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## Minority Stress Predictors of Substance Use and Sexual Risk Behavior Among a Cohort Sample of Men Who Have Sex with Men

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LOYOLA UNIVERSITY CHICAGO

MINORITY STRESS PREDICTORS OF  
SUBSTANCE USE AND SEXUAL RISK BEHAVIOR AMONG  
A COHORT SAMPLE OF MEN WHO HAVE SEX WITH MEN

A DISSERTATION SUBMITTED TO  
THE FACULTY OF THE GRADUATE SCHOOL  
IN CANDIDACY FOR THE DEGREE OF  
DOCTOR OF PHILOSOPHY

PROGRAM IN SOCIAL WORK

BY

MICHAEL PHILIP DENTATO

CHICAGO, IL

AUGUST 2011

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In memory of Vito Joseph Dentato, Jr.  
and dedicated to Patricia Ann Dentato.

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## ABSTRACT

This study examined the impact of factors associated with minority stress theory, including experiences of external prejudice, expectations of rejection and internalized homophobia, upon a cohort sample of men who have sex with men (MSM). Resultant associations with substance use, defined as one time use of a club drug prior to baseline; and sexual risk behavior, defined as unprotected insertive and receptive anal intercourse with primary and non-primary partners, was examined. In addition, this study compared whether each individual aspect of minority stress (external prejudice, expectations of rejection and internalized homophobia) independently or collectively predicted substance use and sexual risk behavior among MSM with their primary and non-primary partners.

Factors and outcomes associated with substance use and sexual risk behaviors were investigated via binary logistic regression and use of multivariable modeling for subsequent analysis. Odds ratios for all models were examined utilizing dichotomized variables for minority stress and sociodemographic factors found in the descriptive statistics of the study population, and compared to specific types of sexual risk behavior among the cohort sample.

Expectations of rejection demonstrated significance as a protective factor for decreased likelihood of MSM engaging in unprotected insertive anal intercourse with primary and non-primary partners while on drugs and while not on drugs. Additionally, there was validated significance related to decreased likelihood of engaging in

unprotected insertive and receptive anal intercourse with both primary and non-primary partners among older study participants (25-40+). Implications are discussed for continued research associated with minority stress factors, substance use and sexual risk behavior among MSM, along with future directions. Such conclusions assist in informing social work clinical practice and behavioral interventions associated with HIV prevention, substance use education, prevention and treatment among the MSM community.

## CHAPTER ONE

### STATEMENT OF THE STUDY ISSUE

#### **Purpose**

This study examined the impact of minority stress factors upon a cohort sample of men who have sex with men (MSM) at risk for substance use and sexual risk behavior, defined as unprotected insertive and receptive anal intercourse with primary and non-primary partners. Factors and outcomes associated with substance use and sexual risk behavior were investigated via multivariable modeling and subsequent analysis. In addition, the study compared whether each individual aspect of minority stress (prejudicial experiences, expectations of rejection and internalized homophobia) independently or correctively predicted substance use and/or sexual risk behavior among the cohort sample of MSM.

#### **Significance of the Study**

The majority of research surrounding minority stress factors associated with risk taking behaviors has centered on women and racial/ethnic minority populations (Meyer, 2003). However, men who have sex with men (MSM) have a greater likelihood than the general population (Cochran, Mays & Sullivan, 2003) for risk taking behaviors that include poly-substance use (Kashubeck-West & Szymanski, 2008; Kalichman & Cain, 2004) anonymous sex with multiple partners (Bimbi, Nanin, Parsons et al., 2006) and risk for sexually transmitted infections (Halkitis, Zade, Shrem et al., 2004) such as HIV/AIDS

(Halkitis, Green & Carragher, 2006; Halkitis, Green & Mourgues, 2005). Such risk behaviors may result from a multitude of factors associated with minority stress (Hamilton & Mahalik, 2009; Meyer, Schwartz & Frost, 2008) among other circumstances associated with individual level determinants (Jerome, Halkitis & Siconolfi, 2009; Kashubeck-West & Syzmanski, 2008; Crocker, Major & Steele, 1998) of behavior and social causation associated with stigma and related factors (Meyer, 2003; Link & Phelan, 2006).

An examination of sexual risk behavior and substance use can often be complicated as the recruitment of substance-using MSM for research studies and subsequent behavioral interventions remains limited and challenging due to difficulty accessing the community (Kanouse, Bluthenthal, Bogart et al., 2005). Other limitations and challenges with regard to working amongst this vulnerable population include the use of appropriate and effective interventions (Natale & Moxley, 2009) and theoretical approaches for understanding risk behavior (Hamilton & Mahalik, 2009; Halkitis, Palamar & Mukherjee, 2007) due to a lack of ongoing research.

The cognitive escape perspective proposes an explanation for behaviors that are highly desired and the rational process whereby information leads to perceived vulnerability and behavioral change may be reversed: people may be 'motivated' to see themselves as not vulnerable to risk, and may ignore or distort information to the contrary (McKirnan, Ostrow & Hope, 1996; Weinstein, 1993). Cognitive escape models have been examined and utilized with interventions among various populations including those with substance use and sexual risk behaviors (Halkitis, Green & Mourgues, 2005), eating disorders (Garner, Garner & Van Egeren, 1991) and with regard to self-regulation

(George, Dermen & Nochajski, 1989; Heatherton & Baumeister, 1991; Tiffany, 1990; McKirnan et al., 1996). However, one sample ( $N = 2,074$ ) underscores the need for continued study of factors beyond examining cognitive stress for meeting diagnostic criteria and the effects of treatment utilization by sexual minorities with and without diagnosable mental health disorders (Grella, Greenwell, Mays et al., 2009).

### **Theoretical Definitions**

The following subsections include the theoretical definitions used in this study's literature review.

#### **Substance Use**

Substance use as defined in this study is the recreational use of club drugs. The five club drugs examined in this study were: cocaine, ecstasy, ketamine, methamphetamine, and gammahydroxybutrate (GHB) (see Halkitis et al., 2005). This is not to be compared to other studies that examine differences between the definitions of substance use, recreational substance use, substance abuse or addiction which may have other meanings throughout the literature. Such a wide range of definitions is clearly apparent in the American Psychiatric Association's DSM IV-TR language of "substance use disorders," which includes misuse, abuse, and dependence of alcohol and other drugs (American Psychiatric Association, 2009).

#### **Sexual Risk Behavior**

Sexual risk behavior is sexual activity that may expose an individual to sexually transmitted infections including HIV/AIDS. Many studies examining "drug use prior to sex" or "drug use during sex" have found a positive association between these categories and sexual risk behavior (Stueve, O'Donnell, Duran, San Doval & Geier, 2002). While



this definition can be quite expansive with relation to sexual risk behavior among the MSM population in general, for the purpose of this study, the definition of sexual risk behavior is limited to receptive and insertive anal sex without a condom with a primary partner or non-primary partners with HIV positive, HIV status-unknown and HIV negative sero-statuses while using or not using drugs. The fact that unprotected receptive anal intercourse (URAI) holds a greater risk for HIV and other sexually transmitted infections than unprotected insertive anal intercourse (UIAI) has been well documented (Page-Shafer, Veugelers, Moss et al., 1997; Vittinghoff, Douglas, Judson et al., 1999; Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008) as well as the consistent use of such acronyms related to specific forms of sexual risk behavior.

### **Significant Life Stressors**

Significant life stressors can disrupt or threaten to disrupt an individual's usual activities and sometimes lead to physical and psychological co-morbidities (Dohrenwend & Dohrenwend, 1974). Such stressors can be categorized as life-threatening (i.e. potential to cause illness, death or physical injury) or non-life-threatening (i.e. coping and adapting to living life with HIV/AIDS). Such life stressors examined in this study include managing and coping with internalized homophobia, experiences of rejection, and stigma or prejudice. Such life stressors may hold implications for an individual's ability to cope and impact their overall mental health status.

### **External Prejudice**

External prejudice refers to any perceived or actual experiences by an individual with either structural or institutional associations (i.e. policy) or related to direct social prejudice (i.e. hearing hateful language) (Meyer, 1995). External prejudice can also take

the form of disenfranchisement of civil liberties or be experienced through the use of homo-negative slurs.

### **Expectations of Rejection**

Expectations of rejection relates to a person's understanding of anti-gay social stigma that precipitates an expectation that the individual will experience rejection based on their identity (Meyer, 1995).

### **Internalized Homophobia**

Internalized homophobia is the internalization of societal negativity toward homosexuals at the initial stages of an individual's identity development and may follow them throughout the life course (Meyer, 1995).

## CHAPTER TWO

### LITERATURE REVIEW

The review begins by exploring various determinants of risk behavior factors related to substance use and sexual risk behaviors among MSM. Further discussion will center around the stages of identity formation, issues surrounding internalized homophobia and mental health, the situational, sexual and social contexts in which MSM risk behavior occurs and the impact of social stress, prejudice, rejection and stigma upon such behaviors. Lastly, minority stress theory will be examined within the historical context related to naturalism and conclude with areas for further study related to MSM sexual risk behavior and substance use.

#### **Determinants of Risk Behavior**

Risk factors for substance use and sexual risk behavior are numerous and multileveled. Individual level factors such as distress (Mills, Paul, Stall et al., 2004), hardiness and loneliness (Ouellette, 1993), internalized stigma (Natale & Moxley, 2009), internalized heterosexism (Kashubeck-West & Szymanski, 2008) and external factors such as homophobia (Roese, Olsen, Borenstein et al., 1992), and heterosexism (Herek, 2007) may place additional stressors on MSM and impact risk behavior and attitudes through their effects on development of self-perception and identity.

A thorough examination of the MSM population, who are subject to macro-level risk factors, must include review of a unique set of mental health and socio-cognitive

related issues. MSM who experience heightened levels of internalized heterosexism are more likely to engage in risk behaviors as they are also less connected to the gay community and lack resources (Doll, Harrison, Frey et al., 1994), have lower self-esteem (Kilmer, 1997), and have poor image of themselves both physically and emotionally (Cole, 2006). They may be prone to shame and increased self-destructiveness (Odets, 1994; Elovich, 1995), have difficulty in establishing intimate relationships (Herek & Garnets, 2007) and have a greater need for escapism (Meyer & Dean, 1995; Williamson, 2000). Cherry (1996) and Herek et al., (1998) examined the various psychological characteristics associated with internalized homophobia, including lower self-acceptance, low self-esteem, self-hatred, belief in one's inferiority and self-imposed limits on one's aspirations (Ross & Rosser, 1996; Cabaj, 1988). Such determinants for risk factors among MSM may relate to their ongoing formation of self-identity, along with other factors that follow.

### **Stages of Identity Formation**

Literature regarding particularly important stages in healthy identity development of MSM note that identity comparison (the resolution of feelings of isolation and alienation as the disparity between self and non-gay/bisexual others) and identity pride (the development of positive feelings toward gay/bisexual identity and connection to gay/bisexual members as a group) are both critical elements that can lead to either growth or dysfunction (Harawa et al., 2008; Johns & Probst, 2004). Factors associated with identity comparison and/or identity pride might hold positive or negative implications for the decision making process by which MSM use substances or engage in sexual risk behaviors. Further study is necessary to determine whether MSM that do not have

feelings of isolation or alienation, yet rather have positive associations or pride within the community also remain at heightened risk for substance use and/or sexual risk behavior.

Developmental, sociodemographic and environmental factors can both positively and negatively impact perception of self (Crocker & Major 1989; Crocker, Major & Steele, 1998) as well as levels of self-esteem (Crocker, 1999) among MSM, therefore providing the potential for stress or strain (Adams, 1990; Dohrenwend, 2000) and increased likelihood for risk behavior (Ross, Henry, Freeman et al., 2004). Thus, MSM's perceived standing within the realms of broader society (i.e., at place of employment, within their neighborhood) may be directly related to their capacity to undergo a healthy process of identity formation which is therein tied to their foundational ability to engage in less risky sexual behaviors or substance use. Notably, such episodic feelings of worth or worthlessness related to self or identity may not fully lead to long term sexual risk behavior or substance use, but rather have a temporary effect on the decision making process (Kertzner, 2001) that may therefore have long term implications if the feelings occur with regularity (Martin & Knox, 1997). However, it may be critical to differentiate factors that impact MSM identity development separate from those associated with risk behaviors.

### **Mental Health Factors**

One factor that has received considerable attention and must be further examined relates to disturbed beliefs and dissatisfaction related to physical body image (Garner, Garner & Van Egeren, 1991) and the impact of such beliefs and feelings on risk behavior. Another study ( $N = 32$ ) found behavioral outcomes of club drug use and HIV seroconversion result from complex interactions between physical, emotional, and social

motivations (Jerome, Halkitis & Siconolfi, 2009). Findings of this study support the notion that HIV negative and HIV positive MSM used club drugs in different ways. Physically they found that while all men sought to increase sensation and sexual feelings, sero-positive men utilized substances to engage in pre-existing desires to partake in more extreme behaviors (such as group sex and anal fisting) while sero-negative men used drugs just to enhance sexual functioning (Halkitis, Shrem, & Martin, 2005b, cited in Jerome et al., 2009).

