SHAME DUE TO HETEROSEXISM, SELF-ESTEEM AND PERCEIVED STRESS: CORRELATES OF PSYCHOLOGICAL QUALITY OF LIFE IN A LESBIAN, GAY AND BISEXUAL SAMPLE

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Sexual minorities experience higher levels of stress than heterosexuals, which in turn affects coping and psychological quality of life (PQOL). Although many sexual minorities remain mentally healthy, a higher prevalence of mental disorders among members of the lesbian, gay and bisexual (LGB) communities exists; thus, LGB PQOL becomes an important area to examine. Several key factors are related to PQOL: shame due to heterosexism, self-esteem and perceived stress. Using minority stress model, I hypothesized that shame due to heterosexism and perceived stress are negatively correlated with PQOL, while self-esteem is positively correlated with PQOL. I hypothesized that collectively shame due to heterosexism, self-esteem and perceived stress account for a significant proportion of the variance in PQOL, that self-esteem moderates the relationship between perceived stress and PQOL and that age moderates the relationship between shame due to heterosexism and PQOL. I calculated Pearson product-moment correlation coefficient and found shame due to heterosexism was negatively correlated with PQOL ($r(146) = -.21$, $p = .009$), perceived stress was negatively correlated with PQOL ($r(146) = -.69$, $p < .001$) and self-esteem was positively correlated with PQOL ($r(146) = .72$, $p < .001$). I conducted a regression analysis and found our model accounted for 59% of the variance in PQOL (adj. $R^2 = .59$, $F(3, 144) = 68.88$, $p < .001$). Self-esteem did moderate the relationship between perceived stress and PQOL ($p = .029$), but age did not moderate the relationship between shame due to heterosexism and PQOL. Results suggest perceived stress and self-esteem play key roles in sexual minorities' PQOL. Implications are discussed.

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In the current study, we initially included the variable sexual risk-taking. However, the data set included a moderate amount of missing data for this variable. Thirty-one participants (21%) did not complete any items of the 20-item Self-report Risky Sexual Behavior Scale (SRSB). Further evaluation revealed that the 31 participants with missing data did not differ from the remaining 117 participants with regard to age, education, income or ethnicity; however, individuals with incomplete data were more likely to endorse a lesbian sexual minority status than gay or bisexual (χ^2 (2) = 8.90, $p < .05$, n = 17 for lesbian, n = 5 for gay men and n = 9 for bisexuals) and were more likely to be female than male (χ^2 (1) = 7.72, $p < .01$, n = 8 for male and n = 23 for female). The factor structure of the SRSB was very different with the current LGB sample than the HIV+ sample on which it was normed.

Furthermore, the SRSB appears to be inappropriate for use with sexual minority women (SMW). The SRSB may misrepresent lesbian and bisexual women's sexual risk-taking. On 5 of 20 items, sexual minority women's answers may not be indicative of actual sexual risk. For example Item 2, "has there been an incidence where you or your partner didn't use a condom during sex?" The SRSB scoring would count "yes" as indicative of greater sexual risk. However, for lesbian and bisexual women with female sexual partners condom use may not be related to sexual risk. Additionally, the SRSB language and emphasis on condom use may be related to greater missing data for sexual minority women. Given the limitations of the SRSB for a cross-gender LGB sample and the missing data, we chose to exclude the variable sexual risk-taking from our analyses.

CHAPTER 1

INTRODUCTION

Sexual minorities experience higher levels of stress than heterosexuals, which in turn affects coping and psychological quality of life (Meyer, 2003). First, we explore the experience of sexual minorities. We examine the historical context, appropriate terminology, the treatment of sexual minorities and measurement of sexual minority status. We introduce Meyer's minority stress model as a framework to conceptualize the relationships between key factors (i.e., psychological quality of life, shame due to heterosexism, self-esteem, perceived stress). We then examine each of these factors. Lastly, we introduce the current study.

Historical Context

Each society specifies its own social mores, laws and rules of conduct: some written and others unspoken. Furthermore, each society defines the limits of appropriate intimate relationships. In a Western context, appropriate intimate relationships are generally characterized as state-sanctioned marriages between opposite sex partners (Milne, 2011). Some noteworthy exceptions include the social acceptance of sexual relationships between an adult male and an adolescent male in ancient Greece, ancient Rome, imperial China and early modern Japan as well as brother-making (i.e., Church sanctioned same-sex marriages before the Middle Ages; Boswell, 1995; Crompton, 2003; Leupp, 1997). Yet, intimate relationships between women were considered inappropriate and remained unacknowledged. Women engaged in supportive emotional relationships, but the sexual nature of these relationships remains uncertain (Crompton, 2003; Hunt, 1999). Same-sex intimate relationships existed

throughout history with varying levels of social acceptability. Societies allowed some variants of same-sex intimate relationships with strict limitations.

Individuals who exceeded the limits faced significant stigma, discrimination and punishment. Western Christianity is one considerable force that stressed the importance of procreative sex and designated all other sexual acts as abominations (Bayer, 1987). The Christian tradition played a role in shifting the ideal to monogamous opposite sex partners and the development of negative attitudes towards same-sex relationships and same-sex behaviors (Milne, 2011). Society considered same-sex behavior to be the depraved and criminal acts of the degenerate. Laws criminalizing same-sex behaviors varied widely across different countries, as did enforcement. In 529 under the Justinian Code of the Roman Empire, individuals who engaged in sexual acts with same-sex partners faced execution (Greenberg, 1988). Persons who engaged in acts of sodomy were burned alive or beheaded in Western Europe from the twelfth through the fourteenth centuries (Greenberg, 1988). In 1432, the Florentine government formed a special police, the Office of the Night, to combat sodomy and male prostitution (Beachy, 2010; Rocke, 1998). However, historical persons involved in same-sex intimate relationships would not fit within modern conceptions of lesbian, gay or bisexual identity.

Same-sex intimate relationships cannot be fully extrapolated and understood from historical records in a modern context (Foucault, 1990). For example, relationship ideals have shifted from marriage as a business contract to a companionate model (Herek, 2010). Thus, the evolution of ideals, language and terminology reflects the limits of historicizing the sexuality of the past. Various terms characterized persons who engaged in sexual behaviors with same-sex

partners, such as *pederast* and *sodomite*. *Homosexuality* then superseded these terms in 1869 (Greenberg, 1988). The terms *homosexuality* and *homosexual* are used in historical context; therefore, these terms are italicized throughout this paper. Karl-Maria Kertbeny developed the term *homosexuality* in advocacy efforts to decriminalize sodomy laws in Germany; however, the coining of this term marks the beginning of the medicalization and pathologization of same-sex attraction and same-sex behaviors (Beachy, 2010).

Thus, society shifted from the criminal degeneracy model of *homosexuality* to understanding *homosexuality* as a mental illness or defect. In the context of this understanding, psychiatry regulated the medical model of *homosexuality*. *Homosexuality* was characterized as mental illness in nearly all early psychiatric classification systems: from Sir Morison's *Outlines on Lectures on Mental Disease*, in which non-heterosexual acts were characterized as partial insanity in 1825; to Kraepelin's *Compendium der Psychiatrie* that characterized *homosexuality* as a state of psychological weakness in its first edition in 1883 and later as degenerate insanity; to Kraft-Ebbing who detailed the psychopathology of *homosexuality* in *Psychopathia Sexualis* in 1886 (Bayer, 1987; Beachy, 2010; Mendelson, 2003; Mildenberger, 2007). Various psychiatrists, psychoanalysts and psychologists differed in their conclusions on the pathology and appropriate treatments for *homosexuality*. Generally, mental health professionals viewed *homosexuality* as innate sexual inversion, in which a reversal of gender traits resulted in pursuit of same-sex partners (Mendelson, 2003). Medical and psychiatric treatments for *homosexuality* ranged from castration, sterilization, electroshock and aversive conditioning to hypnosis, psychoanalysis and psychotherapy (Morgan & Nerison, 1993).

The American Psychiatric Association developed the preeminent classification system of mental illness *The Diagnostic and Statistical Manual of Mental Disorders* (DSM) in 1952 (Mendelson, 2003). The DSM first characterized *homosexuality* as sociopathic personality disturbance and later as sexual deviation (Mendelson, 2003). The sexual psychopathology classification included *homosexuals* with pedophiles, sexual sadists and rapists (Mendelson, 2003). The classification of *homosexuality* as a mental illness had extensive legal implications. When sexual minorities gathered in bars or private homes, they risked arrest along with charges for various crimes (e.g., solicitation, disorderly conduct, public lewdness). Additionally, non-heterosexual persons faced involuntary psychiatric hospitalization as well as blatant discrimination in employment and housing. The DSM has undergone substantive revisions over the years; however, *homosexuality* remained a psychiatric diagnosis until 1973 (Conger, 1975).

Meanwhile, societal attitudes towards same-sex sexuality began to shift. Kinsey discovered that sexual behavior between same-sex partners was relatively common, reporting 37% of men and 13% of women had at least one same-sex experience leading to orgasm in *Sexual Behavior in the Human Male* and *Sexual Behavior in the Human Female* (Kinsey, Pomeroy & Martin, 1948; Kinsey, Pomeroy, Martin & Gebhard, 1953). These researchers then proposed the Kinsey scale, a representation of sexuality as a continuum ranging from exclusively heterosexual to exclusively *homosexual* (Bancroft, 2004). Dr. Evelyn Hooker published the first psychological research suggesting *homosexuality* was not a mental illness. Dr. Hooker's research reported *homosexuality* was a sexual pattern within normal limits and sexual minorities were capable of the same level of mental adjustment as heterosexuals (Hooker, 1957).

In the 1950s in the US, sexual minorities began organizing in groups such as the Mattachine Society and the Daughters of Bilitus (Hall, 2010). In 1965, these groups held the first public demonstrations against discrimination towards *homosexuals* (Hall, 2010). A routine police raid on a New York gay bar, Stonewall Inn, sparked the beginning of the gay rights movement (Hall, 2010). On June 28th, 1969, patrons fought back as they were being arrested for their sexual minority status. Following this raid, a series of demonstrations led to the emergence of the gay liberation movement and visible gay activism (Hall, 2010). In 1973, the American Psychiatric Association removed *homosexuality* as a psychiatric diagnosis in the DSM and proposed *homosexuality* was not a mental illness nor did it imply impairment or disturbance (Conger, 1975). The American Psychological Association (APA) further urged social advocacy to reduce stigma towards non-heterosexuals and develop equal rights legislation.

Terminology

Historically, the term *homosexuality* represents the pathologization and medicalization of same-sex attraction and behavior. The Gay And Lesbian Alliance Against Defamation has placed *homosexual* on a list of offensive terms to avoid (GLAAD, 2010). Due to the historical usage and negative connotation, *homosexuality* is not used in this manuscript to characterize sexual minorities. In its place, we use the term LGB, an initialism that represents lesbians, gay men and bisexuals. Lesbians and gay men are sexually and romantically attracted to same-sex partners (American Psychological Association, 2012). Bisexuals are sexually and romantically attracted to partners of both sexes (American Psychological Association, 2012).

Sexual minorities share experiences of same-sex attraction, but great differences exist. Sexual minorities are a heterogeneous group represented in all races, ethnicities, socio-

economic classes, education levels, cultural groups and belief systems; therefore, we adopt the perspective of sexual minorities as a broad and diverse group rather than a homogenous one. For this reason, we refer to sexual minority groups as the LGB communities in lieu of the LGB community. While not one homogenous community, sexual minorities share common experiences of stigmatized status, prejudice and discrimination (Meyer, 2007).

Given the scope of this study, we do not examine the role of gender identity. Gender identity is the subjective experience of gender. A transgender person's gender identity differs from his or her assigned sex at birth, while a cisgender person's gender identity aligns with his or her assigned sex at birth. Gender identity and sexual minority status are often conflated. However, transgender people identify as heterosexual, lesbian, gay or bisexual just as cisgender people identify as heterosexual, lesbian, gay or bisexual. Sexual identity and gender identity remain distinct constructs; however, sexual and gender identity are often lumped together under the LGBT initialism.

Experience of Sexual Minorities

Throughout history, sexual minorities have encountered stigma, prejudice and discrimination. The law is one area in which sexual minorities encounter discriminatory treatment in comparison to heterosexuals. The evolution of sodomy laws, which criminalize oral and anal sexual acts regardless of the sex of the partners, evidences the distinct legal treatment of sexual minorities. These laws immigrated to the US with the colonists and sodomy remained a felony in all 50 states until 1962 (Fradella, 2002). At this time, sexual attitudes shifted and laws were changed on a state-by-state basis. In some states sodomy was voluntarily legalized, while in others heterosexual sodomy was legalized and same-sex sodomy

remained illegal (Fradella, 2002). While most sodomy laws originally criminalized oral and anal sex regardless of the sex of the partners, in action sodomy laws were used to target sexual minorities (Koppelman, 1988). Lesbians, gay men and bisexuals once again were essentially established as a criminal class (Fradella, 2002). The law reflects cultural attitudes toward sexual minorities (e.g., unlawful persons characterized by unacceptable sexual behaviors).

Further, the legal treatment of sexual minorities reinforced the view that sexual minorities are distinctly criminal and justified their stigmatized status as well as prejudice and discrimination. Sodomy laws were not enforced in many states but remained on the books as a reminder that sexual minorities were subject to disparate legal treatment (Koppelman, 1988). For example, a Texas social work supervisor stopped placing foster children with sexual minority foster parents in 2001. She utilized her emergency powers because the state sodomy law was being broken in those homes and sued the state to stop foster placements in LGB homes across Texas (American Civil Liberties Union, 2001). In 1986, Georgia's sodomy law was challenged in the case *Bowers v. Hardwick*. The Supreme Court upheld Georgia's sodomy laws determining that sexual minorities did not have constitutional privacy protections (Koppelman, 1988). Not until the landmark 2004 case of *Lawrence v. Texas* did the Supreme Court strike down sodomy laws and same-sex behavior became legal across the United States (Tribe, 2004).

Sodomy laws demonstrate that sexual minorities are not afforded protections equal with heterosexuals. Therefore, sexual minorities face legal discrimination with regards to employment, housing, hate crimes, parenting, schooling, health care and other areas. For example, Texas has no employment discrimination protections for sexual minorities ("Texas," 2014). Change in protections for sexual minority status is slow and happens on a state-by-state

basis (e.g., progress of same-sex marriage). Following the state-by-state progression of same-sex marriage, the Supreme Court ruled marriage is a fundamental right and that all states must issue marriage licenses to same-sex partners and recognize same-sex marriages in the case of *Obergefell v. Hodges*. It remains unclear how this recent court ruling may impact sexual minorities in the long-term.

Sexual minorities hold stigmatized positions in American society and regularly encounter negative attitudes and experiences regarding their sexual minority status. Many sexual minorities grow up in homophobic and heterosexist environments and internalize the attitudes of these environments (Meyer & Dean, 1998). With experiences of structural stigma comes the internalization of stigma (Meyer, 2003). At some point, an LGB person identifies as a sexual minority and heterosexist attitudes may begin to impact his or her view of self due to the conflict between individual desire and societal values (Frost & Meyer, 2009; Meyer & Dean, 1998). The internalization of heterosexist attitudes can lead to internal conflict, devaluation of self and low self-esteem (Meyer, 2003).

