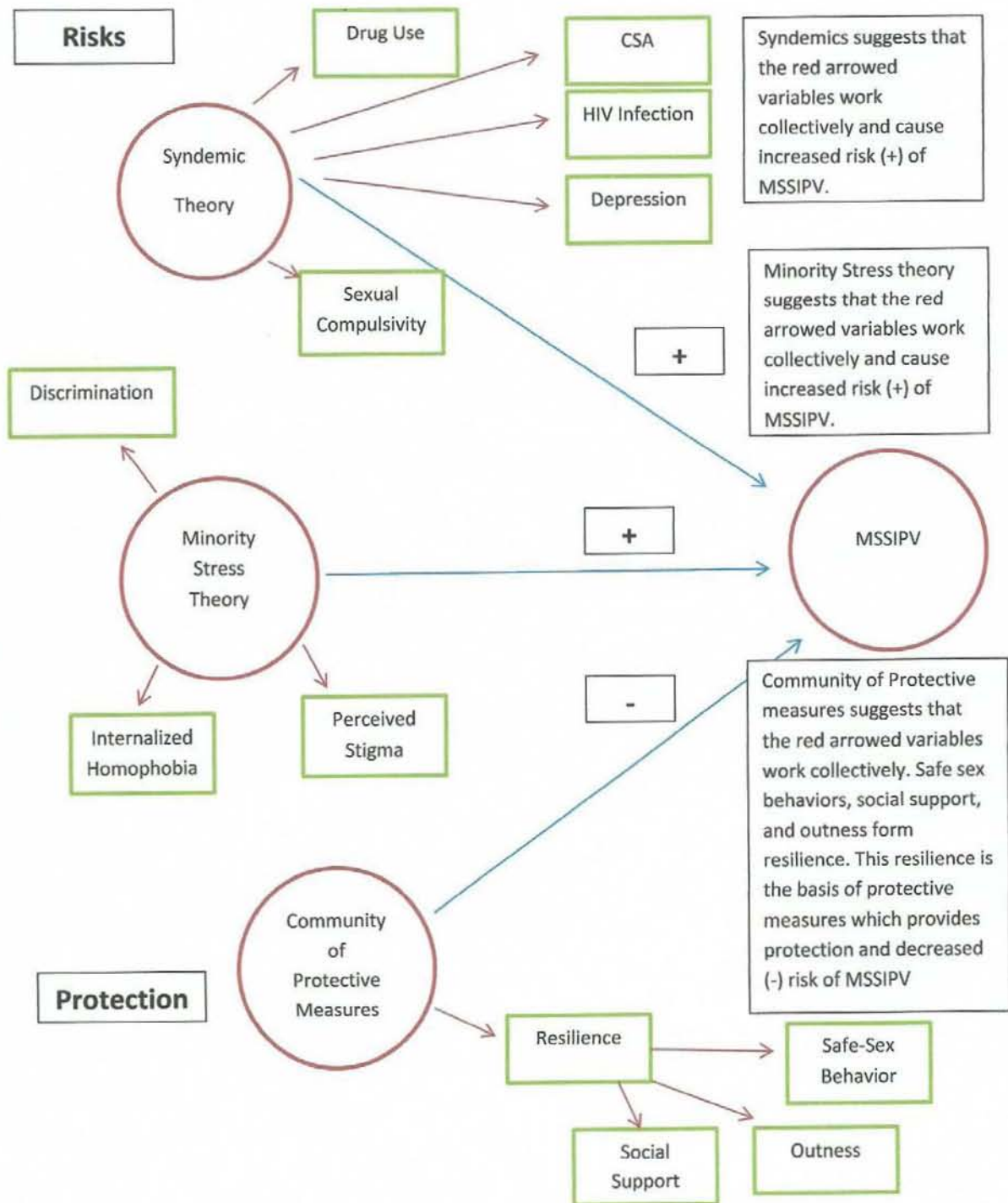


Figure 1. Theoretical Relationship of Variables of Syndemic, Minority Stress, and of Protective Measures Theory

Syndemic Theory

A syndemic is defined as a combination of interrelated variables that explain negative health outcomes for specific populations (Singer, 1996). The term was applied by researchers working with gay men or men who have sex with men (MSM), when certain variables occurred together were and had greater negative health outcomes for gay men's health than any of the variables occurring alone (Stall et al., 2008). Singer (2006) originally developed the idea of a syndemic in his examination of Puerto Rican men in Hartford, Connecticut. The co-occurrence of substance use, violence, and HIV/AIDS, factors worked synergistically. Substance use and HIV-infection in this population mutually reinforced each other and made the rate of each greater than if they had occurred alone; this intensification was also true for violence and substance use, and violence and HIV-infection. Syndemics have been suggested for the confluence of risk behaviors found in certain Hispanic populations and for the problems facing women in the criminal justice system (González-Guarda, Florom-Smith, & Thomas, 2011; Kelly, Cheng, Spencer-Carver, & Ramaswamy, 2014). Acknowledging the existence of a syndemic allows researchers and clinicians to focus on the interactions of these factors and to provide comprehensive interventions that can allay the harmful effects of the interlinked variables (Pimentel, 2015). In this dissertation, the variables of substance use, childhood sexual abuse, depression, sexual compulsivity, and HIV-infection, are hypothesized to have a relationship with violence in the form of MSSIPV, either as victim or perpetrator.

Substance Use

Substance use is higher among gay men and among victims of MSSIPV than heterosexual men (Nowinski & Bowen, 2012). Gay men who abuse drugs and are HIV-infected have the highest rates of MSSIPV (Siemieniuk et al., 2012). Among gay men who were involved in MSSIPV as victims or aggressors, self-report of multiple substance use was 64% (Kelly, Izienicki, Bimbi, & Parsons, 2011). Substance use rates as high as 50% have been reported among Hispanic MSM (De Santis, 2010). MSSIPV, substance use and sexual risk were identified together in foreign-born Hispanic MSM, with one study reporting 56% of rural, immigrant MSM using marijuana and 27% cocaine; high levels of risky sexual behaviors and sex with multiple partners was also found in this study (De Santis, Gonzalez-Guarda, Provencio-Vasquez, & Deleon, 2013; Rhodes et al., 2012). Drug and alcohol use, including the use of methamphetamine, which is particularly popular among gay men, lowers sexual and physical inhibitions and alters critical thinking, both of which lead to high risk sexual behavior and aggression (Buttram & Kurtz, 2013; Stall et al., 2008). Higher rates may also be a function of stigma and discrimination in the homes, workplaces, and communities of gay men (De Santis, 2010; Storholm et al., 2013).

Childhood Sexual Abuse

Gay men who are victims of childhood sexual abuse have between 11%-37% risk of experiencing lifetime MSSIPV (Welles, Corbin, Rich, Reed, & Raj, 2011). Populations in which sexual and physical abuse begin at an early age correlate highly with not only MSSIPV, but also depression, substance use, suicide attempts, alcoholism, smoking, sexually transmitted disease, severe obesity, and a myriad of other chronic diseases (Felitti et al.,

1998; Welles et al., 2011). Sexual minority children/adolescents have much higher rates of childhood sexual abuse, emotional abuse, school assault, and fear of school assault than non-sexual minority children do (Friedman et al., 2011). A history of childhood sexual abuse was the strongest predictor of victimization (Han et al., 2013).

Depression

Rates of depression, affective disorders, anxiety, and suicide attempts are higher among gay/bisexual men than heterosexual men (Cochran & Mays, 2008). The large Urban Men's Health Study, which used a methodologically strong random sample technique, found 17% of MSM self-reported as depressed, with another 12% reporting as distressed (a less symptomatic form of depression) (Mills et al., 2004). Similar to patterns of victimization of heterosexual IPV, gay men in abusive relationships have higher rates of depression and other mental health issues, participate in high-risk sexual behavior, and use illegal substances than those who are not in an abusive relationships (Houston & McKirnan, 2007). Depression was reported in approximately 25-33% of Hispanic MSM (De Santis, 2010). The Multicenter AIDS Cohort Study (MACS) study, the first to use a life course approach to the study of exposure to stress that coincided with later syndemic variables, reported depression rates of 25% among gay/bisexual men (Herrick et al., 2012). A possible pathway was posited from childhood and adolescent stressors of bullying, violence, or other gay-specific childhood challenges to depression in later adulthood (Dyer et al., 2012).

Sexual Compulsivity

Sexual compulsivity is the constant and increasing attraction for sexual conquests and sexual actions that lead to disruption in a person's emotional and psychological life (Parsons,

Grov, & Golub, 2012). MSM who are sexually compulsive have higher rates of unprotected anal intercourse, higher number of different sexual partners, more frequent sex under the influence of drugs, greater rates of sexual transmitted diseases and HIV infection, and less disclosure of HIV status than those who are not sexually compulsive (Coleman, Horvath, & Miner, 2010; Dilley, Loeb, & Marson, 2008; Kalichman & Rompa, 2001). Sexual compulsivity is highly correlated with MSSIPV, depression, childhood sexual abuse, and poly-drug use (Parsons et al., 2012). As sexual compulsivity is also correlated with MSSIPV, partner shaming or passivity by the abused partner is considered “normal” or “acceptable” behavior for those who feel that they are not worthy of such respect.

HIV-Infection

HIV-infected individuals have high rates of MSSIPV, ranging from 22.4% to 85.4%, depending on the sample size, methodology, and instruments used to assess for IPV (Ramachandran, Yonas, Silvestre, & Burke, 2010; Siemieniuk et al., 2012). HIV-infected gay men have higher rates of depression which lead to a sense of helplessness and their coping mechanisms may be not as strong as those that are not HIV-infected (Dyer et al., 2012). This may further lead to violence against their partner. Alcohol and drug use are higher among those that are HIV-infected, which may reduce the abused partner’s ability to resist or perceive MSSIPV (Stewart et al., 2013). There are unique social factors such as outing of one’s HIV status that may keep the victim in the violent relationship, providing further difficulty, anger, or helplessness from the victim (Chen et al., 2013).

The Syndemic of MSSIPV

A number of studies have reported disparities among gay men for infectious diseases, chronic diseases, and mental health problems (King, Semlyen, & Tai, 2008; Marshal, Friedman, & Stall, 2008). These public health issues are connected and work together synergistically to create a syndemic. This theory suggests the correlates of MSSIPV to be childhood sexual abuse, substance use, depression, sexual compulsivity, and HIV infection, factors more potent in combination than separately. The literature is rich with examples of the correlations of these individual variables with MSSIPV.

Childhood sexual abuse was the one of the best predictor of victimization or perpetration of MSSIPV (Han et al., 2013). HIV-infected gay men who are depressed and use drugs have higher rates of victimization of MSSIPV (Valentine et al., 2013). Gay men who are HIV-infected and admit to victimization or perpetration of MSSIPV have poorer health outcomes by measurements of CD4 and viral load count, and poor adherence to antiretroviral medications (Schafer et al., 2012). Sexual compulsivity and rates of MSSIPV are higher for those who are depressed, abuse drugs, and have high sexual risk activity and a history of childhood sexual abuse (Parsons et al., 2012). Klein (2011) used syndemic theory and structural equation modeling to demonstrate that consistent condom usage for gay men was largely determined by childhood maltreatment, psychological functioning, and attitudes toward personal safety. This research suggests that multiple epidemiological issues work together to increase not just HIV-infection, but also increase rates of victimization and perpetration of MSSIPV.

Minority Stress Theory

While syndemic theory explains the connection between MSSIPV and the variables of childhood sexual abuse, depression, substance use, and sexual compulsivity, it lacks the “why” component that another theoretical theory may be able to provide. Stress over one’s self-identity as a sexual minority member may be the basis for the confluence of MSSIPV behaviors. Meyer (1995) proposed the theoretical theory of minority stress that was based on the construct of sexual orientation and suggested that the conventional or mainstream culture ascribes “defectiveness” to those that do not mirror the majority heterosexual population. Minority individuals may, in turn, incorporate and internalize societal messages, whether overt or slight, into their psyches (Brooks, 1981). Throughout their lives, members of the gay community use a variety of strategies to hide their sexual identity (Meyer, 2003). This constant attempt to conceal one’s identity is stressful. Internalized homophobia, perceived stigma, and discrimination are hypothesized as the cause and effect many of the mental health problems common among gay men, including alcohol abuse, substance use, violence, suicide, depression, and sexual compulsivity, issues strongly correlated with MSSIPV victimization and perpetration (Meyer & Dean, 1995; Stall et al., 2008).

