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Experiences of the White Gay Male: An Investigation of the Relationship between Factors of Being Gay, Heterosexism, and the Stress Response System

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Submitted in partial fulfillment of the Requirements for the Degree of Doctor of Philosophy Seton Hall University

#### SETON HALL UNIVERSITY COLLEGE OF EDUCATION AND HUMAN SERVICES OFFICE OF GRADUATE STUDIES

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# **Table of Contents**

Table	of Contentsii
List of	f Tables iv
List of	Appendices vi
Ackno	owledgement vii
Abstra	oct viii
I.	INTRODUCTION
	Statement of the Problem1
	A Brief LGBT History2
	Background4
	Limitations of Existing Studies
	Research Questions
	Statement of Hypothesis
	Definitions of Terms & Operational Definitions
	Heterosexism/Homophobia
	Internalized Heterosexism
	Physiological Stress
	Gay Identity
	Emotional Distress and Life Change
	Self Esteem
	Delimitations
II.	REVIEW OF THE LITERATURE
	Psychological Impact of Discrimination
	Physical & Mental Health Implications
	Biofeedback24
	Cortisol and Relationships25
	Stress & the LGBT Communities
	Heterosexism
	Workplace Stress
	Gay Marriage
	Same-sex Adoption31
	HIV/AIDS
	Physical & Verbal Assault
	Behavioral Risks
	Suicide
	Sexual Activity
	Substance Use
	Tobacco Use
	Eating Concerns
	Protective Factors
	Coping Skills & Resilience

	Self Esteem	40
	Gay Identity Development	41
	Summary and Conclusions	
III.	METHODOLOGY	
	Design	46
	Participants	46
	Instruments	47
	Demographic Questionnaire	. 47
	The Gay Identity Questionnaire (GIQ) (Brady & Busse, 1994)	47
	Gaye Affect and Life Events (GALES) (Rosser & Ross, 1989) Internalized Homophobia Scale (IHP) (Herek, Cogan, Gillis	48
	& Glunt, 1998)	49
	Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965)	50
	Physiological Measures	51
	Procedure	52
	Hypotheses & Analysis Plans	53
	Power Analysis	55
	Summary	55
IV.	RESULTS	
	Descriptive Statistics	57
	Participants' Relationship Status	57
	Participants Religion	58
	Occupational Status, Income, Education	58
	Height, Weight, Handedness	59
	Family Medical History	59
	Participants' Substance Use	59
	Participants' Sleep, Restfulness	60
	Participants' Mental Health	60
	Reported Outness	61
	Descriptive Statistics Correlation Matrixes	
	Key Variables	
	Participants' Internalized Heterosexism	
	Participants' Self-esteem	
	Participants' Stage of Gay Identity	
	Biofeedback Data	66
	Primary Analyses	
	Hypothesis 1	67
	Hypothesis 2	
	Hypothesis 3	
	Hypothesis 4	
	Post-hoc Analyses	
	Qualitative Analysis of the Vignette and Skin Conductance Peak	81

	Conclusions	82
V.	DISCUSSION, IMPLICATIONS, LIMITATIONS AND FUTURE DIREC	CTIONS
	Demographics and Physiological Measures	84
	Demographics	85
	Physiological Measures	
	Discussion of the Results of Hypotheses	
	Discussion of Post-hoc Analyses.	
	Implications	.90
	Theoretical Implications	
	Gay Identity Development	
	Self-Esteem	
	HIV/AIDS	
	Clinical Implications	92
	Stress	
	Life Stressors and Distress	93
	Mental Health and Therapy	.94
	Limitations	
	Future Directions	.97
Refere	ences	98
	ndixes	118

# List of Tables

Table 1	Relationship Status, Type and Length
Table 2	Internalized Heterosexism and Household Income Correlation
Table 3	Correlation Matrix Between key and Demographic Variables
Table 4	Means and Standard Deviations for Internalized Heterosexism & Self-Esteem
Table 5	Frequencies and Percentages for Gay Identity Development
Table 6	Means and Standard Deviations for the Biofeedback Data
Table 7	Simple Regression Model Summary for Gay Identity Development
Table 8	Simple Regression ANOVA Model Summary for Gay Identity Development
Table 9	Skin Conductance (SC) and Gay Iidentity development
Table 10	Heart rate variability (HR) and Gay Identity Development
Table 11	Skin Temperature (ST) and Gay Identity Development
Table 12	Skin Conductance (SC) and Self-Esteem
Table 13	Heart Rate Variability (HR) and Self-Esteem
Table 14	Skin Temperature (ST) and Self-Esteem
Table 15	Correlation Matrix Among Self-esteem, Gay Identity Development, &
	Internalized Heterosexism
Table 16	GALES Items Related to Sexual identity
Table 17	Selected Significant GALES Items
Table 18	Skin Conductance and GALES Items 44 & 48
Table 19	Internalized Heterosexism GALES Number 50
Table 20	Internalized Heterosexism and Skin Conductance (SC) Correlations
Table 21	Internalized Heterosexism and Heart Rate Variability (HV)

### **List of Appendixes**

Appendix A Background Information

Appendix B Gay Identity Questionnaire (Brady & Busse, 1994)

Appendix C Gay Affects and Life Events Scale

Appendix D Internalized Homophobia Scale Items

Appendix E Rosenberg Self-Esteem Scale (Rosenberg, 1965)

Appendix F Transcription of Heterosexist Vignette

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#### Abstract

Data from the 2000 Census estimated that 1% of the United States is living in a self-identified same-sex relationship; 564,743 committed gay couples. The previously defined "hidden minority" (Fassinger, 1991, p. 157) is more evident than in the past. In fact, there are many social and political issues involving sexual minorities. Since 2004, when Massachusetts became the first U.S. state to approve gay marriage, several other states have also approved marriage for same-sex couples. These political movements, although promising for the Lesbian, Gay, Bisexual, and Transgender (LGBT) community, produce stress. LGBT individuals are susceptible to frequent experiences of discrimination producing mental and subsequent physical health concerns (Chida & Hamer, 2008; Meyer, 2003). This study investigated the stress response in 82 gay men as they were confronted with experiences of heterosexism. These data were gathered using biofeedback equipment measuring skin conductance, heart rate, and body temperature. Moderating variables included gay identity development, internalized heterosexism, and self esteem. This study modeled previous studies of racism that measured the stress response system of ethnic minorities when confronted by racism and prejudice (Utsey, Ponterotto & Porter, 2008). Findings suggested that level of self-esteem is a significant predictor for the stress response activation. Gay identity development and internalized heterosexism yielded significant relationships, but not directly with the stress response. This study found significant relationships among self-esteem, internalized heterosexism, and gay identity development. These findings provide a biopsychosocial model to provide insight into a gay male's mental and physical health.

Experiences of the White Gay Male: An Investigation of the Relationship between Factors of Being Gay, Heterosexism, and the Stress Response System

#### CHAPTER I

#### INTRODUCTION

The Lesbian, Gay, Bisexual, and Transgender (LGBT) community disproportionately suffers from a host of mental and physical health issues. With a growing body of literature connecting physical and mental health, this study investigated the stress response of gay men as they encountered experiences of heterosexism. The history of stigmatization and criminalization for homosexual behaviors may place individuals identifying as LGBT at a higher risk for physical and psychological trauma. This study evaluated the connection between the physiological reaction to experiences of stress and a gay male's psychological resilience to these experiences.

#### Statement of the Problem

Research has shown that individuals report higher levels of stress as a result of discrimination. Minority identity development can impact how an individual reacts when confronted by experiences of discrimination, psychologically and physically (Utsey, Ponterotto & Porter, 2008). LGBT individuals are susceptible to frequent experiences of discrimination, producing mental and subsequent physical health concerns (Chida & Hamer, 2008; Meyer, 2003). This study attempted to identify the most common experiences of distress for the LGBT community, and measured the physiological stress response as gay men were exposed to experiences of heterosexism.