Sexual minorities are confronted with greater psychosocial stressors in comparison to heterosexuals. The stress associated with minority group membership leads to greater incidence of mental health difficulties. As such, sexual minority status is associated with elevated rates of certain mental disorders (e.g., anxiety and mood disorders, substance use) and greater psychological distress (e.g., suicidal ideation and attempts; Cochran, Sullivan, & Mays, 2003; Gilman et al, 1999; Mays & Cochran, 2001; Meyer, 2003; Sandfort, de Graaf, Bill & Schnabel, 2001). Many sexual minorities remain mentally healthy; yet, lesbians, gay men and bisexuals are 2.5 times more likely to develop a mental disorder during their lifetime (Meyer,

2003). Additionally, sexual minorities are significantly more likely to experience discrimination and more likely to attribute discrimination to their sexual minority status (Mays & Cochran, 2001). Sexual minorities experience greater stigmatization and social stress along with decreased social support (Gilman et al., 2001). Stigma, prejudice, discrimination and lack of social support play essential roles in sexual minorities' increased rates of mental disorders (Gilman et al., 2001; Mays & Cochran, 2001; Meyer, 2003).

The increased incidence of mental disorders is not caused by sexual minority status but is a result of the stigma, prejudice and discrimination associated with sexual minority status. Given this disparity compared to heterosexuals, we examine key factors that may affect mental health outcomes of sexual minorities. An examination of shame due to heterosexism, self-esteem and perceived stress may clarify our understanding of mental health outcomes.

Measurement of Sexual Minority Status

The measurement of sexual minority status is not straightforward. Sexual identity can be measured by identification as a lesbian, gay man or bisexual, by sexual behavior (e.g., sexual partners) or by both identity and behavior. Given the varied ways to measure sexual minority status, researchers operationalize sexual minority status in distinct ways. For example, Klein's Sexual Orientation Grid assesses seven dimensions of sexual minority identity (e.g., attraction, fantasy, behavior) in past, present and ideal world, while the Kinsey Scale represents sexual minority status as a continuum ranging from exclusively heterosexual to exclusively *homosexual* (Sell, 1997). For this study, we examine individuals who self-identify as a lesbian, gay man or bisexual. Fundamental differences may exist between individuals who self-identify as LGB in comparison to those who question their sexual identity, who engage in same-sex behaviors but

do not identify as LGB (e.g., men who have sex with men (MSM) or women who have sex with women (WSW)), and those who identify as non-heterosexual but do not identify as LGB (e.g., queer, pansexual). These methodological issues with the measurement of sexual minority status make it more difficult to generalize findings.

Further, it is very difficult to get accurate prevalence of sexual minorities in the United States. Research methodology widely influences estimates of the prevalence of sexual minorities; population surveys with large samples are thought to produce the most accurate estimates of the prevalence of sexual minorities (Gates, 2011). The United States Census offers the best opportunity to determine an accurate prevalence of sexual minorities in the United States. However, to date, the US Census includes no items related to sexual minority status or behavior (National Gay and Lesbian Task Force, 2010). The Census Bureau added an unmarried partner option to the Census form in 1990, the first time sexual minorities could acknowledge their intimate partnerships (National Gay and Lesbian Task Force, 2010). Researchers have identified the estimated prevalence of sexual minorities based on extrapolation from the number of households in which same-sex persons cohabitate as unmarried partners (Smith & Gates, 2001). The 1990 Census counted 145,130 same-sex partner households, while the 2000 Census counted 601,209 same-sex partner households, which is a 314% increase (Smith & Gates, 2001). Extrapolation from same-sex households underestimates the prevalence of sexual minorities: sexual minorities who are single or not cohabitating are not counted and bisexuals are underrepresented because sexual minority status is determined by the sex of partner. Therefore, extrapolation from current Census data provides a gross underrepresentation of the prevalence of sexual minorities in the United States.

Estimates of the LGB population in the United States vary anywhere from 2 to 10% of the overall population (Gates & Smith, 2001). The Centers for Disease Control and Prevention (CDC) operate the National Survey of Family Growth (NSFG), which collects health statistics on sexual activity, marriage, and family planning among other things. Chandra, Mosher, Copen and Soinean (2011) found in the 2006-2008 NSFG that among men aged 18 to 44 years old 1.7% identified as gay, 1.1% identified as bisexual, 0.2% identified as not heterosexual, gay, or bisexual and 1.3% did not report sexual minority status. Among women aged 18 to 44 years old, 1.1% of women identified as lesbian, 3.5% identified as bisexual, 0.6% identified as not heterosexual, lesbian or bisexual and 1.1% did not report sexual minority status (Chandra et al, 2011). Comparison of the 2002 NSFG data collection to the 2006-2008 NSFG data collection demonstrates the great variability in measurement of the prevalence of sexual minorities. In the 2002 NSFG, 9.8% of men and 9.7% of women identified as non-heterosexual in 2002 NSFG with 12,571 respondents (Chandra et al., 2011). In the 2006-2008 NSFG, 4.3% of men and 6.3% of women identified as non-heterosexual with 13,495 respondents (Chandra et al., 2011). The striking difference between sexual minorities in 2002 and 2006-2008 reflects the variation in the prevalence of sexual minorities and the importance of methodology to accurate measurement. Additionally, many sexual minorities may choose not to disclose sexual minority status due to fears of confidentiality, data use and discrimination. Smith and Gates (2001) estimate 5% of the population over 18 years old identify themselves as lesbians, gay men or bisexuals, suggesting 10,456,405 LGB persons live in the United States. For this study we examine lesbians, gay men and bisexuals living within Texas. The 1990 Census counted 7,871 households as same-sex partnerships in Texas, while the 2000 Census counted 42,912

households (Smith & Gates, 2001). Given measurement limitations, an estimated 1,042,591 sexual minorities reside in Texas based on the 5% population estimate and Texas population from the 2000 Census (US Census Bureau, 2000).

Theoretical Model

Sexual minorities experience significantly poorer mental health outcomes than heterosexuals (Cochran et al., 2003; Meyer, 2003). Research suggests greater prevalence of anxiety, major depression, substance use and suicide attempts among sexual minorities in comparison to heterosexuals; sexual minorities were more likely to have used mental health services and have greater mental illness comorbidity (Cochran et al., 2003). Meyer's (2003) minority stress model (see Figure 1) is one theoretical conceptualization of the relationship between sexual minorities' experiences and mental health outcomes. The minority stress model describes the unique stress that sexual minorities experience and proposes relationships between minority stress and psychological outcomes.

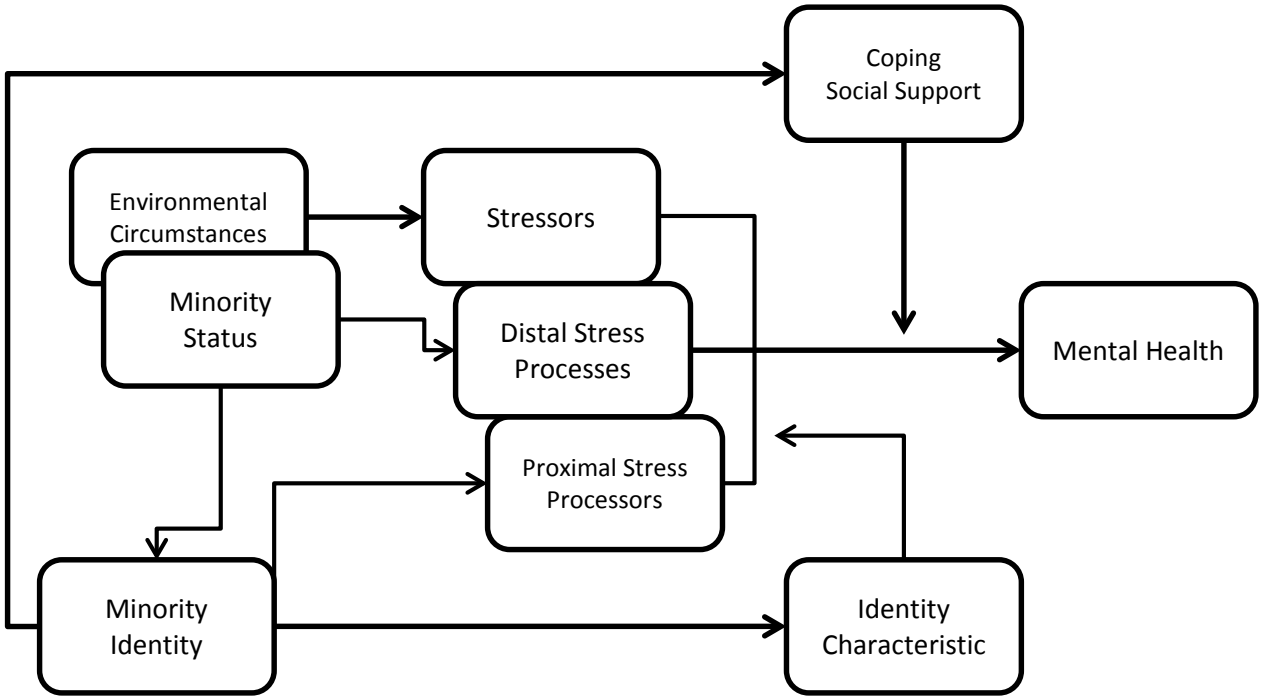

Figure 1. Meyer's minority stress model (Meyer, 2003).

Meyer's (2003) minority stress model begins with the environment all individuals experience (e.g., economy, job market) and the general stressors all individuals can experience (e.g., poverty, death in family). Meyer (2003) then introduces the concept of minority stress, the additive stress experienced by members of socially stigmatized groups. Minority stress encompasses the stigma, prejudice and discrimination sexual minorities encounter (Meyer, 2003). In turn, sexual minorities manage and process additive minority stress. These minority stress processes are divided into distal and proximal. Distal minority stress processes include how an individual manages objectively stressful events (e.g., violence, prejudice, discrimination) and structural stigma (e.g., institutionalized discrimination based on sexual minority status, legal inequality of sexual minorities). Proximal minority stress processes include how the individual internally and subjectively manages minority stress (e.g., identity concealment, expectations of discrimination, internalized anti-LGB beliefs). Individuals may have multiple

minority statuses such as sexual minority status, race, ethnicity, gender, ability and religion. These intersecting minority statuses affect an individual's experience and stress processes; a European-American gay man that may encounter heterosexism in the workplace may have distinct experiences compared to a Latina lesbian that might encounter heterosexism, sexism and racism in the workplace. Dealing with minority stress is taxing, which in turn plays a role in mental health outcomes (Meyer, 2003).

Members of marginalized groups may encounter additive minority stress. Conversely, identification with minority groups may offer protective factors. Lesbians, gay men and to some extent bisexuals gain communities from LGB identification. The LGB communities can provide resources, protective strategies and social support, which may help management of minority stress. In turn, community support may diminish identity incongruence for individuals during the process of identification as a sexual minority.

Stress is always accompanied by coping (i.e., the thoughts and behaviors used to deal with stress; Folkman & Moskowitz, 2004). Coping can be adaptive or maladaptive; the adaptive nature of coping remains dependent on the situation. Coping behaviors are characterized as adaptive or maladaptive depending on the outcomes on well-being (Sornberger, Smith, Toste, & Heath, 2013). Adaptive coping benefits well-being, while maladaptive coping decreases well-being (Sornberger et al., 2013). For example, identity concealment is associated with negative outcomes, such as greater internalized homophobia, decreased social support, increased incidence of cancer and accelerated progression of HIV (Lewis et al., 2005; Pachankis, 2007). However, in an unsafe environment (e.g., hostile workplace without sexual minority employment protections), identity concealment may be adaptive, necessary and protective.

Meyer's (2003) minority stress model accounts for the unique stress encountered by sexual minorities along with protective factors (e.g., coping, social support). The minority stress model explains the greater prevalence of mental disorders in sexual minorities as a result of the complex relationship between minority stress, minority stress processes, LGB communities' support and sexual minority appraisal (Meyer, 2003). The minority stress model provides a conceptual framework for examining the relationships between psychological quality of life, shame due to heterosexism, self-esteem and perceived stress.

Implications for Current Study

While many sexual minorities remain mentally healthy, there is a higher prevalence of mental disorders among members of the LGB communities than heterosexuals (Cochran et al., 2003, Meyer, 2003). Given this disparity, mental health outcomes become an important area to examine. Meyer's minority stress model provides a theoretical framework for the disparity in mental health outcomes for sexual minorities (2003). In current study, the variable psychological quality of life represents mental health outcomes in Meyer's minority stress model. Meyer theorizes poorer mental health outcomes are related to additive stress associated with minority status along with maladaptive coping strategies (2003). In turn, several key factors are related to psychological quality of life: shame due to heterosexism, self-esteem and perceived stress.

Figure 2 provides conceptualized relationships between key variables in a minority stress model framework. Shame due to heterosexism captures the ideological system sexual minorities encounter that denies and denigrates non-heterosexual ways of being. Shame due to heterosexism represents the proximal stress processes component of Meyer's minority

stress model. Sexual minorities face additional stressors (e.g., workplace, poverty, healthcare). Perceived stress captures sexual minority appraisal of the stress they experience and represents the stressors and distal stress processes components of Meyer's minority stress model. Lastly, self-esteem captures an individual's feeling of self-worth. This is an integral component of psychological quality of life and represents part of the identity characteristic component of Meyer's minority stress model. Further examination of these key factors may clarify our understanding of LGB mental health outcomes.

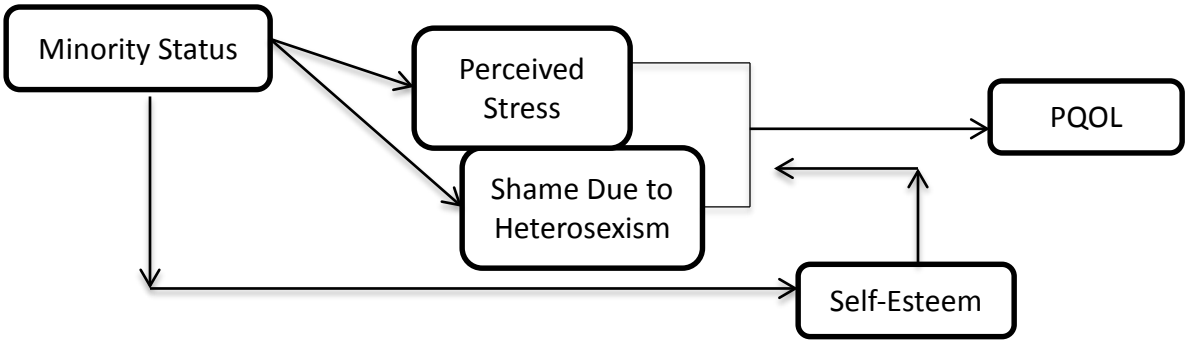

Figure 2. Adaption of Meyer's Minority Stress Model (Meyer, 2003).