Internalized Homophobia

For gay men, internalized homophobia or homonegativity is the self-reflective attitude of society’s anti-gay sentiments (Carvalho, Lewis, Derlega, Winstead, & Viggiano, 2011). Growing up receiving society’s instruction to marry a woman, procreate, and act in a masculine way at all times creates a tension within gay men to conform to this societal norm (Currie, Cunningham, & Findlay, 2004). If these standards of the heterosexual ideal are not

met, one is assumed gay or at least accused of acting gay. Being gay or acting gay is considered a negative trait in many geographical areas in our society (McKenry, Serovich, Mason, & Mosack, 2006). Societal messages transmitted through the media, churches, sports, and peer groups create an “inside speak” for gay men suggesting that if they do not attain the appearance of heterosexuality they are not normal or complete (Preston, D’Augelli, Kassab, & Starks, 2007). As a result, gay men will mimic the attitudes and self-talk of homophobic remarks of heterosexuals in the dominant culture (Puckett et al., 2014). This belief that heterosexuality is the only normal orientation in society is heteronormativity (Semp, 2011). Because of this early socialization to heteronormativity, even when many gay individuals “come out,” or become accepting of their orientation, internalized homophobia will often be present (Finneran et al., 2012; Kamen, Burns, & Beach, 2011).

Perceived Stigma

Perceived stigma or labeling an individual as gay in a heteronormative society has chronic negative effects on gay men (Stall et al., 2003). This continual perception of inequality produces a hyper-vigilant state that may be overwhelming in the lives of gay men, creating stress and requiring constant adaptation to temper its effects. The sense of disharmony and alienation from the dominant culture afflicts a tremendous toll as gay men attempt to monitor how they dress, speak, walk, or act in order to not be considered gay or less than masculine (Meyer, 2003). This erratically time-consuming behavior leads to stress, anxiety, depression, mental health problems, and poor coping mechanisms (De Santis, 2010). Lying to “cover-up” such inadequacies for the dominant culture further suggests to the gay

man that he is deviant and must be untruthful to be accepted as normal (Shrier, Walls, Lops, Kendall, & Blood, 2012).

Discrimination

Discrimination is the mistreatment or perceived mistreatment that gay men may experience in society (Kamen et al., 2011). This mistreatment may be directly in the workplace in the form of terminations or minimal promotion opportunities. Indirect discrimination may be in the form of anti-gay jokes or the assumption of heterosexuality. Discrimination may also entail violence toward gay men who may be bullied in school or in society in general. Gay men who report such discrimination are more likely to have depression, greater job dissatisfaction, chronic medical problems, or other psychosocial disorders than those that do not experience discrimination (Smith & Ingram, 2004). Gay men are more likely to report that discrimination has a greater effect of harm to their psyche than their heterosexual counterparts (Mays & Cochran, 2001).

Community of Protective Measures

Resilience to overcome syndemic and minority stress variables is a common theme in research with gay men (Herrick et al., 2011). Resilience is the power to adapt to life situations and readjust. The concept is difficult to measure directly and there are no standardized instruments for assessing resilience in gay men. Resilience can be measured indirectly with the variables of social support and coping skills (Kurtz et al., 2012). These variables can serve as a proxy for resilience and make up the community of protective measures posited in this dissertation. Safer-sex activity (or lack of high-risk sexual behaviors) will be added to these two concepts to indirectly measure resilience among MSM.

Individuals with sexual orientation “outness” may project a sense of self-confidence that negates stereotypes and promotes mental toughness (Buttram & Kurtz, 2013). MSM who have higher degrees of “outness” to the community have lower rates of depression and drug taking, and lower accounts of violence in their lives than those who are more closeted with their orientation (Bartholomew, Regan, Oram, & White, 2008; Mohr & Kendra, 2011). Higher levels of social support leads to lower rates of depression, suicide, and sexual risk-taking, as well as lower rates of MSSIPV (Carvalho et al., 2011; Dyer et al., 2012). “Outness” and social support are higher for LGBT youth when schools and community peers are nurturing for gay and lesbians than those that are not (Russell, Ryan, Toomey, Diaz, & Sanchez, 2011). Groups with safer-sex activities have lower rates of HIV-infection, depression, and drug taking than those that participate in high-risk sexual behaviors (Maulsby, Sifakis, German, Flynn, & Holtgrave, 2013). Gay men that participate in high-risk sexual behavior have higher rates of victimization MSSIPV (Stall et al., 2008). Given these findings, it is reasonable to hypothesize that “outness”, social support and safe-sex activity will lead to greater resilience and lower rates of MSSIPV.

“Outness”

“Outness” or the lack of identify concealment of gay men is strongly predictive of positive mental health. “Outness” presents a sense of confidence that negates some of the effects of depression and internalized homophobia. “Outness” of one’s identity may possibly be able to counter problems caused by minority stress and syndemic theories. Resilience and “outness” as critical anecdotes to syndemic and minority stress variables (Mustanski et al., 2014). Resilience and “outness” are concepts that denote strength and toughness, allowing

individuals to negate the potential negative effects of psychosocial and environmental instigators. Many gay men have a sense of resilience and “outness” and are able to shield some of the negative effects of syndemic and minority stress variables. In fact, this sense of “outness” has been reported to strengthen gay men from the effects of some forms of physical MSSIPV. (Mizuno et al., 2012). For example, gay men who overcame their internalized homophobia (a main tenant in minority stress), and became more “out” to society had more positive health outcomes than those who are not out (Puckett et al., 2014). Those with higher levels of “outness” to their family and friends have greater overall happiness in their lives than those that are less out (Biblarz & Savci, 2010). Gay men’s “outness” to society seems to be a positive attribute and provides protective measures against social negativity.

Social Support

Social support includes community and peer resources that are available to individuals (Gragg, 2012). Support can be in the form of family connections, peer interactions, and societal contributions. For gay men, social support from the heterosexual community can be limited because of ongoing societal discrimination (Puckett et al., 2014). However, there are many positive social support with the gay community, especially within urban areas with large communities of gay men (Lelutiu-Weinberger et al., 2013), including HIV-prevention programs, LGBT community centers, individual group counseling, individual therapists that focus on gay men’s issues, and anti-drug efforts, (Fuqua et al., 2012; Shilo & Savaya, 2012). Specific support are often available that are tailored for bisexual or African-American men (Latkin et al., 2011), important because racial/ethnic

minorities are often reticent to join majority White gay male groups or events, fearing the lack of acceptance and discrimination (George et al., 2009).

For heterosexual couples, the spouse is the primary source of social support and provides well-being for both partners (Fergus, Lewis, Darbes, & Kral, 2009). For gay male couples, social support from each other provides relationship stability and satisfaction, much like heterosexual couples (Kamen et al., 2011). However, in a homophobic society, gay men's relationships must be maintained often without societal and family supports (D'Augelli, Grossman, & Starks, 2008).

Social support may provide a buffer against the variables of minority stress theory and in turn, offer protection from MSSIPV. A variety of studies have listed social support from individual peers and the larger community as a form of protection from social issues such as substance use, crime, violence, and MSSIPV (Dispenza, 2011; Edwards & Sylaska, 2013; Kennedy, 2010; Radkowsky & Siegel, 1997). Relationship satisfaction, communal coping, and efficacy reduced rates of emotional, physical, and sexual victimization of MSSIPV (Stephenson et al., 2011). One qualitative study of HIV-infected gay men reported nominal results with peers and family but 83% satisfaction with their healthcare providers (Valentine et al., 2013), suggesting that providers can be as effective as peers and family (Taylor & Sorenson, 2007). These providers also provide emotional outlets for gay men to voice concern over potential victimization or perpetration of MSSIPV. Providers can also offer group or individual therapy to address MSSIPV and provide gay men with tools such as biofeedback, anger management and de-escalation strategies (McKenry et al., 2006).

Lack of High-Risk Sexual Behavior

MSSIPV and negative mental health outcomes are highly correlated in individuals living with HIV-infection (Pantalone, Hessler, & Simoni, 2010). The highest number of new HIV infections and AIDS cases still occur among MSM (CDC, 2012). High-risk sexual behaviors were highly correlated with new HIV-infections (Newcomb & Mustanski, 2010). Numerous theoretical approaches have been used to understand HIV risk behaviors among MSM; however, no theoretical model has examined sexual risk behaviors in the context of gay identity and MSSIPV (Murray & Mobley, 2009; Zhang et al., 2012). Theoretical relationships between childhood sexual abuse, adverse early life experiences, gay identity, substance use, battering, aversive emotions, HIV alienation, cue-to-action triggers, and HIV risk behaviors have shown a link with each other (Parsons et al., 2012; Welles et al., 2011). Childhood sexual abuse and gay identity were associated with HIV risk behaviors (Nelson, Simoni, Pearson, & Walters, 2011; Rothman, Exner, & Baughman, 2011). Battering victimization was identified as a key variable between childhood sexual abuse, gay identity, adverse early life experiences, and HIV risk behaviors among urban MSM (Relf, Huang, Campbell, & Catania, 2004).

CHAPTER 2A

JOURNAL MANUSCRIPT

Syndemic Theory and Male Same Sex Intimate Partner Violence: An Urban/Non-Urban Comparison

This chapter is a manuscript that has been accepted for publication in the peer-reviewed journal *OALib Journal*. This study focused on difference of lifetime physical rates of MSSIPV and correlates of the syndemic theory. This study was conducted during a gay pride event in San Luis Obispo, California, in July 2013. Over 5,000 members of the LGBT community attended from around the state.

Abstract

Background

The majority of research with gay men has been conducted in urban populations, with minimal work on partner violence in non-urban (suburban and rural) settings. Syndemic theory, the concept that negative health outcomes are increased with the addition of each new deleterious health variable, has been used to understand partner violence. The aim of the study was to determine differences in prevalence and associated factors of male same-sex intimate partner violence (MSSIPV) among gay men residing in urban versus non-urban settings.

Methods

A cross-sectional survey was conducted with gay men in the State of California. Variables were identified from syndemic theory and included exposure to intimate partner violence, depression, sexual compulsivity, poly-drug use, and childhood sexual abuse.

Results

Demographic differences were evident between urban and non-urban dwelling gay men. Rates of lifetime victimization and perpetration of MSSIPV between urban and non-urban gay men were not significant. In regard to syndemic variables, only childhood sexual abuse (CSA) showed any significant differences between the two populations. Being a victim of CSA increased the odds of being a lifetime victim of MSSIPV by a factor of five for non-urban participants and increased the odds of being a victim by a factor of three for all subjects. Moreover, being a victim of CSA increased the odds of being a lifetime perpetrator of MSSIPV by a factor of three for non-urban participants.

Conclusion

This appears to be the first of its kind study differentiating between urban and non-urban MSM. More research is needed to verify our findings of demographic and syndemic differences between these two populations in order to fully understand and address the needs of all members of the Lesbian, Gay, Bisexual, and Transgender (LGBT) community.

Key Words

Same sex intimate violence, non-urban populations, urban populations, gay men.

Background

Intimate partner violence affects couples in all population groups, including men who have sex with men (MSM), (a category including gay and bisexual men as well as men who do not so identify, but do intermittently have sex with men) (De Santis, Colin, Provencio-Vasquez, & McCain, 2008). Male same-sex intimate partner violence (MSSIPV) has been

defined as “a pattern of violent and cohesive behaviors whereby a gay man seeks to control the thoughts, beliefs, or conduct of an intimate partner or to punish the intimate [partner] for resisting the perpetrator’s control”(Hart, 1986), p. 17). Among gay men, prevalence rates of emotional, physical, and/or sexual MSSIPV vary between 14-62% (Randle & Graham, 2012). In the United States, between 1.8 and 4.9% of the male population self-identify as either gay or bisexual, suggesting that 956,000 men are exposed to MSSIPV (Stephenson et al., 2010). Over the past twenty years, a variety of studies have examined the prevalence of MSSIPV and found greatly varying results, a result of differencing definitions of self-identity, lack of random samples, and lack of standardized instruments (Chen et al., 2013).