Findings from the Jerome et al. (2009) study associated the mental and emotional realm of drug use as a process of attempting to control negative affect associated with external and internal pressures, such as daily stressors and negative self-image amongst sero-converted men. Notably, in the social domain, the Jerome et al., study found that sero-negative men utilized substances to “test out gay-specific social scripts” while sero-converted men reported using club drugs to “overcome inhibitions” (p. 313). This study suggests that club drug use among the gay community indicates a specific necessity related to participation and cultural correlates; “using club drugs” may make one ‘more gay’ or ‘more healthy’ along the continuum of testing out gay identity roles. Taken in whole, social correlates require further examination with specific focus related to tangible outcomes such as restriction in mobility and opportunity.

Kalichman, Tannebaum & Nachimson (1998) ( $N = 289$ ) examined a multitude of other individual level factors, (i.e. self-satisfaction, body image); peer-based and environmental factors, (i.e. homophobia, heterosexism, peer pressure); and societal level factors, (i.e. oppression, stigma), that impact health and mental health issues among MSM related to substance use and sexual risk behavior (Cochran, Mays & Sullivan,

2003). The study utilized a one-time survey assessment investigating the relations between risk behaviors, substance use, and sensation seeking among sexually active gay and bisexual men. Kalichman et al., (1998) found that substances were used more by gay and bisexual men at higher risk for HIV infection than their lower risk counterparts; substance use and risky sex were attributed to disinhibition and sensation seeking; and substance use before sex may be influenced by sensation seeking related to an expected outcome of sexual activity.

Cochran et al. (2003) ( $N = 2,917$ ) examined the prevalence of mental disorders, psychological distress, and mental health services amongst sexual minority individuals. Significant findings from this study concluded that gay and bisexual men experienced higher rates of depression, panic attacks, and general psychological distress compared to their heterosexual peers, and experienced co-morbid conditions at approximately 20% higher rates than heterosexual men. A growing body of research on social inequities and mental health outcomes among the LGBT community premises that certain social statuses (i.e. race/ethnicity, socioeconomic status, sex) influence a greater likelihood of exposure to deleterious experiences that may affect access to social resources and supports as well as personal development related to self-esteem (Mays & Cochran, 2001).

Ultimately, a correlation may be drawn between MSM with low self-esteem, poor body image, mental health challenges, a lack of connectedness to a defined community (Doll et al., 1994) and increased potential for escapism (Meyer & Dean, 1995; Williamson, 2000) via risk behaviors such as poly-substance use and experimentation (Marshal, Friedman, Stall et al., 2008) or risky sexual practices (Kalichman & Cain, 2004; Kalichman et al., 1998). It remains critically important to distinguish between

diagnoses of mental health disorders, symptoms of the disorders, and dimensions of positive and negative affect which may be fundamental components that correlate with MSM sexual risk behaviors. It is also important that an exploration of mental health and MSM risk behavior explore situational, sexual and social contexts in which such behaviors occur.

### **Situational, Sexual & Social Contexts**

It is critical that an exploration of risk behavior not solely focus on individual level factors as this devalues the impact of the immediate situational, sexual and social contexts (Kelaher, Ross, Rohrsheim et al., 1994), along with those of the broader environment with regard to the internal locus of control of behavior (Ross, Henry, Freeman et al., 2004). The ongoing development of gay subculture may also be relevant to the larger discussion surrounding community-level variables that influence substance use and sexual risk behavior among the MSM population.

For instance, analysis of the data from the Halkitis et al., Project BUMPS study of 2005 ( $N = 450$ ) indicated that among self-identified club-drug using MSM, methamphetamine was widely used across age groups, educational level, race/ethnicity, and HIV status. HIV-positive men indicated a greater likelihood of methamphetamine use to avoid conflict with others, unpleasant emotions, and social pressures, and reported higher levels of use in environments such as bathhouses and while attending “sex parties” both in private homes and public venues. Other evidence suggests that the association between drug use and sexual risk differs based on situational variables associated with the sexual encounter (Drumright, Little, Strathdee et al., 2006; Stueve, O’Donnell, Duran et al., 2002) based on partner type (i.e. primary vs. casual partners). In general, the



literature typically illustrates a stronger positive correlation between drug use and sexual risk behavior with casual partners with an HIV serostatus either unknown or serodiscordant (Mustanski, Newcomb, Du Bois et al., 2011).

Yet these findings cannot be generalized to other ethnic minority populations, MSM subgroups, or across different geographic areas such as Miami (Fernandez, Bowen & Varga, 2005). The Fernandez et al., 2005 study of MSM ( $N = 262$ ) in Miami examined club drug use, finding higher rates of poly-club drug users (83%) rather than men who used a single club drug (57%) to have sex under the influence of drugs ( $p = 0.006$ ). Interestingly, at the multivariate level, this study also found significance for the use of the English language and lifetime club drug use (Fernandez, Bowen & Varga, 2005).

The sexual and social contexts in which drug use occurs combined with the types of drugs used and drug use patterns (Halkitis, Palamar & Mukherjee, 2007; Halkitis & Parsons, 2003) all likely intertwine with myriad factors related to self-perception (Kashubeck-West & Szymanski, 2008), association with gay identity (Herek & Garnets, 2007; Herek, Cogan, Gillis et al., 1998) and experiences of discrimination (Kelaheer, Ross, Rohrshem et al., 1994). The role and ongoing formation of gay culture and subculture may also be pertinent with regard to this discussion. Ross, Fernandez-Esquer & Seibt (1995) identified seven stages of gay culture formation including: sexual informal (covert meeting places); sexual formal (bars, bathhouses); formal organizations for gay men; gay-rights organizations; gay media outlets and advertisements of gay events; development of professional and recreational organizations; and the 'satellite' culture.

These locations carry significance when investigating substance use patterns, community norms regarding patterns of both substance use and sexual risk behavior, and loci of potential intervention. As culture and community quite often define trends of behavior, and public and private spaces are integral to the lives of many MSM, they often hold significance in an investigation of sexual attitudes and behaviors. The access or lack of access, comfort or discomfort, and accessibility or inaccessibility of public and private spaces all play important and unique roles in MSM's perception of self and their community, which has been shown to influence substance use and sexual risk behaviors.

Without participation and membership within a defined and safe community, group identification and cohesiveness that supports individual, community and economic empowerment may not occur (Harawa et al., 2008) resulting in marginalized segments within the MSM community who are at greater risk for substance use, transmission of HIV and sexual risk behavior. In a review of the psychosocial models of HIV risk behavior, McKirnan, Ostrow & Hope (1996) found that both substance use and the approach of high stimulation or other sexual settings facilitates cognitive disengagement, wherein people enact 'automatic' sexual scripts and/or become more responsive to external pressures toward risk.

In addition to the situational, sexual and social contexts, substance use and subsequent addiction disorder amongst MSM may be related to a range of factors stemming from social causation (Hamilton & Mahalik, 2009) or other behavioral determinants of risk such as stigma (Link & Phelan, 2006) or social stress (Meyer, Schwartz & Frost, 2008). These factors may hold implications for addressing problem drug use (Harawa, Williams, Ramamurthi et al., 2008) and HIV prevention (Halkitis et

al., 2005) providing challenges for a robust examination of potential intervention strategies with this vulnerable population (Natale & Moxley, 2009; Cochran, Mays & Sullivan, 2003).

### **Social Stress & Stigma**

Consistent with a social stress discourse that implicates socially marginalized populations including MSM (Meyer, Schwartz & Frost, 2008; Meyer, 2003) and literature surrounding the evidence for causality of distress - such stress may lead to adverse mental health outcomes (Mirowsky & Ross, 1989; Pearlin, 1989; Dohrenwend, Levav, ShROUT et al., 1992; Meyer, 1995). While grounded in power relations and most evident through the lens of larger societal standards, stigma adds to perceptions of powerlessness, lack of access to needed resources, less influence over others, and less control over one's fate in the MSM community (Link & Phelan, 2006). Quinn & Chaudoir (2009) examine the role of "concealable stigmatized identities" wherein an individual hides their identity due to an associated social devaluation. Such identification may render an individual vulnerable to prejudice and discrimination solely on the basis of this attribute (e.g., loss of status, employment discrimination, personal rejection). Additionally, these identities have negative stereotypes associated with them (Quinn & Chaudoir, 2009).

The impact of perceived and experienced stigma by MSM can have deleterious effects as indicated by studies examining victimization through crime ( $N = 2,259$ ) (Herek, 2007; Herek, Gillis & Cogan, 1999) non-disclosure of HIV status (Halkitis & Parsons, 2003) "bareback" or unprotected sex (Courtenay-Quirk, Wolitski, Parsons et al. 2006; Halkitis, Zade, Shrem et al., 2004), drug use and experimentation (Marshall, Friedman,

Stall et al., 2008; Hirshfield, Remien, Humberstone et al., 2004) and sex with multiple partners (Parsons, Severino, Nanin et al., 2006).

Thus, subsequent behavior related to perceived stigma or social rejection (Chartier, Araneta, Duca et al., 2009) can lead to increases in high-risk behavior. One study ( $N = 456$ ) found that when the perception of stigma was high, there was a direct correlation with depression and avoidant coping strategies (Courtenay-Quirk et al., 2006). In addition, this study found that while there was stigma within the gay community associated with sero-positive men, such stigma did not manifest itself through non-disclosure of their HIV positive status with potential partners and was also unrelated to increased substance use. While sero-positive MSM with heightened perception of stigma did seek out sex in more anonymous settings, this did not inherently indicate or support the assumption of sexual risk behaviors.

It may be important to distinguish between two types of stress conferred by social disadvantage, such as experiential stress, (i.e. events and conditions that tax an individual's ability to cope), and structural stress, (i.e. racism) (Meyer et al., 2008; Adams, 1990). To expand upon the role of stress and stigma as determinants for risk behavior, one important area to explore is the close relation between prejudice and discrimination as restricting an individual's potential for mobility and opportunity. Disjunctions between such means and goals are likely to be experienced more frequently by members of disadvantaged, rather than advantaged groups, at every level of socioeconomic status (SES) (Dohrenwend et al., 1992). Such a discussion surrounding mobility and opportunity related to MSM and the impact of perceived or actualized

prejudice or discrimination may hold both positive and negative implications for substance use and sexual risk behavior among this population.

One study ( $N = 4,914$ ) found that social selection assumes that the rate of mental health challenges in a given SES stratum are functions of intergenerational and intra-generational sorting and sifting processes whereby the healthy and able tend to rise to or maintain high status, and the unhealthy and disabled tend to drift down from high SES or fail to rise out of low SES (Dohrenwend et al., 1992). Notably, Dohrenwend found that social causation processes were more significant in the relation between SES and mental health disorders - which holds greater relevance in the discussion surrounding MSM, social stress, stigma and risk behavior.

When SES was held constant, data suggested that social causation and marginalization due to ethnic minority status, was stronger than social selection for mental health disturbance or substance abuse. Finally, the Dohrenwend study (1992) found that there was a gender dynamic, wherein women were more likely to experience differences in depression across social marginalization spectrums, while men showed a gender specific mode of reaction that encompassed antisocial behavior and substance use.

### **Minority Stress Theory**

While the field of social work has historically been framed through a strengths perspective and the effective use of an empowerment model to address stigma and other social stressors faced by vulnerable populations (Dentato, Craig & Smith, 2010), one of the most prominent theoretical and explanatory frameworks of MSM health risk is the minority stress model. Minority stress theory proposes that MSM health disparities can be explained in large part by stressors induced by a hostile, homophobic culture, which

often results in a lifetime of harassment, maltreatment, discrimination and victimization (Meyer, 2003; Marshal et al., 2008) and may ultimately also impact access to care. While this theory has been applied to other populations including women, immigrants, the impoverished and racial/ethnic minorities, there is still much room for additional investigation among sexual minority populations, as they do not have as rich a history in sociological investigation (Meyer et al., 2008).

The Meyer model and framework for *Minority Stress Processes in Lesbian, Gay & Bisexual (LGB) Populations* (2003) depicts factors associated with various stressors, coping mechanisms and their positive or negative impact upon mental health outcomes. Significantly, many of the concepts in the model overlap, representing their interdependency (Meyer, 2003; Pearlin, 1999b). The model describes stress processes, including experiences of prejudice, expectations of rejection, hiding, concealing, internalized homophobia and ameliorative coping processes (Meyer, 2003). Such stressors may arise from the environment, such as homophobia or sexual stigma, and require an individual to adapt while causing significant stress, ultimately impacting physical and mental health outcomes (Dohrenwend, Levav, Shrout et al., 1992). Underlying assumptions in the concept of minority stress include stressors that are unique (not experienced by non-stigmatized populations); chronic (related to social and cultural structures); and socially (social processes, institutions and structures) based (Meyer, 2003).