Psychological Quality of Life

Sexual minorities have a greater prevalence of mental health difficulties than heterosexuals. Meyer (2003) posits this is due to stigmatized societal position and additive minority stress. Given this disparity between sexual minorities and heterosexuals, psychological quality of life becomes a key construct to examine, the central outcome in our current study. Quality of life is a multi-dimensional construct examining physical, psychological and social components. Quality of life measures take into account subjective appraisal of well-being and self assessment of quality of life. Psychological quality of life is characterized as an overall sense of mental well-being (Ware & Sherbourne, 1992).

Stigma plays a role in sexual minorities' psychological quality of life. Social position (e.g., relative to gender, age, racial/ethnic status, sexual minority status) influences stress levels, appraisal and coping (Kertzner, Meyer, Frost & Stirratt, 2009). Stigmatization is negatively associated with psychological quality of life (Meyer, 2003). Wang, Li, Stanton and Fang (2010) found that socially stigmatized individuals experience poorer mental and physical health outcomes. Greater perceived social stigma and discriminatory experiences were linked to greater psychological distress and lower psychological quality of life (Wang et al., 2010). This finding was in a sample of rural-to-urban migrants in China in which sexual minority status was not measured (Wang et al., 2010). Hatzenbuehler's (2014) research suggests that increases in structural stigma are related with poorer mental health outcomes for sexual minorities.

Alternatively, adaptive coping and social support appear to be positively related to psychological quality of life. Active coping skills can help lessen the influence of discriminatory experiences and perceived social stigma (Wang et al., 2010). Adaptive coping is associated with increased psychological quality of life for sexual minorities and heterosexuals (Burns & Machin, 2013; Wang et al., 2010). Additionally, social support appears to buffer the impact of negative life events on sexual minorities' psychological quality of life (Burns & Machin, 2013). In a sample of Latino lesbians and gay men, greater perceived social support was linked with higher self-esteem and psychological quality of life (Zea, Reisen, & Poppen, 1999). Overall, sexual minorities with greater resources (e.g., social support, adaptive coping skills) experience better psychological quality of life outcomes (Burns & Machin, 2013).

Within the LGB communities, bisexuals may not gain the same level of social support as lesbians and gay men. Bisexuals encounter stigma within lesbian and gay communities as well

as mainstream society (Szymanski, Kashubeck-West, & Meyer, 2008a). Bisexuals face bi-phobia, the dislike of those who are not heterosexual, lesbian or gay, and may find themselves unwelcome in lesbian, gay and heterosexual communities with no well-formed bisexual communities (Kertzner et al., 2009). In turn, the additional stigma of bisexual minority status may have negative effects on psychological quality of life. Bisexuals have greater anxiety, depression, substance abuse as well as suicidal ideation and suicide attempts than lesbians or gay men (Kertzner et al., 2009). Despite the differences between bisexuals, lesbians and gay men, researchers often study sexual minorities as one group. Jorm, Korten, Rodgers, Jacomb and Christensen (2002) separated participants based on sexual minority status and discovered bisexuals had worse mental health outcomes than lesbians or gay men. Therefore, in this study we examine the differences between lesbians, gay men and bisexuals in order to develop a nuanced understanding of sexual minority mental health outcomes.

Intersecting minority statuses may also impact psychological quality of life. Race, ethnicity and culture may affect identification as LGB, connection with LGB communities and perceived stress. The definition of sexual identity falls within a Western context. Within non-Western cultures, sexual minorities must utilize Western concepts and constructs to describe sexual identity (Chan, 1995). Ethnic minorities may express sexual minority status differently than majority group members and accordingly be more private about sexual identity and encounter additional stress from intersecting minority identities (Chan, 1995). For example, Latino sexual minorities may manage the cultural values of the Latino culture, the marginalized positions of sexual minority and ethnic minority, while potentially dealing with acculturation stress (Kertzner et al., 2009). Lastly, sexual minority women encounter the intersecting identity

statuses of sexual minorities and woman. Lesbians and bisexual women have greater depressive symptomatology than heterosexual women; yet, studies have not found lower psychological quality of life for sexual minority women (Kertzner et al., 2009). Kertzner and colleagues (2009) theorize feminist ideology may offer a protective buffer from the impact of sexism and heterosexism.

Throughout the lifespan, sexual minority status may affect psychological quality of life. Sexual minority identity is not a static state but a process navigated within a societal sphere (Halpin & Allen, 2004). Halpin and Allen (2004) suggest psychological quality of life for gay men varies during the coming out and identity formation process. In their study, Halpin and Allen (2004) found psychological quality of life was high in the beginning of the process (e.g., before questioning one's sexual identity) and the end of the process (e.g., having achieved an integrated sexual identity), but was lower while determining and establishing sexual identity. Halpin and Allen (2004) suggest gay men with integrated gay identity have the potential for the same psychological quality of life as men with integrated heterosexual identity. During adolescence, sexual minority youth are more likely to encounter antigay violence, harassment and assault (Meyer, 2007). Younger sexual minorities generally have less control and independence (e.g., financial dependence on parents; limited transportation) and may struggle to access LGB communities or develop LGB support networks (Kertzner et al., 2009). While older sexual minorities may continue to encounter discrimination and heterosexism, they have more opportunities to develop LGB social support networks, use the LGB communities' resources, utilize LGB communities' protective strategies and develop adaptive coping skills (Kertzner et al., 2009; Meyer, 2007). Another factor that sexual minorities encounter across the

lifespan is shame due to heterosexism (Meyer, 2007). In turn, shame due to heterosexism impacts psychological quality of life of sexual minorities.

Shame Due to Heterosexism

Lesbians, gay men and bisexuals regularly encounter negative societal beliefs towards sexual minorities. Various terminologies encompass the internalization of these beliefs. Homo-negativity is a person's negative beliefs and affect about sexual minorities (Syzmanski et al., 2008a). Internalized homophobia is the inward direction of homo-negativity or societal negative attitudes toward sexual minorities (Meyer & Dean, 1998). In contrast, heterosexism is the ideological system on an individual and cultural level that denies and disparages ways of being outside the sexual majority (Szymanski et al., 2008a). Homophobia implies the difficulties faced by sexual minorities are their own fault, rather than acknowledging the system of oppression sexual minorities face. Heterosexism draws attention to the broader context of stigma, prejudice and discrimination that sexual minorities may experience (Szymanski et al., 2008a). In addition, shame due to heterosexism captures the negative societal beliefs towards non-heterosexuals that sexual minorities internalize. Researchers use different language and instruments to discuss internalized negative societal beliefs toward sexual minorities. For the current study we use the term shame due to heterosexism. This term acknowledges the societal context within which sexual minorities find themselves along with the manner it is related to their self-concept, an important factor of LGB experiences.

Within the literature, there is a lack of consistency in measurement and operationalization of shame due to heterosexism; however, research suggests shame due to heterosexism is related to decreased psychological quality of life. Internalized homophobia is a

strong predictor of unfavorable mental health outcomes and psychological distress (Herek, Cogan, Gillis, & Glunt, 1997; Meyer, 1995; Meyer, 2003; Newcomb & Mustanski, 2010). Greater internalized homophobia is associated with depression, anxiety, low self-esteem, suicidal ideation and suicide attempts (Meyer, 2003; Meyer & Dean, 1998; Szymanski, Kashubeck-West, & Meyer, 2008b). In addition, internalized homophobia is associated with alcohol abuse and negative affect (e.g., helplessness, guilt; DiPlacido, 1998; Meyer & Dean, 1998). Internalized homo-negativity is a strong predictor of depression among MSM (Rosser, Bockting, Ross, Miner, & Coleman, 2008). Furthermore, internalized heterosexism is related to greater psychological distress for lesbians (Szymanski, 2005).

Over time societal attitudes towards sexual minorities have become more tolerant and accepting (e.g., shifting attitudes towards same-sex marriage). Some researchers theorize LGB persons may not internalize negative attitudes towards sexual minorities as readily in more affirmative environments (Barnes & Meyer, 2012). Internalized homophobia continues to touch sexual minorities of all ages; however, findings on internalized homophobia over time are mixed (Newcomb & Mustanski, 2010). Older sexual minorities have a stronger association between internalized homophobia and poorer mental health outcomes than younger sexual minorities (Newcomb & Mustanski, 2010). It is essential to note that within some environments attitudes towards sexual minorities have not shifted. For example, connection with non-affirming religious environments is associated with greater internalized homophobia (Barnes & Meyer, 2012). Yet, connection with non-affirming environment was not related to poor psychological quality of life (Barnes & Meyer, 2012). Barnes and Meyer (2012) theorize

sexual minorities are able to use strategies to inure themselves against non-affirming religious environments (e.g., compartmentalize sexual identity, question Biblical teaching).

Internalized heterosexism can alter relationships and social support. Greater internalized homophobia is associated with lower relationship satisfaction (Meyer, 2003; Mohr & Daly, 2008). Internalized homophobia is related to increased relational difficulties (e.g., romantic and interpersonal; Frost & Meyer, 2009). Higher internalized homophobia is related to sexual functioning difficulties in gay and bisexual men (Meyer & Dean, 1998). Gay men who are less accepting of sexual identity had more sexual difficulties (e.g., lower sexual self-esteem, less sexual satisfaction, greater sexual anxiety; Dupras, 1994; Rosser et al., 2008). Furthermore, internalized heterosexism is associated with diminished social support (Meyer & Dean, 1998). Higher rates of internalized homophobia are associated with greater concealment of sexual minority status, reduced social support, more avoidant coping, decreased outness and less connection to sexual minority communities (Frost & Meyer, 2009; Herek et al., 1997; Szymanski et al., 2008b). In addition to shaping relationships with others, shame due to heterosexism may change sexual minorities relationship with themselves. Greater internalized heterosexism is associated with lower self-esteem among sexual minorities (Herek et al., 1997; Meyer & Dean, 1998; Szymanski et al., 2008b).

Self-Esteem

Self-esteem is a central component of psychological quality of life and general well-being (Crocker & Major, 1989). Self-esteem captures feelings directed towards self of sense of worth, respect and acceptance (Crocker & Major, 1989; Rosenberg, 1965). This is an important

factor with regard to psychological quality of life. Higher self-esteem is associated with greater psychological well-being (Burns & Machin, 2013).

Prominent theories (e.g., reflected appraisals, self-fulfilling prophecies, efficacy based self-esteem) suggest stigmatized group membership affects self-esteem (Crocker & Major, 1989). A stigmatized group is held in low esteem by society, but individual self-esteem is distinct from group esteem. Thus, a member of a stigmatized group may maintain high self-esteem; however, stigmatized group membership is theorized to negatively affect self-esteem. These varied theories suggest members of stigmatized groups should have lower self-esteem than the non-stigmatized (Crocker & Major, 1989). For sexual minorities, Meyer (2007) suggests vigilance can develop as a defensive coping tactic to stigmatized status. In turn, vigilance could create difficulties to maintenance of coherent and stable self-concept, which could negatively impact self-esteem (Meyer, 2007). Reflected appraisal, self-fulfilling prophecy, efficacy based self-esteem theories along with Meyer's minority stress model suggest sexual minorities should have lower self-esteem than heterosexuals (Crocker & Major, 1989; Meyer, 2007).

In contrast, empirical evidence has not supported these theoretical conceptualizations of the relationship between self-esteem and stigmatized societal position. Members of stigmatized groups do not have lower self-esteem than majority group members (Crocker & Major, 1989; Meyer, 2003). African Americans have self-esteem equal or greater than European Americans and women do not have lower self-esteem than men (Crocker & Major, 1989; Twenge & Crocker, 2002). Most studies found lesbians had similar or higher self-esteem than heterosexual women (Carlson & Baxter, 1984; Savin-Williams, 1995). Similarly, most

studies found gay men had similar or higher self-esteem than heterosexual men (Carlson & Baxter, 1984; Frable, Wortman, & Joseph, 1997; Savin-Williams, 1995). Stigma might offer protective factors for self-esteem. Crocker and Major (1989) suggest minorities may attribute negative experiences to stigmatized group status, selectively value and devalue attributes based on group status and compare their outcomes to other group members rather than the majority group. These attributions may protect sexual minorities' self-esteem. For example, when a member of a minority group does not get a job offer he or she could attribute that to discrimination rather than individual attributes or qualifications.

Additionally, centrality of marginalized identity, level of identification with the group and time since acquisition of identity may all impact self-esteem (Crocker & Major, 1989). Group affiliation and support may lessen the impact of stigma on self-esteem (e.g., identification with LGB communities and support from these communities may mitigate the impact of stigmatized sexual minority status on sexual minority self-esteem; Crocker & Major, 1989). A sense of group membership or identification is associated with higher self-esteem (Meyer, 2003). Moreover, greater commitment and centrality of sexual minority identity is related to higher self-esteem and a more positive stable sense of self (Hammersmith & Weinberg, 1973; Walter & Simoni, 1993). Greater perceived social support was related to higher self-esteem in a sample of Latino lesbians and gay men (Zea et al., 1999).

In contrast, social discrimination (e.g., racism, homophobia) had negative impact on social support and self-esteem in a study of Latino sexual minorities (Diaz, Ayala, Bein, Henne, & Marin, 2001). Self-esteem may decrease at the time stigmatized identity is acquired and then increase (e.g., when a person discloses sexual minority status self-esteem may lower

temporarily and then self-esteem level returns; Crocker & Major, 1989). Sexual minorities with less connection to the LGB communities, less social support, greater internalized homophobia and who are earlier in the coming out process may have lower self-esteem (Newcomb & Mustanski, 2010). It is important to note that a minority status that is not visible (e.g., sexual minority status) can be concealed along with the stigmatized identity. Concealment can result in fewer negative and prejudicial experiences; however, sexual minorities will not be able to capitalize on the self-protective strategies of the stigmatized group, affiliate with LGB communities and utilize resources (Meyer, 2007). Additionally, concealment of sexual minority identity is associated with negative health outcomes (e.g., diminished immune system functioning, more rapid advancement of HIV infection; Meyer, 2007).

Lastly, internalized negative societal values affect self-esteem. Greater internalized homophobia is associated with lower self-esteem for sexual minorities (Newcomb & Mustanski, 2010; Rosser et al., 2008). Walter and Simoni (1993) found negative beliefs about LGB communities can lower the self-esteem of sexual minorities. Chen and Tyron (2012) found Asian American gay men with higher levels of internalized homophobia and experiences with antigay prejudice had lower self-esteem. In turn, lower self-esteem was associated with greater psychological distress (Chen & Tyron, 2012; Szymanski, 2009). Additionally, self-esteem plays another role in psychological quality of life. Self-esteem was found to moderate the impact of heterosexist events on psychological distress for gay and bisexual men (Szymanski, 2009).

Perceived Stress

Given the stigmatized status of sexual minorities, LGB persons are exposed to greater

stressors than heterosexuals. Over their lifetime, sexual minorities encounter more stigma and discrimination than heterosexuals (Mays & Cochran, 2001; Meyer, Schwartz & Frost, 2008). Sexual minorities are more likely to live in poverty than heterosexuals (Badgett, Durso, & Schneebaum, 2013). Among women 18 to 44 years old, 29.4% of bisexual women and 22.7% of lesbians live in poverty in comparison to 21.1% of heterosexual women (Badgett et al., 2013). Among men 18 to 44 years old, 25.9% of bisexual men and 20.5% of gay men live in poverty in comparison to 15.3% of heterosexual men (Badgett et al., 2013). In same-sex parented households children are nearly twice as likely to be living in poverty compared to children in opposite-sex parented households (Badgett et al., 2013). LGBT identified youth are more likely to be homeless (Cochran, Stewart, Ginzler, & Cauce, 2002). LGBT youth are nearly 40% of the users of homeless youth services (Badgett et al., 2013). Sexual minorities who are bisexual, people of color, young and those who had children were more vulnerable to poverty (Badgett et al., 2013). Additionally, LGB persons in non-coastal and rural regions are more vulnerable to poverty than sexual minorities living in coastal and urban regions (Badgett et al., 2013).