Syndemic Theory

A syndemic is a combination of interrelated variables that explain negative health outcomes for certain populations of individuals or subgroups (Singer, 1996). The term was further enhanced by researchers while describing gay men or MSM, where certain variables would in combination, be more deleterious for gay men’s healthcare outcomes than just compared to one variable alone (Stall et al., 2008). Singer and colleagues originally developed the idea of a syndemic in his examination of the co-occurrence of substance abuse, violence, and HIV/AIDS, among Puerto Rican men in Hartford, Connecticut (Singer, 1994). These factors which worked synergistically, as an example, substance abuse and HIV/AIDS in this population mutually reinforced each other and made the rate of each more extreme than if they had occurred alone (Singer, 1996). Factoring in violence increased each variable even more. Other syndemics have been suggested for the confluence of risk behaviors found in certain Hispanic populations and for the problems facing women in the criminal justice

system (González-Guarda, Florom-Smith, & Thomas, 2011; Kelly, Cheng, Spencer-Carver, & Ramaswamy, 2014). Acknowledging the existence of a syndemic allows researchers and clinicians to focus on the interactions of these factors and to provide comprehensive interventions.

Non-Urban Dwelling Gay Men

While large numbers of young gay men approach urban areas for acceptance, social support, and vital services, many also remain in non-urban (suburban and rural) areas, in which there are limited information or services for MSSIPV abuse (Lee & Quam, 2013). Living in non-urban areas can leave gay men in physical isolation, without the vital social support of a large LGBT community (Ristock, 2005). Many of these areas are socially conservative, with the majority of the residents supporting anti-gay views and strict limitations on LGBT rights (Bowen et al., 2007).

In many non-urban communities, gay men generally are not “out” and, out of necessity, develop a number of coping mechanisms to hide their sexual orientation, including marriage to a female, homosexual behavior on the “down low,” and “hooking up” with men in urban areas, local parks, bookstores, and vis-à-vis the internet (Kennedy, 2010). Unfortunately, meeting sexual partners online and covert sexual activity are associated with higher rates of unprotected anal intercourse and drug use (Horvath, Bowen, & Williams, 2006). Partners procured from internet web sites tend to be sexually compulsive and willing to participate in high-risk sexual activity (Kakietek, Sullivan, & Heffelfinger, 2011). The gay men who take part in covert sexual activities are more internally homophobic and less “out,” both factors associated with MSSIPV (Schnarrs et al., 2010).

Few studies have focused on the non-urban (suburban and rural) prevalence of MSSIPV. Limiting our understanding of MSSIPV in non-urban populations is the unfortunate function that studies done in rural areas tend to have small sample sizes, often with less than 50 participants, because recruitment of gay men is a challenge in these areas (Lee & Quam, 2013). Technologies are now available to enlarge sample size through internet and digital sampling (Bowen, Williams, Daniel, & Clayton, 2008). An initial step in addressing this gap is this current descriptive survey to document the prevalence of MSSIPV, demographic information, and correlates in a population of non-urban (suburban and rural) gay men. The goal of this current study was to use syndemic theory to understand the factors associated with MSSIPV in a sample of non-urban gay men and comparing them to urban dwelling gay men. The aim of the study was to compare rates and correlates of MSSIPV among gay men living in urban and non-urban communities.

Methods

A cross-sectional survey was conducted to determine rates of MSSIPV and its correlates in several non-urban and urban counties of California. The study area included respondents from the following counties: San Luis Obispo, Santa Barbara, Monterey, Fresno, Kern, Kings, Tulare, Madera, Ventura, Los Angeles, San Diego, San Francisco, and Marin. Cities with populations over 100,000 were considered urban, populations from 50,000-100,000 were considered suburban, and city populations under 50,000 were considered rural. Permission to conduct the study was obtained from the Institutional Review Board of the University of Missouri-Kansas City.

Sampling

The sample for this cross-sectional survey was gathered through a face-to-face survey conducted at a regional Gay Pride Festival held in a rural/suburban area of California, supplemented by online surveys from social media sites. Because of the limited number of acknowledged gay men/MSM at any venue who would be available for study participation, the use of diverse sampling strategies (such as this one) is acceptable for studying this population (Medicine, 2011). Inclusion criteria were men who were 1) over the age of 18, 2) in a current or past MSM cohabitating relationship with another man, 3) able to read and understand English, and 4) residing in the counties of interest. Exclusion criteria included stated difficulty in answering questions about their personal life.

The sample included 406 gay, bisexual, or men who have sex with men (MSM) living in the State of California. Using the recommendation of Polit and Beck (2012a) of 20 subjects per variable, with four variables plus an additional 50 subjects, this sample size was adequate to answer the research questions. Since the minimum of 130 subjects were required for adequate power. Since 406 is larger than 130, the power was adequate.

Measures

Instruments to assess variables of syndemic theory for the specific problem of MSSIPV were used for this study. Demographic data included income, age, education level, race, ethnicity, HIV-infection status.

Depression. Depression was measured with the twenty-item CES-D or Centers for Epidemiological Studies Depression scale. The CES-D has been widely used and has questions such as, “I thought my life had been a failure,” and, “my sleep was restless.” This

instrument has an alpha of .87, indicating strong reliability (Radloff, 1977). A total score of 16 or greater indicated significant symptoms of depression (Dyer et al., 2012).

Childhood sexual abuse. Childhood sexual abuse (CSA) was measured with one question: “Did anyone take advantage of you sexually who was at least 5 years older than you when you were 16 and under?” (Parsons et al., 2012).

Poly-drug use. Poly-drug use was measured and defined with one question: “Have you used 3 or more recreational drugs in the past 90 days (meth, cocaine, marijuana, crack, Ecstasy, Ketamine, poppers, LSD, or someone else’s pharmaceuticals, etc.)” (Parsons et al., 2012).

Sexual compulsivity. Sexual compulsivity was assessed with the ten-item Sexual Compulsivity Scale, which has been tested on many gay men and has an alpha of .90 (Kalichman & Rompa, 2001). The scale uses a four-point Likert scale for responses and includes items such as, “my sexual appetite has gotten in the way of my relationships.” Scores of 24 or greater indicate compulsivity. (Parsons et al., 2012).

Physical assault. Physical assault as either a victim or a perpetrator of IPV, the primary outcome variables for MSSPIV, was measured with the eighteen-item, eight-point Likert scale, for physical assault and injury components of the revised Conflicts Tactics Scale-2 (Nowinski & Bowen, 2012; Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Lifetime rates were utilized. This subscale has an alpha of .86 (Straus & Douglas, 2004).

Data Analysis

IBM SPSS (Version 22.0) software was used for data analysis. Descriptive statistics were used to summarize demographics and frequencies of all variables. Student *t*-tests and

Chi-square (X^2) tests were used to compare differences in syndemic-related variables between urban and non-urban populations. Logistic regression was conducted on the entire sample to assess whether the four syndemic predictor variables of depression, CSA, poly-drug use, and sexual compulsivity, predicted being either a victim or a perpetrator of MSSIPV. Separate logistic regression models were also conducted for urban and non-urban population.

Procedures

Potential participants were approached at the “Gay Pride in the Plaza” event in San Luis Obispo, CA, held in July 2013. Interested participants provided contact information and an email was sent after the event to confirm interest and provide a link to the internet survey through the data collection software program, Survey Monkey (SM).

Results

The sample consisted of 406 gay, bisexual and MSM who ranged from 18 to 79 years of age (mean=38.28, SD=14.67; 138 (34%) lived in an urban area and 268 (66%) in a non-urban (suburban or rural) area. Compared to the local population, the sample was ethnically diverse, with 260/64.0% identifying as non-Hispanic White, 78/19.2% as Hispanic, and 68/16.7% as African-American, multiracial, or other. Income levels had a normal distribution, with 111/27.3% earning less than \$24,999, 108/26.6% earning between \$25,000-\$49,999, 80/19.7% earning \$50,000-\$79,999, and 81/19.9% earning \$80,000 or more. Only 39/9.6% had a high school diploma or less, 120/29.6% had some college, 152/37.4% had graduated from college, and 69/17.0% had a post-graduate degree. The majority of the sample was HIV-negative 331/81.5%; however, 34/8.4% was HIV-positive, and 15/3.7%

reported “don’t know.” Urban and non-urban participants were significantly different in income ($p=.026$) and education ($p=.003$) levels. These results are presented in table 2.

Rates

The rate of lifetime physical MSSIPV among participants was 139/34.2%, while lifetime physical perpetration was 123/30.3%. Table 1 shows these results.

Table 1

Lifetime Physical/Injury & Victim/Perpetrator of MSSIPV

MSSIPV	N/%
Lifetime physical/injury victim of MSSIPV	139/34.2%
Lifetime physical/injury perpetrator of MSSIPV	123/30.3%

Table 2

Demographics of Sample

	Total N=406	Urban N=138/34%	Rural/Suburban N=268/66%	P
Age				
21 and under	46/11.3%	9/6.5%	37/13.8%	.086
22-30	110/27.1%	41/29.7%	69/25.7%	
31-40	73/18.0%	27/20.0%	46/17.2%	
41-50	77/19.0%	32/23.2%	45/16.8%	
51 and over	100/24.6%	29/21.0%	71/26.5%	
Race				
Non-Hispanic White	260/64.0%	87/63.0%	173/64.6	.938
Hispanic	78/19.2%	28/20.3%	50/18.7	
African-American	11/2.7%	3/2.2%	8/3.0%	
Multiracial/Other	57/14.0%	20/14.5%	37/13.8%	
Income				
0-\$24,999	111/27.3%	29/21.0%	82/30.6%	.026
\$25,000-\$49,999	108/26.6%	41/29.7%	67/25.0%	
\$50,000-\$79,999	80/19.7%	39/28.3%	41/15.3%	
\$80,000 and up	81/20.0%	29/21.0%	52/19.4%	
Education				
High school or less	39/9.6%	7/5.1%	32/11.9%	.003
Some college	120/30.0%	35/25.4%	85/31.7%	
College graduate/	152/37.4%	63/45.7%	89/33.2%	
Postgraduate	69/17.0%	33/23.9%	36/13.4%	
HIV status				
Positive	34/8.4%	13/9.4%	21/7.8%	.167
Negative	331/81.5%	123/89.1%	208/77.6%	
Don't know	15/3.7%	2/1.4%	13/4.9%	

The bivariate analysis (see table 3) found that only CSA was significant when comparing participants living in urban and non-urban areas ($p=.040$). The other syndemic variables of depression, poly-drug use, sexual compulsivity, and MSSIPV for victim and perpetrator were not significant when comparing those who reside in urban areas versus non-urban areas.

Table 3

Bivariate Scores on Syndemic-Related Variables

Scale	Total N=406	Urban N=138/34%	Rural/Suburban N=268/66%	P
Depression	N=305	N=105	N=200	0.408
>16	101/33.1	38/36.2%	63/31.5%	
Under 16	204/66.9	67/63.8%	137/68.5%	
Childhood sexual abuse	N=314	N=107	N=207	0.040
Yes	44/14.0	9/8.4%	35/16.9%	
No	270/86.0	98/91.6	172/83.1%	
Poly-drug use	N=314	N=107	N=207	0.928
Yes	52/16.6	18/16.8%	34/16.4%	
No	262/83.4	89/83.2%	173/83.6%	
Unprotected anal sex	N=314	N=107	N=207	0.811
Yes	64/20.4	21/19.6%	43/20.8	
No	250/79.6	86/80.4%	164/79.2%	
MSSIPV-Victim	N=406	N=138	N=268	0.957
Yes	139/34.2	47/34.1%	92/34.3%	
No	267/65.8	91/65.9%	176/65.7%	

Table 3 continued

Scale	Total N=406	Urban N=138/34%	Rural/Suburban N=268/66%	P
MSSIPV-Perpetrator	N=406	N=138	N=268	0.522
Yes	123/30.3	39/28.3%	84/31.3%	
No	283/69.7	99/71.7%	184/68.7%	
Sexually Compulsive	N=406	N=138	N=268	0.751
Score of >24	137/33.7	48/34.8%	89/33.2%	
Score <24	269/66.3	90/65.2%	179/66.8%	

When considered together, the four predictor variables (see table 4) were statistically significant in predicting being a *victim* of lifetime physical MSSIPV ($X^2=13.126$, $df=4$, $N=305$, $p=.011$). When considered together, no predictor variables (see table 5) were significant in predicting whether a person was a *perpetrator* of lifetime physical MSSIPV ($X^2=6.198$, $df=4$, $N=305$, $p=.185$).