This study explored the emotional triggers (e.g., acts of bias, viewing an act of heterosexism, or past experiences of emotional distress) that elicit a stress response in gay men, many of which may remain at the unconscious level. In addition, this study examined

the relationships among the level of internalized heterosexism, gay identity development, and self-esteem with the physiological stress response, and the gay male experience as he encountered cumulative and acute acts of heterosexism. The developmental achievement of a gay male's sexual identity provides considerable implications for conceptualizing gay clients. These factors (i.e., experiences of heterosexism, internalized heterosexism, gay identity, and self-esteem) were believed to be significantly related to the stress response system, and build upon the previous work investigating the LGBT experience of heterosexism. Contributing empirical evidence to the LGBT literature, this study included a physiological measure to better understand the effect that heterosexism has on gay males, and the most prominent factors of resilience.

#### A Brief LGBT History

Researchers today continue to cite the Kinsey Report that Alfred Kinsey and his colleagues published in 1948 and 1953. These studies introduced American society to divergent notions of sexuality and sexual activity. These studies, as well as more recent research, concluded that sexual minorities accounted for 10-15% of the overall population (Kinsey, 1948, 1953; Fassinger, 1991). The Kinsey Reports initiated the interest in Queer theory in the hard and soft sciences.

Drescher (2008, p.450) reported that, in 1972, "Dr. H. Anonymous" attended the American Psychiatric Association's (APA) annual meeting and disclosed his personal experience as a gay psychiatrist. He urged the APA to remove homosexuality from the DSM-II. In December 1973, the APA's Board of Trustees removed homosexuality from the DSM-II. Historically and socially, such landmark activism for change and equality can be

seen as a significant contribution to LGBT history. Other events include the Stonewall Riots (1969) in New York and Harvey Milk's assassination (1978) in San Francisco, California.

There have also been critical court rulings that have advanced the LGBT movement. The case of Bowers v. Hardwick (478 U.S. 186, 1986) brought attention to same-sex sexual activity. In 1982, Mr. Hardwick was arrested at his house for engaging in consensual oral sex with another man. After years of state and federal rulings and appeals, Mr. Hardwick was found guilty for acting against one statute of Georgia. In 1986, the U.S. Supreme court upheld this decision, ruling that it was constitutional for a state to prohibit sodomy. In supporting their decision, they stated that gay sex did not involve procreation and that the right to privacy did not supersede these acts of homosexuality (Bowers v. Hardwick, 478 U.S. 186, 1986). Seven years later, the court ruling was reversed. In 2003, the Lawrence decision (539 U.S. 558, 2003) ruled that any laws that prohibited sodomy were unconstitutional, based on the government's involvement in consensual adult sex and due process (Lawrence v. Texas (02-102) 539 U.S. 558, 2003).

These pivotal moments in history have advanced the rights of the LGBT population. In addition to unique LGBT stressors (which are addressed throughout this manuscript), the global population is vulnerable to many experiences of stress. For example, in today's economic climate (2008-2010), no individual can escape the stressors of an international economic recession. However, sexual minorities have dealt with this stressor amidst a plethora of gay-specific stressors, including heterosexism, acts of homophobia, level of outness within the work environment, the right to adopt and/or marry, and verbal and physical assault (Herek, 2004; Meyer, 1995; Meyer, 2003). Literature has shown that resiliency and coping styles protect individuals from psychological and physical distress

(Savin-Williams, 2008). Coping mechanisms provide individuals with a line of defense against physical or emotional harm. Resilience may be what protects individuals from the impact of stressors. It seems that LGBT individuals with healthier coping skills would be less vulnerable to psychological and physiological stress.

#### **Background**

The previously defined "hidden minority" (Fassinger, 1991, p. 157) is more apparent today, when compared to the past. In fact, there are many social and political issues that currently involve the discussion of sexual minorities (e.g., gay marriage and Don't Ask, Don't Tell). Since 2004, when Massachusetts became the first state in the United States to approve gay marriage, several other states have also approved marriage for same-sex couples. These states include Iowa, Vermont, New Hampshire, Connecticut, and Maine (Godoy, 2009). At this writing, there are legislative movements to both veto and approve gay marriage.

Data from the 2000 Census estimated that 1% of the United States is living in a self-identified same-sex relationship, reporting 564,743 committed gay couples (U.S. Census Bureau, 2008). These data were gathered by analyzing questions related to the sex of the head of household and "unmarried partners" (U.S. Census Bureau, 2008). This notion (i.e., how to interpret and collect these data for gay partners, since it was only in 2004 that gay marriage was legalized in Massachusetts) has been addressed through the U.S. Census Bureau in order to capture the most accurate data of same-sex couples (O'Connell & Lofquist, 2009). Meta-analyses, and the methods used to conduct such analyses, attempt to provide the most accurate data, postliminary.

Between 2003-2009, the United States Federal Bureau of Investigation Department of Justice reported that 15% of reported hate crimes were against sexual minorities. Sexual minorities share similar experiences with other minority groups—prejudice, political disenfranchisement, and acts of bias. Some of the unique sources of stigma for sexual minorities comes from certain religious sectors (e.g., ordination) (Balkin, Schlosser, & Levitt, 2009; Olson, Cadge & Harrison, 2006), vocational limitations (e.g., military-Don't Ask, Don't Tell) (Knapp, 2008; Embrick, Walther & Wickens, 2007), right to have a family (e.g., adoption, marriage) (Lobaugh, Clements, Averill & Olguin, 2006), and medical care (e.g., ambulance transport, visiting rights) (Adams & McCreanor, 2008). At risk of encountering such experiences, the LGBT community is vulnerable to such stressors.

Issues of discrimination and heterosexist attitudes can lead to anti-gay violence. The Office of the Surgeon General (OSG) reported that 80% of gay men and lesbians had experienced verbal or physical harassment on the basis of their sexual orientation, 45% had been threatened with violence, and 17% had experienced a physical attack (Office of the Surgeon General). Another common experience among the LGBT community is bullying (Espelage & Swearer, 2008). In 2002, the National Mental Health Association (NMHA) reported that 78% of adolescents who identified as LGBT, or were thought to be LGBT, reported having been bullied. These bullying experiences have potential mental health implications as the LGBT individual continues to experience discrimination, or to recall previous acts. Bullying experiences increase stress levels, which may place the LGBT population at higher risk when compared to heterosexuals who are not targeted as victims of bullying. Overall, when compared to their heterosexual counterparts, the LGBT individuals

have shown higher rates of anxiety, mood disorders, substance use, and eating disorders (Meyer, Dietrich & Schwartz, 2008).

There is also evidence that LGBT individuals are at a higher risk for suicide attempts and suicidal ideation (Balsam, Beauchaine, Mickey & Rothblum, 2005; Meyer, 2003; Meyer et el., 2008; Ploderi & Fartacek, 2005; Ueno, 2005). One study found significantly higher incidences of current suicidal ideation and lifetime attempts of lesbian, gay, and bisexual adults, when compared to heterosexual adults (Ploderi & Fartacek, 2005). In a similar study, Meyer et al., (2008) researched the prevalence of suicide among Black and Latino sexual minorities and found that Black and Latino gay men, lesbians, and bisexuals reported more frequent and serious suicide attempts, when comparied to Whites. Kitts (2005) hypothesized that society's fear of discussing issues related to suicide and the LGBT population placed adolescents identifying as LGBT at a higher risk for suicide—in the range of 20-40% of suicide attempts. National estimates indicate that 19% of intentional deaths are the result of self-injury deaths (i.e., suicide), and a significant disparity between suicide and homicide begins above the age of 13 when suicide attempts begin to increase (Bergen, Chen, Warner & Fingerhut, 2008). Further, Kitts (2005) explained that it is not being LGBT itself that leads to suicidal ideation and attempts, but the psychological distress associated with the gay identity. As an LGBT individual becomes more secure in his or her identity and there is a decrease in psychological distress, he or she is less likely to experience suicidal ideation based on gay identity.