Employment is a factor that may influence vulnerability to poverty. In the context of employment, sexual minorities may experience discrimination and harassment. Discrimination along with fears of discrimination may keep many sexual minorities closeted at work. Only 25% of LGB persons reported being out at work, while one-third reported not being out to anyone in their workplace (Sears & Mallory, 2011). Identity concealment can alter physical and psychological quality of life. Conversely, it may offer some protections in the workplace. For example, gay male employees are paid less than heterosexual male employees with the same productivity level; the wage gap ranges from 10-32% less for gay male workers (Sears &

Mallory, 2011). Sexual minorities who experience workplace discrimination have higher psychological distress and greater health problems (Waldo, 1999). Sexual minorities who are out in the workplace are more likely to experience discrimination due to sexual minority status. In the workplace, 37.7% of out sexual minorities reported harassment compared to 10.4% of LGB persons who were not out (Sears & Mallory, 2011). Among out sexual minorities 9.2% reported losing a job due to sexual minority status, while zero closeted LGB persons reported losing a job due to sexual minority status (Sears & Mallory, 2011). However, closeted sexual minority employees are more likely to feel isolated and frustrated with their careers (Sears & Mallory, 2011).

Lastly, sexual minorities experience considerably worse physical health outcomes than heterosexuals (Barker, 2008). Sexual minorities are more likely to delay seeking medical care and receive emergency health care (Krehely, 2009; Meyer, 2003). LGB persons are less likely to have insurance or a primary care provider (Krehely, 2009). Sexual minorities face limited health care access, insurance coverage difficulties (i.e., with employment and relationship recognition challenges), a paucity of culturally competent health care providers as well as discrimination and harassment in health care treatment (Barker, 2008; Frazer, 2009; Krehely, 2009). Poverty, employment and health care are just three areas in which sexual minorities can experience greater stress than heterosexuals.

It is essential to acknowledge the minority stress that LGB people face. Stress occurs when perceived demands exceed coping resources. Sexual minorities must manage additive minority stress with a high number of demands (Meyer, 2003). Lazarus and Folkman's (1984) transactional model of stress and coping posits that appraisal of a stressful event is more

important than the event itself. Appraisal influences emotional response to stressful events (Lazarus & Folkman, 1984). Perception of a stressor affects response to the event. In turn, perceptions of stressors, available coping resources and stress management approaches may affect psychological quality of life. For example, in Texas sexual minorities are likely to be employed in workplaces without employment protections for sexual minority status. Texan sexual minorities must manage this stressor and may choose to conceal sexual minority status in an effort to maintain employment as well as to decrease harassment and discrimination. However, decreased disclosure of sexual minority status is related to increased perceived stress (Newcomb & Mustanski, 2010).

Additionally, greater perceived stress is associated with increased psychological distress, physical health difficulties and decreased sense of well-being (Lavoie & Douglas, 2012). Chronic stress can prolong emotional responses to daily events and decrease emotional regulation and coping abilities (Hatzenbuehler, 2009; Scott, Sliwinski, & Blanchard-Fields, 2013). Sexual minorities may use varied coping strategies to manage these stressors. Problem based coping is likely when a situation feels manageable (e.g., problem identification, solution exploration, reappraisal; Lazarus & Folkman, 1984). Emotion based coping is likely when a situation feels beyond control (e.g., emotional distance, avoidance, acceptance; Lazarus & Folkman, 1984). Each person plays an active role in the perception and management of stressors, responding to stress in his or her own way. In managing stress, some coping strategies can be seen as adaptive while others can be maladaptive. Greater exposure to stress can affect emotion regulation and coping, leading to emotion based coping style, poor emotion regulation and maladaptive coping styles (Hatzenbuehler, 2009).

Current Study and Hypotheses

While many sexual minorities remain mentally healthy, there is a higher prevalence of mental disorders among members of the LGB communities than heterosexuals (Cochran et al., 2003, Meyer, 2003). Given this disparity in mental health outcomes, psychological quality of life becomes an important area to examine. Meyer's minority stress model provides a theoretical framework for the disparity in mental health outcomes for sexual minorities (2003). Meyer (2003) theorizes poorer mental health outcomes are related to additive stress associated with minority status along with maladaptive coping strategies. Several key factors are related to psychological quality of life: shame due to heterosexism, self-esteem and perceived stress. Further examination of these factors may clarify our understanding of LGB mental health outcomes.

Shame due to heterosexism captures the ideological system sexual minorities encounter that denies and denigrates non-heterosexual ways of being. Shame due to heterosexism is related to greater psychological distress, depressive symptomatology, anxiety, suicidal ideation/attempts and substance abuse (DiPlacido, 1998; Herek et al., 1997; Meyer, 2003; Szymanski et al., 2008b, Szymanski, 2005). Thus, we expect shame due to heterosexism to be negatively correlated to psychological quality of life. In addition to the stress and internalization of heterosexism, sexual minorities face additional stressors (e.g., workplace, poverty, relationship recognition, healthcare). Perceived stress captures sexual minority appraisal of the stress they experience. Greater perceived stress is related to increased psychological distress and decreased well-being (Lavoie & Douglas, 2012). We expect perceived stress to be negatively correlated to psychological quality of life.

Conversely, self-esteem captures an individual's feeling of self-worth. This is an integral component of psychological quality of life. Lower self-esteem is related to greater psychological distress, higher internalized homophobia and lower perceived social support (Chen & Tyron, 2012; Szymanski, 2009; Zea et al., 1999). We expect self-esteem to be positively correlated with psychological quality of life. Shame due to heterosexism, self-esteem and perceived stress appear to be strongly related to psychological quality of life. Therefore, we hypothesize they collectively account for a significant proportion of variance in psychological quality of life. Lastly, self-esteem has been found to moderate the impact of heterosexist events on psychological distress (Szymanski, 2009). We expect self-esteem to moderate the relationship between perceived stress and psychological quality of life. The relationship between shame due to heterosexism and psychological quality of life has mixed findings over time (Newcomb & Mustanski, 2010). Research shows older sexual minorities have a stronger association between internalized homophobia and poorer mental health outcomes (Newcomb & Mustanski, 2010). Thus, we expect age to moderate the relationship between shame due to heterosexism and psychological quality of life. Using Meyer's minority stress model framework, we conceptualize the relationships between psychological quality of life, shame due to heterosexism, self-esteem and perceived stress and we hypothesize that:

1. Shame due to heterosexism is negatively correlated with psychological quality of life.
2. Perceived stress is negatively correlated with psychological quality of life.
3. Self-esteem is positively correlated with psychological quality of life.
4. Shame due to heterosexism, self-esteem and perceived stress collectively account for a significant proportion of the variance in psychological quality of life.

5. Self-esteem moderates the relationship between perceived stress and psychological quality of life. Specifically at low levels of self-esteem we expect a stronger relationship between perceived stress and psychological quality of life.

6. Age moderates the relationship between shame due to heterosexism and psychological quality of life. Specifically at greater ages we expect a stronger relationship between shame due to heterosexism and psychological quality of life.

CHAPTER 2

METHOD

Participants

Participants included 148 individuals who self-identified as lesbian, gay or bisexual. We recruited participants in the fall of 2008 through Dallas community-based organizations and fliers distributed at the Dallas gay pride parade. In order to be eligible for the study, participants had to be fluent in English, be 18 years or older, self-identify as lesbian, gay or bisexual, be willing and able to provide consent and not be under the influence of substances at the time of survey completion. This research study examined health issues, behaviors and psychosocial factors within the LGB communities. Table 1 provides the demographic variables of the sample. Participants ranged in age from 18 to 73 years old, with a mean age of 32.0 years old (*SD* = 12.8). The sample had 61 male participants (42.2%), 76 female participants (51.4%), 10 male to female participants (6.8%) and 1 female to male participant (0.7%). The sample included 33.8% gay men (*n* = 50), 33.8% lesbians (*n* = 50) and 32.4% bisexuals (*n* = 48). The sample was 62.2% European American, 12.8% Latino, 12.2% African-American, 2.7% Asian-American and 10.1% reported an other ethnicity, reflecting the diversity of the DFW metroplex. Income among the participants ranged from $0 to $390,000, with a mean income of $37,032 (*SD* = 48, 852) and a median income of $25,000. Years of education ranged from 1 year to 33 years, with a mean education of 15.0 years (*SD* = 4.8).

Table 1.

Demographic Variables

	N	ETHNICITY	%	SEX	%	AGE *M(SD)*	INCOME *M(SD)*	EDUCATION *M(SD)*
Gay	50	European American	60	Male	100	36.0 (13.3)	44,502 (48,728)	14.8 (5.7)
		African American	16					
		Latino	12	Female	0			
		Other	12					
Lesbian	50	European American	64	Male	10*	31.5 (11.7)	35,023 (37,750)	15.4 (3.2)
		African American	6					
		Latino	16	Female	90			
		Other	14					
Bisexual	48	European American	62.5	Male	33.3	29.2 (12.6)	31,341 (58,363)	14.3 (5.2)
		African American	14.6					
		Latino	10.4	Female	66.7**			
		Other	12.4					

Note. *Transgender participants, ** Includes 1 transgender participant

Procedure

The appropriate Institutional Review Board approved this research study and written informed consent was obtained from each participant. Participants completed demographic information items and various measures of health, wellness, medical concerns, health barriers and disparities within the LGB communities. Our study used a cross-sectional correlational design with self-report data obtained from a questionnaire. The questionnaire was administered utilizing a computerized question development software (QDS) program on laptop computers. The QDS program ensured standardized administration of measures. Additionally, the QDS program minimized error, by diminishing missing data, as participants could not proceed without completion of all items and by eliminating data entry mistakes. The

questionnaire required approximately 2 hours to complete. Lastly, participants received a $25 incentive upon completion of the questionnaire.

Measures

Short Form-36 (SF-36)

We measured our outcome variable psychological quality of life using the mental health subscale of Short Form-36 (SF-36; Ware & Sherbourne, 1992). SF-36 is an abbreviated measure designed to assess health concepts across eight broad domains. This 36-item self-report measure represents the health domains with eight subscales: physical functioning, social functioning, role limitations due to physical health, bodily pain, mental health, role limitation due to emotional health, energy and perceptions of general health (Ware & Sherbourne, 1992). The 5-item Mental Health subscale assesses psychological quality of life across four dimensions: depression, anxiety, loss of behavioral or emotional control, and psychological well-being (Ware & Sherbourne, 1992). The mental health subscale is on a 5-point Likert-type scale with responses ranging from 1 (*not at all*) to 5 (*extremely*). Sample items include "During the past four weeks, have you felt calm and peaceful?" Low scores are indicative of constant psychological distress while high scores are indicative of greater psychological well-being (Ware & Sherbourne, 1992). The SF-36 demonstrates excellent internal consistency, with Cronbach's alpha reported to be .95 for the mental health subscale (Brazier et al, 1992). The 5-item mental health subscale is highly correlated (0.95) with full-length measures of mental health such as a 38-item mental health instrument (Ware & Sherbourne, 1992). The mental health subscale has demonstrated excellent convergent and discriminant validity (Ware & Sherbourne, 1992).

Shame Due to Heterosexism Scale (SDHS)

We measured shame due to heterosexism using the Shame Due to Heterosexism Scale (SDHS; Dickey-Chasins, 2001). The SDHS is an 11-item Likert-type self-report measure designed to assess the level of shame experienced by LGB individuals resulting from societal heterosexism. Sample items include "I feel disappointed in myself for being gay/lesbian" and "I am afraid that people will reject me if I tell them that I'm gay/lesbian". Responses are rated on a 6-point scale, ranging from 1 (*never*) to 6 (*always*) with a *not applicable* option. Higher scores are indicative of greater experienced shame. Internal consistency was reported to be adequate, with a Cronbach's alpha of .79 (Dickey-Chasins, 2001). SDHS demonstrates adequate construct and convergent validity (Dickey-Chasins, 2001).

Rosenberg Self-Esteem Scale (RSES)

We measured self-esteem using the Rosenberg Self-Esteem Scale (RSES; Rosenberg, Schooler, & Schoenbach, 1989). The RSES is a 10-item Likert-type self-report measure designed to measure self-esteem through evaluation of feelings of self-acceptance, self-respect and positive self-evaluation. Sample items include "I am able to do things as well as most other people" and "I feel I do not have much to be proud of." Responses are rated on a 4-point scale, ranging from 1 (*strongly agree*) to 4 (*strongly disagree*). High scores are indicative of higher self-esteem. The RSES demonstrates adequate internal consistency, Cronbach's alpha reported to be .78 (Rosenberg, Schooler, & Schoenbach, 1989). RSES's construct validity is confirmed by significant correlations with appropriate theoretical constructs (e.g., depression, neuroticism, peer group reputation; Rosenberg, 1965).

Perceived Stress Scale (PSS)

We measured perceived stress using the Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983). The PSS is a 14-item Likert-type self-report measure designed to assess an individual's appraisal of stressful situations. Sample items include "In the last month, have you felt that you were effectively coping with important changes that were occurring in your life?" and "In the last month, how often have you been upset because of something that happened unexpectedly?" Responses are rated on a 5-point scale, ranging from 1 (*never*) to 5 (*very often*). Higher scores are indicative of higher levels of perceived stress. The PSS was normed with three samples of college students and adequate internal consistency was established with a Cronbach's alpha ranging from .84 to .86, (Cohen et al., 1983). The PSS demonstrates concurrent and predictive validity (Cohen et al., 1983).

Data Analyses

Power Analysis

We conducted an a priori power analysis to determine the sample size necessary to achieve sufficient power of .80 (Cohen, 1992). We used G*Power, a computerized statistical package, to complete this power analysis (Faul, Erdfelder, Buchner, & Lang, 2009). In a similar study in which additive stress was a predictor of the psychological distress of lesbians, gay men and bisexuals, Kertzner et al. (2009) detected a moderate effect size (R^2 = .16). Thus, we expect our model to have a moderate effect size in our examination of sexual minorities' psychological quality of life. A power analysis indicated a sample of 95 participants was needed to achieve sufficient power of .80 with a moderate effect size.

Preliminary and Univariate Analysis

We analyzed the data using SPSS version 22. The data were assessed for missing values, outliers and the assumptions of multiple regression through graphic exploration and statistical analysis. Univariate analyses on demographic variables (i.e., age, income, education) and variables of interest (i.e., psychological quality of life, shame due to heterosexism) were conducted. These descriptive statistics described the central tendency of the variables and the characteristics of the sample. We verified internal consistency by calculating Cronbach's α for each measure. Calculated Cronbach's α were then compared to published reliabilities.