A strong correlation may be drawn between minority stress theory, which underscores stress processes such as the experience of prejudice events, expectations of rejection, hiding and concealing, internalized homophobia, ameliorative coping processes

(Meyer, 2003) and a greater likelihood for mental health problems among MSM and other minority populations. Therefore, stress theory provides a useful framework to explain and examine health disparities as a sociological paradigm that views social conditions as a cause of stress for members of disadvantaged social groups, which in turn can increase risk for, or cause disease (Meyer et al., 2008; Dressler, Oths & Gravlee, 2005; Aneshensel, Rutter & Lachenbruch, 1991; Pearlin, 1989).

### **Naturalism**

The historical origins of minority stress theory can be found within Emile Durkheim's two-level worldview and theory of naturalism. Durkheim preferred explanations that attribute causal power, not limited to the intentions or assessment of the people involved, but to unconscious or unacknowledged conditions (Baert, 2005) within a broader social context. Social theorists have been concerned with the alienation of viewing individuals separately from social structures, norms and institutions (Bhaskar, 1989). In that regard, the holistic approach taken by Durkheim argues that society cannot be seen as an aggregate of its components - there is more to society than simply the sum of its individuals (Baert, 2005). The importance of social environment was central to Durkheim's theory that people need moral regulation from society to manage their own needs and aspirations (Meyer, 2003).

Durkheim's view of naturalism centers on the idea that sociology studies empirical regularities and can do so either through causal or functional analysis (Baert, 2005). Although he used a causal criterion to establish the reality of social facts, on a collectivist conception of sociology, the same criterion can be employed (with more epistemological consistency) to establish their reality on a relational one (Bhaskar, 1989).

Interestingly, some theorists argue for a qualified anti-positivist naturalism in which it is possible to give an account of science under which the proper and more or less specific methods of both the natural and social sciences can fall, and not deny important differences in these methods, grounded in the real differences that exist in their subject matters (Tyson, 1995).

What is inexhaustible about the Durkheimian legacy is his insight that sociology must look for its effects at a generally discursive level, remaining cognizant that it is a part of modernity's particular collective representations (Cormack, 1996). Ultimately minority stress theory, which views social conditions as the source of morbidity and distress for minority persons, advances an ideological agenda that promotes social change toward a more egalitarian society (Meyer, 1995). It also provides a useful approach to understanding the relations between pervasive prejudice, discrimination and health outcomes (Meyer et al., 2008).

### **Predictors of Minority Stress**

Three primary predictors of minority stress include external prejudicial experiences, expectations of rejection and internalized homophobia. These predictors will be further examined with regard to their individual or collective impact upon substance use and/or sexual risk behavior among MSM. The following paragraphs help define an expanded view of the three predictors of minority stress examined throughout this study.

#### **External Prejudice**

Experiences with discrimination and prejudice relate to both prejudicial policies (i.e. structural or institutional) as well as specific prejudicial events (i.e. experiential) (Meyer, 1995; Meyer et al., 2008). Prejudice often leads to discrimination; therein



adding significant stress to a minority individual's life (Meyer et al., 2008). Notably, lesbian, gay and bisexual (LGB) individuals of all races experience acute stressors, such as experiences with discrimination, more than their heterosexual peers. LGB individuals from black and Latino backgrounds are exposed to more chronic stressors than white LGB and heterosexual individuals (Meyer et al., 2008) underscoring the need for continued examination of racial/ethnic considerations in addition to gender, sexual orientation, gender expression and minority stress factors.

### **Expectations of Rejection**

An expectation of rejection, directly related to anti-gay social stigma, adds significant stress to the experiences of gay men: "a seemingly minor event [...] may evoke deep feelings of rejection [...] disproportionate to the event that precipitated them" (Meyer, 1995, p. 42). This perceived rejection adds significant stress to a gay man's life, while also straining coping capacity (Meyer, 1995).

### **Internalized Homophobia**

Meyer (1995) argues that internalized homophobia - negative feelings one may hold related to their own sexual orientation - develops from a heterosexist society that develops during a person's sexual identity formation process: "as self-labeling begins, individuals also begin to apply negative attitudes to themselves and the psychologically-injurious effects of societal homophobia take effect" (p. 40). Due to the strength of this socialization process, the individual experiences psychological adjustments well past the initial identity formation stage and throughout the life course (Hetrick & Martin 1984; Gonsiorek, 1988; Malyon, 1982; Nungesser, 1983 as cited in Meyer, 1995). Similarly, studies and literature surrounding heteronormativity often examine the cultural

dichotomy that structures social relations entirely in terms of heterosexuality-homosexuality. If sexual stigma refers to the shared knowledge that homosexuality is denigrated, and heterosexism (subsuming heteronormativity) refers to the cultural ideology that promotes antipathy, the task remains to account for differences among individuals in how they incorporate the antipathy into their attitudes and enact it through their actions (Herek, 2004).

### **Interventions**

While a pertinent sociological examination would include all potential determinants and factors for substance use and sexual risk behavior among MSM, it may also be critical to explore traditional interventions. Historically, substance abuse interventions utilized with the MSM population primarily included peer-based, mutual aid twelve-step models (Orwat, Saitz, Tompkins et al., 2010) such as alcoholics anonymous (AA), narcotics anonymous (NA) and/or crystal meth anonymous (CMA).

Mainstream drug treatment programs and twelve step groups may not adequately serve the needs of gay and bisexual men (Harawa et al., 2008; Shoptaw, Reback, Frosch et al., 1998) as they conceptualize drug addiction as a spiritual and medical disease (LaSala, 2006) while aiming for total abstinence and typically have high attrition rates. In contrast, poly-substance using gay men may react best to a recovery environment that addresses the unique factors (Bimbi, Nanin, Parsons et al., 2006) that lead them to substance use, such as external and internal homophobia, and which provide culturally realistic methods to curb use.

Furthermore, the emphasis on spirituality may alienate MSM who fear homophobia from religious groups (Kanouse et al., 2005). In other words, MSM

experience substance use within a unique societal context which traditional intervention methods inadequately address. Findings in the literature support this assessment, such as Project BUMPS, which indicated that treatment of methamphetamine addiction among gay and bisexual men must take into account the complex interrelationships between mental health, drug use, sexual risk taking and HIV (Halkitis et al., 2005) - one which is quite unique to this community. However, few interventions have targeted drug-using MSM in particular, especially those who use non-injection stimulant drugs, demonstrating yet another gap within the literature (Kanouse et al., 2005).

Ongoing study is necessary to reduce likelihood of progression to greater severity of distress related to mental health, risk behaviors, or impairment in functioning by twelve step programs (Orwat, Saitz, Tompkins et al., 2010). In the same fashion, the social work practice community must strive to piece together the necessary supportive systems and services (Dentato, Craig & Smith, 2010) to best meet the needs of the MSM community and assist wherever possible in the treatment of their addiction disorders or overarching mental health needs. Few studies have examined the role of co-occurring mental health diagnoses and use of various psychotropic medications concurrently with club drug use and sexual risk behavior. Furthermore, innovative conceptions of risk and risk prevention are needed that emphasize non-rational, affective processes in risk-taking and decision-making (McKirnan et al., 1996).

### **Summary**

Continued research is needed with relation to the ongoing investigation of the roles that sensation seeking and other personality and sociodemographic variables, (i.e. age, mental health diagnoses, socioeconomic status, place of origin) may play in the

engagement of risk taking behaviors (Dohrenwend et al., 1992) among MSM. In the same regard, there is a small, but growing body of empirical research among community and general population studies suggesting a relationship between minority stressors and deleterious behavioral and mental health outcomes among sexual minorities (Hatzenbuehler et al., 2008). Ongoing study and subsequent findings may lead researchers, clinicians and policy makers to further investigate the implications of specific individual level determinants for sexual risk behavior and substance use among MSM. Such findings may additionally assist with a greater understanding of the impact of group and community level determinants of risk and/or factors associated with social causation.

Such developing research may then be used as the foundation for new prevention and intervention programs for MSM and substance use or sexual addiction disorders. As counselors attempt to intervene in the risk taking behaviors of gay and bisexual men, continued research on the effectiveness of such interventions and approaches is greatly needed (Dohrenwend et al., 1992). While the wider literature explores several theoretical origins and empirical studies regarding MSM, sexual risk behavior and substance use issues, there remains much room for further longitudinal study. As such, the predictive validity of minority stress factors over time remains inadequately understood (Hatzenbuehler et al., 2008) and should be further explored to determine whether they predict risk behaviors associated with sexual attitudes, behaviors and practices and/or substance use within the MSM community and equally among other vulnerable populations.

## CHAPTER THREE

### METHODOLOGY

This study examined the impact of factors associated with minority stress theory, including experiences of external prejudice, expectations of rejection and internalized homophobia, upon a cohort sample of men who have sex with men (MSM) and resultant associations with substance use and sexual risk behavior such as unprotected receptive and insertive anal intercourse with primary and non-primary partners.

This chapter outlines the operational definitions of the variables and presents the study aims, hypothesis and research questions. The remainder of the chapter will present the study's methodology and focus on the population of study, sampling, instrumentation, methods of data analysis and limitations.

#### **Definitions of Concepts**

The following subsections include the operational definitions used in the study's hypothesis and study aims.

#### **Substance Use**

Substance use was operationally defined as an affirmative response to use of any one of the five club drugs (methamphetamine, ecstasy, ketamine, cocaine or gammahydroxybutrate) at least once within the four months preceding the baseline observational period assessed by Project BUMPS (Halkitis et al., 2005).

**Sexual Risk Behaviors**

Sexual risk behaviors were operationally defined as an affirmative response to receptive or insertive anal sex without a condom, either with primary partner or non-primary partners of positive, negative or unknown HIV status, while on drugs or not on drugs, at least once within the four months preceding the baseline observational period as assessed by Project BUMPS (Halkitis et al., 2005).

**External Prejudice**

External prejudice was operationally defined as any time when the individual perceived or experienced either distal or proximal anti-gay prejudice, violence or discrimination based in part on their sexual identity (Meyer, 1995). Respondents had to positively respond to a series of questions from the Internalized Homophobia Scale (Reaction to Homosexuality Scale D Revised; Ross & Rosser, 1996) (See Appendix A: Internalized Homophobia Scale) to meet the criterion for experiences related to external prejudice.

**Expectations of Rejection**

Expectations of rejection were operationally defined based on the perception of social stigma against homosexual people by the research participant (Meyer, 1995). Respondents had to positively respond to a series of questions from the Internalized Homophobia Scale (Reaction to Homosexuality Scale D Revised; Ross & Rosser, 1996) to meet the criterion for expectations of rejection. Additionally, raters assessed expectations of rejection on a five-point scale adapted from the Sense of Belonging Index (Hagerty & Patusky, 1995) (See Appendix B: Sense of Belonging Index)

## **Internalized Homophobia**

Internalized homophobia was operationally defined as quantifiable feelings of internalized shame about one's sexual identity such as wishing one wasn't gay or felt it was a personal shortcoming (Frost and Meyer, 2009). Respondents had to positively respond to a series of questions from the Internalized Homophobia Scale (Reaction to Homosexuality Scale D Revised; Ross & Rosser, 1996). Additionally, respondents were assessed via the Lesbian and Gay Identity Scale (Mohr & Fassinger, 2000), (See Appendix C: Lesbian and Gay Identity Scale) on an identical five-point scale. Lastly, respondents were assessed for internalized homophobia via the Conceptualization of Masculinity Scale (Halkitis, Green & Wilton, 2004), (See Appendix D: Conceptualization of Masculinity Scale).

## **Research Study Aims & Hypothesis**

The study aims included the following: (1) an assessment of the correlation between and relationship of minority stress factors with one another; (2) an evaluation of whether certain aspects of minority stress were independently or collectively associated with unprotected insertive and receptive anal intercourse, drug use and other individual-level co-factors with the study participant's primary partner; and (3) an evaluation of whether certain aspects of minority stress were independently or collectively associated with unprotected insertive and receptive anal intercourse, drug use and other individual-level co-factors with the study participant's non-primary partners.

The hypothesis of this study is that minority stress factors including external prejudice, expectations of rejection and/or internalized homophobia will increase likelihood of risk associated with unprotected insertive and receptive anal intercourse

among MSM with primary and non-primary partners whether on drugs or not on drugs at the time of occurrence (See Figure 2. Minority Stress Processes: Adjusted). The definition of sexual risk behavior can vary greatly depending upon the source or affiliated research. Therefore, the types of sexual risk behavior that will be examined have the greatest likelihood for sexually transmitted infections such as HIV/AIDS and include the following three types: unprotected anal intercourse with primary partner (UAI) while on drugs and while not on drugs; unprotected insertive anal intercourse (UIAI) and unprotected receptive anal intercourse (URAI) with non-primary partners while on drugs and while not on drugs.