Another area of concern is the prevalence of homelessness for LGBT teenagers. The number of teens identifying as LGBT who are homeless is alarming; from 20 to 60% of the accounted homeless teens identify as LGBTQ (i.e., Q was used in many of the studies and

statistics which often represents individuals' "questioning" their sexual orientation) (Adams & McCreanor, 2008; Grov, Bimbi, Nanin & Parsons, 2006; Lampien, Chan, Anema, Miller, Schilder, Schechter, Hogg & Strathdee 2008; National Coalition for the Homeless, 2009). The National Gay and Lesbian Task Force attributed this frequency to mental health issues, gay identity issues, and substance abuse. The task force also cites numerous studies that report 30-60% of homeless LGBT youth have also been sexually or physically assaulted (Ray, 2006). Other research found that 16% of homeless individuals also suffer from a mental health illness (National Coalition for the Homeless, 2009). There is a significant body of literature that has investigated the correlation between homelessness and substance abuse, but there is little evidence supporting a definitive pathway (i.e., causation).

The research has convincingly shown, however, a significant relationship among mental health concerns (e.g., anxiety, mood disorders, substance use, and eating disorders), experiences of discrimination, and risky behaviors. Some of the risk behaviors include substance abuse, tobacco use, suicide, and risky sexual behavior (Bruce, Ramierz-Valles & Campbell, 2008; Rosario, Schrimshaw & Hunter, 2006; Shernoff, 2006). One study found that significant experiences of racial stigma and homosexual internalization in Latino gay and bisexual men—and in male-to-female transgender—were likely antecedents for alcohol abuse and sexual risk behavior (Bruce et al., 2008). Of their sample, marijuana was the most frequently cited illicit drug (29.1%), and powder cocaine was second (14.4%). Moreover, 24.3 % of the sample reported using two or more substances during the past six months. Indeed, these findings have implications for all individuals in treatment presenting with substance abuse concerns, especially those experiencing other minority stresses (e.g., racial, religious, and sexual minorities).

As stated, previous studies have identified a significant relationship between substance abuse and risky sexual behaviors (Bruce et al., 2008; Hegna & Rossow, 2007; Shernoff, 2006). For gay men, Shernoff (2006) reported the need to treat individuals engaging in "barebacking" (i.e., the act of unprotected anal sex), postulating that the guilt of pleasure-seeking by barebacking may result in "depression, loneliness, isolation, a nihilist malaise, or in conjunction with the use of substance" (Shernoff, 2006, p. 112). This finding can be applied across sexual orientations for individuals engaging in unprotected sex.

Hegna and Rossow (2007) found that adolescents who reported same-sex attraction were poorly integrated into their social groups, felt lonely, and used drugs more often. This study differentiated between same-sex attraction and same-sex experiences. Participants who reported same-sex attraction were more likely to engage in illicit drug use. By contrast, participants who reported same-sex experiences reported higher alcohol consumption (Hegna & Rossow, 2007). It is important to note the potential cultural difference, as this study was conducted in Norway, perhaps introducing clinicians in the U.S. to a more nuanced conceptualization for their clients. For example, Hegna and Rossow (2007) also found common sexual encounters between the experience and attraction groups, and their response to heterosexual intercourse and attractions. This finding supports the fluidity of sexuality, as the Kinsey Report suggested many years ago (Kinsey, 1948; 1953).

#### **Limitations of Existing Studies**

Although there has been research over the past several decades studying the LGBT population, much of the literature has pathologized the homosexual experience. Recently, research has investigated a myriad of LGBT issues, while few studies have included a physiological measure in the research design. Those studies that have used a physiological

parameter, measured the "out" experience in the workplace (Huebner & Davis, 2005) and mood improvement in HIV positive gay men (Cruess, Antoni, Kumar & Schneiderman, 1999). In contrast, there is a plethora of literature using such physiological measures as cortisol, alpha amylase, and biofeedback to study other populations (Chida & Hamer, 2008; Kivlighan & Granger, 2006; van Stegern, Wolf & Kindt, 2008; van Veen, van Vliet, DeRijk, van Pelt, Mertens & Zitman, 2008; Yamaguchi, Kanemaru, Mizuno & Yoshida, 2003). In this study, the physiological component provided empirical evidence regarding the LGBT experience and heterosexism. Findings contributed to the literature indicating critical physical health implications as a result of the hypothesized increased stress levels.

Studies that have included physiological measures in the research design when studying the stress response are not free from limitations. For example, a meta-analysis of 208 studies (Dickerson & Kemeny, 2004) concluded that there were significant cortisol responses to cognitive tasks (e.g., Stroop), verbal interaction tasks (e.g., public speaking), and to combined cognitive and verbal tasks (e.g., verbalizing a mental arithmetic task). However, noise exposure and emotion induction tasks (e.g., film) were not associated with significant cortisol elevations (Dickerson & Kemeny, 2004). Although cortisol levels have shown significant relationships with the stress response system (i.e., sympathetic nervous system), the cortisol levels vary greatly (Yamaguchi et al., 2003), thus making a standardized interpretation difficult. In fact, Dickerson and Kemeny (2004) formulated the following two conclusions from their meta-analysis:

First, like physical stressors (e.g., electric shock, prolonged exercise), psychological stressors are indeed capable of activating the HPA [hypothalamic-pituitary-

acrednocortical] axis...Second, the effects of psychological stressors on this physiological system are highly variable (p. 355).

Additionally, many studies involving the LGBT population recruit from LGBT-specific organizations providing services for the local community identifying as LGBTQ. It has been suggested that individuals recruited would fit either of the following two extremes:

a) possess healthy lifestyles and coping skills learned from the organization or b) may be troubled and seeking help (Rosario, Schrimshaw, Hunter & Gwadz, 2002). Individuals attending such organizations may also have attained varying developmental levels of sexual identity, and researchers should include a measure of sexual minority identity development in their research design (Weber, 2008). Lastly, demographic variables affect the external validity of existing studies. Variables include a limited age range (Grogan, Conner & Smithson, 2006), recruitment from urban neighborhoods (Smith, Thomson, Offen & Malone, 2008), and education level and importance of religion (Ross, Rosser, Neumaier & The Positive Connections Team, 2008).

Collectively, popular statistics, demographics, institutionalization of stigma, and bias have likely resulted in physical health symptoms. However, the literature has not significantly explored this relationship.

#### **Research Questions**

#### **Question 1**

Can internalized heterosexism predict if an emotional inducing trigger (e.g., a heterosexist vignette) will activate the physiological stress response in White gay males?

#### **Question 2**

Is there a statistically significant relationship between a White gay male's gay identity development and the physiological stress response?

#### **Question 3**

Is there a statistically significant relationship between a White gay male's gay identity development, reported level of self-esteem, and physiological stress response?

#### **Question 4**

Is there a statistically significant relationship between cumulative life stressors, emotional distress, and the physiological stress response in White gay males?

#### **Statement of Hypothesis**

#### Hypothesis 1

It is expected that the physiological stress response will be higher in White gay males who report higher levels of internalized heterosexism after they experience an emotionally inducing trigger. It is expected that internalized heterosexism will predict the activation of the stress response.

#### **Hypothesis 2**

It is hypothesized that there will be a significant inverse relationship between a White gay male's gay identity development and physiological stress response.

#### Hypothesis 3a

It is hypothesized that higher levels of self-esteem and gay identity development will have a significant inverse relationship with the physiological stress response.

#### Hypothesis 3b

It is hypothesized that there will be a significant positive relationship between selfesteem and gay identity development.

#### Hypothesis 4

It is hypothesized that, as life stressors and emotional distress events increase, White gay males' physiological stress response will increase.

#### **Definitions of Terms & Operational Definitions**

#### Heterosexism/Homophobia

For the past three decades, authors have identified, created and defined terms to address negative attitudes felt towards, and experienced by, the LGBT community. The concept of homophobia identifies a fear that individuals feel towards LGBT individuals. First termed and defined by Weinberg (1972) as "the dread of being in close quarters with homosexuals—and in the case of homosexuals themselves, self-loathing" (p.4), it has undergone significant construction and criticism. Homophobia can also be referred to as homonegativity (Morrow, 2000), or heteronormativity (MacGillivray, 2000), defined as "a cultural understanding, where heterosexuality is the norm and the resulting social institutions are based on this assumption." The possibility of same-sex attraction is neither socially acknowledged nor recognized by social institutions. Herek (1995) defined heterosexism within a social-political context that affects the individual, institution, and culture, while rejecting, stigmatizing, and ostracizing anything that is nonheterosexual. Much of the literature has recognized the negative focus and pathological language of the terms homophobia and homonegativity (Szymanski, Kashubeck-West & Meyer, 2008), and therefore the term *heterosexism* (Herek, 1995) was used for the purpose of this study.