Table 4

Results of Victimization of MSSIPV

Type	Chi-Square	<i>df</i> (degrees of freedom)	N	<i>p</i>
MSSIPV Victimization	13.126	4	305	.011

Table 5

Results of Perpetration of MSSIPV

Type	Chi-Square	<i>df</i> (degrees of freedom)	N	<i>p</i>
MSSIPV Perpetration	6.198	4	305	.185

Table 6 presents the odds ratios, which suggest that the odds of victimization increased 3.034 times when being a victim of CSA (OR=3.034, 95% CI 1.463, 6.294) for all participants. These odds were greater for non-urban participants who had a 5.22 times greater chance of reporting victimization of MSSIPV when having a history of CSA (OR=5.22, 95% CI 2.194, 12.42).

There was a slight significance between higher self-reports of depression and lifetime victimization, though not significant enough when the population was split between urban and non-urban participants. There were no significant associations between MSSIPV victimization and poly-drug use nor sexual compulsivity.

The logistic regression results were not significant for perpetrator of all subjects of MSSIPV. However, non-urban participants (see table 7) had a 3.343 times greater chance of being a perpetrator of MSSIPV, (OR=3.343, 95% CI 1.339, 8.344).

Table 6

Results of Logistic Regression for Victimization

Variable	Total Sample Odds Ratio/ Confidence Intervals N=305	Urban Participants Odds Ratio/ Confidence Intervals N=105	Non-Urban Participants Odds Ratio/ Confidence Intervals N=200
Depression	1.026 [1.001, 1.052]*	1.014 [.976, 1.053]	1.033 [.999, 1.069]
Childhood Sexual Abuse	3.034 [1.463, 6.294]*	.435 [.048, 3.963]	5.22 [2.194, 12.42]**
Poly-drug	.748 [.320, 1.752]	1.822 [.539, 6.159]	.394 [.107, 1.453]
Sexual Compulsivity	.913 [.549, 1.517]	1.062 [.509, 2.213]	.787 [.384, 1.612]
Constant	.142	.163	.134

*p<.05, **p<.01

Table 7

Results of Logistic Regression Analysis for Perpetrator

Variable	Total Sample Odds Ratio/ Confidence Intervals N=305	Urban Participants Odds Ratio/ Confidence Intervals N=105	Non-Urban Participants Odds Ratio/ Confidence Intervals N=200
Depression	.997 [.968, 1.028]	.999 [.976, 1.053]	.993 [.955, 1.032]
Childhood Sexual Abuse	2.217 [.977, 5.031]	.000	3.343 [1.339, 8.344]**
Poly-drug	.591 [.215, 1.656]	.958 [.539, 6.159]	.533 [.146, 1.951]
Sexual Compulsivity	1.406 [.815, 2.425]	1.639 [.509, 2.213]	1.322 [.641, 2.727]
Constant	.079	.060	.088

*p<.05, **p<.01

Discussion

The rates of MSSIPV and syndemic variables range widely in research studies. Our survey with a convenience sample of MSM that were recruited at a gay pride event found an overall rate of lifetime victimization of MSSIPV at 34.2% and a lifetime perpetration rate of 30.2%, both of which fall into the range found in prior studies and meta-reviews (Finneran & Stephenson, 2013). Comparing rates of MSSIPV is challenging because many studies use different instruments, different definitions and time periods (e.g., one-year vs. lifetime), and enmesh physical, emotional, and sexual abuse, into one value of MSSIPV. In this study, we focused on lifetime rates of physical and injury of MSSIPV victimization and perpetration,

and further differentiated between urban (victim=34.1%; perpetrator=28.3%) and non-urban (victim=34.3%; perpetrator=31.3%) rates. The lack of significant differences in rates of victimization and perpetration between these two populations may provide a first step in identifying and discussing other differences between those that live in urban vs. rural/suburban areas. These results can be construed as encouraging so resources and interventions can be similar from urban to non-urban, allowing researchers to focus efforts on effective interventions rather than dissimilarities.

Overall rates of CSA were 14%, though significantly ($p=.040$) different between urban (8.4%) and non-urban (16.9%) populations. The total rate of CSA was lower in our study than in previous studies (Han et al., 2013; Phillips et al., 2014). But, like MSSIPV rates of abuse, response rates are contingent on the type of questions asked. Our study used a single question to determine rates of CSA while other studies used multiple questions for determination (Balsam et al., 2005; Han et al., 2013).

We found that amongst the syndemic variables, only CSA correlated highly with lifetime victimization of MSSIPV. This correlation is consistent with other studies of lifetime and 12-month history of MSSIPV and CSA (Andersen & Blosnich, 2013; De Santis et al., 2013; Siemieniuk et al., 2012; Welles et al., 2011). Logistic regression analysis showed that non-urban gay men had significant differences from urban gay men for both victim and perpetrator rates. Since we are not familiar of any other study that differentiates these two populations, it is difficult to accurately interpret these results. One possible reason could be the difference of social support for young gay men in rural areas compared to urban areas, where many gay men in the former being “guarded” about their sexual orientation identity (Lee & Quam, 2013). CSA may be discussed less in non-urban settings due to the

conservative nature of the communities and stigma of sexual minority status in rural areas (Preston et al., 2007; Rees, 2012).

There are several limitations to our study. As this was a cross-sectional, preliminary research study, so we cannot infer causal relationships between the variables. Convenience sample studies make results difficult to be generalized to the entire gay/MSM community. In addition, recruitment occurred at a gay pride event, which suggests that potential participants had some level of acceptance of their sexuality. MSM who are recruited at such venues may be different from those in the larger MSM community, with one study finding higher rates of sexual risk behaviors and numbers of sexual partners among those who frequent such events (Phillips et al., 2014). All variables were self-reported, which introduces the possibility of differential recall or recall bias (Delgado-Rodriguez & Llorca, 2004).

Despite these limitations, this study appears to be the first to measure many syndemic variables between urban and non-urban dwelling MSM. This information can be useful in developing targeted outreach with these two populations, and providing a launching step for future research.

CHAPTER 3

METHODS

Research Design

This dissertation is a secondary analysis of data from a cross-sectional survey conducted at a regional Gay Pride Festival held in a rural/suburban area of California, supplemented by online surveys from social media sites (Pimentel, Cheng, & Kelly, 2015). Names and email addresses were ascertained at the festival and the PI forwarded links to the participants for the survey to be taken online. After all the subjects were noted, the study area included respondents from the following counties (as shown on figure 2): San Luis Obispo, Santa Barbara, Monterey, Fresno, Kern, Kings, Tulare, Madera, Ventura, Los Angeles, San Diego, San Francisco, Contra, Costa, Alameda, Santa Cruz, Sonoma, Sacramento, San Bernardino, and Marin. Zip codes of residence were obtained from the subjects to determine if they were urban or non-urban. Cities with populations over 100,000 were considered urban, populations from 50,000-100,000 were considered suburban, and city populations under 50,000 were considered rural.



Figure 2. State of California County Map

Population/Sample

Because there are a limited number of acknowledged gay men at any venue who are available for study participation, the use of diverse sampling strategies is acceptable for studying this population (Institutes of Medicine, 2011). Gay men are a hidden and still stigmatized group of individuals by society and laws are in place in many areas of the country that codify discrimination (Hatzenbuehler, O'Cleirigh, Mayer, Mimiaga, & Safren, 2011). Most intake forms at hospital and doctors' offices do not offer places to check box one's sexual orientation (Ard & Makadon, 2011). United State Census forms do not delineate whether one is member of the LGBT community (Ward, Dahlhamer, Galinsky, & Joestl, 2014). Thus, finding random samples of gay men is challenging and difficult for many researchers. Researchers can procure subjects at gay bars, gay websites, or gay social events, but this is a selected subset that is not necessarily representative of the larger population of gay men. (Bruce & Harper, 2011). At this time, convenience sampling is a reasonable choice for studies of gay men (Beyrer et al., 2012).

Inclusion criteria for the study were men who were: 1) over 18 years of age; 2) in a current or past MSM cohabitating relationship with another man; 3) able to read and understand English; and 4) residing in any county of the state of California. Individuals were given a website to answer questions. The investigator followed up with two emails asking if the participant completed the survey. All data was collected on-line via the internet.

Power Analysis

The sample included 406 men who self-identified as gay, bisexual, or men who have sex with men (MSM) and who were living in the state of California. Using the

recommendation of Polit and Beck (2012a) of 20 subjects per variable, with 11 variables plus an additional 50 subjects suggests the need for a minimum sample size of 270. This sample size (N=406) was adequate to answer the research questions because 406 is larger than 270.

Procedures/Protection of Human Subject

Permission to conduct the research was ascertained by the Institutional Review Board through the University of Missouri-Kansas City. An information screen was provided to all on-line participants before the opening of any response screens. To decrease the chance of multiple responses from one person, participants were asked if they had already taken the survey, and IP addresses were collected and duplicates eliminated. Following the completion of the survey, participants were entered into a drawing to win an Apple iPad.

Measures

Demographic information collected included urban/non-urban residence, age, race/ethnicity, education level, sexual orientation, income, current relationship status, and type of relationship status.

Abuse Patterns

MSSIPV was measured using the Revised Conflict Tactics Scale-2 (CTS2), a commonly used instrument measuring intimate partner violence (Straus et al., 1996). The CTS2 has been used in research studies involving gay men with an alpha of .89 (Balsam et al., 2005). Only two of the five subscales of the CTS2 will be used: physical abuse and injury. Twelve items were used to measure physical abuse (e.g., “slapped my partner or my partner did this to me”). Six items were used to measure injury (e.g., passed out from being

hit on the head by my partner in a fight). Victimization and perpetration rates were measured in each subscale. Participants then scored whether these activities had happened in a current relationship, answering from 0 (never) to 6 (happening more than 20 times in the past year). Participants answered a 7 if there was a history of such an event but not in the past year. For this dissertation, all current and past history of physical abuse and injury will be included. No participants were excluded from the analysis if they answered in a current or past relationship. Again, the dependent variable of this dissertation was whether an individual has had any lifetime physical MSSIPV. For the purpose of this study, a participant was classified as a perpetrator if they scored above a zero on any of the perpetrator questions, moreover, a participant was classified as a victim if they scored above a zero on any of the victimization questions.

Syndemic Variables

Depression. Depression was measured with the twenty-item CES-D or Centers for Epidemiological Studies Depression scale. The CES-D has been widely used and has questions such as, “I thought my life had been a failure,” and, “my sleep was restless.” This instrument has an alpha of .87, indicating strong reliability (Radloff, 1977). A total score of 16 or greater indicated significant symptoms of depression (Dyer et al., 2012). The CES-D has been used with gay male participants in a prior study with an alpha of .87 (Starks, Millar, Eggleston, & Parsons, 2014).

Childhood sexual abuse. Childhood sexual abuse was measured with one question: “Did anyone take advantage of you sexually who was at least five years older than you when

you were 16 and under?” (Parsons et al., 2012). This question was asked of gay men in the Parson’s et al., study.

Poly-drug use. Poly-drug use was measured and defined with one question: “Have you used three or more recreational drugs in the past 90 days (meth, cocaine, marijuana, crack, Ecstasy, Ketamine, poppers, LSD, someone else’s pharmaceuticals, etc.)” (Parsons et al., 2012). This question was used asked of gay men in the Parson’s et al., study.

Sexual compulsivity. Sexual compulsivity was assessed with the ten-item Sexual Compulsivity Scale, which has been used in research with gay men and has an alpha of .90 (Kalichman & Rompa, 2001). The scale uses a four-point Likert scale for responses and includes items such as, “my sexual appetite has gotten in the way of my relationships.” Scores of 24 or greater indicated compulsivity (Parsons et al., 2012). This question has been used with gay men in a prior study (Kalichman & Rompa, 2001)

HIV-infection. HIV infection was measured by asking if the person was HIV-positive, HIV-negative, or HIV unknown or unsure. HIV-positive and HIV unknown or unsure will be combined due to the likelihood that unknown HIV status is answered by those that participate in high-risk sexual behavior and they will eventually be HIV-positive (Nunn et al., 2011; Solomon et al., 2011). This question has been asked of gay men in the two prior studies.