Principal Component Analysis

We conducted principal component analyses (PCA) on three of the measures (i.e., SF-36, RSES, PSS). The measures were normed on different populations than the sample of the current study. Sexual minorities likely were within norming populations, but they were not identified. For example, the PSS was normed for a college sample in which sexual minority status was not measured (Cohen et al., 1983). The measures may behave differently when used with an exclusively LGB sample. Therefore, these measures must be carefully evaluated.

PCA tries to explain the maximum amount of total variance in a correlation matrix by transforming the original variables into linear components. PCA helps establish which linear components exist within the data and how a particular variable contributes to that component. First, we evaluated the data to ensure it meets the assumptions of PCA. The data were assessed with graphic exploration and statistical analysis (i.e., matrix scatterplots, Kaiser-Meyer-Olkin measure of sampling adequacy, Bartlett's test of sphericity). In particular, we needed to ensure sampling adequacy. Tabachnick and Fidell (2012) suggest sample size of 100

is necessary for PCA, but a sample size of 300 is more comfortable for analysis. Given our sample size of 148, we used the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) to calculate whether the sample size would be sufficient for PCA (Dziuban & Shirkey, 1974). If KMO is poor (below .60), we considered the data unsuitable for PCA and did not continue with this analysis (Dziuban & Shirkey, 1974). If data met sampling adequacy assumption, we compared the PCA components we find with the measures' authors' findings (i.e., number of components, which items loaded on which components, the name of common theme).

Bivariate Analysis

We conducted correlation analyses and created a bivariate correlation matrix. We used this matrix to better describe the sample and explore the relationships between all of the variables.

Multivariate Analysis

One-way analyses of variance (ANOVA) were used to determine if differences exist in the variables of interest based on sexual minority status. Several ANOVAs were conducted to evaluate each variable (i.e., psychological quality of life, shame due to heterosexism, self-esteem, perceived stress). Planned comparisons with Bonferroni corrections were utilized to determine if each sexual minority group differs on variables of interest.

Several multiple linear regressions were run in order to examine the relationships between shame due to heterosexism, self-esteem, perceived stress and psychological quality of life. Researchers often study sexual minorities as one group; however, lesbians, gay men and bisexuals are distinct groups whose lived experiences vary and who have different health outcomes. For example, bisexuals report worse mental health outcomes than lesbians or gay

men (Jorm et al., 2002). Given these health outcome differences, we are interested in exploring the differences in shame due to heterosexism, self-esteem, perceived stress and psychological quality of life for lesbians, gay men and bisexuals. To address these differences, it is necessary to examine and then compare each sexual minority group. It would be insufficient to use a simple sexual minority status variable as a proxy for the differences between sexual minority groups and could obfuscate important differences between lesbians, gay men and bisexuals (Denton & Walters, 1999; Vosvick, Martin, Smith, & Jenkins, 2010). Individual analyses for each group allow us to explore differences that might not be identified in a combined analysis (Denton & Walters, 1999).

If we had we used a traditional analytic method, we would have combined lesbians, gay men and bisexuals in a single model and then analyzed that model. Therefore, we ran a multiple linear regression with all sexual minorities as well as separate regressions for lesbians, gay men and bisexuals. To determine whether our analyses uncovered differences between these groups, we then compared the results of all four models. The separate regression coefficients were then compared to determine if there are significant differences between regression coefficients among each sexual minority group (Paternoster, Brame, Mazerolle, & Piquero, 1998). We conducted z-tests with the unstandardized beta coefficients and standard error of each sexual minority group (Paternoster et al., 1998). We used a Bonferroni correction to control for family wise error (Paternoster et al., 1998; Vosvick et al., 2010).

Moderation

A third variable is likely to influence the relationship between perceived stress and psychological quality of life. This could either be by a moderation, in which a variable affects

the direction and/or strength of the relationship between perceived stress and psychological quality of life, or a mediation, in which a variable accounts for the relationship between perceived stress and psychological quality of life (or partial mediation, in which a variable accounts for some but not all of the relationship between perceived stress and psychological quality of life). Previous research found self-esteem moderated the relationship between perceived stress and psychological quality of life in a sample of gay and bisexual men (Szymanski, 2009); however, there is no current research to support a mediation relationship. Additionally, Meyer's (2003) minority stress model suggests self-esteem would act as a moderator of the relationship between perceived stress and psychological quality of life. Therefore, we chose to conduct a moderation analysis instead of a mediation analysis.

We conducted a test of moderation to determine if self-esteem moderates the relationship between perceived stress and psychological quality of life. In our moderation test, the predictor variable is perceived stress, the moderator variable is self-esteem, the outcome variable is psychological quality of life and independent variables were centered (see Figure 3). We hypothesize that self-esteem moderates the relationship between perceived stress and psychological quality of life. This hypothesis is supported if the interaction between self-esteem and perceived stress is significant in the regression model. If the interaction is significant, we will follow up with simple slopes analysis. If self-esteem moderates the relationship between perceived stress and psychological quality of life, then self-esteem affects the direction or strength of the relationship.

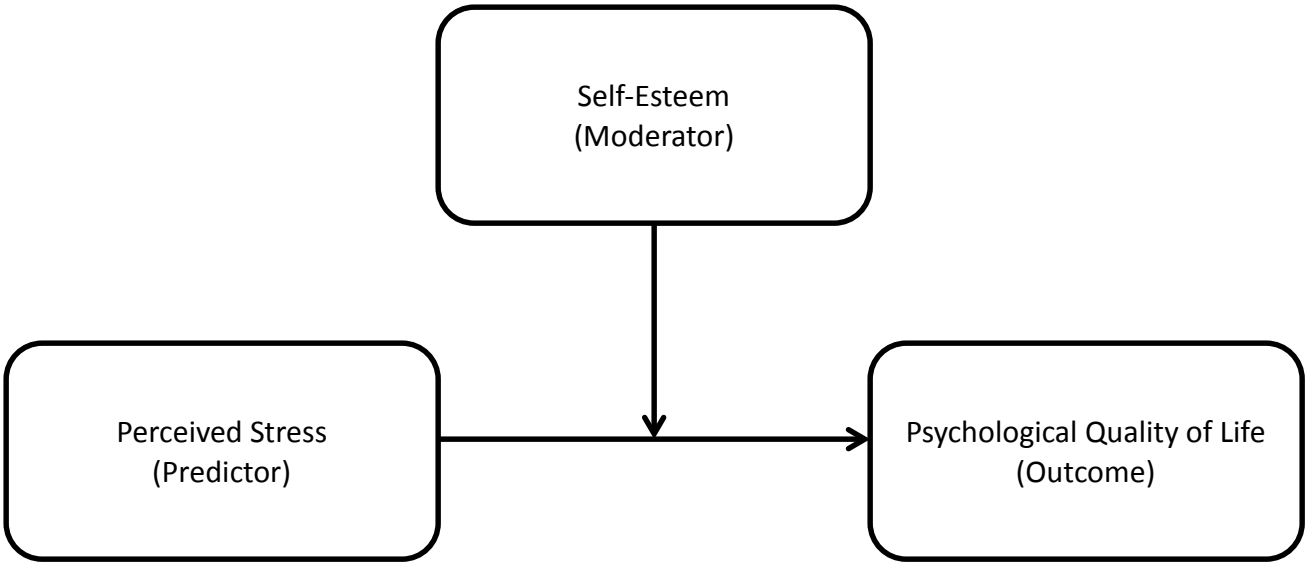

Figure 3. Moderation Model.

Additionally, the relationship between shame due to heterosexism and psychological quality of life has mixed findings over time (Newcomb & Mustanski, 2010). Research suggests older sexual minorities have stronger associations between internalized homophobia and sexual risk-taking than younger sexual minorities (Newcomb & Mustanski, 2010). Thus, we explored age as a potential third variable influencing the relationship between shame due to heterosexism and psychological quality of life.

We conducted a test of moderation to determine if age moderates the relationship between shame due to heterosexism and psychological quality of life. In our moderation test, the predictor variable is shame due to heterosexism, the moderator variable is age, the outcome variable is psychological quality of life and independent variables were centered (see Figure 4). We hypothesize that age moderates the relationship between shame due to heterosexism and psychological quality of life. This hypothesis will be supported if the

interaction between shame due to heterosexism and age is significant in the regression model.

If the interaction is significant, we will follow up with simple slopes analysis.

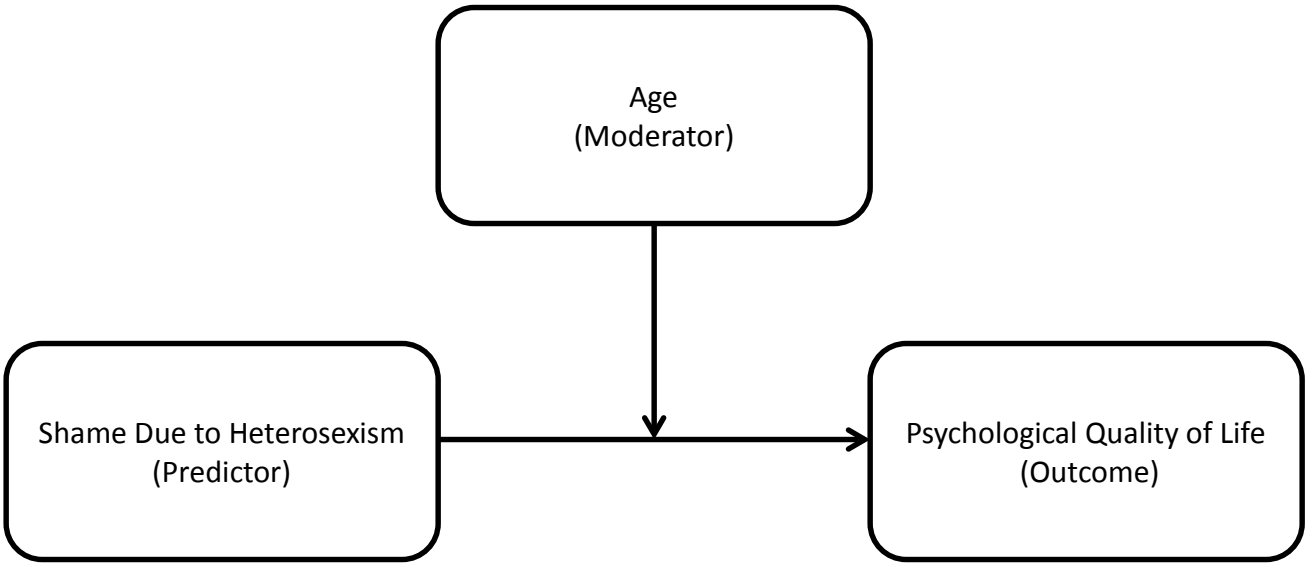

Figure 4. Moderation Model.

CHAPTER 3

RESULTS

Preliminary and Univariate Analysis

We assessed our dataset for missing data, outliers and normality. The data set included a small amount of missing data. One out of 148 cases for Shame Due to Heterosexism Scale (SDHS) and 1 out of 148 cases of Rosenberg Self-Esteem Scale (RSES) had missing numbers and met criteria to be imputed. We replaced missing data through mean substitution (i.e., the missing data point was replaced with the mean score for the sample). Shame due to heterosexism scores were calculated and ranged from 11 to 45, with a mean of 22.0 (*SD* = 6.6). Visual examination of the data, along with skewness (0.69, SE = 0.20) and kurtosis (0.58, SE = 0.40) indicated the data was normally distributed. We noticed a ceiling effect on shame due to heterosexism and may encounter attenuation due to range restriction (Howell, 2002). Self-esteem scores were calculated and ranged from 6 to 30, with a mean of 21.9 (*SD* = 5.8). Visual examination of the data, along with skewness (-0.45, SE = 0.20) and kurtosis (-0.50, SE = 0.40) indicated the data was normally distributed. We noticed a floor effect on self-esteem and may encounter attenuation due to range restriction (Howell, 2002). Perceived stress scores were calculated and ranged from 6 to 44, with a mean of 22.0 (*SD* = 6.6). Visual examination of the data, along with skewness (-0.08, SE = 0.20) and kurtosis (-0.43, SE = 0.40) indicated the data was normally distributed. We noticed a ceiling and floor effect on perceived stress and may encounter attenuation due to range restriction (Howell, 2002). Psychological quality of life scores were calculated and ranged from 20 to 100, with a mean of 68.8 (*SD* = 18.6). Visual examination of the data, along with skewness (-0.59, SE = 0.20) and kurtosis (-0.40, SE = 0.40)

indicated the data was normally distributed. We noticed a floor effect on psychological quality of life and may encounter attenuation due to range restriction (Howell, 2002).

We verified internal consistency by calculating Cronbach's α for each measure (see Table 2). Shame due to Heterosexism Scale had a calculated Cronbach's α of .82, equivalent with reported Cronbach's α of .79 (Dickey-Chasins, 2001). Rosenberg Self-Esteem Scale had a calculated Cronbach's α of .91, greater than the reported Cronbach's α of .78 (Rosenberg et al., 1989). Perceived Stress Scale had a Cronbach's α of .88, equivalent with reported Cronbach's α ranging from .84 to .86 (Cohen et al., 1983). Mental health subscale of Short Form-36 had a Cronbach's α of .82, less than reported Cronbach's α of .95 but well within the acceptable range (Ware & Sherbourne, 1992).

Table 2.

Univariate Statistics

	Mean (SD)	Possible Range	Actual Range	Calculated Alpha (α)
Shame Due to Heterosexism	22.0 (6.6)	11 - 55	11 - 45	.82
Self-Esteem	21.9 (5.8)	0 - 30	6 - 30	.91
Perceived Stress	24.3 (8.1)	0 - 56	6 - 44	.88
Psychological Quality of Life	68.8 (18.6)	0 - 100	20 - 100	.82

Table 3.

Univariate Statistics for lesbians (N = 50), gay men (N = 50) and bisexuals (N = 48)

	Lesbians Mean (SD)	Gay Men Mean (SD)	Bisexuals Mean (SD)
Shame Due to Heterosexism	21.1 (6.0)	21.5 (6.2)	22.6 (7.5)
Self-Esteem	22.4 (6.1)	22.4 (5.6)	20.8 (5.8)
Perceived Stress	24.1 (8.7)	22.0 (7.8)	26.8 (7.2)
Psychological Quality of Life	69.8 (18.4)	73.1 (17.1)	63.3 (19.2)

Principal Component Analysis

Principal component analyses were conducted with three measures: Short Form-36 (SF-36), Rosenberg Self-Esteem Scale (RSES) and Perceived Stress Scale (PSS).

Short Form-36

A principal component analysis was conducted on the 5 items of the mental health subscale of Short Form-36 (SF-36). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = .75, and the Bartlett's Test of Sphericity reached significance, supporting the factorability of the correlation matrix. An initial analysis was run to obtain eigenvalues for each factor in the data. One factor had eigenvalues over Kaiser's criterion of 1 and in combination explained 59.16% of the variance. Each component was inspected and relabeled based on the item content it appeared to represent (see Appendix B). The items that clustered on the same factor suggest that factor 1 represents mental health. The factor had acceptable reliability, (Factor 1 Cronbach's $\alpha = .82$). All the item loadings aligned with published factors (Ware & Sherbourne, 1992; Ware et al., 1998). As a result we decided to use the scale as intended by the authors of the measure.