#### **Internalized Heterosexism (IH)**

An individual's internalization of heterosexist attitudes regarding nonheterosexual behaviors yields some degree of self-criticism. These internal feelings have been labeled internalized homonegativity (Mayfield, 2001), internalized homophobia (Weinberg, 1972), and internalized heterosexism (Herek, 1995; Szymanski, 2006). The stigma experienced and internalized by the LGBT community was first termed internalized homophobia by Weinberg (1972). Since then, the term has been built upon, although consistently recognizing the contribution of the traditionally socialized roles, attitudes (both internal and external), the inferior/negative regard, and the nonheterosexual behaviors (Herek, 2004; Herek, Gillis & Cogan, 2009; Szymanswki et al., 2008). Inherent in its definition, Herek et al. (2009) noted that sexual stigma recognizes the shared knowledge that:

The members know that homosexual behaviors and attractions are devalued relative to heterosexuality and they are aware of the hostility and malevolent stereotypes that are routinely attached to gay, lesbian, and bisexual individuals (p. 2).

The impact of IH is unequivocal, although it does vary. That is, Gonsiorek and Rudolph (1991) stated that IH affects LGBT individuals differently and ranges from mild (i.e., self-doubt) to severe (i.e., self-hatred).

Additional studies have shown that IH has shown to be a significant moderator between experiences of heterosexism and psychological distress (Szymanski, 2006). This is where factors such as gay identity development and IH can mitigate its negative impact on the individual. However, some of the literature suggests that measurement of IH is not accurate, in that many items assess an individual's desire to change sexual orientation rather than the true level of gay identity (Mohr & Fassinger, 2000; Shidlo, 1994). It is not to say

that IH only manifests as the desire to change one's sexual orientation. In fact, the definitions provided here say otherwise. IH can simply manifest after being denied rights to visit a partner in the hospital, during a custody battle, or covet marriage, to name a few examples.

For this study, the term IH was used and defined as the result of pervasive experiences of heterosexism (Szymanski et al., 2009). IH was measured by the score achieved on the Internalized Homophobia Scale (IHP) (Herek, 2009).

#### **Physiological Stress**

Studies have measured the stress response system (e.g., cortisol awakening, heart rate, temperature, GSR, etc.) of ethnic minorities when confronted by racism, discrimination, and prejudice (Utsey, Ponterotto & Porter, 2008). Such studies have found significant relationships among racism, ethnic identity, physical health, and psychological health. To date, the research that has investigated the stress response of sexual minorities is scarce. Studies that have included a physiological measure of sexual minorities measured the stress response after losing a partner to HIV/AIDS, being diagnosed with HIV/AIDS, and the coming-out process in the work environment (Cruess et al., 1999; Huebner & Davis, 2005). The impact of the heterosexist culture resulting in a stress response of the sexual minorities' experience of heterosexism is underinvestigated. There are a range of variables that may affect a sexual minority's stress response, including: (1) similar and consistent experiences of heterosexism, (2) levels of internalized heterosexism, (3) gay identity development, and (4) levels of self esteem. Based on the previous literature studying ethnic minorities, it was hypothesized that these variables would significantly impact the physiological stress response of LGBT individuals.

Previous literature has shown a significant relationship between physical illnesses, such as cardiovascular reactivity, with stress. These findings suggested an increased risk for cardiovascular disease as a result of significant stress reactions (Carroll, Smith, Shipley, Steptoe, Brunner & Marmot, 2001). Chida and Hammer (2008) concluded that general life stress was associated with poor heart rate recovery and higher blood pressure. Consequently, researchers have identified an integrated stress response pattern depending on the nature of the psychosocial background (Carroll et al., 2001). One way to measure physiological stress is via the hormone, cortisol. The hypothalamic-pituitary-adrenocortical (HPA) axis is responsible for the regulation of the cortisol levels. A major hormone of the cerebral cortex, cortisol is usually referred to as hydrocortisone and used medicinally to reduce inflammation. There is research investigating the impact of increased levels of cortisol, where it has also been referred to as the "stress hormone" (Dickerson & Kemeny, 2004). Cortisol has been linked to the activation of the sympathetic nervous system, which is directly related to an individual's fight-or-flight response.

One study found that individuals with higher average serum cortisol levels had a faster HIV/AIDS progression over a 7.5 year period (Leserman, Petitto, Golden, Gaynes, Gu, Perkins, Silva, Folds & Evans, 2000). Moreover, the risk of HIV/AIDS was nearly doubled for each cumulative average increase in a stressful life event and an increase in cortisol. Although cortisol levels predicted HIV progression, there were no significant relationships found between an increase in cortisol levels and stressful events (Leserman et al., 2000). This finding (i.e., no significant relationship between the increase in cortisol and stressful events) was also found in other studies (Dickerson & Kemeny, 2004). Dickerson and Kemeny (2004) found significant relationships in various domains; however, emotional

eliciting tasks (e.g., watching film) was the only domain that did not yield a significant relationship with cortisol levels. The meta-analysis found a significant relationship between cortisol levels and cognitive tasks, verbal interaction tasks, public speaking/cognitive task combinations (Dickerson & Kemeny, 2004). These studies contributed to the design of the present study and the utilization of the Psychophysiology software to measure each participant's biofeedback.

This software allows researchers and other professionals (e.g., polygraph administrator) to quantify the response to stressful situations, which allows for the measurement of numerous parameters. For this study, skin conductance (or Galvanic Skin Response), heart rate variability, and skin temperature were measured. The equipment, manufactured by AD Instruments, has met all international standards for safety. The equipment is intended for teaching and research applications, there are no direct electrical connections to the heart. The input connectors are suitable for connection to humans, and meets the appropriate EU directives and standards set by the Canadian Standards Association. For the purpose of this study, physiological stress was defined by the difference and mean values for the heart rate variability, skin temperature, and skin conductance.

#### **Gay Identity**

Identity development (racial identity, sexual identity, religious identity, etc.) refers to "the achievement of self-concept" from a developmental perspective. That is, the measurement of an LGBT individual's outness can equate to his or her gay identity development and be applied to a theory of gay identity such as Cass's (1979). Seen as the foundation of homosexual identity development, Cass (1979) proposed a six-stage process, as follows:

- 1. identity confusion,
- 2. identity comparison,
- 3. identity tolerance,
- 4. identity acceptance,
- 5. identity pride, and
- 6. identity synthesis.

For the purpose of this study, answers on specific items on a measure of gay identity development were utilized to determine the level of gay identity development. One such measure created by Brady and Busse (1994), the Gay Identity Questionnaire, placed individuals into one of these stages, based on the response items.

#### **Emotional Distress and Life Change**

Emotional distress can vary from one person to another. Furthermore, the variation in these experiences can impact an individual's life differently. Understanding how an individual copes with such experiences quite possibly identifies an individual's resilience. For the purpose of this study, the self-reported experiences of emotional distress and the impact certain experiences have had to change one's life were measured by the score on the Gay Affect and Life Events Scale (GALES) (Rosser & Ross, 1989).

#### Self-Esteem

Self-esteem is a developmental construct often discussed with regard to identity and self-perception. Hardin (1999) equated self-esteem with "high regard," and stated that self-esteem depended on how an individual formed his or her identity of self through his or her learned experiences. Specifically, self-esteem impacts all aspects of one's life—romantically, professionally, spiritually, and recreationally—as well as how an individual sees his or her

face and body, how one socializes, romantic options, and career initiatives (Hardin, 1999).