Minority Stress Variables

Internalized homophobia. Internalized homophobia or internalized homonegativity was measured with the Martin and Dean (1987) Internalized Homophobia Scale. This nine-item instrument measured how one feels about their homosexuality vis-à-vis their gay

identity (e.g., “I wish I weren’t gay/bisexual,” “I feel alienated from myself because of being gay/bisexual, and “I wish that I could develop more erotic feelings about women”). The responses range from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating more internalized homophobia. The instrument has an alpha of .83 among gay men (Herek, Cogan, Gillis, & Glunt, 1997).

Discrimination. Discrimination, or the perceived prejudice of an injustice felt by a particular person, was measured with two items, “In the past year, have you been the victim of anti-gay violence?” and “In the past year, have you been discriminated against in any way because of being gay?” (Meyer, 1995). These questions were used in the Meyer study with gay men, but an alpha is unknown. A yes response to either question was coded as positive for discrimination.

Perceived stigma. Perceived stigma was measured with the three items of the Mohr and Fassinger (2000) Stigma Sensitivity Scale. This instrument measures the external pressure and prejudice perceived by the individuals that is eventually internalized (e.g., “I often wonder whether others judge me for my sexual orientation,” “I think a lot about how my sexual orientation affects the way people see me”). Study participants indicated their range of agreement on a 1 (disagree strongly) to 7 (agree strongly) Likert response scale with higher scores indicated higher levels of stigma. This scale has an alpha of .81 (Oliveira, Lopes, Goncalves Costa, & Nogueira, 2012).

Community of Protective Measures

Perceived social support was measured with the nineteen-item Medical Outcomes Study Social Support survey (Sherbourne & Stewart, 1991). This instrument uses a five-point

Likert type scale for responses to questions (e.g., “You have someone to give you information to help you understand a situation,” “You have someone to do something enjoyable with”). The instrument has an alpha of .97 and has been previously tested on gay men (Pantalone, Schneider, Valentine, & Simoni, 2012). Higher scores indicated greater social supports.

Sexual orientation “outness” was measured by the “outness” inventory, an eleven-item scale assessing the degree to which sexual orientation is acknowledged with close family members and others in society (Mohr & Fassinger, 2000). This instrument provides a broad range of individuals that a gay person can be “open” to concerning their sexual orientation minority status, such as mother, father, siblings, extended family, work peers, bosses, religious leaders and members, and old and new acquaintances. Scores are tabulated from 1 (person definitely does not know) to 7 (person definitely knows and it is openly talked about). Scores are tabulated and averaged, taking into account “not applicable” answers for those with a deceased family member or those without religious affinity, as an example. Those with higher scores were more open about their sexual orientation in their day-to-day life, while lower scores denote those who may be considered more closeted in the gay community. The instrument has been used with gay men and has an alpha of .78 (Mohr & Fassinger, 2000).

High-risk sexual behavior, or participation in anal intercourse without a condom with those of HIV-positive or unknown HIV status was assessed with the question, “In the last 90 days, have you had unprotected anal intercourse with a non-primary partner whose HIV status was unknown or HIV-positive?” (Parsons et al., 2012). This question was used asked

of gay men in the Parson's et al., study. This question will be reversed score because I am looking for the opposite of high-risk sexual behavior to fit into the paradigm of protective measures.

Table 8

Instrument Information for Theory Testing

Concept	Instrument	Reliability & Validity	Description	Population	Theory
(1) Intimate partner violence	Revised Conflict Tactics Scale-2 (physical & injury only)	Cronbach's Alpha=.89 (Balsam et al., 2005)	18-item, 8-point Likert (Straus et al., 1996)	Tested on all populations (Nowinski & Bowen, 2012); Gay men (Balsam et al., 2005)	Dep. Variable
(2) Depression	Centers for Epidemiological Studies Depression Scale	Cronbach's Alpha =.87 (Radloff, 1977)	20-item, 4-point Likert (Radloff, 1977)	Tested on all populations (Radloff, 1977); Gay men (Starks et al., 2014)	S
(3) Childhood sexual abuse	1 question-Dichotomous	Cronbach's Alpha=NA	<16 age of abuse, by person >5years	Tested on gay men (Dyer et al., 2012)	S
(4) Poly-drug use	1 question-Dichotomous	Cronbach's Alpha=NA	3 or more drug in 90 days question	Tested on gay men (Dyer et al., 2012)	S
(5) Sexual compulsivity	Sexual Compulsivity Scale	Cronbach's Alpha =.90 (Kalichman & Rompa, 2001)	10-item, 4-point Likert (Kalichman & Rompa, 2001)	Tested on gay men (Kalichman & Rompa, 2001)	S
(6) HIV-infection	1 question-dichotomous	Cronbach's Alpha=NA	HIV status question	Tested on gay men	S

Table 8 continued

Concept	Instrument	Reliability & Validity	Description	Population	Theory
(11) Internalized homophobia	Internalized Homophobia Scale	Cronbach's Alpha =.83 (Herek et al., 1997)	9-item, 5-point Likert (Herek et al., 1997)	Tested on gay men (Herek et al., 1997)	MS
(10) Discrimination	2 questions-Dichotomous	Cronbach's Alpha=NA	Discrimination if gay questions (Meyer, 1995)	Tested on gay men (Meyer, 1995)	MS
(12) Perceived stigma	Stigma Sensitivity Scale	Cronbach's Alpha =.81 (Oliveira et al., 2012)	3-item, 7-point Likert (Oliveira et al., 2012)	Tested on gay men (Mohr & Fassinger, 2000)	MS
(7) Perceived social support	Medical Outcomes Study-Social Supports	Cronbach's Alpha =.97 (Pantalone et al., 2012)	19-item, 5-point Likert (Pantalone et al., 2012)	Tested on gay men (Pantalone et al., 2012)	CPM
(9) Sexual orientation "outness"	"Outness" Inventory	Cronbach's Alpha =.78 (Mohr & Fassinger, 2000)	11-item, 8-point Likert (Mohr & Fassinger, 2000)	Tested on gay men (Mohr & Fassinger, 2000)	CPM
(4) High-risk sexual behavior	1 question-Dichotomous	Cronbach's Alpha=NA	Unprotected anal sex question	Tested on gay men (Dyer et al., 2012)	CPM

*Syndemic theory=S; Minority stress theory=MS; community of protective measures=CPM

Data Handling

Data was entered into SPSS 22.0, and descriptive statistics. To assess lifetime rates of abuse and injury, I coded 0 as either no MSSIPV or 1 through 7 as affirmative for MSSIPV for total abuse and for each respective category of abuse. I then created four dichotomous variables to capture the prevalence of experiencing and perpetrating each form of measured lifetime MSSIPV (physical and injury).

Data Analysis

For this study, information regarding demographic information and total lifetime rates of victimization and perpetration of MSSIPV were examined using Chi-square tests and *t*-tests. To answer the research question, “What are the relative contributions of each of the three theories (syndemic theory, minority stress theory and the community of protective measures) to predict lifetime risk of physical MSSIPV victimization and perpetration?” hierarchical logistic regression was used. Hierarchical logistic regression was run twice, one for victim and one for perpetrator. Bidirectional violence will not be studied in this dissertation. Variables representing each theoretical theory were entered into the regression model of the same block. With this hierarchical regression model, the Primary Investigator was able to estimate and test the statistical strength of each theoretical theory as well as each predicting variable in the same model. Cox & Snell R^2 and Nagelkerke R^2 tests were used as pseudo R^2 estimates that indicate if the variance in MSSIPV can be predicted from the linear combination of independent variables (Leech, Barrett, & Morgan, 2011). These two tests provide a different way of estimating R^2 , which is the percent of variance between the two blocks or theoretical variables (Munro, 2005).

Block 1: Method=Enter, which was step one of the regression, will produce Chi-square for the first set of syndemic variables. Significance of $p=0.05$ was noted with the dependent variables, MSSIPV. Cox & Snell R^2 and Nagelkerke R^2 were noted to estimate if the variables of the overall syndemic are significant predictors of MSSIPV victimization or perpetration. Block 2: Method=Enter, which was step two of the regression, assessed the overall total contribution of variables of syndemic and minority stress variables. Block 3: Method=Enter, which was step three of the regression, assessed the overall total contribution of variables of the three theories. As with Block 2 and 3, Chi-square and significance were noted. Additionally Cox & Snell R^2 and Nagelkerke R^2 were noted for differences for Block 1 and Block 2.

The Omnibus Tests of Model Coefficients, which measures the Chi-square, df (degrees of freedom), and significance of each theoretical step, were used to guide which theoretical theory has the strongest predictive ability for lifetime rates of victimization and perpetration of MSSIPV (Leech et al., 2011).

CHAPTER 4

RESULTS

Institutional review board approval was obtained on February 4, 2015 (see Appendix A), for this secondary data analysis. As per protocol, the data set from the “Gay Pride Event-San Luis Obispo, 2013” was de-identified from the original data set. The primary investigator (PI) assessed, recoded, and selected five primary variables of the syndemic theory based on prior research: HIV-infection status; sexual compulsivity; depression; childhood sexual abuse; and poly-drug use (Dyer et al., 2012; Stall et al., 2008). For the minority stress theory, the three original variables of discrimination, internalized homophobia, and perceived stigma were utilized (Kamen et al., 2011; Meyer, 2003). For the third theory, community of protective measures, the variables of “outness,” social support, and lack of high-risk sexual behavior—collectively theorized as resilience—were included.

Data from the original sample of $n=406$ were entered into the SPSS 22.0 program, and descriptive statistics of the sample were computed along with totals of frequency of lifetime MSSIPV. Chi-square tests were performed on the demographic sample of the total and on individualized victim and perpetrator of MSSIPV data. Chi-square tests and t -tests were performed on the individual variables of the respective theories, with Chi-square used for dichotomous variables and t -tests used for continuous variables. To evaluate differences in the ability of the three theories (syndemic theory, minority stress theory, and the community of protective measures) to predict lifetime possibility of victimization and perpetration of MSSIPV, a hierarchical logistic regression model was fitted using the enter

method. The following sections will discuss the results of the descriptive statistics, Chi-square tests, *t*-tests, and hierarchical logistic regression.

Descriptive Statistics

The mean age of the sample was 38.28 years, with a standard deviation of 14.67 and a standard error of 0.74. The youngest participant was 18 years of age and the oldest was 79, resulting in a range of 61 years. The median age was 35.5 years, and the modes were 25 and 29 years. In terms of self-identified sexual orientation, 82.4% ($n=323$) were gay men, 13.3% ($n=52$) were bisexual men, 3.6% ($n=14$) were “straight” men/questioning, 0.3% ($n=1$) were gay female-to-male, and 0.5% ($n=2$) were bisexual female-to-male. Only those who had ever been in a relationship with another male (male-to-male) met inclusion criteria for the study. Of the resulting sample, 54.9% ($n=223$) were currently in a relationship with another man, 60.0% ($n=132$) of whom currently resided with their partner and 40.0% ($n=88$) did not. Those in a current relationship had been together for a mean of 89.5 months. A total of 138/34% MSM were from urban areas, and 268/66% were from non-urban areas. A total of 260/64% were non-Hispanic Caucasian, 78/19.2% were Hispanic, 11/2.7% were African-American, and 57/14% were other or multi-racial. As for income, 111/27.3% had incomes between \$0-\$24,999; 108/26.6% had incomes between \$25,000-\$49,999; 80/19.7% had incomes between \$50,000-\$79,999; 38/9.4% had incomes between \$80,000-\$109,999; and 43/10.6% had incomes over \$110,000. For education level, 39/9.6% had a high school degree or less; 120/29.6% had some college; 152/37.4% had a 2- or 4-year education; and 69/17% had a graduate or postgraduate degree.

Rates

The rate of lifetime physical MSSIPV among participants was 139/34.2%, while lifetime physical MSSIPV perpetration was 123/30.3%. Table 9 shows these results.