Rosenberg Self-Esteem Scale

A principal component analysis was conducted on the 10 items of the Rosenberg Self-Esteem Scale (RSES). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = .91, and the Bartlett's Test of Sphericity reached significance, supporting the factorability of the correlation matrix. An initial analysis was run to obtain eigenvalues for each factor in the data. One factor had eigenvalues over Kaiser's criterion of 1 and in combination explained 57.25% of the variance. Each component was inspected and relabeled based on the

item content it appeared to represent (see Appendix B). The items that clustered on the same factor suggest that factor 1 represents self-esteem. The factor subscale had excellent reliability, (Factor 1 Cronbach's $\alpha = .91$). All the item loadings aligned with published factors (Rosenberg, 1965; Gray-Little, Williams & Hancock, 1997). As a result we decided to use the scale as intended by the authors of the measure.

Perceived Stress Scale

A principal component analysis was conducted on the 14 items of the Perceived Stress Scale (PSS). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis, KMO = .89, and the Bartlett's Test of Sphericity reached significance, supporting the factorability of the correlation matrix. An initial analysis was run to obtain eigenvalues for each factor in the data. Three factors had eigenvalues over Kaiser's criterion of 1. However, a scree plot suggested that a two-factor solution (which explained 52.96%) would be most appropriate (Weiss, 1971). Orthogonal rotation (i.e., Varimax) was performed to help interpret these two components. The two-factor solution explained 52.96% of the variance, with factor 1 contributing 41.37% and factor 2 contributing 11.58%. Each component was inspected and relabeled based on the item content it appeared to represent (see Appendix B). The items that clustered on the same factor suggest that factor 1 represents general distress and factor 2 represents perceived coping ability. All factor subscales of the PSS had acceptable reliabilities (Factor 1 Cronbach's $\alpha = .87$, Factor 2 Cronbach's $\alpha = .84$).

Cohen and colleagues (1982) did not evaluate factor structure in the creation of PSS. However, Cohen later analyzed the factor structure of the PSS. Cohen and Williamson (1988) found two distinct factors in the PSS. Two-factor solutions have predominated across

additional research on the factor structure of the PSS (Lee, 2012; Hewitt, Flett, & Mosher, 1992). These two factors align with our factors. Cohen and Williamson (1988) contend that the differentiation between the two factors is irrelevant for measuring perceived stress, suggesting the use of one total stress score (Cohen & Williamson, 1988). With the current study, we are interested in overall perceived stress so we decided to use the scale as intended by the authors of the measure.

Bivariate Analysis

We used Pearson product-moment correlation coefficients and biserial correlation coefficients to determine relationships between our variables of interest. Table 4 provides the results of the bivariate correlation matrix. A significant positive correlation was identified between age and shame due to heterosexism ($r(146) = .17$, $p = .035$). Further, age was significantly negatively correlated to perceived stress ($r(146) = -.33$, $p < .001$). Self-esteem was significantly negatively correlated to shame due to heterosexism ($r(146) = -.27$, $p = .001$). Perceived stress was significantly negatively correlated to self-esteem ($r(146) = -.69$, $p < .001$).

Additionally, we used Pearson product-moment correlation coefficients to test several hypotheses. We hypothesized shame due to heterosexism was negatively correlated with psychological quality of life. This hypothesis was supported ($r(146) = -.21$, $p = .009$). We hypothesized perceived stress was negatively correlated with psychological quality of life. This hypothesis was supported ($r(146) = -.69$, $p < .001$). Lastly, we hypothesized self-esteem was positively correlated with psychological quality of life. This hypothesis was supported ($r(146) = .72$, $p < .001$).

Table 4.

Correlation Matrix

	1.	2.	3.	4.	5.	6.	7.
1. Age	1						
2. Years of Education	.09	1					
3. Lesbian	-.04	.08	1				
4. Bisexual	-.17*	-.08	-.50**	1			
5. Shame Due to Heterosexism	.17*	-.01	-.11	.17*	1		
6. Self-Esteem	.15	.08	.06	-.13	-.27**	1	
7. Perceived Stress	-.33**	-.13	-.02	.22**	.21*	-.69**	1
8. Psychological Quality of Life	.16	.09	.04	-.21*	-.21**	.72**	-.69**

Note. * $p < .05$, ** $p < .01$

Additionally, to examine differences between sexual minority groups we ran separate correlations matrices for each sexual minority group. See Appendix C for additional tables (i.e., bivariate correlation matrix for lesbians, bivariate correlation matrix for gay men, bivariate correlation matrix for bisexuals). All hypotheses were supported in separate correlation matrices with slight variations in coefficients.

Multivariate Analysis

We conducted several one-way analyses of variance (ANOVA) to determine if the variables of interest differed among sexual minority groups. We found no significant differences in shame due to heterosexism or self-esteem amongst lesbians, gay men and bisexuals. However, we did find significant differences in perceived stress, $F(2, 145) = 4.53$, $p = .01$. Planned comparisons with Bonferroni correction indicated that bisexuals ($M = 26.8$, $SD = 7.2$) reported significantly greater perceived stress than lesbians ($M = 24.1$, $SD = 8.7$) or gay men

(*M* = 22.0, *SD* = 7.8), *t*(145) = -2.72, *p* =.007. However, no significant differences were found in perceived stress between lesbians and gay men, *t*(145) = -1.30, *p* =.196. Additionally, we found significant differences in psychological quality of life based on sexual minority status, *F*(2, 145) = 3.606, *p* = .029. Planned comparisons with Bonferroni corrections indicate that bisexuals (*M* = 63.3, *SD* = 19.2) have significantly lower psychological quality of life than lesbians (*M* = 69.8, *SD* = 18.6) or gay men (*M* = 73.1, *SD* = 17.1), *t*(144) = 2.52, *p* = .013. However, no significant differences were found in psychological quality of life between lesbians and gay men, *t*(145) = 0.91, *p* =.361.

We constructed four models to examine relationships between psychological quality of life, shame due to heterosexism, self-esteem and perceived stress as well as differences between lesbians, gay men and bisexuals. We ran a multiple linear regression for (a) lesbians, (b) gay men, (c) bisexuals and (d) lesbians, gay men and bisexuals combined. Tolerance values and variance inflation factors revealed no multicollinearity between variables of interest. Table 5 provides the results of the regression for lesbians, regression for gay men and the regression for bisexuals. In lesbians, self-esteem and perceived stress accounted for 61% of the variance in psychological quality of life (*F*(3, 46) = 27.70, *p* < .001). Self-esteem (*β* = .60, *t* = 5.37, *p* < .001) and perceived stress (*β* = -.27, *t* = -2.39, *p* = .02) were significantly associated with psychological quality of life for lesbians. In gay men, self-esteem and perceived stress accounted for 61% of the variance in psychological quality of life (*F*(3, 46) = 26.37, *p* < .001). Self-esteem (*β* = .31, *t* = 2.29, *p* = .03) and perceived stress (*β* = -.53, *t* = -4.00, *p* < .001) were significantly associated with psychological quality of life for gay men. In bisexuals, self-esteem and perceived stress accounted for 47% of the variance in psychological quality of life *F*(3, 44) = 14.84, *p* < .001).

Self-esteem (β = .44, t = 2.57, p = .01) and perceived stress (β = -1.99, t = -.33, p = .05) were significantly associated with psychological quality of life for bisexuals.

Table 5.

Regression Analysis for lesbians (N = 50), gay men (N = 50) and bisexuals (N = 48)

Variable	Lesbians			Gay Men			Bisexuals		
	t	*β*	*p*	*t*	*β*	*p*	*t*	*β*	*p*
Shame Due to Heterosexism	-.29	-.02	.78	-.49	-.05	.63	.30	.03	.76
Self-Esteem	5.37	.60	<.001	2.29	.31	.03	2.57	.44	.01
Perceived Stress	-2.39	-.27	.02	-4.00	-.53	<.001	-1.99	-.33	.05
Adjusted R^2	.61, F(3, 46) = 27.70, p <.001			.61, F(3, 46) = 26.37, p <.001			.47, F(3, 44) = 14.84, p <.001		

Table 6 provides the results of the regression for lesbians, gay men and bisexuals. For lesbians, gay men and bisexuals, self-esteem and perceived stress accounted for 59% of the variance in psychological quality of life (F(3, 144) = 68.88, p < .001). Self-esteem (β = .46, t = 6.16, p < .001) and perceived stress (β = -.37, t = -5.09, p < .001) were significantly associated with psychological quality of life for sexual minorities.

Table 6.

Regression Analysis for lesbians, gay men and bisexuals combined (N = 148)

Variable	*t*	*β*	*p*
Shame Due to Heterosexism	-.25	-.01	.81
Self-Esteem	6.16	.46	<.001
Perceived Stress	-5.09	-.37	<.001
Adjusted R^2	.58, F(3, 144) = 68.88, p <.001		

To determine if significant differences existed between lesbians, gay men and bisexuals, we conducted several z-tests to compare the regression coefficients of each sexual minority group. We used the unstandardized beta coefficients and standard error of each sexual

minority group to conduct z-tests with regression coefficients for self-esteem and perceived stress (Paternoster et al., 1998). We utilized a Bonferroni correction to control for family wise error. No significant differences were found; however, two variables trended towards significance. The association between self-esteem and psychological quality of life was higher for lesbians than gay men (p = .049). The association between perceived stress and psychological quality of life was higher for gay men than lesbians (p = .057).

Moderation

A moderation analysis was conducted to examine whether self-esteem moderated the relationship between perceived stress and psychological quality of life. Table 7 provides results of our moderation analysis. Our interaction term was significant (p = .029). Simple slopes analysis was conducted to evaluate this significant moderation. Figure 5 provides graph of simple slopes analysis. Simple slopes for the association between perceived stress and psychological quality of life were tested for low (i.e., -1 SD below the mean), moderate (i.e., the mean) and high (i.e., +1 SD above the mean) levels of self-esteem. Each of the simple slopes tests revealed a significant negative association between perceived stress and psychological quality of life. Perceived stress was more strongly related to psychological quality of life for lower levels of self-esteem (b = -1.24, 95% CI [-1.78, -.71], t = -4.57, p < .001) than for moderate (b = -.92, 95% CI [-1.34, -.51], t = -4.42, p < .001) or high levels of self-esteem (b = -.61, 95% CI [-1.07, -.14], t = -2.58, p = .01).

Table 7.

Moderation Analysis with RSES as Moderator (N = 148)

Variable	*t*	*β*	*p*
Perceived Stress	-4.42	-.92	<.001
Self-Esteem	4.12	1.28	<.001
Interaction (Perceived Stress X Self-Esteem)	2.21	.05	.03
Adjusted R^2	.61, $F(3, 144) = 69.41$, $p < .001$		

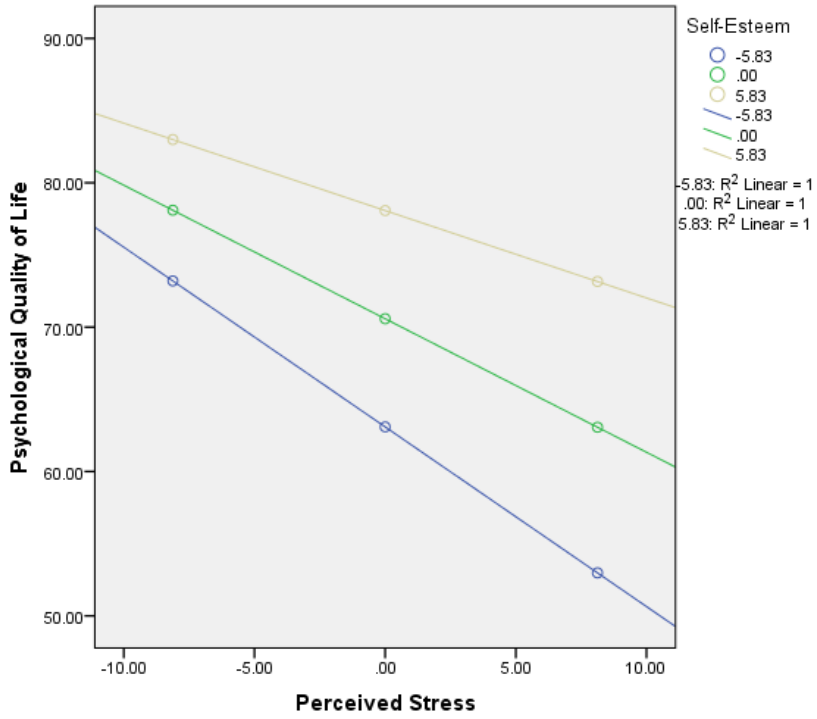

Figure 5. Simple Slopes Analysis.

An additional moderation analysis was conducted to examine whether age moderated the relationship between shame due to heterosexism and psychological quality of life. We found it did not. Table 8 provides results of moderation analysis. Our interaction term was not significant (*P* =.52).

Table 8.

Moderation Analysis with Age as Moderator (N = 148)

Variable	***t***	***b***	***P***
Shame Due to Heterosexism	-2.65	-.66	<.001
Age	2.54	.29	.23
Interaction	-.65	-.01	.52
Adjusted R^2	.09		

CHAPTER 4

DISCUSSION

In the present study, we examined the relationships between shame due to heterosexism, self-esteem, perceived stress and psychological quality of life. We tested hypotheses related to (a) relationships between variables of interest, (b) variance accounted for in psychological quality of life and (c) moderation of the relationship between perceived stress and psychological quality of life as well as the relationship between shame due to heterosexism and psychological quality of life.

In support of our hypothesis, shame due to heterosexism was negatively correlated to psychological quality of life. This is in agreement with existing literature (Herek et al., 1997; Meyer, 1995; Meyer, 2003). Further analysis showed no significant differences in shame due to heterosexism among lesbians, gay men or bisexuals. This may suggest LGB people face similar levels of heterosexism and may accordingly internalize similar levels of heterosexism.

In support of our hypothesis, self-esteem was positively correlated with psychological quality of life. Results indicated no significant differences in self-esteem between sexual minority groups. These findings are consistent with previous literature reporting no significant differences between lesbian and gay male self-esteem than heterosexuals (Carlson & Baxter, 1984; Frable et al., 1997; Savin-Williams, 1995). These findings suggest bisexuals have similar levels of self-esteem to lesbians and gay men.

In support of our hypothesis, perceived stress was negatively correlated to psychological quality of life. Bisexuals had significantly higher perceived stress than lesbians and gay men in line with research on bi-phobia. This suggests bisexuals face additional stress. On the other

hand, lesbian and gay men had no significant differences in perceived stress. Additionally bisexuals had significantly lower psychological quality of life than lesbians or gay men. These results are consistent with literature that bisexuals report poorer mental health outcomes (Jorm et al., 2002; Kertzner et al., 2009). Our findings on bisexuals highlight the importance of examining differences between sexual minority groups. If we had lumped bisexuals with lesbians and gay men, we would not have noticed bisexuals have higher perceived stress and lower psychological quality of life than lesbians or gay men. Bisexuals might face these outcomes due to additional stigma towards bisexuals. The literature on bi-phobia would suggest bisexuality may be a less societally acceptable sexual minority status. Furthermore, bisexuals are often less visible than lesbians or gay men as their partners may be of the same-sex or the opposite sex. Bisexuals also have less clear communities and may feel unwelcome in heterosexual, lesbian or gay male communities. Accordingly, bisexuals may have less social support or coping strategies, which could lead to higher perceived stress and lower psychological quality of life.