For the purpose of this study, self-esteem was measured by the Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965).

#### Delimitations

This research studied a convenience sample of self-identifying White gay males. Because the study is investigating the relationships of heterosexist acts, gay identity, and IH to White gay males, the research only included gay males. However, we recognize that the self-selection bias, and any interpretation of the findings, must only be reflective of the specific sample. This was a difficult decision, but due to the complexity of identity and the multitude of possible identities (e.g., racial/ethnic sexual minorities), the study only consisted of White gay males, in an attempt to control for moderating effects between ethnic and sexual identities. This study used a correlational research design in order to study the relationship between variables. However, correlations do not allow for an examination of the cause and effect relationship. This study provided evidence to suggest that heterosexist acts may be related to physiological reactivity among White gay males. In addition, the research may have shown significant relationships of internalized heterosexism and gay identity development to physiological reactivity. However, the findings could not suggest that heterosexist acts cause the psychological or physical health outcomes. Nevertheless, this study contributed significantly to the literature, and accounted for gay identity development and IH—factors which have shown to moderate between differences in physiological and psychological vulnerabilities. Lastly, recruitment occurred at LGBT centers in the Northern NJ/NY region, which may present a bias in terms of coping skills, level of identity development, and social support. These delimitations are addressed in the discussion section

of the manuscript, and the results should be cautiously interpreted and generalized to the gay male population.

#### CHAPTER II

#### REVIEW OF THE LITERATURE

The following chapter offers insight into the research base focusing on concerns related to gay males and the physiological reactivity, and experiences of heterosexism. In addition to research with diverse populations and the stress response system, this chapter includes relevant literature related to the mental health implications of discrimination and prejudice, experiences of heterosexism, risky behaviors, coping styles, and gay identity development. Recognizing the impossibility of thoroughly addressing every possible social, political, and physical stressor, this chapter discusses stress in the context of the workplace, gay marriage, adoption, confronting HIV/AIDS, and physical and verbal assault.

#### **Psychological Impact of Discrimination**

In a 1997 study by Herek, Gillis, Cogan, and Glunt, 41% of the sexual minority participants had been a victim of a bias-related experience since the age of 16. Nearly half of the sexual minority participants in the study reported having been a victim of verbal harassment within the past year, and 21% of the sample had experienced an act of victimization since age 16. Types of victimization included being spat upon, having an object being thrown at them, and being chased/followed. In a follow-up study (2009), Herek found that 20% of the sexual minority population in the United States had experienced a crime against them or their property since the age of 18 based on their sexual orientation. Findings from this study place gay men at a greater risk, citing that 38% of gay men, specifically, reported that they had experienced victimization of themselves or their property (Herek, 2009).

Of the reported hate crimes in the United Stated in 2007, 17% were against individuals based on sexual orientation. When investigated further, anti-male homosexual reports were five times higher, when compared to the anti-female homosexual reported hate crimes (Langton & Planty, 2011). This increased vulnerability places gay men at a significantly higher risk of hate crimes, when compared to other sexual minorities (e.g., lesbian, bisexual). The vulnerability and possibility of encountering heinous acts of bias increases the stress response, and can lead to physical and psychological symptoms (Habib, Gold & Chrousus, 2001). Taking the analysis of these acts one step further, hate crimes have been shown to produce higher levels of psychological distress when compared to nonbiased assaults (Herek, et al., 1997).

Minority groups experience various forms of discrimination, including vocational stressors, verbal and physical assault, and prejudice. Moreover, discrimination can manifest as a major life event or daily hassles (Swim, Johnston, & Peasrson, 2009; Herek, 2009). These experiences affect psychological, physical, health, social, and emotional functioning. The specificity of daily hassles unique to LGBT individuals has been defined as heterosexist hassles. Swim and her colleagues (2009) defined heterosexist hassles as "comments or behaviors that reflect or communicate hostile, denigrating, or stigmatizing attitudes and beliefs about lesbians, gay men, bisexuals that are embedded in people's everyday lives" (p. 598). Clarification will be given in the various terminology used to identify these anti-gay experiences (see the discussion of heterosexism below).

Stigma is a feeling of judgment and a subjective experience. Clinically, it is the client's experience of stigmatization that should be the focus. In one study, researchers found that 55% of the respondents felt some degree of stigma based on their sexual

orientation (Herek, 2009). Previous research has found significant relationships between experiences of heterosexism and psychological functioning. The lack of feelings of psychological well-being has manifested as depression, lower levels of self-esteem, anxiety, isolation, fear, and avoidance (Lewis, Derlega, Griffin & Krowinski, 2003; Swim et al., 2009).

Research in the area of racial and ethnic discrimination has found significant relationships between the physiological stress and experiences of discrimination (Blasovich, Spencer, Quinn & Steele, 2001; Carroll, et al., 2001; Holder & Vaux, 1998; Karlsen & Nazroo, 2002; Krieger & Sidney, 1996; Levenstein, Prantera, Varvo, Scrivano, Berto, Andreoli, & Luzi, 2008; Sweet, McDade, Kiefe & Liu, 2007). These studies provide significant clinical implications for the treatment of such minorities. It is true that some gay individuals may have the option to choose when to disclose their gay identity, potentially reducing the individual stress response. However, this ability to remain in the closet can potentially be more stressful (increased sympathetic nervous system activation), as the gay individual must deny a significant part of his or her identity (Huebner & Davis, 2005; Swim, et al., 2009). Mohr and Fassinger (2000) addressed the act of disclosure and how it occurs in an LGBT world; however, this paradigm is complex and was not addressed in this study. Overall, there are strong connections between one's psychological functioning and experiences of discrimination.

#### **Physical and Mental Health Implications**

It is incumbent upon us to better understand how heterosexist experiences impact, and to identify the physiological risks that may be linked to these stressors. All of the experiences described thus far have significant implications for an individual's health; both

physical and psychological. Swim, Johnston and Pearson (2009) found that increased heterosexist experiences produced higher levels of anger and anxious mood. Not surprisingly, they found that these same heterosexist experiences were not related to relaxed mood or positive mood.

Many studies have found a positive relationship between experiences of heterosexism and psychological distress (Cochran & Mays, 2007; Szymanski, 2009). Others have found that gay and lesbian individuals report poorer mental health, when compared to their heterosexual counterparts (Cochran & Mays, 2007; Meyer, 2003; Sandfordt, Bakker, Schellevis & Vanwesenbeeck, 2006). With many external factors to consider, some of the findings suggest that HIV status, or confrontation with HIV, was directly related to some of the somatization, physical complaints, and psychological distress. That is, research has shown that the fear of contracting HIV can cause LGBT individuals to report more physical symptoms and distress (Cochran & Mays, 2007).

Depression and depressive symptoms can also be associated with stress and stressful life events. Researchers found that both life events—and, specifically, gay-related stress—can contribute to these depressive symptoms (Lewis, et al., 2003). The life events and the unique gay-related stress were independent of one another. The research is mixed when factoring in moderating variables such as IH and level of outness with depressive symptoms (Lewis, et al., 2003).

Few studies have researched the physical implications of sexual orientation.

Sandfordt and his colleagues (2006) reported that gay and lesbian individuals endorsed a higher total number of acute physical symptoms, as well as chronic conditions, when compared to their heterosexual counterparts. In terms of their mental health, they found that

the LGBT individuals reported more acute mental health symptoms, and that their general mental health was poorer (Sandfordt, et al., 2006). Much of this literature on physical and mental health of LGBT individuals places the LGBT community at a greater risk, but the empirical data is deficient.

#### **Biofeedback**

There are many studies that have included a physiological measure to research the physical stress response of the autonomic nervous system (i.e., the sympathetic and parasympathetic nervous system), the release of cortisol, and other physiological measures (e.g., blood pressure, heart rate, respiratory rate, and skin conductance). Chida and Hamer (2008) identified an association between psychosocial factors, with both enhanced and reduced physical responses to elicited mental stress. A critical finding from Chida and Hamer's meta-analysis recognized poorer cardiovascular recovery associated with general life stress.