### **Research Design**

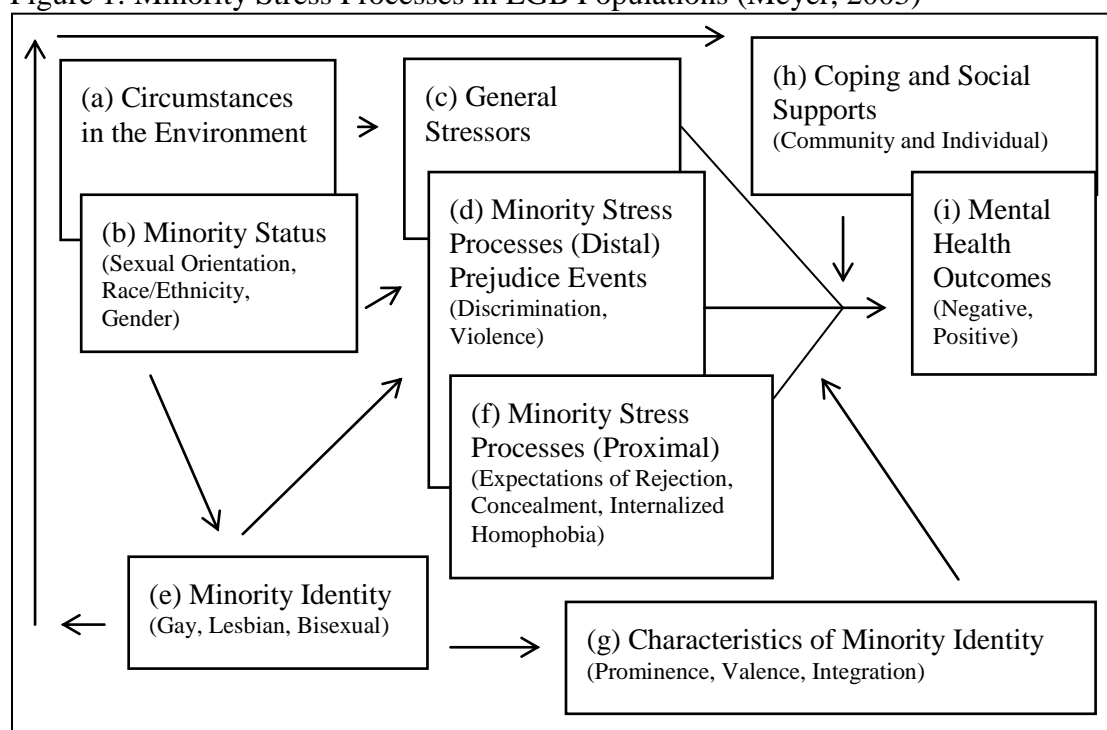
This study analyzed data from Club Drug Use and Men's Health: A Community Study ( $N = 450$ ) also known as Project BUMPS, a National Institute of Health/National Institute on Drug Abuse funded (#R01 DA13798) longitudinal study of club drug using gay and bisexual men in New York City examining usage of five club drugs: cocaine, ecstasy, ketamine, methamphetamine, and gammahydroxybutrate (GHB) (Halkitis, Green & Mourgues, 2005). The study was later named Project BUMPS (Boys Using Multiple Party Substances) for recruitment purposes and to increase the potential for effective street-level outreach materials targeting the MSM club-drug using population. Mixed method assessments occurred in four waves of data collection over the course of one year including baseline, 4, 8, and 12 months respectively. The purpose of the seminal Project BUMPS study was to assess drug use patterns and contexts for use including social, personal and environmental realms.



## Minority Stress Model

The Meyer model and framework for *Minority Stress Processes in Lesbian, Gay & Bisexual (LGB) Populations* (2003) (Figure 1) was adjusted for use with this study. The first model depicts stress and coping factors and their positive or negative impact upon mental health outcomes. Such stressors may arise from the environment (box a) and may include factors such as minority status (box b), minority identity (box e), and characteristics of minority identity (box g), while general stressors affiliated with minority stress processes from distal to proximal levels (boxes c, d, f) whether in conjunction with the aforementioned stressors or separately may impact mental health outcomes (box i). Lastly, coping and social supports (box h) may also impact general stressors, status or identity. Note that many of the boxes overlap which represents their interdependency (Meyer, 2003; Pearlin, 1999b).

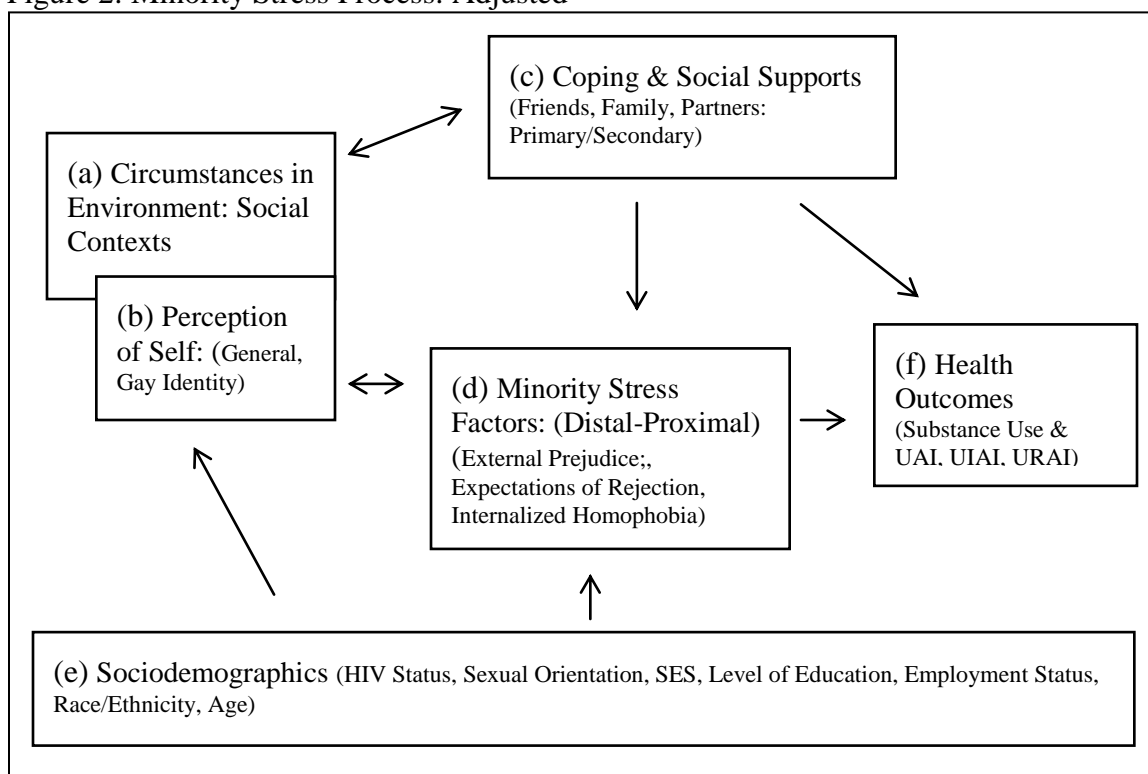
Figure 1: Minority Stress Processes in LGB Populations (Meyer, 2003)



### Adjusted Minority Stress Model

The adjusted framework and model in Figure 2 represents a realignment of the aforementioned Meyer (2003) framework and adds concepts derived from the Dohrenwend (1998b) study, while incorporating concepts from the data collected in the Project BUMPS study (Halkitis et al., 2005) to reflect an examination and association for context or environments in which substance use and sexual risk behaviors occur among MSM as well as to specify outcomes associated with substance use and sexual risk behavior.

Figure 2: Minority Stress Process: Adjusted



While circumstances in the environment such as social contexts where substance use or sexual risk behavior occurs (box a) may overlap with the perception of self (box b), a correlation may be made with regard to coping and social supports (box c), minority

stress factors which are collapsed in this model (box d) and sociodemographic factors (box e) ultimately impacting health outcomes (box f) associated with substance use and/or sexual risk behavior. This study will examine the impact of minority stress factors (box d) on substance use and specific types of sexual risk behavior (box f) while also assessing any correlation with sociodemographic factors (box e). The role of coping and social supports (box c) will also factor into participant's behavior with primary and non-primary partners and unprotected insertive and receptive anal intercourse. Lastly, while notable and critical elements of this model, (box a) and (box b) will be assessed in future studies related to a more comprehensive examination of the adjusted minority stress processes model.

### **Population of Study**

#### **Sample Selection**

Participants from the Project BUMPS study were recruited throughout the five boroughs of New York City prior to the year of the study in 2004-05. Participants were recruited through the use of active methodologies, which included the distribution of palm cards at gay venues including bars, dance clubs, bathhouses, and other mainstream gay venues such as coffee houses. In addition, passive recruitment was conducted through the posting of flyers in venues such as local community-based organizations as well as through bulletin boards maintained in retail locations frequented by gay and bisexual men. Recruitment materials contained a telephone number, which phone respondents called to be screened. To meet eligibility criteria, phone respondents (1) had to be at least 18 years of age, (2) self-identify as gay or bisexual, and (3) self-report at least six instances of club drug use within a year prior to phone screening, with a

minimum of one instance of use in combination with sex in the three months prior to screening (Halkitis, Green & Mourgues, 2005), representing consistent patterns of substance use and sexual risk behavior with this population (Halkitis and Parsons, 2002; Klitzman et al., 2000).

For the purposes of the Project BUMPS study, club drugs included ecstasy, powdered cocaine, GHB, ketamine, and methamphetamine. While the term “club drug” tends to exclude cocaine, the Project BUMPS investigation considered cocaine a club drug because of its high association with gay social venues in New York City (Halkitis and Parsons, 2002). Screened individuals who reported use of heroin or crack cocaine on more than five occasions in the year prior to phone screening were excluded because these substances are less associated with “party” settings and more associated with social exclusion (Nabben and Korf, 1999). Participants were compensated for time and travel at the end of each assessment with \$30, \$35, \$40, and \$50, respectively for baseline, 4, 8 and 12 month assessments (Halkitis, Green & Mourgues, 2005).

### **Demographic Information**

The following Project BUMPS demographic information was collected at baseline: age (18-24, 25-40 and 40+); sexual orientation (gay/queer/homosexual, bisexual); educational level (high school or less, some college or associate’s, bachelor’s degree, graduate degree); racial/ethnic identification (African American/Black, Asian/Pacific Islander, Hispanic/Latino, Mixed Race, White); confirmed HIV status (HIV positive or HIV negative); socioeconomic status (less than \$10K per year, \$10K to \$39,999 per year, \$40K to \$74,999 per year, more than \$75K per year, missing) and employment status (full-time work, part-time work, disability, unemployed or missing).

Demographic information was based on self-report (Halkitis, Green & Carragher, 2006; Halkitis, Green & Mourgues, 2005).

On average the study participants were 33 years old ( $SD = 7.93$ ) and ranged in age from 18-67 (Halkitis, Green & Carragher, 2006). About half of the baseline sample were men of color, 88% identified as gay ( $n = 396$ ) and the remainder as bisexual ( $n = 54$ ). At baseline, 150 men reported an HIV positive status and were confirmed as such. Of the total participants self-reporting HIV negative status ( $n = 274$ ) or HIV unknown status ( $n = 26$ ) there were sixteen participants ( $n = 16$ ) found to have an HIV positive status upon further testing and confirmation (Halkitis, Green & Carragher, 2006) at baseline.

### **Instrumentation**

#### **Dependent Variables**

The dependent variables of substance abuse and sexual risk behavior are defined by at least one time usage of a club drug and at least one occasion of sexual risk behavior in the previous four months prior to the baseline observational period. Based on previous literature, such patterns of drug use represented consistent patterns of usage among similar urban MSM samples (Halkitis, Mukherjee, Palamar, 2008; Halkitis & Parsons, 2002; Klitzman et al., 2000). For the purpose of this study, data were analyzed through a series of questions about frequency of club drug use and the type of sexual risk behavior with primary and/or other partners of HIV positive, HIV unknown and HIV negative statuses and whether such risk behavior occurred under the influence of drugs either by respondent, primary partner or other non-primary partners.

Substance use was assessed on a five point scale ranging from (0) never, (1) less than once a month, (2) one to two times a month, (3) one to two times a week, (4) more

than twice a week, with regard to the question: “In the last four months, how often have you used...” followed by each of the five club drugs examined: methamphetamine, ecstasy, ketamine, cocaine or GHB. An affirmative response to at least one time usage of one of the five club drugs in the four months prior to baseline signified substance use. Variables were dichotomized to indicate “use” or “no use” (0 = *no use*, 1 = *use*).

Sexual risk behavior was first assessed through determination of the HIV status of the primary partner of the respondents using the qualifier: “What is your primary partner’s HIV status?” followed by the four responses: (1) my partner is HIV negative, (2) my partner is HIV positive, (3) my partner has not been tested and (4) my partner has not talked with me about his HIV status. An affirmative response to items 1, 2, or 3 determined sero-negative, sero-positive or unknown status of primary partner and signified potential for sexual risk behavior.