We hypothesized shame due to heterosexism, self-esteem and perceived stress would account for a significant proportion of the variance in psychological quality of life. This hypothesis was supported. Self-esteem and perceived stress were significantly associated with psychological quality of life. Both were significantly associated not only in a combined sexual minority model, but also in separate lesbian model, gay men model and bisexual model. These findings suggest that self-esteem and perceived stress, regardless of sexual minority status, play key roles in LGB psychological quality of life.

Shame due to heterosexism was not significantly associated with psychological quality of life in any of the four models. With regard to shame due to heterosexism, we should consider several components. First, research on shame due to heterosexism has had mixed findings over time (Newcomb & Mustanski, 2010). Some of the varied findings on shame due to heterosexism could be related to measurement differences. Across the literature, internalized negative societal beliefs about sexual minorities have been operationalized and measured in different ways (e.g., shame due to heterosexism, internalized homophobia, homonegativity). These varied terms and measures may be capturing slightly different constructs. Additionally, societal attitudes towards sexual minorities have shifted considerably, such as the progress of same-sex marriage. Researchers theorize sexual minorities are less likely to internalize negative attitudes in more affirming environments (Barnes & Meyer, 2012). So younger sexual minorities may not be internalizing heterosexist attitudes at the same level of previous cohorts. However, all participants were recruited from Texas, a state characterized by traditional social and religious values. The Texas environment may not be as affirming to sexual minorities as across the broader United States. Additionally, we recruited participants from Dallas community based organization and gay pride parades. We would expect that people who choose to affiliate with Dallas community based organization or attend pride parades likely have more LGB-affirmative beliefs than sexual minorities at large. Sexual minorities involved with Dallas LGB communities may less readily internalize negative attitudes or social support might help buffer heterosexist views. We may have found less variability in shame due to heterosexism in our sample due to affiliation with LGB social networks, which might affect the association between shame due to heterosexism and psychological quality of life.

In line with our hypothesis, self-esteem did moderate the relationship between perceived stress and psychological quality of life. Across high and low levels of self-esteem, perceived stress had a significant negative association with psychological quality of life. However, perceived stress was most strongly related to psychological quality of life at lower levels of self-esteem. This finding is consistent with previous research in which self-esteem moderated the impact of heterosexist events on psychological distress more strongly at lower levels of self-esteem for gay and bisexual men (Szymanski, 2009). This suggests self-esteem would be an important factor to consider for psychological quality of life, especially with low levels of self-esteem.

Contrary to our hypothesis, age did not moderate the relationship between shame due heterosexism and psychological quality of life. As noted previously, the sample of current study were recruited from Dallas community based organizations and pride parades. Sexual minorities who choose to affiliate with the LGB communities likely have less shame due to heterosexism, which may result in less variability with shame due to heterosexism in current sample. This may be a component of why age does not moderate the relationship between shame due to heterosexism and psychological quality of life.

Limitations

We should consider several of the limitations of our study. First, the study used a cross-sectional, correlational design. Thus, we cannot infer causality. All measures were self-report surveys. Participants' responses may be impacted by social desirability bias (i.e., perhaps not wanting to disclose negative attitudes towards LGB communities while in a LGB community center). We used a convenience sample and recruited from Dallas community based

organizations and gay pride parades. Given this sampling methodology, we cannot generalize findings to the Dallas sexual minority population or sexual minorities at large. Fundamental differences may exist between individuals who self-identify as LGB in comparison to other sexual minorities (e.g., MSM, queer, pansexual) and sexual minorities who visit Dallas community based organizations or sexual minorities in Texas.

Future Research

Future research should continue to examine the psychological quality of life of sexual minorities. With this aim, our results indicate perceived stress may be an ideal variable to target. Perceived stress is significantly associated with psychological quality of life across sexual minority groups. Perceived stress could be approached from a variety of directions, from appraisal of stressful events to coping strategies. Research could examine how sexual minorities appraise proximal and distal stressors. Interventions could be developed and tested that address sexual minority appraisal. Additionally, researchers could explore adaptive coping skills for managing perceived stress as well as explore resilience in LGB people. Future research could include measures of self-esteem to identify when perceived stress has a stronger association with psychological quality of life.

Given our findings on shame due to heterosexism, researchers should continue to explore shame due to heterosexism. Researchers could focus on measurement differences in internalized negative LGB beliefs. Future research should examine the various measures of internalized negative societal beliefs and their association with mental health outcomes. Societal views toward sexual minorities and LGB civil rights are shifting; however, the impact of these changes on sexual minorities is unclear. Future studies should target how changes in

societal attitudes and civil rights are associated with LGB mental health outcomes. Researchers could also evaluate changes in societal attitudes and civil rights associated with changes in LGB perceived stress. For example, how does the legalization of same sex marriage affect LGB perceived stress? Sexual minorities may see more positive messages, such as the White House lit up with rainbows, but also see very negative messages, such as religious leaders stating they will light themselves on fire in protest.

Scarce research compares sexual minority groups and identifies differences between them. Within the current study, we found differences within lesbians, gay men and bisexuals. Through understanding differences, researchers can better tailor interventions to improve mental health outcomes for lesbians, gay men and bisexuals. Continued examination of differences between lesbians, gay men and bisexuals is necessary to determine whether these differences between lesbians, gay men and bisexuals are consistent with existing literature examining gender differences (Denton & Walters, 1999; Vosvick et al., 2010). Do differences between sexual minority groups exist on other variables (e.g., social support, coping style)?

Bisexuals encounter additional stress and have lower levels of psychological quality of life than lesbians or gay men, yet very little research on bisexuals exists. Research on bisexuals' mental health outcomes is warranted. Studies could potentially explore resilience, coping and social support in bisexual populations. Better understanding of these factors could be used to target bisexuals' mental health outcomes. In our current study, bisexuals were grouped into one category; however, additional differences might exist between bisexual men and bisexual women, thus we could compare bisexual men to bisexual women or compare the differences between lesbians, gay men, bisexual men and bisexual women.

Lastly, future research should address sexual risk-taking in sexual minority populations. Further evaluation of the use of SRSB with sexual minority samples would be useful. If factor structure continues to differ within cross-gender samples, these findings suggest the development of sexual risk taking measures designed for and normed on sexual minorities. It would be essential to consider sexual risk for lesbians, gay men and bisexuals separately and utilize appropriate language. Sexual risk-taking is often not studied for sexual minority women; however, it is still worth exploring sexual risk-taking as a maladaptive coping strategy utilized by sexual minority men and women.

Clinical Implications

Clinicians should ask about sexual minority status as part of regular intake practice. Sexual minority clients face distinct stressors and outcomes that may impact treatment. Clinicians should consider using a minority stress framework when conceptualizing sexual minority clients. This conceptualization provides a broader understanding of the sexual minority experience and allow clinicians to consider the additive minority stress that lesbians, gay men and bisexuals experience. Within a minority stress framework, clinicians should target perceived stress. Clinicians can examine LGB appraisal of proximal and distal stressors. It may be beneficial and protective for sexual minorities' self-esteem to consider negative outcomes related to sexual minority status (Crocker & Major, 1989). With this it would be essential to also target coping. Clinicians can actively work with perceived stress by acknowledging proximal and distal stressors and then encouraging adaptive coping strategies (e.g., encouragement of sexual minority clients to affiliate with LGB groups and increase levels of social support).

Shame due to heterosexism is another important construct for clinicians to keep in mind when working with sexual minority clients. Clinicians may consider how larger societal structure or family structure has impacted a client's beliefs of sexual minority status. Shame due to heterosexism might be more important to consider for older sexual minority clients. Additionally, clinicians may assess the self-esteem of sexual minority clients. When lesbian, gay or bisexual clients appear to have low self-esteem, clinicians may consider the impact of shame due to heterosexism. With bisexual clients, clinicians should consider additional stressors as well as potentially lower psychological quality of life and greater perceived stress.

APPENDIX A:

PRINCIPAL COMPONENT ANALYSIS

Short Form-36

	Scale 1: Emotional functioning and limitations, α = .82	**Loading**
30.	Generally happy	.82
25.	Generally unhappy	.79
28.	Generally down and blue	.79
26.	Generally calm	.74
24.	Generally nervous	.70

Rosenberg Self-Esteem Scale

	Scale 1: Self-esteem, α = .91	**Loading**
1.	Satisfied with self	.86
10.	Positive attitude towards self	.86
7.	Sense of worth	.78
6.	Sense of uselessness	.78
9.	Sense of failure	.77
2.	Low self-worth	.75
3.	Positive self qualities	.71
5.	Shame towards self	.71
8.	Disrespect towards self	.68
4.	Sense of competence	.66

Perceived Stress Scale

	Scale 1: General distress, α = .87	**Loading**
3.	Felt nervous	.78
1.	Felt unexpectedly upset	.75
14.	Experienced insurmountable difficulties	.71
2.	Felt out of control	.68
11.	Felt uncontrollably angry	.65
9.	Coped effectively with irritants	.59
7.	Felt on the right path	.54
8.	Felt unable to cope	.53
10.	Felt in control	.51
12.	Thought about what needed to do	.46
6.	Felt able to handle issues	.45
	Scale 2: Perceived coping ability, α = .84	
5.	Coped effectively with big issues	.79
4.	Coped effectively with small issues	.73
7.	Felt on the right path	.63
6.	Felt able to handle issues	.57
9.	Coped effectively with irritants	.41
10.	Felt in control	.40

APPENDIX B:

ADDITIONAL BIVARIATE CORRELATION MATRICES

Correlation Matrix with Lesbians (N=50)

	1.	2.	3.	4.	5.
1. Age	1				
2. Years of Education	.08	1			
3. Shame Due to Heterosexism	.31*	.07	1		
4. Self-Esteem	.10	.08	-.18	1	
5. Perceived Stress	-.16	-.03	.18	-.59**	1
6. Psychological Quality of Life	.07	.07	-.18	.76**	-.62**

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

Correlation Matrix with Gay Men (N=50)

	1.	2.	3.	4.	5.
1. Age	1				
2. Years of Education	.12	1			
3. Shame Due to Heterosexism	.11	-.17	1		
4. Self-Esteem	.10	.08	-.28*	1	
5. Perceived Stress	-.32*	-.17	.26	-.74**	1
6. Psychological Quality of Life	.22	.12	-.27	.71**	-.77**

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

Correlation Matrix with Bisexuals (N =48)

	1.	2.	3.	4.	5.
1. Age	1				
2. Years of Education	.06	1			
3. Shame Due to Heterosexism	.21	.13	1		
4. Self-Esteem	.19	.06	-.29*	1	
5. Perceived Stress	-.42**	-.17	.13	-.76**	1
6. Psychological Quality of Life	.05	.06	-.13	.67**	-.65**

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

REFERENCES

American Civil Liberties Union (2001, August 22). *Sodomy laws: Clear and present danger: Examples of sodomy laws used to discriminate against lesbians and gay men*. Retrieved from https://www.aclu.org/lgbt-rights_hiv-aids/examples-sodomy-laws-used-discriminate-against-lesbian-and-gay-people

American Psychological Association (2012). Guidelines for psychological practice with lesbian, gay, and bisexual clients. *American Psychologist, 67*, 10-42.

Badgett, M. V. L., Durso, L. E., & Schneebaum, A. (June 2013). *New patterns of poverty in the lesbian, gay, and bisexual community*. Retrieved from http://williamsinstitute.law.ucla.edu/wp-content/uploads/LGB-Poverty-Update-Jun-2013.pdf

Bancroft, J. (2004). Alfred C. Kinsey and the politics of sex research. *Annual Review of Sex Research, 15*, 1-39.

Barker, M. R. (2008). Gay and lesbian health disparities: Evidence and recommendations for elimination. *Journal of Health Disparities Research and Practice, 2*(2), 91-120.

Barnes, D. M. & Meyer, I. H. (2012). Religious affiliation, internalized homophobia, and mental health in lesbians, gay men and bisexuals. *American Journal of Orthopsychiatry, 82*, 505-515.

Bayer, R. (1987). *Homosexuality and American psychiatry: The politics of diagnosis.* Princeton, NJ: Princeton University Press.

Beachy, R. (2010). The German invention of homosexuality. *Journal of Modern History, 82*, 801-838.

Boswell, J. (1995). *Same-sex unions in pre-modern Europe*. New York, NY: Vintage Books.

Brazier, J. E., Harper, R., Jones, N. M., O'Cathain, A., Thomas, K. J., Usherwood, T., & Westlake, L. (1992). Validating the SF-36 health survey questionnaire: New outcome measure for primary care. *British Medical Journal, 305*(6846), 160-4.

Burns, R. A., & Machin, M. A., (2013). Psychological well-being and the diathesis-stress hypothesis model: The role of psychological functioning and quality of relations in promoting subjective well-being in a life events study. *Personality and Individual Differences, 54*, 321-326.

Carlson, H. M., & Baxter, L. A. (1984). Androgyny, depression, and self-esteem in Irish homosexual and heterosexual males and females. *Sex Roles, 10*, 457-467.

Chan, C. S. (1995). Issues of sexual identity in an ethnic minority: the case of Chinese American lesbians, gay men and bisexual people. In A. R. D'Augelli and C. J. Petterson (Eds.) *Lesbian, gay and bisexual identities over the lifespan* (pp. 87-201). New York: Oxford University Press.

Chandra, A., Mosher, W. D., Copen, C., & Soinean, C. (2011). Sexual behavior, sexual attraction, and sexual identity in the United States: Data from 2006-2008 national survey of family growth. *National Health Statistics Report, 36*, 1-36.

Chen, Y. C., & Tyron, G. S. (2012). Dual minority stress and Asian American gay men's psychological distress. *Journal of Community Psychology, 40*, 539-554.

Cochran, B. N., Stewart, A., Ginzler, J. A., & Cauce, A. M. (2002). Challenges faced by homeless sexual minorities: Comparison of gay, lesbian, bisexual, and transgendered homeless

adolescents with their heterosexual counterparts. *American Journal of Public Health, 92*, 773-777.

Cochran, S. D., Sullivan, J. G., & Mays, V. M. (2003). Prevalence of mental disorders, psychological distress, and mental health services use among lesbian, gay, and bisexual adults in the United States. *Journal of Counseling and Clinical Psychology, 71*, 53-61.

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior, 24*, 385-396.

Cohen, S. & Williamson, G. (1988). Perceived stress in a probability sample of the U.S. In S. Spacapam & S. Oskamp (Eds.), *The social psychology of health: Claremont Symposium on Applied Social Psychology* (pp. 31-67). Newbury Park, CA: Sage.

Conger, J. J. (1975). Proceedings of the American Psychological Association, Incorporated, for the year 1974: Minutes of the annual meeting of the Council of Representatives. *American Psychologist, 30*, 620-651.

Crocker, J. & Major, B. (1989). Social stigma and self-esteem: The self-protective properties of stigma. *Psychological Review, 96*, 608-630.

Crompton, L. (2003). *Homosexuality & civilization.* Cambridge, MA: Harvard University Press.