Collecting the physiological data can be costly, and there are many instruments that researchers use to gather such data. For example, researchers have measured cortisol collected through salivary samples, while others have measured the physiological stress response through biofeedback equipment (e.g., InifinitiPro used in this study) (Radu, Ahlin, Svanborg & Lindefors, 2003; Rockloff, Signal & Dyer, 2007). In particular, Rockloff et al. measured Galvanic Skin Response (GSR) as subjects participated in a gambling session, and found a positive change in the experimental group. In a similar study, researchers found a significant increase in the GSR in the experimental group, as well as a significant increase in heart rate with the introduction of pentagastrin, an anxiogenic polypeptide known to cause panic attacks (Radu, et al., 2003). Hence, GSR was selected for this study and was collected

through the biofeedback equipment, as well as heart rate variability and skin temperature, which are other sensitive measurements of the physiological stress response (Radu, Ahlin Svanborg, & Lindefors, 2003).

#### **Cortisol & Relationships**

Intimate relationships require negotiation and compromise; heterosexual, homosexual, or other. This process of negotiation, compromise, and communication between partners has shown physiological arousal and an increase in cortisol levels (Powers, Pietromonaco, Gunlicks & Sayer, 2006). In addition, attachment style has implications throughout an individual's life span. Psychologists adhering to any theoretical orientation, especially Freudian or Jungian, have emphasized the importance of secure attachment beginning at birth, with the most critical period being between 0-3 years of age (Feldman, 2007). Powers and her associates (2006) found that heterosexuals with an insecure attachment yielded greater physiological stress reactions when a partner was confronted with interpersonal issues, or when faced with a relationship conflict with an insecurely attached partner. Although studying heterosexual partners, Powers et al. (2006) illustrated how partners in heterosexual relationships showed patterns of greater physiological stress reactions when the attachment was described as insecure. One could assume a similar pattern across same-sex partners. To that, one study showed that nonacceptance of an LGBT-identified relationship increased negative affect (Otis, Rostosky, Riggle & Hamrin, 2006). These findings provide clinical implications in adaptive and maladaptive coping skills, as a result of attachment styles within romantic relationships.

#### Stress and the LGBT Communities

Stress experienced by the LGBT community can manifest in many forms, and the physical and mental health implications vary. Swim, and her colleagues (2009) concluded that the cumulative heterosexist experiences indirectly cause stress in the form of anger and anxious mood. In addition, the perception of one's own group; both internally and externally, contribute to the cumulative stress. That is, the importance of one's identity, as well as the beliefs associated with others' view of his or her group, is believed to produce these affective distress symptoms (e.g., anger or anxious mood).

Stress is a phenomenon familiar in western culture, and can be defined in different ways. Stress can induce mental or somatic illness (Dohrenwend, 2000), referring to physical, mental, or emotional pressure, strain, or tension (Merriam-Websters dictionary, 2011), and manifests as internal conflict (Nance, 2008). Stress theory in relation to specific minority groups is referred to as *minority stress*. Minority stress "is the chronic social stress that results from belonging to a stigmatized social category and is over and above the general stressors of daily life" (Rosotsky, Riggle, Gray, & Hatton, 2007, p. 393). Meyer (2003) proposed a minority stress model for LGBT individuals and the stigma and prejudices that they experienced and reported. In this model, three processes were identified:

- 1. external, objective stressful events and conditions (chronic and acute),
- 2. expectations of such events and the vigilance this expectation requires, and
- 3. the internalization of negative societal attitudes (Meyer, 2003, p. 676).

Rosotsky, Riggle, Gray and Hatton (2007) identified five common experiences that the LGBT couples reported related to their feelings of minority stress: (1) feeling discriminated against and stigmatized, (2) experiencing rejection, (3) feeling the need to hide

or conceal their sexual minority identities, (4) dealing with internalized homophobia, and (5) developing coping strategies in response to the aforementioned. Rosotsky and her associates (2007) documented critical clinical implications, which included:

- 1. recognition of the dilemma in disclosure,
- 2. the significance of social support,
- 3. identification of strengths and coping strategies, and
- 4. confrontation of social injustices.

Just as Rosotsky and her associates identified, additional research has shown that the cohesive nature of the LGBT community can minimize an LGBT individual's experience of heterosexism (Riggle, Whitman, Olson, Rostosky & Strong, 2008).

#### Heterosexism

There are many terms used to define anti-gay acts or feelings. Such variations include heterosexism, homophobia, heteronormativity, and homonegativity. Many authors have used the term heterosexism and defined it accordingly. For example, Herek (1990) defined heterosexism as "an ideological system that denies, denigrates, and stigmatizes any nonheterosexual form of behavior, identity, relationship, or community" (p. 316). Swim and her colleagues (2009) defined heterosexist hassles as "comments or behaviors that reflect or communicate hostile, denigrating, or stigmatizing attitudes and beliefs about lesbian, gay men, or bisexuals that are embedded in people's everyday lives" (p.598).

No matter the term (i.e., heterosexism, homophobia, or homonegativity), the implications are the same, in that these experiences place the LGBT population at risk for discrimination, abuse, or physical health issues. However, it is important to provide clarification of these terms, as there is some overlap and inherent contradictions.

Heterosexism is defined as a "prejudiced attitude or discriminatory practices against homosexuals by heterosexuals" (Herek, 1995, p. 322). Homophobia is "an unreasonable fear of or antipathy toward homosexuals and homosexuality" (Weinberg, 1972, p. 3). This can be seen as more emotional, including the fear of interacting with, and discriminating against, sexual minorities. Homonegativity (Morrow, 2000; Szymanski, Kashubeck-West, & Meyer, 2008) is often mentioned in terms of one's negative internal beliefs about oneself.

Specifically, Ross, et al. (2009) defined internalized homonegativity as "the internal reaction to stigma associated with being homosexual" (p.588), extending from Weinberg's (1972) definition of the term as "socially induced revulsion and hostility towards one's own homosexuality and things homosexual" (p. 3).

Therefore, anti-gay acts completed by a sexual minority would not constitute heterosexism. Additionally, interpersonal struggle also would not constitute heterosexism. Both anti-gay acts by sexual minorities and the interpersonal struggles would certainly contribute to the minority stress model. The data on hate crimes and assault captured the risk of these acts of heterosexism; however, acts identified as heterosexist can be implicit and at the unconscious level. Specifically, Herek, et al. (2009) found that individuals tend to operate based on covert beliefs significantly more than those that are overt. Examples of implicit heterosexism include, but are not limited to, religious doctrine regarding the sacrament of marriage and assumptions of a heterosexual orientation. Experiences of heterosexism are seen throughout the heteronormative society, including in the workplace stress surrounding the gay identity, gay marriage, same-sex adoption, and HIV/AIDS are addressed in the following sections.

## **Workplace Stress**

Throughout history there have been significant court rulings and policies written in an attempt to eliminate or avoid discrimination (e.g., Amendments 13-15, Brown v. Board of Education). Affirmative Action prohibits a company or institution from denying an individual an opportunity based on race, ethnicity, religion, or sex. Many companies have amended these initiatives to include sexual minorities (e.g., The Human Rights Campaign Corporate Equality Index, 2008). However, this does not necessarily provide LGBT individuals with absolute protection. Only seven states have laws that prohibit the termination of employment based on sexual orientation, whereas there are 30 states where LGBT citizens can be fired on the basis of sexual identity with no recourse (The U.S. Department of Labor). There are many policies that would seem to provide LGBT individuals with protective and safe work environments, but the research is mixed.

Herek (2009) found that 25.5% of the LGBT participants disagreed with the notion that most employers will hire qualified sexual minority individuals, suggesting that LGBT individuals believe that their gay identity could prevent progression within a career. Further, IH can directly impact an individual's work environment. Bouzianis, Malcolm and Hallab (2008) found that nondiscrimination policy increased the workplace disclosure and, as the disclosure increased, internalized homophobia (i.e., internalized heterosexism) decreased. Males were more likely to disclose, when compared to females; therefore, IH in males is a more significant predictor for the level of outness in his work environment.