Additionally, sexual risk behavior was assessed on a numerical scale measuring number of times in the range of 0-999, or through the responses: don’t know (9997), refuse to answer (9998) and not applicable (9999) with regard to assessment for whether a participant engaged in either insertive or receptive anal sex with a primary or non-primary partner of sero-negative, sero-positive or sero-unknown status. An affirmative response to at least one time report of sexual risk behavior was confirmed. Please note the following clarifier for non-primary partners was also part of the prompt: “non-primary partners include tricks, one night stands and fuck buddies.” An affirmative response to at least one occasion in which a respondent engaged in unprotected insertive or receptive anal sex with primary or other partner, while on drugs or while not on drugs, signified sexual risk behavior.

A dichotomous variable was computed for each type of sexual risk behavior including: unprotected receptive and insertive anal intercourse with primary partner (0 = *other*, 1 = *UAI*); unprotected receptive anal intercourse with non-primary partner (0 = *other*, 1 = *URAI*); and unprotected insertive anal intercourse with non-primary partner (0 = *other*, 1 = *UIAI*). Each variable contained all three partner types (sero-negative, sero-positive and unknown status, whether with primary or non-primary partner. Each variable for non-primary partner contained two types of drug responses including (“on drugs” or “not on drugs”) at the time of sexual risk behavior. Variables for unprotected insertive and receptive anal sex with primary partner, while on drugs and while not on drugs, were collapsed into one variable to increase the sample size.

### **Independent Variables**

External prejudice, expectations of rejection and internalized homophobia were assessed through the creation of independent variables associated with each category of minority stress. Items for each variable were derived from the Project BUMPS study and are correlated with a specific scale as mentioned below. Each of the three items for minority stress were separately collapsed into five categorical responses including: “strongly disagree”, “disagree”, “neither disagree or agree”, “agree”, and “strongly agree”.

The measure for external prejudice was assessed by the respondent’s positive response to a series of questions taken from the Internalized Homophobia Scale (Reaction to Homosexuality Scale D Revised; Ross & Rosser, 1996) to meet the criterion for experiences related to external prejudice. Experiences of prejudice were scored on a five point scale ranging from (1) strongly disagree, (2) disagree, (3) neither disagree or agree,

(4) agree, (5) strongly agree, with regard to the following questions: “Most people have negative reactions to homosexuality”, “Society still punishes people for being gay”, “Only a few people discriminate against gay men” and “Discrimination against gay people is still common”.

The Internalized Homophobia Scale (Reaction to Homosexuality Scale D Revised; Ross & Rosser, 1996) (See Appendix A) was developed to measure feelings of internalized homophobia among MSM and is comprised of items derived from theoretical and clinical reports of internalized homophobia (Ross & Rosser, 1996). At a baseline health seminar, 262 MSM completed the scale in which four dimensions of internalized homophobia were examined including: (1) public identification as gay, (2) perception of stigma associated with being homosexual, (3) social comfort with gay men and (4) the moral and religious acceptability of being gay. The scales computed from these dimensions had internal reliabilities (coefficient alphas) of .85, .69, .64, .62, respectively (Ross & Rosser, 1996). Data were collected at baseline, post-seminar and at the 2-month follow up periods. Findings suggested that it was the perception and anticipation of negative response to sexual orientation, rather than the actual response which were associated with discomfort and attempting to downplay or hide orientation. The data also confirmed that perception of stigma associated with being gay is a component of internalized homophobia (Ross & Rosser, 1996). Lastly, the researchers concluded that the data and this scale do suggest that the clinical construct of internalized homophobia is measurable and psychometrically has both internal reliability and concurrent validity (Ross & Rosser, 1996).



The measure for expectations of rejection was assessed by positive response to a separate series of questions taken from the Internalized Homophobia Scale (Reaction to Homosexuality Scale D Revised; Ross & Rosser, 1996) to meet the criterion for expectations of rejection. Experiences of rejection were assessed on a five point scale ranging from (1) strongly disagree, (2) disagree, (3) neither disagree or agree, (4) agree, (5) strongly agree, with regard to the following questions: “It is harder in life to be a gay man than a straight man” and “Making an advance to another man is difficult for me”.

Additionally, expectations of rejection were assessed through an additional question taken from The Sense of Belonging Index on a five point scale ranging from (1) strongly disagree, (2) disagree, (3) neither disagree or agree, (4) agree, (5) strongly agree, with regard to the following question: “I would like to make a difference to people or things around me but I don't feel that what I have to offer is valued” (Sense of Belonging Index; Hagerty & Patusky, 1995).

The Sense of Belonging Index (See Appendix B) developed and tested psychometrically by Hagerty & Patusky (1995) measured self-report of a sense of belonging among adults. The index is a 27-item; self-report instrument consisting of two separately scored scales, SOBI-P (psychological state) and SOBI-A (antecedents). Content validity was assessed by a panel of experts and construct validity; internal consistency and retest reliability were examined through three subject groups: community college students, patients in treatment for major depression and Roman Catholic nuns (Hagerty & Patusky, 1995). The construct validity of the SOBI scales were examined via factor analysis, contrasted groups and correlations with measures of similar constructs. Two types of reliability were assessed for SOBI-P and SOBI-A: internal consistency and

test-retest reliability. Internal consistency reliability was examined using coefficient alphas, generated separately for each subject group. Coefficient alphas for SOBI-P and SOBI-A respectively were: students, .93 and .72; depressed clients, .93 and .63; and nuns, .91 and .76 (Hagerty & Patusky, 1995). Results suggested that SOBI-P is a valid and reliable measure of sense of belonging and that SOBI-A appears to reflect an individual's motivation for sense of belonging but requires additional study (Hagerty & Patusky, 1995).

The measure for internalized homophobia was assessed by the positive response to a series of questions taken from the Internalized Homophobia Scale (Reaction to Homosexuality Scale D Revised; Ross & Rosser, 1996); including, "Social situations with gay men make me feel uncomfortable", "I avoid thinking about my homosexuality/bisexuality", "When I think about other gay men, I think of negative situations", "It is important to me to control who knows about my homosexuality/bisexuality" and "I would prefer to be more heterosexual" on an five point scale ranging from (1) strongly disagree, (2) disagree, (3) neither disagree or agree, (4) agree, (5) strongly agree.

Additionally, respondents were assessed via questions taken from the Lesbian and Gay Identity Scale (Mohr & Fassinger, 2000) on an identical five point scale with relation to the question: "Admitting to myself that I'm a gay/bisexual man has been a very painful process". Lastly, respondents were assessed for internalized homophobia via the Conceptualization of Masculinity Scale (Halkitis, Green & Wilton, 2004) with regard to the questions: "I watch my behavior to make sure that I act masculine around other gay

men” and “I am not comfortable around non-masculine gay men” on the same five point scale to assess internalized homophobia.

The Lesbian and Gay Identity Scale (LGIS) (See Appendix C) developed by Mohr and Fassinger (2000) consisted of 40 items that were rated on a 7-point scale from “disagree strongly” to “agree strongly” and the scale was sampled among 590 lesbians and 414 gay men (Mohr & Fassinger, 2000). Factor analyses were conducted to select items for the final versions of the scale and validity analyses were conducted against several other measures. The researchers found that covariation among six factors (need for privacy, need for acceptance, internalized homonegativity, difficult process, identity confusion and superiority) were well explained by a second order structure composed of three higher-level factors: an emphasis on identity confusion; superiority; and negative beliefs/feelings related to one’s sexual orientation (Mohr & Fassinger, 2000). Coefficient alphas for each of the six factors were: need for privacy (.81); need for acceptance (.75); internalized homonegativity (.79); difficult process (.79); identity confusion (.77) and superiority (.65) (Mohr & Fassinger, 2000). Validity of the LGIS for use with adult lesbian and gay individuals was supported through correlations with measures of self-esteem, same and other group orientation (Mohr & Fassinger, 2000). The researchers concluded that scores on these scales had internal consistency reliability estimates that were acceptable for research purposes (Nunnally, 1978; Mohr & Fassinger, 2000).

The Conceptualization of Masculinity Scale (See Appendix D) developed by Halkitis, Green & Wilton, (2004) utilized an original set of 34 items based on a five-point Likert-type scale from “completely disagree” to “completely agree” to assess men’s conceptions of masculinity. Factor analytic methods yielded three subscales: conceptions

of masculinity as physical appearance ( $\alpha = .81$ ), conceptions of masculinity as sexual behavior ( $\alpha = .83$ ), and conceptions of masculinity as social behavior ( $\alpha = .67$ ) (Halkitis, Green & Wilton, 2004). Factor analyses were conducted in which several items were omitted from the final scales, leaving a total number of 16 questions. Validity was supported through a two-phase study in which a qualitative sample ( $n = 15$ ) were compared to a quantitative sample ( $n = 114$ ) suggesting a conception of masculinity based on physical and sexual ideals that is embraced by certain segments of the gay community (Halkitis, Green & Wilton, 2004).

A dichotomous variable was computed for each type of sociodemographic factor and included the following data collected at baseline: age: 18-24, 25-40 or 40+, which was assessed through (0 = 18-24, 1 = 25-40+); educational level: high school or less, some college or associate's, bachelor's degree or graduate degree, which was assessed through (0 = no bachelor's degree, 1 = bachelor's degree or higher); racial/ethnic identification: African American/Black, Asian/Pacific Islander, Hispanic/Latino, Mixed Race or White which was assessed through (0 = non-white, 1 = white); confirmed HIV status: HIV positive or HIV negative which was assessed through (0 = HIV negative, 1 = HIV positive); and employment status: full-time work, part-time work, disability, unemployed or missing, which was assessed through (0 = unemployed, 1 = employed).

### **Data Collection Procedure**

Staff of the Project BUMPS study recruited participants for study from February 2001 until October of 2002 throughout the five boroughs of New York City. Those who met eligibility requirements were scheduled for baseline assessment, which included informed consent, the initial assessment, and confirmation of HIV status. Participants

who reported positive HIV serostatus were asked to provide proof through documentation, and those who reported negative or unknown serostatus were tested for HIV antibodies through the OraSure® system (OraSure Technologies, Bethlehem, PA) and were scheduled to return 2 weeks later for antibody results (Halkitis, Green & Mourgues, 2005). All participants who were tested for HIV were pre- and post-test counseled in accordance with the guidelines set by the New York State AIDS Institute and outlined by the New York State HIV Confidentiality Law. Results of identified seroconversions are described elsewhere (Halkitis et al., 2006; Halkitis, Green & Mourgues, 2005; McElrath, Chitwood, Griffin, et al., 1994).

During each assessment, qualitative and quantitative assessments were administered to each participant in a private room. Quantitative and qualitative measures were delivered via audio computer administered self-interview (ACASI). The ACASI program contains voice recordings, which read the survey questions through headphones, while participants can simultaneously read the questions on the screen. The Institutional Review Board of the institution associated with Project BUMPS approved the original study protocol and a federal certificate of confidentiality was obtained (Halkitis et al., 2005). The SPSS data file was obtained for this study with written permission from the Project BUMPS principal investigator. Final approval from the Institutional Review Board of the institution associated with this secondary data analysis determined that this human subject research project was exempt from the IRB oversight requirement according to 45 CFR 46.101 on April 5, 2011.

## Data Analysis

The relation between the various selected factors of minority stress, substance use, unprotected insertive anal intercourse (UIAI) or unprotected receptive anal intercourse (URAI) and sociodemographic factors were investigated via binary logistic regression and use of multivariate modeling for subsequent analysis. Models were tested to examine the extent to which minority stress factors explained the likelihood of engaging in unprotected insertive anal intercourse or unprotected receptive anal intercourse with primary or non-primary partners whether on drugs, or not on drugs at the time of occurrence. Models were further examined via the relation of dichotomized sociodemographic factors including age, race/ethnicity, education, employment, and HIV status.

Exploratory analyses were used to test the relation between minority stress and unprotected insertive or receptive anal intercourse with primary or non-primary partners whether on drugs, or not on drugs at the time of occurrence. Minority stress was separated into three categories: external prejudice, expectations of rejection and internalized homophobia. To determine the level of association between the three areas associated with minority stress factors, scores were added for each item (for each stress factor), taking the average over the number of items in that factor. Reliability for each factor was checked using Chronbach's Alpha. Correlations among all three minority stress factors were between .24 and .43 illustrating no collinearity problems for modeling.