Table 9

Lifetime Physical/Injury Victim/Perpetrator of MSSIPV

MSSIPV	N/%
Lifetime physical/injury, victim of MSSIPV	139/34.2%
Lifetime physical/injury, perpetrator of MSSIPV	123/30.3%

Chi-square Test of Demographics

Table 10 shows the results of victimization of MSSIPV by age, race, income, education, and HIV status. There were no differences in age ($X^2=5.16, p=.271$), education level ($X^2=.962, p=.811$), or HIV status ($X^2=.756, p=.685$) for participants who experienced MSSIPV. There were significant differences by race ($X^2=19.62, p=.000$) and by income ($X^2=11.39, p=.023$). Again, HIV status was measured demographically according to three options (yes, no, and don't know), and dichotomously in the hierarchical logistic regression according to two options (yes/don't know or no). The racial category of "other/multi" showed significant difference between victim (23.0%) and non-victim (9.4%). Additionally, the Chi-squares test showed significant differences at several income levels: "\$25,000-\$49,999" (victim = 20.1%; non-victim = 30.0%); "\$50,000-\$79,999" (victim = 12.2%; non-victim = 30.0%); and "\$80,000-\$109,999" (victim = 5.8%; non-victim = 11.2%).

Table 10

Demographics of Participants Being Lifetime Victims of MSSIPV

	Total N=406	MSSIPV Victim N=139/30.3%	MSSIPV Non-Victim N=267/65.8%	<i>P</i>	<i>X</i> ² Statisti cs
Age					
21 and under	46/11.3%	22/15.8%	24/9.0%	.271	5.16
22-30	110/27.1%	34/24.5%	76/28.5%		
31-40	73/18.0%	24/17.3%	49/18.4%		
41-50	77/19.0%	23/16.5%	54/20.2%		
51 and over	100/24.6%	36/25.9%	64/24.0%		
Race					
Non-His. White	260/64.0%	77/55.4%	183/68.5%	.000	19.62
Hispanic	78/19.2%	23/16.5%	55/20.6%		
African-American	11/2.7%	7/5.0%	4/1.5%		
Other/Multi	57/14.0%	32/23.0%	25/9.4%		
Income					
0-\$24,999	111/27.3%	42/30.2%	69/25.8%	.023	11.39
\$25,000-\$49,999	108/26.6%	28/20.1%	80/30.0%		
\$50,000-\$79,999	80/19.7%	17/12.2%	63/23.6%		
\$80,000-\$109,999	38/9.4%	8/5.8%	30/11.2%		
\$110,000<	43/10.6%	18/12.9%	25/9.4%		
Education					
≤High school	39/9.6%	10/7.2%	29/10.7%	.811	.962
Some college	120/29.6%	37/26.6%	83/31.1%		
College graduate	152/37.4%	43/30.9%	109/40.8%		
Postgraduate	69/17.0%	23/16.5%	46/17.2%		
HIV status					
Positive	34/8.4%	8/5.8%	26/9.7%	.685	.756
Negative	331/81.5%	100/71.9%	231/86.5%		
Don't know	15/3.7%	5/3.6%	10/3.7%		

Table 11 shows the results of perpetration of MSSIPV by age, race, income, education, and HIV status. Chi-square tests run on the perpetrator component of MSSIPV showed significance for age ($X^2=10.03$, $p=.040$) and race ($X^2=13.13$, $p=.004$). There were no significant differences in income ($X^2=8.08$, $p=.089$), education ($X^2=1.64$, $p=.652$), or HIV status ($X^2=1.81$, $p=.406$). Similar to victimization status, significant differences were found for perpetrator by race, with “Other/Multi” participants more likely to be in the perpetrator group (perpetrator = 22.0%, non-perpetrator = 10.6%). As for age, the <21 years group showed results for perpetrator at 17.9% and non-perpetrator at 8.5%. The age group 22-30 years showed non-perpetrator at 29.7% and perpetrator at 21.1%

Table 11

Demographics of Participants Perpetrating Lifetime MSSIPV

	Total N=406	MSSIPV Perpetrator N=123/30.3%	MSSIPV Non-Perpetrator N=283/69.7%	<i>p</i>	X^2
Age					
21 and under	46/11.3%	22/17.9%	24/8.5%	.040	10.03
22-30	110/27.1%	26/21.1%	84/29.7%		
31-40	73/18.0%	22/17.9%	51/18.0%		
41-50	77/19.0%	20/16.3%	57/20.1%		
51 and over	100/24.6%	33/26.8%	67/23.7%		
Race					
Non-His. White	260/64.0%	70/56.9%	190/67.1%	.004	13.13
Hispanic	78/19.2%	20/16.3%	58/20.5%		
African-American	11/2.7%	6/4.9%	5/1.8%		
Other/Multi	57/14.0%	27/22.0%	30/10.6%		

Table 11 continued

	Total N=406	MSSIPV Perpetrator N=123/30.3%	MSSIPV Non-Perpetrator N=283/69.7%	<i>p</i>	<i>X</i> ²
Income					
0-\$24,999	111/27.3%	36/29.3%	75/26.5%	.089	8.08
\$25,000-\$49,999	108/26.6%	23/18.7%	85/30.0%		
\$50,000-\$79,999	80/19.7%	16/13.0%	64/22.6%		
\$80,000-\$109,999	38/9.4%	7/5.7%	31/11.0%		
\$110,000<	43/10.6%	15/12.2%	28/9.9%		
Education					
≤High school	39/9.6%	8/6.5%	31/10.6%	.652	1.64
Some college	120/29.6%	35/28.5%	85/30.0%		
College graduate	152/37.4%	36/29.3%	116/41.0%		
Postgraduate	69/17.0%	18/14.6%	51/18.0%		
HIV status					
Positive	34/8.4%	7/5.7%	27/9.5%	.406	1.81
Negative	331/81.5%	88/71.5%	243/85.9%		
Don't know	15/3.7%	2/1.6%	13/4.6%		

Chi-square Tests & *T*-tests of Variables

Victimization. Table 12 describes the individual variables in each of the respective three theories, giving means for the total sample, MSSIPV lifetime victimization, and MSSIPV non-victimization as well as significance (*p*) and Chi-square (*X*²) for dichotomous variables or *t*-values for continuous variables. For the syndemic variables, depression (*X*²=5.72, *p*=.017) and childhood sexual abuse (*X*²=9.23, *p*=.002) were significant for differences between victim and non-victim groups. Poly-drug use (*X*²=.255, *p*=.613), sexual

compulsivity ($X^2=3.29, p=.281$), and HIV-infection status ($X^2=.756, p=.404$) were not significant for differences between victim and non-victim groups.

For the minority stress variables, only internalized homophobia ($t= -2.08, p=.041$) was significant for differences between perpetrators and non-perpetrators. Perceived stigma ($t= -.575, p=.566$) and discrimination ($X^2=.987, p=.299$) were not significant for differences between victim and non-victim groups.

For the community of protective measures variables, social support ($t=1.35, p=.179$), “outness” ($t=.422, p=.673$), and safer sex ($X^2=.896, p=.344$) were not significant for differences between victim and non-victim groups.

Table 12

Chi-square/T-tests of Victimization of Independent Variables

Variable		Total Sample Mean (SD, range) N=406	MSSIPV Victimization (mean, SD) N=139	MSSIPV Non-Victimization (mean, SD) N=267	<i>p</i>	Chi- square/ <i>t</i> - test
Syndemic	Depression	Yes(16<)=137/33.1% No (<16)=269/66.8% 16< for depression	Yes(16<)=66/47.2% No (<16)=73/52.8%	Yes(16<)=78/30.2% No (<16)=186/69.8%	.017	5.72
	Childhood sexual abuse	Yes=58/14.3% No=348/85.7%	Yes=37/26.8% No=102/73.2%	Yes=21/7.9% No=246/92.1%	.002	9.23
	Poly-drug use	Yes=67/16.6% No=339/83.4%	Yes=21/15.4% No=118/85.6%	Yes=49/18.3% No=218/81.7%	.613	.255
	Sexual compulsivity	Yes(2.4<)=52/12.9% No (<2.4)=354/87.1% 2.4< for sexual compulsivity	Yes(2.4<)=24/17.2% No (<2.4)=115/82.8%	Yes(2.4<)=33/12.2% No (<2.4)=234/87.8%	.281	3.29
	HIV infected	Positive=36/8.9% Negative=354/87.1% Don't know=16/3.9%	Positive=10/8.5% Negative=123/89.1% Don't know=6/4.2%	Positive=26/9.7% Negative=231/86.5% Don't know=10/3.7%	.685	.756
Minority stress	Internalized homophobia	14.37, 7.21, 9-45	16.14, 9.24	13.99, 6.65	.041	-2.05*
	Perceived stigma Discrimination	9.67, 5.28, 3-21 Yes=216/46.8% No=190/53.2%	10.03, 4.80 Yes=71/51.1% No=69/49.9%	9.59, 5.34 Yes=115/43.2% No=154/57.8%	.566 .299	-.575* .987

Table 12 continued

Variable		Total Sample Mean, (SD, range) N=406	MSSIPV Victimization (mean, SD) N=139	MSSIPV Non-Victimization (mean, SD) N=267	<i>p</i>	Chi- square/ <i>t</i>- test
Community of protective measures	Social support	71.76, 18.73, 19-95	68.62, 18.69	72.44, 18.71	.179	1.35*
	“Outness”	41.75, 16.37, 5-77	40.91, 15.47	41.93, 16.58	.673	.422*
	Safer sex	Yes=334/82.2% No=72/18.8%	Yes=104/75.0% No=35/25.0%	Yes=215/80.6% No=52/19.4%	.344	.896

*T-tests were used for continuous variables, Chi-square for dichotomous.

Perpetrator

Table 13 describes the individual variables in each of the respective three theories and includes results for the total sample, MSSIPV lifetime perpetrator, and MSSIPV non-perpetrator classes. Also reported are significance (p) and Chi-square (X^2) for dichotomous variables or t -values for continuous variables. For the syndemic factors, only childhood sexual abuse ($X^2=4.22$, $p=.040$) was significant for differences between perpetrator and non-perpetrator groups. Depression ($X^2=.577$, $p=.447$), poly-drug use ($X^2=.650$, $p=.420$), sexual compulsivity ($X^2=3.68$, $p=.153$), and HIV-infection status ($X^2=.805$, $p=.961$) were not significant for differences between perpetrator and non-perpetrator groups.

For the minority stress variables, only discrimination ($X^2=3.87$, $p=.014$) was significant for differences between perpetrator and non-perpetrator groups. Internalized homophobia ($t= -1.085$, $p=.279$), and perceived stigma ($t= -.623$, $p=.534$) were not significant for differences between perpetrator and non-perpetrator groups.

For the community of protective measures variables, neither social support ($t=.437$, $p=.662$), “outness” ($t=.396$, $p=.693$), nor safer sex ($X^2=.267$, $p=.783$) was significant for differences between perpetrator and non-perpetrator groups.

Table 13

Chi-square/T-tests of Perpetration of Independent Variables

Variable	Sample (mean, SD, range) N=406	MSSIPV Perpetrator (mean, SD, result) N=123	MSSIPV Non-Perpetrator (mean, SD, result) N=283	<i>p</i>	Chi- square/t- test	
Syndemic	Depression	Yes(16<)=137/33.1% No (<16)=269/66.8% 16< for depression	Yes(16<)=46/38.5% No (<16)=77/62.5%	Yes(16<)=91/32.3% No (<16)=192/67.7%	.447	.577
	Childhood sexual abuse	Yes=58/14.3% No=348/85.7%	Yes=30/24.4% No=93/75.6%	Yes=28/9.9% No=255/90.1%	.040	4.22
	Poly-drug use	Yes=67/16.6% No=339/83.4%	Yes=15/12.2% No=108/87.8%	Yes=49/17.2% No=234/82.8%	.420	.650
	Sexual compulsivity	Yes(2.4<)=52/12.9% No (<2.4)=354/87.1% 2.4< for sex compulsivity	Yes(2.4<)=24/19.8% No (<2.4)=99/80.2%	Yes(2.4<)=28/10.0% No (<2.4)=255/90.0%	.153	3.68
	HIV infected	Positive=36/8.9% Negative=354/87.1% Don't know=16/3.9%	Positive=8/5.8% Negative=112/91.1% Don't know=5/3.6%	Positive=27/9.5% Negative=243/85.9% Don't know=13/4.6%	.961	.805
Minority stress	Internalized homophobia	14.37, 7.21, 9-45	15.51, 8.16	14.20, 7.06	.279	-1.085*
	Perceived stigma	9.67, 5.28, 3-21	10.15, 4.48	9.60, 5.36	.534	-.623*
	Discrimination	Yes=216/46.8% No=190/53.2%	Yes=95/77.2% No=28/22.7%	Yes=121/42.8% No=162/57.2%	.014	3.87

Table 13 continued

Variable		Sample (mean, SD, range) N=406	MSSIPV Perpetrator (mean, SD, result) N=123	MSSIPV Non-Perpetrator (mean, SD, result) N=283	<i>p</i>	Chi- square/ t- test
Community of protective measures	Social support	71.76, 18.73, 19-95	70.54, 16.25	71.95, 19.09	.662	.437*
	“Outness”	41.75, 16.37, 5-77	40.80, 15.39	41.89, 16.53	.693	.396*
	Safer sex	Yes=334/82.2% No=72/18.8%	Yes=96/78.0% No=27/27.0%	Yes=227/80.1% No=56/19.9%	.783	.267

*T-tests were used for continuous variables, Chi-square for dichotomous

Hierarchical Logistic Regression/Victimization

Hierarchical logistic regression was run to determine which of the three theories would best predict an MSM's becoming a victim of MSSIPV. The five syndemic variables of depression, childhood sexual abuse, poly-drug use, sexual compulsivity, and HIV-infection status were entered into block one of the hierarchical logistic regression equation and regressed on victimization level. Using the enter method, a logistic model was fitted ($X^2 = 12.864$, $df=5$, $p=.025$), the significant result of which indicates that, taken collectively, syndemic variables provide a statistically significant prediction of the likelihood of an MSM's being a victim of lifetime MSSIPV ($p < .05$). The model summary shows -2 log likelihood at 263.434, Cox & Snell R^2 at .042, and Nagelkerke R^2 at .070. The syndemic theory model thus a small (R^2 between 4% and 7%) but meaningful measure predicting an MSM's likelihood of becoming a victim of MSSIPV (Leech et al., 2011).