Waldo (1999) did not find a significant relationship between an institution's policies and resources related to heterosexism. That is, it seemed as though the organization's

resources did not serve as a protective factor for LGBT individuals, which could be attributed to the covert and subtleness of heterosexism.

Huebner and Davis (2005) found that men who disclosed their sexual orientation at the workplace had higher salivary cortisol levels, as well as reported higher levels of negative affect, when compared to those who did not disclose. Moreover, they attributed this increase in cortisol levels to the consequences of disclosure, experiences of discrimination, or the anticipation of discrimination (Huebner & Davis, 2005). Mohr and Fassinger (2000) addressed the need for more empirical research related to the workplace climate for lesbian and gay individuals.

#### Gay Marriage

The right to marry is typically understood to be an inalienable right for adults in a democratic society. But this is a right that could not be safely assumed by heterosexuals in the U.S. until 2004 when the legislative battle for gay and lesbian couples' right to marry was initiated in Massachusetts and passed legislation. Since Massachusetts ruled that it was unconstitutional to deny gay men and lesbians the right to marry, other states have joined (e.g., Connecticut, Iowa, Vermont, & D.C.). Many organizations are advocating for, and against, these rulings. LGBT couples are subject to the stress involved in the process of fighting for equal rights. To date, few studies have explored the psychological impact of legislative and religious restrictions on marriage on gay and lesbian couples. One study showed that the LGBT individuals living in states where a marriage amendment was passed, limiting marriage to one man and one woman, reported higher levels of minority stress and higher levels of psychological distress than the LGBT individuals living in other states where such amendments were not passed (Rosotsky, Riggle, Horne & Miller, 2009). Conversely,

studies (Kurdek, 2004; Oswald, 2002) indicated that the possibility of marriage or a civil union were protective factors for relationship resilience. Kurdek (2004) found that the protective factors that marriage offers include: access to spousal benefits from Social Security benifits, veterans', health and life insurance programs, hospital visitation rights, the ability to make medical decisions for partners, and exemption from state inheritance taxes. These are factors that are not granted to same-sex couples in committed and long-term relationships.

Discord in a marriage has correlated with higher cardiovascular risk and increased stress levels (Smith, et al., 2008). These findings could only be duplicated for the LGBT couples if researchers investigated relationship quality, since the majority of the LGBT couples are denied the right to marry. Some researchers have found that marriage correlates with higher levels of trust and relationship security (Otis, et al., 2006; Powers, et al., 2006). To that, the Rosotsky, et al. (2009) study might suggest that LGBT individuals denied the right to marry report lower levels of trust, when compared to those allowed to marry. Being married may provide a sense of stability and increase trust between partners, as some research has shown. Mohr and Fassinger (2000) also pointed out the need for more empirical research regarding same-sex marriage.

# **Same-Sex Adoption**

Adoption has become increasingly more difficult for families choosing to adopt, when compared to the beginning of the 19<sup>th</sup> Century, due to legislation and child advocacy. The rights of gay and lesbian parents, specific to adoption, have become increasingly more difficult; which is true for all potential parents wishing to adopt. Since 1997, when the Adoption and Safe Families Act was signed in 1997, laws required extensive procedures to

ensure the safety of children and the importance of permanence in a family unit (The U.S. Department of Health and Human Services). Since then, there has been less legal discrimination against the gay population, with regard to same-sex couple adoption; six states prohibit same sex couples from adoption (i.e., Nebraska, Florida, Michigan, Mississippi, Utah, and Arkansas). Many of these states restrict adoption to couples that have some legal bind through marriage (National Gay and Lesbian Task Force, 2008). Various laws differentiate between joint adoption and second parent adoption, and there are 11 states where same sex couples can jointly petition to adopt statewide (i.e., California, Connecticut, D.C., Illinois, Indiana, Maine, Massachusetts, New Jersey, New York, Oregon, and Vermont). Although some states are ambiguous in their policy regarding same-sex adoption, there is hope that gay couples are awarded such rights through the legal system and antidiscrimination policy; however, such advocacy roles elicit stress. Same-sex couples seeking adoption have to retain an attorney and endure a slew of bureaucratic steps, including multiple interviews and a wealth of paperwork. Clearly, this process is distressing.

#### **HIV/AIDS**

In 1981, the first HIV/AIDS cases came to the U.S. reported in Los Angeles, CA, and then in 1982 it was named the Gay-related Immune Deficiency or GRID (Center for Disease Control and Prevention, 2001). The response from the gay community resulted in research, investment in treatment, and an aggressive prevention education. Why we are now seeing a rise in the number of newly infected?

Gay men are at greater risk for repeated exposure to HIV/AIDS, now labeled as a chronic illness. There are added psychological implications for encountering HIV/AIDS (Cochran & Mays, 2007). Anecdotally, there was an article in a local gay publication in

London, England. The article addressed the steadily climbing infection rates, and labeled HIV/AIDS as the "diabetes of the 21<sup>st</sup> Century." One could imagine the visceral reaction to such an alarming phrase. Perhaps some of the promising scientific advances have led to a sense of safety for individuals engaging in perilous activities that place them at risk for contracting HIV.

For example, the first successful trial of an AIDS vaccine was recently announced to the world (McNeil, 2009). The advancement of treatment for HIV/AIDS, which is monumental and historical, may otherwise be detrimental for gay men; with the advanced treatments and possible vaccine comes a false sense of security (Schoofs, 2010).

The numbers of those diagnosed with HIV/AIDS is steadily increasing in the U.S. The increase in infection is not limited to the gay population. In fact, research suggests that the gay population accounts for 5-10% of new infections (AVERT: AIDS and HIV information) in the world. Globally, nearly two-thirds of recent infections occur between men and women having unprotected sex. However, the Center for Disease Control and Prevention (CDC) found that, between 2001 and 2006, there was an 8.6% increase in HIV diagnoses in men who have sex with men in the U.S. (CDC, 2006). It is believed that this increase is a direct result in the availability of antiretroviral treatment and its classification as a treatable chronic illness.

There is a higher prevalence of individuals living with HIV/AIDS in urban cities such as Baltimore, MD and Newark, NJ than in suburban areas (Weston, 2009). Weston (2009) reported that the prevalence of individuals living with HIV/AIDS in Washington, D.C. was 3 % of the U.S. In this study, 7% of residents ranging from the ages 40-49, and African

American males, accounted for 14% of individuals living with HIV/AIDS in the U.S. (i.e., 7 % ranged from 40-49 years-old and 7% were African Americans).

Alarming indeed, practioners should assess a client's risk behaviors, including unprotected sex. If the literature identifies a laissez-faire approach to sex and the risk of contracting HIV/AIDS, are these individuals engaging in suicidal behaviors? Or has HIV/AIDS become a treatable and chronic disease, such as diabetes? One interesting hypothesis was suggested by Crossley (2004), which stated that unprotected anal sex may be the result of the gay man's need to express his rebellion through social deviation and outlawed sexuality.

## **Physical and Verbal Assault**

The U.S. Department of Justice reported that the LGBT population accounted for 15% of the reported hate crimes between 2003 and 2009 (Langton & Planty, 2011). Third on the list, following race/ethnicity and association, these heinous acts are still occurring. For example, in December 2008 there was an assault of a 31-year old Latino male in New York. Bystanders reported hearing anti-gay slurs from the perpetrators (Fahim, 2008). Stories like this can be seen on the news and read in the papers daily. LGBT individuals are likely to have experienced some form of assault, as evidenced by studies that demonstrate a high prevalence of LGBT experience of acts of bias (Herek, 2009).

Assault can be defined, experienced, and measured in numerous ways. Several studies have investigated the impact of assault, which include experiences such as violence, hitting, kicking, and/or spitting (Hill, Schroeder, Bradley, Kaplan & Angel, 2009). Arguably, these acts are rooted in, and include, the emotion of anger. In an attempt to understand this anger and reduce anti-gay anger, Parrott, Peterson, Vincent and Bakeman (2008) studied the

impact that masculine gender role and the gender role stress has on sexual prejudice. They found a significant association between individuals endorsing the anti-feminine gender role and anger towards male sexual minorities.