To test the hypothesis that minority stress factors will increase likelihood of sexual risk associated with unprotected insertive and receptive anal intercourse among MSM with primary and non-primary partners, whether on drugs or not on drugs at the

time of occurrence, new variables were created to categorize sexual risk behavior as binary outcomes of insertive or receptive anal intercourse. Crosstabs were used to compare prevalence of sexual risk behavior among MSM by each minority stress factor (external prejudice, expectations of rejection and internalized homophobia). Next, t-tests were conducted to examine the relationship between each minority stress factor and the frequencies related to the type of each sexual risk behavior. Binary logistic regression analysis was conducted along with the use of multivariate modeling to examine the extent to which each minority stress factor explained the likelihood of engaging in unprotected insertive or receptive anal intercourse with primary or non-primary partner whether on drugs or not on drugs. All models were further examined with relation to dichotomous variables for age, race/ethnicity, education, employment, and HIV status. Odds ratios were calculated using 95% confidence intervals.

## CHAPTER FOUR

### FINDINGS

This study examined the impact of factors associated with minority stress theory, including experiences of external prejudice, expectations of rejection and internalized homophobia, upon a cohort sample of men who have sex with men (MSM) and resultant associations with substance use and sexual risk behavior such as unprotected receptive and insertive anal intercourse with primary and non-primary partners.

This section begins with a description of the study sample, followed by descriptive statistics for the minority stress variables and the findings related to the impact of minority stress factors on sexual risk behavior and substance use with primary and non-primary partners. Sexual risk behavior was defined by three of the highest risk categories assessed in this study including, unprotected anal intercourse with primary partner (UAI); unprotected insertive anal intercourse with non-primary partner (UIAI); and unprotected receptive anal intercourse with non-primary partner (URAI). The findings section will also include an exploratory analysis of the study's hypothesis and study aims.

#### **Description of the Sample**

Of the 450 respondents in the baseline sample (Table 1), there were 0 study participants that were missing information related to substance use or sexual risk behavior. The final sample consisted of 396 gay and 54 bisexual respondents ( $N = 450$ )



who ranged in age from 18 to 67. The mean age of the respondents was 33 years old ( $SD = 7.93$ ). Respondents identified their racial/ethnic background as White (51.1%), African American/Black (14.7%), Hispanic/Latino (19.8%) and other (including Asian/Pacific Islander & Mixed Race) (14.4%). The majority of respondents (36.7%) had a bachelor's degree, some college or associate's degree (34.4%), graduate degree (14.7%) and 14.2% had a high school diploma or less. Most of the respondents were employed full-time (37.8%) or part-time (23.1%) and 27.6% were unemployed. The majority of respondents were HIV negative (63.1%) at baseline, while 36.9% were HIV positive.

Table 1. Baseline Characteristics of Sample Population

Characteristics	<i>n</i>	%
Race/Ethnicity		
White	230	51.1
Hispanic/Latino	89	19.8
African American/Black	66	14.7
Other (A/PI & Mixed Races)	65	14.4
HIV Status		
HIV Positive	166	36.9
HIV Negative	284	63.1
Sexual Orientation		
Gay	396	88.0
Bisexual	54	12.0
Age		
18 – 24	71	15.8
25 – 40	306	68.0
40 +	73	16.2
Educational Attainment		
High school or less	64	14.2
Some college or associate's degree	155	34.4
Bachelor's degree	165	36.7
Graduate degree	66	14.7
Employment Status		
Full-time work	170	37.8
Part-time work	104	23.1
Disability	51	11.3
Unemployed	124	27.6
Missing	< 1	1.0

$N = 450$

### Study Aim 1

Table 2 explores descriptive statistics for each minority stress variable for an assessment of the correlation between and relation of minority stress factors (Study Aim 1). The number of respondents missing values for the expectation of rejection and internalized homophobia scales was less than ten percent and therefore these cases were dropped. To determine the level of association between the three minority stress factors, scores were added for each item, for each stress factor, taking the average over the number of items in that factor. Reliability was checked for each factor using Chronbach's Alpha with the following results for each stress factor, followed by corresponding alpha in parenthesis: external prejudice (.65); expectations of rejection (.40); and internalized homophobia (.74). Correlations among all three minority stress factors were between .24 and .43 illustrating no collinearity problems with modeling. Each of the three items for minority stress were assessed through a series of questions and separately collapsed into five categorical responses including: "strongly disagree", "disagree", "neither disagree or agree", "agree", and "strongly agree". The mean (*M*) and standard deviation (*SD*) for each variable is reported as follows (*M*; *SD*): external prejudice (2.29; 0.63); expectations of rejection (2.83, 0.75); and internalized homophobia (2.25, 0.65).

Table 2. Minority Stress Variable Descriptive Statistics

	<i>n</i>	<i>M</i>	<i>SD</i>
Minority Stress			
External Prejudice	450	2.29	0.63
Expectations of Rejection	443	2.83	0.75
Internalized Homophobia	443	2.25	0.65

Note: *M* = mean; *SD* = standard deviation

The hypothesis that minority stress factors including external prejudice, expectations of rejection and/or internalized homophobia will increase likelihood of risk

associated with unprotected insertive and receptive anal intercourse among MSM with primary and non-primary partners whether on drugs or not on drugs at the time of occurrence is investigated below through an examination of study aims two through four, and corresponding tables 3-5.

To explore the relation between the various selected factors of minority stress, substance use, unprotected anal intercourse (UAI), unprotected insertive anal intercourse (UIAI), unprotected receptive anal intercourse (URAI) and sociodemographic factors, binary logistic regressions were conducted using multivariable modeling for subsequent analysis. Models were tested to analyze the extent to which minority stress factors explained the likelihood of engaging in unprotected insertive or receptive anal intercourse with primary or non-primary partners whether on drugs, or not on drugs at the time of occurrence.

An affirmative response to at least one time usage of one of the five club drugs in the four months prior to baseline signified substance use. Variables were dichotomized to indicate “use” or “no use” (0 = *no use*, 1 = *use*). Frequencies for substance use in the category “one to two times a month” included: crystal methamphetamine (87%); ecstasy (86%); ketamine (90%); GHB (97%) and cocaine (66%).

Models were further examined via the relation of dichotomized sociodemographic factors including age (0 = *18-24*, 1 = *25-40+*), race/ethnicity (0 = *non-white*, 1 = *white*), education (0 = *no bachelor's degree*, 1 = *bachelor's degree or higher*), employment (0 = *unemployed*, 1 = *employed*), and HIV status (0 = *HIV negative*, 1 = *HIV positive*). Odds ratios were computed for each of the sociodemographic variables with relation to each of the sexual risk behavior variables as examined in Tables 3-5.

## Study Aim 2

Table 3 examines the relation between minority stress factors, sociodemographic factors and unprotected anal intercourse (UAI) with primary partner among the sample population (Study Aim 2). Odds ratios (*OR*) are reported with 95% confidence intervals (*CI*) through an examination of dichotomized minority stress factors and dichotomized sociodemographic factors (age, race/ethnicity, HIV status, education and employment) related to UAI with primary partner.

Note that the sample assessing minority stress, sociodemographics and UAI with drug and non-drug using participants with primary partner was collapsed to create a stronger sample size ( $n = 131$ ). Older participants engaged in less UAI with primary partner than younger participants ( $OR = .97, p = .042$ ). Similarly, participants with stronger feelings related to expectations of rejection were less likely to engage in UAI with their primary partners ( $OR = .70, p = .031$ ). These findings illustrate that approximately 30% of the study sample ( $n = 131$ ) engaged in some form of UAI with their primary partner whether on drugs or not on drugs.

Table 3: Relations of Minority Stress & Sociodemographic Factors with Primary Partner and UAI

	<i>AOR</i>	95% <i>CI</i>
Minority Stress		
External Prejudice	1.12	.79, 1.60
Expectations of Rejection	0.70*	.50, .97
Internalized Homophobia	1.33	.91, 1.94
Sociodemographic		
Age	0.97*	.94, 1.00
Race/Ethnicity	1.00	.63, 1.57
HIV Status	0.78	.47, 1.30
Education	0.89	.56, 1.41
Employment	1.04	.64, 1.66

Note:  $n = 131$ ; UAI = unprotected anal intercourse; *AOR* = adjusted odds ratio; *CI* = confidence interval

\* $p \leq .05$

### Study Aim 3

Table 4 examines the relation between minority stress factors, sociodemographic factors and unprotected insertive anal intercourse (UIAI) with non-primary partners among the sample population (Study Aim 3). Once again, odds ratios (*OR*) are reported with 95% confidence intervals (*CI*) through an examination of dichotomized minority stress factors and dichotomized sociodemographic factors (age, race/ethnicity, HIV status, education and employment) related to UIAI. Participants reporting stronger feelings related to expectations of rejection had a decreased likelihood for engaging in UIAI while not on drugs with non-primary partners ( $OR = .54, p = .002$ ). Similarly, participants reporting stronger feelings related to expectations of rejection had a decreased likelihood for engaging in UIAI while on drugs with non-primary partners ( $OR = .56, p = .002$ ). These findings illustrate that approximately 40% of the study sample ( $n = 173$ ) engaged in UIAI with non-primary partners whether on drugs or not on drugs.

Table 4. Relations of Minority Stress & Sociodemographic Factors with Non-Primary Partners and UIAI

	<i>Drugs<sup>a</sup></i>		<i>No Drugs<sup>b</sup></i>	
	<i>AOR</i>	<i>95% CI</i>	<i>AOR</i>	<i>95% CI</i>
Minority Stress				
External Prejudice	1.29	.87, 1.92	1.40	.91, 2.13
Expectations of Rejection	0.56**	.38, .81	0.54**	.36, .80
Internalized Homophobia	1.27	.83, 1.94	1.26	.81, 1.97
Sociodemographics				
Age	1.00	.97, 1.03	0.99	.96, 1.03
Race/Ethnicity	1.17	.70, 1.96	1.29	.75, 2.22
HIV Status	1.08	.61, 1.91	1.06	.58, 1.96
Education	0.83	.49, 1.40	0.76	.44, 1.32
Employment	0.75	.43, 1.29	0.84	.47, 1.49

Note:  $n = 173$ ; UIAI = unprotected insertive anal intercourse; *AOR* = adjusted odds ratio;

*CI* = confidence interval

<sup>a</sup> $n = 93$ ; <sup>b</sup> $n = 80$

\*\* $p \leq .01$

Table 5 examines the relations between minority stress factors, sociodemographic factors and unprotected receptive anal intercourse (URAI) with non-primary partners among the sample population (Study Aim 3). Once again, odds ratios (*OR*) are reported with 95% confidence intervals (*CI*) through an examination of dichotomized minority stress factors and dichotomized sociodemographic factors (age, race/ethnicity, HIV status, education and employment) related to URAI. Older respondents were less likely to engage in URAI while not on drugs with non-primary partners than younger respondents ( $OR = .96, p = .015$ ). Similarly, older respondents were less likely to engage in URAI while on drugs with non-primary partners than younger respondents ( $OR = .97, p = .067$ ). These findings illustrate that approximately 40% of the study sample ( $n = 184$ ) engaged in URAI with non-primary partners whether on drugs or not on drugs.

Table 5. Relations of Minority Stress & Sociodemographic Factors with Non-Primary Partners and URAI

	<i>Drugs<sup>a</sup></i>		<i>No Drugs<sup>b</sup></i>	
	<i>AOR</i>	<i>95% CI</i>	<i>AOR</i>	<i>95% CI</i>
Minority Stress				
External Prejudice	1.24	.82, 1.86	1.17	.79, 1.74
Expectations of Rejection	0.76	.52, 1.10	0.75	.53, 1.08
Internalized Homophobia	1.27	.83, 1.94	1.21	.80, 1.83
Sociodemographics				
Age	0.97*	.93, 1.00	0.96*	.92, .99
Race/Ethnicity	0.83	.49, 1.39	0.93	.35, 1.08
HIV Status	0.83	.46, 1.48	0.62	.58, 1.96
Education	0.77	.45, 1.30	0.72	.43, 1.21
Employment	1.08	.63, 1.85	1.04	.62, 1.75

Note:  $n = 173$ ; URAI = unprotected insertive anal intercourse; *AOR* = adjusted odds ratio; *CI* = confidence interval

<sup>a</sup> $n = 87$ . <sup>b</sup> $n = 97$

\* $p \leq .05$

## CHAPTER FIVE

### DISCUSSION

The final chapter will discuss the findings related to the study's hypothesis and study aims. The hypothesis of this study is that minority stress factors including external prejudice, expectations of rejection and/or internalized homophobia will increase likelihood of risk associated with unprotected insertive and receptive anal intercourse among MSM with primary and non-primary partners whether on drugs or not on drugs at the time of occurrence. Study aims included: (1) an assessment of the correlation between and relation of minority stress factors; (2) an evaluation of whether certain aspects of minority stress were independently or collectively associated with unprotected insertive and receptive anal intercourse, substance use and other individual level co-factors with the study participant's primary partner; and (3) an evaluation of whether certain aspects of minority stress were independently or collectively associated with unprotected insertive and receptive anal intercourse, substance use and other individual level co-factors with the study participant's non-primary partners.