Denton, M. & Walters, V. (1999). Gender differences in structural and behavioral determinants of health: An analysis of the social production of health. *Soc Sci Med, 48*, 1221-35.

Diaz, R. M., Ayala, G., Bein, E., Henne, J. & Marin, B. V. (2001). The impact of homophobia, poverty, and racism on the mental health of gay and bisexual Latino men: Findings from 3 US cities. *American Journal of Public Health, 91*, 927-932.

Dickey-Chasins, H. B. (2000). *Development of the Shame Due to Heterosexism scale*. (Unpublished doctoral dissertation). University of Kansas, Lawrence.

DiPlacido, J. (1998). Minority stress among lesbians, gay men, and bisexuals: A consequence of heterosexism, homophobia, and stigmatization. In G. Herek (Ed.), *Stigma and sexual orientation* (pp. 138-159). Thousand Oaks, CA: Sage Publications.

Dupras, A. (1994). Internalized homophobia and psychosexual adjustment among gay men. *Psychological Reports, 75*, 23-28.

Dziuban, C. D., & Shirkey, E. C. (1974). When is correlation matrix appropriate for factor analysis? Some decision rules. *Psychological Bulletin, 81*, 358-361.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*, 1149-1160.

Folkman, S. & Moskowitz, J. T. (2004). Coping: Pitfalls and promises. *Annual Review of Psychology, 55*, 745-774.

Foucault, M. (1990). *The history of sexuality, volume 1: An introduction* (5th ed.). (R. Hurley, Trans.). New York, NY: Vintage Books. (Original work published 1976)

Frable, D. E. S., Wortman, C., & Joseph, J. (1997). Predicting self-esteem, well-being, and distress in a cohort of gay men: The importance of cultural stigma, personal visibility, community networks, and positive identity. *Journal of Personality, 65*, 599-624.

Fradella, H. F. (2002). Legal, moral, and social reasons for decriminalizing sodomy. *Journal of Contemporary Criminal Justice, 18*, 279-301.

Frazer, M. S. (2009). *LGBT health and human services needs in New York State.* Empire State Pride Agenda Foundation. Retrieved from http://www.prideagenda.org/Portals/0/pdfs/LGBT%20Health%20and%20Human%20Services%20Needs%20in%20New%20York%20State.pdf

Frost, D. M., & Meyer, I.H. (2009). Internalized homophobia and relationship quality among lesbians, gay men, and bisexuals. *Journal of Counseling Psychology, 56*, 97-109.

Gates, G. J. (2011). *How many people are lesbian, gay, bisexual and transgender?* The Williams Institute. Retrieved from http://williamsinstitute.law.ucla.edu/wp-content/uploads/Gates-How-Many-People-LGBT-Apr-2011.pdf

Gay & Lesbian Alliance Against Defamation (2010). *Media reference guide* (8th ed.). Retrieved from http://www.glaad.org/files/MediaReferenceGuide2010.pdf

Gilman, S. E., Cochran, S. D., Mays, V. M., Hughes, M., Ostrow, D., & Kessler, R. C. (2001). Risk of psychiatric disorders among individuals reporting same-sex sexual partners in the national comorbidity survey. *American Journal of Public Health, 91*, 933-939.

Gray-Little, B., Williams, V. S. L., & Hancock, T. D. (1997). An item response theory analysis of the Rosenberg Self-Esteem Scale. *Personality and Social Psychology Bulletin, 23*, 443-451.

Greenberg, D. F. (1988). *The construction of homosexuality.* Chicago: The University of Chicago Press.

Hall, S. (2010). The American gay rights movement and patriotic protest. *Journal of the History of Sexuality, 19*, 536-562.

Halpin, S. A. & Allen, M. W. (2004). Changes in psychosocial well-being during stages of gay identity development. *Journal of Homosexuality, 47*, 109-126.

Hammersmith, S. K., & Weinberg, M. S. (1973). Homosexual identity: Commitment, adjustment, and significant others. *Sociometry, 36*, 56-79.

Hatzenbuehler, M. L. (2009). How does sexual minority stigma "get under the skin"? A psychological mediation framework. *Psychological Bulletin, 135*, 707-730.

Hatzenbuehler, M. L. (2014). Structural stigma and the health of lesbian, gay, and bisexual populations. *Current Directions in Psychological Science, 23*, 127-132.

Herek, G. M, Cogan, J. C., Gillis, J. R., & Glunt, E. K. (1997). Correlates of internalized homophobia in a community sample of lesbians and gay men. *Journal of the Gay and Lesbian Medical Association, 2*, 17-25.

Herek, G. M. (2010). Sexual orientation differences as deficits: Science and stigma in the history of American psychology. *Perspectives on Psychological Science, 5*, 693-699.

Hewitt, P. L., Flett, G. L., & Mosher, S. W. (1992). Perceived stress scale: Factor structure and relation to depression symptoms in a psychiatric sample. *Journal of Psychopathology and Behavioral Assessment, 14*, 247-257.

Hooker, E. (1957). The adjustment of the male overt homosexual. *Journal of Projective Techniques, 21*, 18-31.

Howell, D. C. (2002). *Statistical methods for psychology* (5th ed.). Pacific Grove: Thomson Learning, Inc.

Hunt, M. R. (1999). The sapphic strain: English lesbians in the long eighteenth century. In J. M. Bennett & A. M. Froide (Eds.), *Singlewomen in the European past: 1250-1800*. (pp. 270-296). Philadelphia, PA: University of Pennsylvania Press.

Jorm, A. F., Korten, A. E., Rodgers, B., Jacomb, P. A., & Christensen (2002). Sexual orientation and mental health: Results from a community survey of young and middle-aged adults. *British Journal of Psychiatry, 180*, 423-427.

Kertzner, R. M., Meyer, I. H., Frost, D. M., & Stirratt, M. J. (2009). Social and psychological well-being in lesbians, gay men, and bisexuals: The effects of race, gender, age, and sexual identity. *American Journal of Orthopsychiatry, 79*, 500-510.

Kinsey, A. C., Pomeroy, W. R., & Martin, C. E. (1948). *Sexual Behavior in the Human Male.* Philadelphia, PA: Saunders.

Kinsey, A. C., Pomeroy, W. R., Martin, C. E., & Gebhard, P. (1953). *Sexual Behavior in the Human Female.* Philadelphia, PA: Saunders.

Koppelman, A. (1988). The miscegenation analogy: Sodomy law as sex discrimination. *The Yale Law Review, 98*, 145-164.

Krehely, J. (2009). *How to close the LGBT health disparities gap.* Center for American Progress. Retrieved from http://www.americanprogress.org/wp-content/uploads/issues/2009/12/pdf/lgbt_health_disparities.pdf

Lavoie, J. A. A., & Douglas, K. S. (2012). The perceived stress scale: Evaluating configural, metric and scalar invariance across mental health status and gender. *Journal of Psychopathology and Behavioral Assessment, 34,* 48-57.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York, NY: Springer.

Lee, E. (2012). Review of the psychometric evidence of the perceived stress scale. *Asian Nursing Research, 6*, 121-127.

Leupp, G. (1997). *Male colors: The construction of homosexuality in Tokugawa Japan*. Berkeley, CA: University of California Press.

Lewis, R. J., Derlega, V. J., Clarke, E. G., Kuang, J. C., Jacobs, A. M., McElligott, M. D. (2005). An expressive writing intervention to cope with lesbian-related stress: The moderating effects of openness about sexual orientation. *Psychology of Women Quarterly, 29*, 149-157.

Mays, V. M. & Cochran, S. D. (2001). Mental health correlates of perceived discrimination among lesbian, gay, and bisexual adults in the United States. *American Journal of Public Health, 91*, 1869-1876.

Mendelson, G. (2003). Homosexuality and psychiatric nosology. *Australian and New Zealand Journal of Psychiatry, 37*, 678-683.

Meyer, I. H. (1995). Minority stress and mental health in gay men. *Journal of Health and Social Behavior*, *36*, 38-56.

Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin, 129*, 674-697.

Meyer, I. H. (2007). Prejudice and discrimination as social stressors. In I. H. Meyer & M. E. Northridge (Eds.), *Health of sexual minorities* (pp. 242-267). New York, NY: Springer.

Meyer, I. H., & Dean, L. (1998). Internalized homophobia, intimacy and sexual behavior among gay and bisexual men. In Herek, G. (ed.), *Stigma and Sexual Orientation*, 160-186. Thousand Oaks, CA: Sage Publications.

Meyer, I. H., Schwartz, S., & Frost, D. M. (2008). Social patterning of stress and coping: Does disadvantaged social statuses confer more stress and fewer coping resources. *Social Science & Medicine, 67*, 368-379.

Mildenberger, F. (2007). Kraepelin and the 'urnings': Male homosexuality in psychiatric discourse. *History of Psychiatry, 18*, 321-335.

Milne, E. L. (2011). Marriage and the religion clauses. *St. John's Law Review, 85*, 1451-1482.

Mohr, J. J., & Daly, C. A. (2008). Sexual minority stress and changes in relationship quality in same-sex couples. *Journal of Social and Personal Relationships, 25*, 989-1007.

Morgan, K. S., & Nerison, R. M (1993). Homosexuality and psychopolitics: An historical overview. *Psychotherapy, 30*, 133-140.

National Gay and Lesbian Task Force (2010). *U.S. Census: Frequently asked questions.* Retrieved from: http://www.thetaskforce.org/downloads/census_2010/2010_census_faqs_updated.pdf

Newcomb, M. E., & Mustanski, B. (2010). Internalized homophobia and internalizing mental health problems: A meta-analytic review. *Clinical Psychology Review, 30*(8), 1019-1029.

Pachankis, J. E. (2007). The psychological implications of concealing a stigma: A cognitive-affective-behavioral model. *Psychological Bulletin, 133*, 328-345.

Paternoster, R., Brame, R., Mazerolle, P, & Piquero, A. (1998). Using the correct statistical test for the equality of regression coefficients. *Criminology, 36*, 859-866.

Rocke, M. (1998). *Forbidden friendships: Homosexuality and male culture in renaissance Florence*. New York, NY: Oxford University Press Inc.

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.

Rosenberg, M., Schooler, C., & Schoenbach, C. (1989). Self-esteem and adolescent problems: Modeling reciprocal effects. *American Sociological Review, 54*, 1004-1018.

Rosser, B. R. S., Bockting, W. O., Ross, M. W., Miner, M. H., & Coleman, E. (2008). The relationship between homosexuality, internalized homo-negativity, and mental health in men who have sex with men. *Journal of Homosexuality, 55*, 150-168.

Sandfort, T. G, de Graaf, R., Bill, R. V., & Schnabel, P. (2001). Same-sex sexual behavior and psychiatric disorders: Findings from the Netherlands Mental Health Survey and Incidence Study (NEMESIS). *Archives of General Psychiatry, 58*, 85-91.

Savin-Williams, R. C. (1995). An exploratory study of pubertal maturation timing and self-esteem among gay and bisexual male youths. *Developmental Psychology, 31*, 56-64.

Scott, S. B., Sliwinski, M. J., & Blanchard-Fields, F. (2013). Age differences in emotional responses to daily stress: The role of timing, severity, and global perceived stress. *Psychology and Aging, 28*, 1076-1087.

Sears, B. & Mallory, C. (June 2011). *Documented evidence of employment discrimination and its effects on LGBT people*. Retrieved from http://williamsinstitute.law.ucla.edu/wp-content/uploads/Sears-Mallory-Discrimination-July-20111.pdf

Sell, R. L. (1997). Defining and measuring sexual orientation: A review. *Archives of Sexual Behavior, 26*, 643-658.

Smith, D. M., & Gates, G. J. (2001). *Gay and lesbian families in the United States: Same-sex unmarried partner households: A preliminary analysis of 2000 United States Census data*. A Human Rights Campaign Report. Retrieved from http://www.urban.org/publications/1000491.html

Sornberger, M. J., Smith, N. G., Toste, J. R., & Heath, N. L. (2013). Nonsuicidal self-injury, coping strategies, and sexual orientation. *Journal of Clinical Psychology, 69*, 571-583.

Szymanski, D. M. (2005). Heterosexism and sexism as correlates of psychological distress in lesbians. *Journal of Counseling and Development, 83*, 355-360.

Szymanski, D. M. (2009). Examining potential moderators of the link between heterosexist events and gay and bisexual men's psychological distress. *Journal of Counseling Psychology, 56*, 142-151.

Szymanski, D. M., Kashubeck-West, S., & Meyer, J. (2008a). Internalized heterosexism: A historical and theoretical review. *The Counseling Psychologist, 36*, 510-524.

Szymanski, D. M., Kashubeck-West, S., & Meyer, J. (2008b). Internalized heterosexism: Measurement, psychosocial correlates, and research directions. *The Counseling Psychologist, 36*, 525-574.

Tabachnick, B. G., & Fidell, L. S. (2012). *Using Multivariate Statistics* (6th ed.). Boston, MA: Pearson.

Texas (2014). Retrieved August 8th 2014 from http://www.lambdalegal.org/state-regions/texas

Tribe, L. H. (2004). Lawrence V. Texas: The “fundamental right” that dare not speak its name. *Harvard Law Review, 117*(6), 1893-1955.

Twenge, J. M. & Crocker, J. (2002). Race and self-esteem: Meta-analyses comparing White, Blacks, Hispanics, Asians and American Indians and comment on Gray-Little and Hafdahl (2000). *Psychological Bulletin, 128*, 371-408.

US Census Bureau (2000). *Table 2. Resident population of the 50 states, the District of Columbia, and Puerto Rico: Census 2000.* Retrieved from http://www.census.gov/population/www/cen2000/maps/files/tab02.pdf

Vosvick, M., Martin, L. A., Smith, N. G., & Jenkins, S. R. (2010). Gender differences in HIV-related coping and depression. *AIDS & Behavior, 14*, 390-400.

Waldo, C. (1999). Working in a majority context: A structural model of heterosexism as minority stress in the workplace. *Journal of Counseling Psychology, 46*, 218-232.

Walters, K. L., & Simoni, J. M. (1993). Lesbian and gay male group identity attitudes and self-esteem: implications for counseling. *Journal of Counseling Psychology, 40*, 94-99.

Wang, B., Li, X., Stanton, B., & Fang, X. (2010). The influence of social stigma and discriminatory experience on psychological distress and quality of life among rural-to-urban migrants in China. *Social Science & Medicine, 71,* 84-92.

Ware, J. E., Kosinski, M., Gandek, B., Aaronson, N. K., Apolone, G., Bech, P., Brazier, J., Bullinger, M., Kaasa, S., Leplège, A., Prieto, L., & Sullivan, M. (1998). The factor structure of the SF-36 Health Survey in 10 countries. *Journal of Clinical Epidemiology, 51*, 1159-1165.

Ware, J. E., & Sherbourne, C. D. (1992). The MOS 36-item short-form health survey (SF-36): I. conceptual framework and item selection. *Medical Care, 30*, 473-483.

Weiss, D. J. (1971). Further considerations in applications of factor analysis. *Journal of Counseling Psychology, 18*, 85-92.

Zea, M. C., Reisen, C. A., & Poppen, P. J. (1999). Psychological well-being among Latino lesbians and gay men. *Cultural Diversity and Ethnic Minority Psychology, 5*, 371-379.