The next step was to enter the three minority stress variables of internalized homophobia, perceived stigma, and discrimination into block 2 of the victimization equation using the enter method. Row 2, table 14 shows results for the second model ($X^2=14.588$, df of 8, $p=.068$), which was non-significant. When added to the five syndemic variables, the minority stress variables only increased Chi-square by 1.724, and that was non-significant statistically ($p=.632$). Moreover, the -2 log likelihood, Cox & Snell R^2 and Nagelkerke R^2 barely changed between block one and block two, further demonstrating that the minority stress variables were of negligible value in predicting lifetime victimization rates of MSSIPV.

The final step was to enter the community of protective measures variables of social support, “outness,” and safer-sex behaviors into block 3 of the victimization equation using the enter method. Row three, table 14 shows that the resulting model was non-significant ($X^2=15.515$, $df=11$, $p=.160$). The addition of the three community of protective measures variables only increased Chi-square by .927 ($p=.819$). Moreover, the -2 log likelihood, Cox & Snell R^2 , and Nagelkerke R^2 barely changed between block two and block three, further demonstrating that the community of protective measures variables were of negligible statistical value in predicting lifetime victimization rates of MSSIPV.

Table 14

Victimization of MSSIPV for Omnibus Tests of Model Coefficients & Model Summary

Step(s)	X^2	df	p	X^2 change	-2 Log likelihood	Cox & Snell R^2	Nagelkerke R^2
1	12.864	5	.025		263.434	.042	.070
2	14.588	8	.068	1.724 ($p=.632$)	261.710	.048	.079
3	15.515	11	.160	.927 ($p=.819$)	260.783	.051	.084

1= Syndemic variables

2= Syndemic variables and minority stress variables

3= Syndemic variables, minority stress variables, and community of protective measures variables

Hierarchical Logistic Regression/Perpetration

Hierarchical logistic regression was used to determine which of the three theories predicts whether an MSM would be a lifetime perpetrator of MSSIPV. The syndemic theory variables of depression, childhood sexual abuse, poly-drug abuse, sexual compulsivity, and HIV-infection were entered into block one of the hierarchical logistic regression equation and regressed on perpetration using the enter method. Row one, table 15 shows that the initial model was non-significant ($X^2=8.088$, $df=5$, $p=.151$). Thus, a model based on syndemic theory does not enable reliable predictions of an MSM's being a perpetrator of MSSIPV ($p < .05$). The model summary shows -2 log likelihood at 219.641, Cox & Snell R^2 at .027, and Nagelkerke R^2 at .050. These estimates indicate how much the five variables of the syndemic theory may help predict whether or not a MSM will be a perpetrator of MSSIPV during his lifetime (Leech et al., 2011).

The next step was to enter the minority stress variables of internalized homophobia, perceived stigma, and discrimination into block 2 of the perpetration equation using the enter method. Row two, table 15 shows that the resulting model was non-significant ($X^2=12.084$, $df=8$, $p=.147$). Adding the three minority stress variables to the model only increased Chi-square by 3.996 ($p=.262$). Moreover, the -2 log likelihood, Cox & Snell R^2 , and Nagelkerke R^2 barely changed between block one and block two, further demonstrating that the minority stress variables contributed negligible additional value for predicting an MSM's perpetration of MSSIPV during his lifetime.

The final step was to enter the community of protective measures variables of social support, "outness," and safer-sex behaviors into block 3 of the perpetration equation using

the enter method. Row three, table 15 shows that the resulting model was non-significant ($X^2=12.516$, $df=11$, $p=.326$). When added to the equation, the community of protective measures variables only increased Chi-square by .432 ($p=.934$). Moreover, the -2 log likelihood, Cox & Snell R^2 , and Nagelkerke R^2 barely changed between block two and block three, further demonstrating that adding in the three community of protective measures variables contributed only negligible additional value for predicting an MSM's perpetration of MSSIPV over his lifetime.

Table 15

Perpetrator of MSSIPV for Omnibus Tests of Model Coefficients & Model Summary

Step(s)	X^2	df	p	X^2 change	-2 Log likelihood	Cox & Snell R^2	Nagelkerke R^2
1	8.088	5	.151		219.641	.027	.050
2	12.084	8	.262	3.996 ($p=.147$)	215.645	.040	.074
3	12.516	11	.326	.432 ($p=.934$)	215.213	.041	.077

1= Syndemic variables

2= Syndemic variables and minority stress variables

3= Syndemic variables, minority stress variables, and community of protective measures variables

In summary, results of the hierarchical logistic regression (table 16) found that only childhood sexual abuse was a significant ($p=.010$) predictor of lifetime victimization of MSSIPV. According to the regression, an MSM who experienced childhood sexual abuse had 2.834 times greater odds of lifetime victimization than an MSM who did not experience

childhood sexual abuse (OR 2.834 [1.278, 6.283]). This one variable was strong enough to render the entire model based on the syndemic theory statistically significant.

Concerning perpetration of MSSIPV, none of the three theories was significantly predictive of an MSM's experiencing lifetime perpetration of MSSIPV. However, the factor of discrimination came close to significance at $p=.063$.

Table 16

Final Variables in the Equation

Predictor Variable		MSSIPV Physical/Injury Victimization OR (CI)	<i>p</i>	MSSIPV Physical/Injury Perpetration OR (CI)	<i>p</i>
Syndemic	Depression	1.022 [.992, 1.053]	.149	.988 [.952, 1.024]	.504
	Childhood sexual abuse	2.834 [1.278, 6.283]	.010	2.055 [.831, 5.083]	.119
	Poly-drug use	.757 [.313, 1.832]	.537	.613 [.215, 1.748]	.360
	Sexual compulsivity	.817 [.464, 1.438]	.484	1.426 [.775, 2.624]	.254
	HIV infection	.520 [.174, 1.556]	.242	.299 [.065, 1.385]	.123
Minority stress	Internalized homophobia	1.028 [.978, 1.082]	.275	.998 [.941, 1.058]	.942
	Perceived stigma	.971 [.904, 1.044]	.431	1.005 [.930, 1.087]	.900
	Discrimination	1.274 [.654, 2.480]	.476	2.055 [.963, 4.386]	.063
Community of protective measures	Social support	.996 [.977, 1.015]	.675	.998 [.976, 1.021]	.875
	“Outness”	1.005 [.983, 1.028]	.631	.999 [.974, 1.024]	.918
	Safer-sex	.753 [.333, 1.704]	.496	.751 [.303, 1.857]	.535

Chapter 5

DISCUSSION

This study tested the three theories of syndemics, minority stress, and the community of protective measures, with 406 MSM from urban and non-urban areas. The three theories were tested to assess the likelihood of an MSM's being a lifetime victim or perpetrator of MSSIPV. The variables of syndemic theory included HIV-infection status, childhood sexual abuse, poly-drug use, depression, and sexual compulsivity. Minority stress theory variables included discrimination, internalized homophobia, and perceived stigma. The community of protective measures included "outness," social support, and the lack of high-risk sexual behaviors or "safer sex." The total rate of lifetime victimization and perpetration of MSSIPV was also noted.

The landmark random-sample study of urban MSM ($n=2881$) showed a five-year victimization rate of MSSIPV at 22.0%, CI [20.1%, 24.0%] (Greenwood, 2002), whereas the current study showed a lifetime victimization rate of 34.2% for MSSIPV. The Greenwood study, in contrast with the current study, did not provide perpetration rates. The result from the current study for lifetime perpetration rates of MSSIPV was 30.3%. Another, smaller, random-sample study of gay men ($n=65$) that focused on lifetime perpetration of MSSIPV had a rate of 35.7% (Tjaden et al., 1999).

The results from the current study found significant difference in MSSIPV by age, especially among those 21 years and under. This differs from literature that found an opposite result for younger men (Anema et al., 2013; Starks et al., 2014), indicating that more research is indicated with young MSM to see if the current finding was anomalous or

reflective of a current trend. There was, also in the current study, a significant difference between victim/non-victim groups and perpetrator/non-perpetrator groups for race, with Caucasian men having lower rates of MSSIPV than African-American or multi-ethnic men; this finding has been previously supported in the literature (Dyer et al., 2012; Strasser et al., 2012).

Ancillary Analysis

For this dissertation, syndemic theory was entered first into the hierarchical logistic equation. Though not reported here, the PI also entered minority stress into the first block on a separate iteration and the community of protective measures on another iteration. The significance was unchanged in the alternate configurations, and the results were similar. Multicollinearity was checked for pairings of the 11 variables, using the correlation function in SPSS to evaluate for interrelationships. No overtly significant interrelationships (i.e., $r > .80$) were detected. Although it was not the case in these results, high correlations would indicate a potential problem of multicollinearity necessitating a modification of the model. Yet, if the variables are conceptually different from one another, the high correlation would not be an issue and the PI would have used them accordingly (Leech et al., 2011).

Hypothesis Testing

The original hypothesis was that a difference would exist among the syndemic theory, minority stress theory, and the community of protective measures in ability to predict victimization and perpetration of MSSIPV. The hypothesis was supported for the regression on victimization: syndemic theory was significantly different from the other two theories in

its ability to predict victimization. However, of the syndemic variables, only childhood sexual abuse was a significant contributor for predicting victimization of MSSIPV. For perpetration of MSSIPV, no theory was significant in predicting whether an MSM was a perpetrator of MSSIPV, although the aspect of discrimination (part of the minority stress theory) was close at $p=.063$.

Some reasons may be posited as to why childhood sexual abuse was the only significant predictor variable for victimization in the current study. Childhood sexual abuse has been shown to be a precursor of MSSIPV victimization in other studies that focused on physical violence (Han et al., 2013; Relf, 2005). It is possible that a lifelong sense of powerlessness resulting from childhood sexual abuse may lead MSM to be more susceptible to MSSIPV victimization. This would be in keeping with early research with lesbians and heterosexual women, which showed that threats of or actual sexual abuse in prepubescence were important precursors of spousal abuse or domestic violence for women (Brooks, 1981; Hart, 1986; Walker, 1979). For MSM who have experienced childhood sexual abuse, susceptibility to victimization may be embedded in memory and reenacted during adult relationships with someone who “cares” for them. Re-victimization is common among both lesbians and MSM; the cycle of violence seems difficult to break, especially when a pattern of abuse begins during a child’s development (Balsam et al., 2005).

It is also possible that the highly significant findings for childhood sexual abuse are partly an artifact of the instrument used in this study. There is no standardized question or definition for childhood sexual abuse used consistently in the literature. This study adopted the question used by Dyer and colleagues (2012), “Did anyone take advantage of you

sexually who was at least 5 years older than you when you were 16 and under?” to assess for childhood sexual abuse. But this is one of only a few times the measure has been used in the literature. As in the current study, Dyer’s findings were also significant for childhood sexual abuse.