The discussion section will also address the study's limitations and subsequent implications for minority stress theory, drug use, and specific types of sexual risk behavior among MSM. The last section of the chapter will provide direction for future research, implications for the field of social work and conclusions.

## Discussion of the Findings

This study examined whether minority stress factors independently or collectively predicted sexual risk behavior as manifested by unprotected insertive and/or receptive anal intercourse with primary or non-primary partners whether on drugs or not on drugs at the time of occurrence. This study exploring minority stress factors and MSM risk behavior, was unique in several ways. First, minority stress theory has not been significantly tested among the MSM community with relation to risk behaviors including substance use and sexual risk with primary and non-primary partners. Another significant strength of this study includes the fact that the original Project BUMPS sample was not selected to test the hypothesis surrounding the impact minority stress factors on unprotected insertive and receptive anal intercourse and substance use among MSM. Thus, this secondary data analysis lends to the important role of examining theoretical origins for behavior while underscoring the need for continued study of MSM minority stress factors, among others.

Secondly, unlike the original study, which examined the sequencing of club drug use among MSM, this study lends an important direction for ongoing research related to the correlation of theory with risk behavior among the sample population. Additionally, there may be significant implications for the future direction of HIV prevention and education, as well as with regard to treatment of MSM sexual risk behaviors, substance use prevention and treatment of addiction disorders.

The findings associated with unprotected insertive and receptive anal intercourse with both primary and non-primary partners were surprising. It was expected that the results would be greater for risk and heightened unprotected insertive and receptive anal



intercourse among study participants who reported an association with one or all of the minority stress factors with both primary and non-primary partners alike. However, participants that reported a greater association with past expectations of rejection were less likely to engage in unprotected insertive anal intercourse with primary and non-primary partners whether on drugs or not on drugs. What was initially believed to be potential risk factors for increasing likelihood of sexual risk behavior among MSM study participants actually resulted in a protective factor for *not engaging* in such sexual risk behaviors. Additionally, as the age of study participants increased, likelihood decreased for unprotected insertive and receptive anal intercourse with primary partners, as well as with unprotected receptive anal intercourse with non-primary partners, whether on drugs or not on drugs, supporting current statistics for trends associated with risky sexual behavior among the younger members of the cohort sample.

It was hypothesized that minority stress factors including external prejudice, expectations of rejection and/or internalized homophobia would be correlated differentially with regard to unprotected insertive and receptive anal intercourse among MSM with primary vs. non-primary partners whether on drugs or not on drugs. In this study, two of the significant minority stress factors, external prejudice and internalized homophobia, had less likely of an effect upon UIAI or URAI whether with primary or non-primary partner sex. However, the minority stress factor related to expectations of rejection, appeared to reduce the likelihood of engaging in UIAI and URAI with primary partner, as well as UIAI with non-primary partners.

While the findings related to the correlation of minority stress factors was partially conclusive, the overall impact of those who had feelings associated with

expectations of rejection acting as a protective factor for not engaging in unprotected insertive and receptive anal intercourse is quite interesting and may require further study. Ultimately, there was insufficient significance when combining the three stress factors to fully support the hypothesis related to minority stress and sexual risk factors among the sample utilized in this study. Alternative hypotheses for future study may include the following: (1) a comprehensive examination and testing of the entire minority stress model, including stress factors associated with prejudice, expectations or rejection and internalized homophobia will prove heightened risk for MSM substance use and specific types of sexual risk behavior whether with primary or non-primary partners; (2) minority stress factors will act as protective factors while decreasing likelihood for substance use and specific types of sexual risk behavior among MSM whether with primary or non-primary partners; (3) the minority stress model, when compared to alternative theoretical models (i.e. cognitive stress) for substance use and specific types of sexual risk behavior among MSM, will indicate differential results for further analysis; and (4) effective utilization and testing of the minority stress model will illustrate differences among MSM risk behaviors when compared to other vulnerable populations such as women and racial/ethnic minorities.

### **Minority Stress Factors**

MSM who have previously experienced rejection, stigma or other expectations of such events may have developed a significant amount of vigilance this expectation requires (Meyer 2003) thus illustrating coping, adaptation and resilience along with other protective factors for not engaging in sexual risk behaviors while either using or not using drugs. This may be compared to other individuals who cope with general stress, in that

MSM use a range of personal coping mechanisms, resilience, and hardiness to withstand stressful experiences (Antonovsky, 1987; Masten, 2001; Ouellette, 1993).

Such experiences and identities among the MSM population vary in the social and personal meanings that are attached to them and in the subjective stress they may entail. Minority identity is linked to a variety of stress processes; some MSM may be vigilant in interactions with others (anticipating expectations of rejection), others may hide their identity for fear of harm (via forms of concealment), while others may internalize stigma (through internalized homophobia). Such reactions to minority stressors may therefore result in long-term protective factors. Ultimately, minority status may be associated not only with stress but with important resources such as group solidarity and cohesiveness that protect minority members from the adverse mental health effects of minority stress (Postmes & Branscombe, 2002; Branscombe, Schmitt, & Harvey, 1999; Clark, Anderson, Clark, et al., 1999).

### **Risk and Protective Factors**

Like other minority group members, MSM quite often learn to anticipate and sometimes expect some form of negative regard from members of the dominant culture while living predominantly in a heterosexist community (Meyer, 2003). Vigilance must be maintained consistently to counter any negative regard, discrimination, and or potential for violence. Crocker et al. (1998) described this as the “need to be constantly ‘on guard’ [...] alert, or mindful of the possibility that the other person is prejudiced” (p. 517). Such behaviors and experiences may increase an individual’s ability to cope or facilitate protective factors that may be utilized during stressful situations. As examined in previous studies, along with its negative impact, perceptions and experiences of

discrimination, rejection and stigma have self-protective properties related to group affiliation and support that ameliorate their negative or cumulative effects (Crocker & Major, 1989).

Findings of this study are consistent with the Courtenay-Quirk et al., study of 2006 ( $N = 456$ ) which found the role of perceived stigma was unrelated to sexual risk behavior among MSM. The study examined how HIV negative men typically hold stigmatizing attitudes toward HIV positive men including feelings of sexual rejection and discrimination. The reverse is also true with regard to HIV positive men holding stigmatizing attitudes toward HIV negative men due to shame, anger and myriad other reasons. However, the 2006 Courtenay-Quirk et al., study found perceived stigma was unrelated to sexual risk behavior, including unprotected anal sex.

This is encouraging as MSM were not reacting in ways that place their partners at additional sexual risk. The study also found no correlation with substance use, including having sex while under the influence of drugs or alcohol, suggesting that MSM who perceive or experience stigma in the community are not differentially placing their health at risk by using more alcohol or other drugs and are not at greater risk for engaging in risky sexual behavior as a result of drug or alcohol use (Courtenay-Quirk et al., 2006). Thus, the findings related to MSM experiences of rejection acting as protective factors is inspiring with regard to the potential for decreasing overall risk for sexually transmitted infections among both HIV negative, HIV positive and HIV status unknown study participants and their partners.

Moreover, few viable models have been developed and tested to assess the indirect effects of minority stress on sexual risk behaviors. Ongoing research is needed

to examine the mechanisms linking such stressors to risk and protective factors that may ameliorate their effects over the short and long term for MSM (Mustanski, Newcomb, Du Bois et al., 2011). Regardless, the interdependence of risk and protective factors alike creates great difficulty and ongoing challenges in generating and developing an unequivocal model of risk processes and effective interventions for MSM.

The role that connectedness to community plays may also hold evidence of significant protective factors. This study sample had to self-identify as either gay or bisexual at baseline and does not include those MSM who may not feel as comfortable with self-identification or community affiliation within the larger LGBT community. Ramirez-Valles (2002) defined a conceptual framework for considering such protective factors amid the effect of community affiliation and involvement for MSM. This framework argues that the effects of community involvement operate by moderating the effects of socio-structural risk factors (i.e. expectations of rejection, experiences of prejudice, homophobia) via more proximal mediating processes (i.e. peer norms).

However, findings from a study by Preston, D'Augelli, Kassab and Starks (2007) examining rural MSM ( $N = 414$ ) found greater likelihood of sexual risk behavior among those with higher rates of perceived stigma and expectations of rejection from their community. Notably, while certain aspects of perceived stigma (i.e. those emanating from family members or health care providers) were positively correlated with perceived stigma from the community, they were not associated with sexual risk directly or indirectly. These analyses provide some evidence of the differential impact and role of risk and protective factors related to perceived and actual minority stress experiences among the MSM community. While some experiences may increase risk, other

experiences may have no effect upon substance use or sexual risk behavior, while yet other experiences may actually act as protective factors. Therefore, more research is needed to clarify the effects of both perceived and actual experiences of victimization, discrimination and harassment on MSM sexual risk behaviors (Mustanski, Newcomb, Du Bois et al., 2011) as well as the vital role of risk and protective factors.

### **Age & HIV**

The findings specific to the role of older age as a protective factor for engaging in less risky sexual behavior among the sample population underscores the ongoing challenges with reducing increased rates of HIV incidence among younger MSM. 68% of all U.S. cases of HIV infection among all young people ages 13-24 were among young men who have sex with men (YMSM) (CDC, 2010b). However, there remains a significant difference with age and race as most new infections in Black MSM occur among 13-29 year olds, with more Black MSM in this age group becoming infected than any other age and racial group (CDC, 2010a). Another factor critical to consider is the limited, yet ongoing research evaluating associations between primary and casual partner age and sexual risk behaviors. Some studies and ongoing research demonstrate a positive association with younger MSM that have older sexual partners and an increased potential for sexual risk behaviors (Bingham, Harawa, Johnson et al., 2003; Morris, Zavisca & Dean, 1995).

It is often assumed that HIV status will play a significant role for MSM related to greater likelihood for sexual risk behavior. Such assumptions may have correlations with age, insomuch as younger MSM among the study participants might have less concern with safer sexual practices if their status was unknown or negative. Ongoing research

continues to examine the role of major advances with HIV treatments creating more manageable and tolerable regimens, whereas gay and bisexual men might not consider being HIV positive as distressing and may have decreased worry and concern about HIV/AIDS due to the advent and success of such antiretroviral medications (Folch, Marks, Esteve et al., 2006).

Oppositely, MSM who are already HIV positive for a number of years may also have adjusted to living with a chronic illness and may not recall the initial distress associated with their diagnosis. The results of this may have correlations related to older participants in this study showing greater likelihood for not engaging in sexual risk behavior whether on drugs or not on drugs. This is significant, as approximately 40% of the study sample who experienced feelings associated with expectations of rejection were less likely to engage in receptive anal sex with non-primary partners (often associated with the most risky type of sexual risk behavior correlated with HIV transmission) whether on drugs or not on drugs as their age increased. Similarly, as age increased in the study sample, thirty percent of participants engaging in unprotected insertive and receptive anal sex with primary partner decreased.

### **Sexual Risk Behaviors**

It may be critical to discuss existing differences associated with the definition of sexual risk behaviors due to discrepancies regarding evaluation of risk and varied measurement of the magnitude of such behaviors. Such examples include the fact that there are inconsistencies related to measurement of, or delineation between, primary and/or non-primary partners; and whether insertive and receptive sexual behaviors were measured and studied. Some studies include only specific types of sexual risk behavior

(i.e. oral and not anal sex) while other studies examine anal sex with HIV positive primary or non-primary partners rather than examining unknown or negative HIV statuses; while other research assesses different time periods (i.e. six months versus a year).

When assessing these differences, the present study's percentage of unprotected anal sex with primary and non-primary partners was clearly lower than most estimates of similar sexual risk behavior among other such predominately MSM samples and studies (Koblin, Husnik, Coflax, 2006). However, the present study was similar to other prevalence studies (Xia, Molitor, Osmond et al., 2006) which emphasized the need for future research to report seroconcordant and serodiscordant unprotected anal intercourse separately, as the former presents significant lower risk of HIV transmission. This present study's analysis did not examine the serostatus of the study participants compared with those of their primary and non-primary partners, so it is unknown whether sexual selection patterns apply to the current sample.

### **Study Limitations**

Future prospective research with similar and dissimilar samples is warranted to examine generalizability of the minority stress construct. Additionally, the more objectively related minority stress factors such as the distal, or prejudicial experiences must be more subjectively examined such as the proximal factors which include internalized homophobia and expectations of rejection. Use of questions associated with minority stress factors are limited to those used in this study and may not fully define or explain a comprehensive understanding of external prejudice, expectations of rejection and internalized homophobia.



Another limitation may relate to the time frame of the study illustrating a potential concern that the results would not generalize to the present day. However MSM continue to confront a wide range of stressors from the legal to social levels (Herek & Garnets, 2007). Although these minority stress factors may have been assessed at a different point in time, it is evident that they have not abated for the MSM community with ongoing challenges such as legalizing gay marriage, domestic partnerships, or civil unions, policy related to exclusion from serving within the U.S. military, immigration policy, and adoption laws specific to the LGBT community.