MSM have up to 9.84 times higher rates of childhood sexual abuse than their heterosexual counterparts (Sweet & Welles, 2012), and a cross-sectional study conducted in 1999 in Atlanta found that 30% of MSM who experienced MSSIPV had also experienced childhood sexual abuse, which was a significantly higher proportion than among MSM who had no history of MSSIPV (18%) (Kalichman et al., 2001). Previous research has also described a relationship between many of the syndemic variables used in the current study and victimization of MSSIPV (Stall et al., 2008). Importantly, these studies were from databases or areas with large gay populations, and it is known that differences exist in HIV-infection rates, sexual compulsivity, MSSIPV, and depression in rural and urban areas (Kennedy, 2010; Lee & Quam, 2013; Parsons et al., 2012; Satinsky et al., 2008; Williams, Bowen, & Ei, 2010). The Parsons et al. study, which focused exclusively on participants from New York City in 2003, found higher rates of depression (41.7%) and lower rates of safer sex connections (70.3%) than the current study. Starks et al. (2014), using the same sample as Parsons et al., also acknowledged the need for a nuanced assessment of data and context, cautioning for instance against the use of overall scores to measure syndemic variables, since one or two highly contributing variables may inflate overall scores and mask the unimportance of others in the composite. While it is true that the concept of syndemics

increases the rates of other variables collectively, it is also important to know which variable is the most potent culprit for MSSIPV.

Apart from childhood sexual abuse, other syndemic variables including depression, poly-drug use, sexual compulsivity, and HIV-infection status were not significant in this study, marking a difference from other findings in the literature. The difference may be explained by the smaller sample size ($N=406$), inclusion of non-urban participants, and lack of random sampling in the current study. Previous major studies had larger sample sizes, as for instance is the case in studies that have used either the MACS study (Multi-Center AIDS Cohort Study), in which the participants were already HIV-infected and were from the large urban areas of New York City, San Francisco, Los Angeles, and Atlanta, or the Urban Men's Health Study (Herrick et al., 2012), which had similar demographics as the MACS study (Mills et al., 2004). The large, urban data sets show high rates of depression, MSSIPV, poly-drug use, sexual compulsivity, and HIV-infection (Herrick et al., 2012) and do not include participants who live in non-urban areas. Additionally, the current study focused on the physical and harm components of MSSIPV, whereas the majority of MSSIPV researchers addressed components of physical, psychological, emotional, and sexual aspects of abuse. Accordingly, syndemic variables will be significant for many emotional abuse triggers because emotional abuse violence scores were high in many of these studies (Bimbi, Palmadessa, & Parsons, 2007; Friedman, Marshal, Stall, Cheong, & Wright, 2008; Stephenson et al., 2010; Wong, Weiss, Ayala, & Kipke, 2010).

For minority stress variables, there has been a less clear-cut picture of correlation with MSSIPV. Physical lifetime violence has been linked to higher rates of internalized

homophobia in MSM and lesbians (Edwards & Sylaska, 2013). Minority stress variables were not directly related to gay male relationship satisfaction rates in a small study ($n=143$), though no information was provided about the association of any of the variables and MSSIPV (Kamen et al., 2011). One study examining prejudice and discrimination of MSM and lesbians found higher rates of lifetime perpetration of MSSIPV (Carvalho et al., 2011). In another study, 233 young, urban, African-American MSM were surveyed using a minority stress theory framework, but results did not show a clear relationship between discrimination and MSSIPV (Wong, Schrage, Holloway, Meyer, & Kipke, 2013). This finding was similar to that of the current study in which discrimination was close to significance ($p=.063$), though prejudice (which may be construed as perceived stigma) was not significant.

For the community of protective measures, none of the variables were “protective” or associated with perpetration or victimization of MSSIPV. No research, to the PI’s knowledge, has found a significant correlation between “safer sex” and MSSIPV. However, some findings that correlate the other direction of high-risk sexual behavior and MSSIPV and to other syndemic variables, such as depression to poly-substance abuse, or sexual compulsivity to HIV-infection by one researcher (Stall et al., 2008). The current study specifically asked for high-risk sexual behavior and then reversed the score for statistical purposes. In other words, low scores on high-risk sexual behavior showed high scores on “safer sex practices. In a small study of young gays and lesbians, social support from a peer was protective for victimization through MSSIPV (McKenry et al., 2006). Other researchers have found no protective value for perpetration or victimization of MSSIPV for those even

with strong social support from family, friends, and the community (Pantalone et al., 2012). This may be due to many MSM who are not “out” to their peers, family, or co-workers.

Homophobia is still rampant in many southern and mid-western states in the United States, and no federal law protects the LGBT community from discrimination in housing and employment. Therefore, any degree of “outness,” social support, or safe sex behavior is not going to be protective for MSSIPV.

Currently, many researchers are pressing the concept of resilience, which is a theoretical proxy for the community of protective measures assessed in this study, as a protective variable for MSSIPV and all of the syndemic variables (Herrick et al., 2011). Herrick and colleagues discuss how gay men may experience some or all of the syndemic variables, yet not all gay men are HIV-infected or experience MSSIPV (Kurtz et al., 2012). Similarly, in a sample of 1551 MSM who experienced all of the syndemic variables, Herrick (2012) found that 75% of them were not HIV-infected, which prompted her to recommend that researchers study this 75% and see what they are doing “right.”

Limitations

There are several limitations to this study. As cross-sectional, preliminary research, it is not possible to infer causal relationships between the variables. The convenience sample makes the results not generalizable to the broader population of MSM. In addition, selection bias is a potential issue, since recruitment occurred at the gay pride event, which suggests that potential participants had some level of acceptance of their sexuality. MSM who are recruited at such venues may be different from those in the larger MSM community, with one study finding higher rates of sexual risk behaviors and greater numbers of sexual partners

among those who frequent such events (Phillips et al., 2014). Finally, all variables were self-reported, which introduces the possibility of differential recall or recall bias (Delgado-Rodriguez & Llorca, 2004).

Recommendations for Future Research

Due to the limited number of African-Americans in this sample, research is needed to assess Black MSM for risks of MSSIPV. Bidirectional violence, which was not addressed in this study, is another recommended area for focused research, because two men involved in a conflict may more easily be physically equals than a man and a woman in the same struggle.

Instead of focusing on the individual tenets of the theories of syndemics, minority stress, and the community of protective measures, the “stronger” variables from each might be selected out and tested for significance together or separately. For instance, discrimination, depression, and childhood sexual abuse, would make an excellent future study in order to determine, quantitatively, which variables or groupings of variables are most predictive. Larger sample sizes and randomly selected samples would greatly enhance the validity of research related to violence among MSM. However, the population of MSM remains highly stigmatized, especially in some areas of America, and the ability to gather such a sample seems unlikely anytime soon.

Implications for Practice

As gay men move to an increased trust of the health care system, primary care providers should be aware of the signs and symptoms of MSSIPV. While findings from this study suggest that childhood sexual abuse may lead to victimization of MSSIPV, not much

can be done in adulthood to stop past abuse. However, at a younger age, addressing childhood sexual abuse may empower the child with better coping skills while progressing into adolescence (Andersen & Blosnich, 2013). However, this is not easy. Programs that start early in the elementary school system may be optimal for detecting the potential for future abuse and teaching empowerment programs to thwart it later (Hatzenbuehler et al., 2011). Additionally, cognitive behavior therapy at any age may benefit MSM by increasing skills in coping with depression and psychological distress that may be caused by (as well as lead to) abuse (Chesney, Chambers, Taylor, Johnson, & Folkman, 2003). Some researchers have focused on trauma-informed systems of care to allay the harms from trauma and sexual abuse in women and girls, but no literature has shown effectiveness of trauma-informed approaches for MSM (Suarez, Jackson, Slavin, Michels, & McGeehan, 2014). Looking for a gay male therapist who is cognizant of childhood sexual abuse among MSM may represent the most optimal trauma-informed solution. Social skills and positive reinforcement from therapy would be beneficial.

MSSIPV is a complex and largely hidden problem in our society. Findings from this study suggest that no one “theory” currently available is adequate to understand MSSIPV but that certain life events may be facilitators into an MSM victimization role. Interventions into the lives of MSM during early childhood and pubescence, especially in situations where sexual abuse is suspected or confirmed, would seem to offer a promising first step for intervening to stem the wave of violence.

APPENDIX A
APPROVAL LETTER



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NOTICE OF NOT HUMAN SUBJECTS DETERMINATION

Principal Investigator: Patricia J. Kelly
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Protocol Number: 15-024
Protocol Title: Male Same-Sex Intimate Partner Violence: Minority Stress Theory, Syndemic Theory & Protective Measures
Type of Review: Not Human Subjects Determination

Date of Determination: 02/04/2015

Dear Dr. Kelly,

The above referenced study, and your participation as a principal investigator, was reviewed and determined to be Not Human Subjects Research (NHSR). As such, your activity falls outside the parameters of IRB review. You may conduct your study, without additional obligation to the IRB, as described in your application.

The NHSR Determination is based upon the following Federally provided definitions:

"Research" is defined by these regulations as "a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge."

The regulations define a **"Human Subject"** as "a living individual about whom an investigator (whether professional or student) conducting research obtains: data through intervention or interaction with the individual, or identifiable private information."

All Human Subjects Research must be submitted to the IRB. If your study changes in such a way that it becomes Human Subjects Research please contact the Research Compliance office immediately for the appropriate course of action.

Please contact the Research Compliance Office (email: umkcirb@umkc.edu; phone: (816)235-5927) if you have questions or require further information.

Thank you,
UMKC IRB
UMKC IRB Administrative Office

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VITA

Matthew L. Pimentel was born on June 24, 1971, in Selma, CA. He was educated at public schools and attended Selma High School and Arroyo Grande High School. He began working as a Certified Nursing Assistant in 1989 and as a Home Health Aide in 1993. He worked at a number of nursing homes and worked private duty assignments in the San Luis Obispo area during this time. Later, in 1998, he acquired two associate degrees, one in Kinesiology, and another in Liberal Arts, at Allan Hancock College in Santa Maria, CA.

Pimentel received his Bachelor of Science degree in Nursing from California State University, Fresno (CSUF) in 2001, graduating as the top nursing student with Summa Cum Laude honors. During his tenure at CSUF, he was chosen from among the top 20 nursing students in the nation to become a Helene Fuld Fellow in 2000. The Fuld Fellowship is a leadership experience that exposes students to key lawmakers in New York City and Washington, D.C. He was also an American Association of Psychiatric Nurses/Janssan Scholar that year. Pimentel continued his leadership roles by being elected the President of the local California Nurses' Student Association at CSUF, was elected Vice-president for the State of California in 2000-2001. He also won State and National awards for the CSUF/CNSA newsletter, *RNFormation*. Also during his schooling at CSUF, he was a paramedic in Fresno County. After graduating, Pimentel worked as a traveling nurse throughout the State of California. He also worked as a Flight Nurse in Kern County during 2002.

In 2006, he accepted a position as the Director of Emergency Services at a Level II Trauma Center, and integrated a number of new triage and patient treatment modalities. He served in this role for two years.

In 2008, he accepted a position as a nursing supervisor at a prison in California. He, on occasion, was interim Director of Nurses and Health Care Manager during a turbulent time in the prison's history. In 2010, he completed his Masters of Nursing from California State University, Dominguez Hills, with a nurse executive focus.

In 2011, Mr. Pimentel resigned his position at the prison to focus on research concerning gay men who were HIV-infected, inmate health, and same-sex intimate partner violence. From 2009-2011 he presented at many local, national, and international conferences promoting inmate health. In 2010, he won the Colleen J. Goode Research in Practice Award for an asthma health paradigm to cut down on untoward healthcare outcomes for inmates.

In late 2011, he began the pursuit of his Ph.D. in Nursing at the University of Missouri-Kansas City, School of Nursing and Health Studies. Mr. Pimentel has been published twice regarding same-sex intimate partner violence and is a reviewer for a number of journals.

Upon completion of degree requirements in spring 2015, he will be performing more research concerning gay men and men who have sex with men (MSM), and plans to write a book concerning the subject of domestic violence and intimate partner violence among the LGBT community.