While the data from Project BUMPS is rich with evidence to assess club drug use among MSM and sexual risk behavior, additional limitations surrounding the baseline sample include the fact that it solely consisted of club drug users, therefore comparisons of such findings with non-drug users was not possible. Accuracy of participant self-reported drug use and type of sexual risk behavior is also potentially a limitation due to challenges with recall of a poly-substance induced state. Also, an escalating monetary incentive was provided for each completed assessment, which may have influenced subject participation throughout the year-long study. Use of questions associated with minority stress factors are limited to those used in this study and may not fully define explanations and understandings of external prejudice, expectations of rejection and internalized homophobia. The use of an urban sample of predominantly white subjects is another limitation, as well as the self-selected sample, and self-report of a minimum of six instances of club drug use (Halkitis, Palamar & Mukherjee, 2007) and one instance of sex with drug use prior to baseline.

Additional limitations surround inconsistent use of definitions and terms within the wider literature with relation to the MSM community, such as associations with the term MSM (Mustanski, Newcomb, Du Bois et al., 2011); club drug categories and street names (Halkitis et al., 2005); subculture associations such as the bear/cub community, circuit boys, house/ball, the leather community; and with regard to social settings (gay bar, dance club, bookstore or bathhouse).

### **Future Direction & Relevance for Social Work**

The results of this study demonstrate preliminary evidence to suggest concrete clinical intervention strategies, as well as they highlight the importance of targeting minority stress experiences (especially past associations with rejection, stigma, prejudice and internalized homophobia) in HIV and substance use interventions among the MSM community. However, in order to provide interventions that are maximally effective for MSM, continued research is needed to determine the relative importance of minority stress compared with other known risk factors to predict substance use and sexual risk behavior among the MSM community. Additionally, the examination of minority stress over time may increase predictive validity as there remains limited evidence and studies such as those conducted by Hatzenbuehler et al., (2008).

These findings also illustrate a need for continued awareness that gay and bisexual men may be more likely than their heterosexual counterparts to experience stressful events such as those related to prejudice, rejection and internalized homophobia. There is evidence that exposure to discrimination events and prejudice does affect the overall mental health of LGBT individuals (Cochran et al., 2003; Mays & Cochran, 2001). Most research related to MSM and risk behavior has typically relied upon

convenience-based samples often without heterosexual control groups, resulting in ambiguity about whether MSM experience stressors such as prejudice, rejection and discrimination more frequently than heterosexual men and women (Mays & Cochran, 2001).

Additionally, behavioral interventions administered at three levels, including those at the individual, group and community level, appear to effectively reduce risky sexual behaviors associated with HIV and other sexually transmitted infections (Mustanski, Newcomb, Du Bois et al., 2011). Other promising future directions for practice and interventions with the MSM community include internet-based delivery and those approaches that go beyond the individual level to address a more combined approach including structural, community and social network factors (Mustanski, Newcomb, Du Bois et al., 2011) as well as those suggested in the recent United States National HIV Strategy. Varied clinical approaches and techniques including psychoeducation, stress management, twelve-step models and psychodynamic theory, among a multitude of others, may better evidence underlying coping mechanisms, abilities to adapt and illustrate long-term resilience. Practitioners and therapists within the mental health community should be required to receive ongoing training and education to help MSM identify the critical differences between risk and protective factors that assist with coping mechanisms for stigma, prejudice and discrimination.

More studies should examine whether minority stress factors are associated with substance use and sexual risk behavior. Such research has great potential for further evaluation of proximal and distal risk and protective factors for MSM and subsequent risk behaviors and attitudes. Comparison of MSM and minority stress factors compared

to other racial/ethnically diverse communities or with relation to women or the heterosexual community may also be of great interest.

Ultimately, the continued examination of club drug use and sexual risk behavior among MSM and co-factors surrounding minority stress might be worthwhile with relation to a better understanding of such behaviors among MSM not examined in this study and potentially hold additional implications for HIV and substance use prevention, education and treatment of such vulnerable populations (Fernandez, Bowen, Varga et al., 2005)

### **Conclusion**

In conclusion, this study suggests that expectations of rejection and older age may have some association with protective factors that correlate with decreased likelihood for MSM substance use and sexual risk behaviors. Continued examination related to the role of developing coping and resilience mechanisms along with increased vigilance for MSM who are actively engaging in substance use and sexual risk behaviors is necessary. Hopefully this study will stimulate ongoing research in this area related to the role of risk and protective factors among vulnerable populations. Such research has the potential for offering new conceptualizations of MSM risk behavior and attitudes while impacting the potential for effective practice, education, prevention and treatment methods and standards. The positive finding of age maturation as a protective factor also illustrates the ongoing need for more effective outreach and interventions with the younger MSM community as trends related to increased HIV incidence continue to rise among the younger and racial/ethnic minority populations. Ultimately, direct experiences of stressors or feelings associated with minority stress may not solely be responsible for

ongoing substance use or sexual risk behavior. Both practitioners and researchers alike should continue the examination of co-occurring issues that impact such behaviors among the MSM population.

APPENDIX A  
INTERNALIZED HOMOPHOBIA SCALE

## Reaction to Homosexuality Scale D Revised (Ross &amp; Rosser, 1996)

Factor Scores & Item

## Factor 1: Public Identification as Gay

I am not worried about anyone finding out that I am gay.

I feel comfortable discussing homosexuality in a public setting.

Even if I could change my homosexuality, I wouldn't.

It is important to me to control who knows about my homosexuality.

I feel comfortable about being homosexual.

I feel comfortable about being seen in public with an obviously gay man.

I would prefer to be more heterosexual.

I don't like thinking about my homosexuality.

Obviously effeminate homosexual men make me feel uncomfortable.

It would not be easier in life to be heterosexual.

## Factor 2: Perception of Stigma Associated with Being Gay

I worry about becoming old and gay.

I worry about becoming unattractive.

Society still punishes people for being gay.

Most people have negative reactions to homosexuality.

Discrimination against gay people is still common.

Most people don't discriminate against homosexuals.

## Factor 3: Social Comfort with Gay Men

I feel comfortable in gay bars.

Most of my friends are homosexual.

I do not feel confident about making an advance to another man.

When I think about other homosexual men, I think of negative situations.

Social situations with gay men make me feel uncomfortable.

I prefer to have anonymous sexual partners.

#### Factor 4: Moral and Religious Acceptability of Being Gay

Homosexuality is not against the will of God.

Homosexuality is morally acceptable.

Homosexuality is as natural as heterosexuality.

I object if an anti-gay joke is told in my presence.



APPENDIX B  
SENSE OF BELONGING INDEX

Sense of Belonging Index (Hagerty & Patusky, 1996)

Please indicate your level of agreement to the following statements ranging from (1) Strongly disagree, (2) Disagree, (3) Agree, (4) Strongly agree, (7) Don't know, (8) Refuse to answer, (9) Not applicable

1. I wonder if I really fit.
2. It is important to be valued by others.
3. I am not sure if I fit in with my friends.
4. I have felt valued in the past.
5. I describe myself as a misfit.
6. It is important that I fit in.
7. People accept me.
8. I am a piece of a jigsaw puzzle.
9. I have qualities.
10. What I offer is valued.
11. I feel like an outsider.
12. I am working on fitting in.
13. I have no place in this world.
14. I want to be part of things.
15. I could disappear for days.
16. I fit in with mainstream society.
17. It is important that my opinions are valued.
18. I observe life rather than participate.
19. Only a few people would come to my funeral.
20. I feel like a square peg.

21. Others recognize my strengths.
22. I don't really fit.
23. My background and experiences are different.
24. I do not see or call friends.
25. I feel left out.
26. I make myself fit in.
27. I am not valued or important.

APPENDIX C  
LESBIAN AND GAY IDENTITY INDEX

## Lesbian and Gay Identity Scale (Mohr &amp; Fassinger, 2000)

Scale Name & Item

## Need for Privacy

- I prefer to keep my relationship rather private.
- I keep careful control over who knows about my relationship.
- My private sexual behavior is nobody's business.
- If you are not careful about whom you come out to, you can get very hurt.
- I think very carefully before coming out to someone.
- My sexual orientation is a very personal and private matter.
- I prefer to act like friends rather than lovers with my partner when we are out in public.
- I generally feel safe being out of the closet these days.
- I worry about people finding out I'm a (lesbian/gay man).
- In public I try not to look too obviously (lesbian/gay).
- I'm embarrassed to be seen in public with obviously gay people.
- I feel comfortable expressing affection with my partner out in public.

## Need for Acceptance

- I will never be able to accept my sexual orientation until all the people in my life have accepted me.
- I often worry whether others will judge me for being (lesbian/gay).
- I can't feel comfortable knowing that others judge me negatively for being (lesbian/gay).

Being a (lesbian/gay man) makes me feel insecure around straight people.

I think a lot about how my (lesbianism/gayness) affects the way people see me.

I find myself preoccupied with trying to decide whom I should come out to.

I have made peace with the fact that there will always be people in my life who do not approve of my sexual orientation.

#### Internalized Homonegativity

I would rather be straight if I could.

I am glad to be a (lesbian/gay man).

Homosexual lifestyles are not as fulfilling as heterosexual lifestyles.

I'm proud to be part of the LGB community.

I wish I were heterosexual.

Whenever I think a lot about being a (lesbian/gay man), I feel critical about myself.

Whenever I think a lot about being a (lesbian/gay man), I feel depressed.

Most problems that homosexuals have come from their status as an oppressed minority, not from their homosexuality per se.

#### Difficult Process

Coming out to my friends and family has been a very lengthy process.

I have felt comfortable with my sexual identity just about from the start.

Admitting to myself that I'm a (lesbian/gay man) has been a very painful process.

Developing as a (lesbian/gay man) has been a fairly natural process for me.

Admitting to myself that I'm a (lesbian/gay man) has been a very slow process.

I'm very open about my sexual orientation, but it has taken me a while to get to

this point.

### Identity Confusion

I'm not totally sure that I'm a (lesbian/gay man).

I keep changing my mind about my sexual orientation.

I can't decide whether I am bisexual or (lesbian/gay).

I get very confused when I try to figure out my sexual orientation.

I have very few doubts as to what my sexual orientation is.

### Superiority

I look down on heterosexuals.

Straight people have boring lives compared with lesbians and gay men.

APPENDIX D

CONCEPTUALIZATION OF MASCULINITY SCALE



Conceptualization of Masculinity Scale (Halkitis, Green & Wilton, 2004)

Please indicate your level of agreement to the following statements ranging from “Strongly Disagree” to “Strongly Agree”

Well-built men give the impression of masculinity at first sight.

Drag queens undermine the idea of masculinity in the gay community.

The guys in Tom of Finland portraits represent the masculine ideal.

Physical appearance is an important element of masculinity among gay men.

Sex is a celebration of masculinity.

Masculinity celebrated male form and virility.

The masculine man has a lot of sex.

I would not have sex with a masculine looking man who acted in any way feminine.

I watch my behavior to make sure that I act masculine around other gay men.

A masculine body is more important than masculine behavior.

Physical appearance does define masculinity.

A masculine man is both “butch” in behavior and appearance.

I am not comfortable around non-masculine gay men.

Sexual performance is an important part of masculinity.

A masculine guy has a strong hard body.

Masculine men have firm hard strong bodies.

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## VITA

Michael P. Dentato attained his Bachelor of Arts degree from Fordham University in 1991 while double majoring in media studies and theatre. Michael continued his graduate studies at Fordham University, completing a Master of Social Work degree in 1997. Upon graduation, he worked among a variety of communities, such as those living with developmental disabilities, providing individual, group and family counseling as well as conducting psychosocial evaluations.

Michael was retained as Executive Director of Body Positive, an HIV/AIDS organization in New York City successfully expanding services and increasing individual donor giving during his tenure. He relocated to Miami, FL managing a suicide and crisis helpline, along with myriad client services throughout Miami-Dade County culminating in the development of a service continuum for GLBTQ youth. Michael embarked on a career in academe while at Barry University, teaching part-time in the School of Social Work, where he was later hired as the BSW Program Director. In the fall of 2008, Michael entered the doctoral program in the School of Social Work at Loyola University Chicago, where he would later be hired as Clinical Assistant Professor in the School of Social Work.

Over the years, Michael has worked as a consultant for various HIV/AIDS and LGBT organizations providing grant writing, program development, outcome monitoring and other services. He has successfully presented at local, state, national and

international conferences and continues to actively publish on topics of professional interest. Michael remains dedicated to the field of HIV/AIDS, LGBT issues, addictions and recovery services, and is passionate about his work with the many vulnerable populations he has served over the years. Michael's clinical, administrative and research experience in the community has transpired into a didactic and progressive approach to teaching at the undergraduate and graduate levels alike, in topics related to the intersect of social work practice with policy issues, human behavior, life span development and ongoing research in the field. His commitment remains to create a rigorous and stimulating classroom environment for students while blending theory with field experiences.