Although not seen as a predictor, sexual orientation has a strong association with assault, either by strangers, family members, or peers (Lampien, et al., 2008). They concluded that these experiences (i.e., verbal and physical harassment) manifest as chronic stress, conflict with the law, substance abuse, and suicide. Such findings place gay men at higher risk for psychological and physical health issues subsequent to the physical and verbal assault.

#### **Behavioral Risks**

Research has suggested that individuals tend to engage in risky behaviors as a result of maladaptive coping strategies (Folkman, Chesney, Pollack & Phillips, 1992;

Hatzenbuehler, Nolen-Hoeksema & Erickson, 2008; Hegna & Rossow, 2007). Many risk behaviors are identified in this manuscript. There are other risky behaviors that gay men engage in, perhaps related to their sexual identity, including substance abuse, tobacco use, illicit drug use, eating disorders, and suicide. Ross, et al., (2008) researched predictors for unprotected anal intercourse, including disclosure of status to secondary partners, condom self-efficacy, and the number of secondary partners. In their 2008 study, Ross and his colleagues found a strong association between internalized homonegativity and not being "out" among men who have sex with men. Ultimately, they found that internalized homonegativity served as a precursor to unsafe sexual behaviors in men who have sex with men—albeit a study of HIV-positive gay men. Lastly, they found that level of education and racial/ethnic identity had a significant association with internalized homonegativity.

#### Suicide

In 2002, the CDC reported that intentional deaths (i.e., suicide) was the eleventh leading cause of death, which still held true through 2005 (Suicide Awareness, Prevention & Support, 2005). The rate of suicide for men in the U.S. was 17.7 in 2005. On college campuses, suicide rates have been constant over the past several years at 7.5 per 100,000 students (DeAngelis, 2009). Suicide and suicidal ideation is present, and a concern for all. Balsam, et al. (2005) found that sexual orientation predicted suicidal ideation, suicide attempts, and self-injurious behaviors. Meyer (2003) further supported this notion that the LGBT population is more vulnerable to suicide ideation and attempts.

Awareness into these thoughts, validation of the emotions, and coping skills are just some possible interventions, when faced with clients struggling with suicidal ideation.

However, when left untreated, these thoughts can lead to a completed attempt, or to additional risky behaviors.

## **Sexual Activity**

Risky sexual behaviors could be interpreted as forms of suicide. With the wealth of literature and education devoted to sexual education, LGBT individuals have the tools to make healthy decisions (e.g., protected sex). Zellner, Martinez-Donate, Sanudo, Fernandez-Cerdeno, Sipna, Hovell and Carrillo (2009) found that almost half (48%) of the respondents who reported receptive anal sex, and the majority (53.8%) of those who reported insertive anal sex within the last 60 days, did so without using a condom. Recent statistics indicate that condom use among gay men is higher when compared to their heterosexual peers (Human Rights Campaign).

In addition to unprotected sex or condom self-efficacy, research indicated that lack of disclosure (i.e., HIV status) is negatively related to internalized homonegativity (Ross, et al., 2008). That is, the higher the level of internalized homonegativity, the less likely the LGBT individual will disclose his or her HIV status. Herek (2009) identified the LGBT-specific factors, including the coming-out process, gay-related stress, and experiences of childhood sexual abuse that yield more sexual partners and increase the frequency of unprotected sex. Higher levels of social support have been associated with lower levels of sexual problems (Folkman, et al., 1992; Zamboni & Crawford, 2007). Consistent with previous research, social support is a significant factor that protects across all domains of health.

#### **Substance Use**

Alcohol abuse is prevalent in society, irrespective of sexual orientation; however, many studies have shown higher rates of alcohol consumption and abuse amongst the LGBT community (Bruce, et al., 2008; Rosario, et al., 2006; Weber, 2008). Weber (2008) found that individuals classified as having either an alcohol or drug use disorder experienced higher levels of heterosexism than those who were not classified as having a substance disorder. These same participants also reported higher levels of IH, further supporting a significant relationship between IH and substance use.

#### **Tobacco Use**

Smoking rates are notoriously higher in the LGBT population (Gruskin, Greenwood, Matevia, Pollack & Bye, 2007). Although a gamut of demographic variables (e.g., age, education and income) contribute to tobacco use, the higher rates place gay men at risk of tobacco-related illnesses.

## **Eating Concerns**

Repeatedly associated with tobacco use, eating disorders are of concern for the LGBT community. One recent study found heightened rates of binge-eating and purging for sexual minorities (Norton, 2009). Body image, eating disorders, and excessive exercise were significantly related to one another. Grogan, Conner and Smithson (2006) found that gay men reported exercising for appearance purposes, rather than enjoyment and competition, when compared to their heterosexual peers, and also found that gay men were more likely to report exercise for reasons of vanity. Also, one study found higher rates of binge-eating among both male and female adolescents identifying as LGBT, when compared to the majority of adolescents (Austin, Ziyadeh, Corliss, Rosario, Wypij, Haines, Camargo & Field, 2009). This poses grave physical and mental health concerns for LGBT individuals.

#### **Protective Factors**

LGBT individuals are more likely to seek psychotherapy (Balsam, et al., 2005). A study in 2008 found a decrease in mood disorders in younger lesbian, gay men, and bisexual individuals (Meyer, et al., 2008). These findings are encouraging for LGBT youth, and perhaps indicate an increased comfort with the LGBT identity. As a person trained in a strength-based practitioner model, it is imperative for a person to recognize the positive attitudes about him or herself. As is the case with this manuscript, researchers often focus on the deficits, and rarely pay attention to the attributes an individual genuinely appreciates. Riggle, et al., (2008) surveyed a sample of gay men and lesbians to identified the positive aspects of being gay. They identified the following themes:

Belonging to a community

Creating families of choice

Having strong connections with others

Serving as positive role models

Authentic self and honesty

Personal insight and sense of self

Increased empathy and compassion for others

Social justice and activism

Freedom from gender-specific roles

Exploring sexuality and relationships

Egalitarian relationships (lesbians only) (Riggle et al., 2008).

Offering insight into such aspects of being gay may increase LGBT individuals' awareness and acceptance of his or her LGBT identity. Also, recognition of such positive aspects may also contribute to healthier lifestyles and resilience, and offer the possibility for additional adaptive coping skills.

## **Coping Skills and Resilience**

Coping skills and resilience are crucial aspects for identifying strengths and providing insight into one's strengths. Coping is the ability to utilize one's thoughts and behaviors to manage or alter the distress caused by a problem (problem-focused) and moderate the emotional response to the problem (emotion-focused) (Folkman et al., 1992). Resilience is "the ability to recover from, or adjust easily to, misfortune or change" (Merriam-Websters dictionary, 2011). These are two factors that provide individuals with the possibility of mental health wellness.

It is important to note that not all coping skills are adaptive, as you can see from the behavioral risks described earlier. For example, some individuals may cope with stress or uncomfortable emotions by having unprotected sex, abusing substances, smoking, excessive exercising, or eating. This section will focus on positive coping skills. For example, Folkman and his colleagues (1992) found that incidents of unprotected anal sex decreased as spiritual activities and seeking social support increased. Similar findings were reported in other studies. Rosario, Schrimshaw, Hunter and Gwadz, (2002) attributed their nonsignificant finding between emotional distress and gay-related stressful events to supportive networks, learning through adult modeling (e.g., younger organization members learning from the older adult members), and exposure to positive attitudes about homosexuality. These have considerable implications when working with LGBT individuals.

Social support is often cited in the literature as a moderator between healthy and unhealthy living (Zamboni & Crawford, 2007). While these aforementioned coping factors have shown to be a moderating factor with the stress response, self-esteem has proven to encapsulate aspects of healthy living, especially with regard to global self-esteem (Henley, 2010).

# **Self Esteem**

Self esteem is often measured in the social science research. There are variations in the findings in both quantitative and qualitative studies, yielding opposite results. Some of the limitations include the measurement of global versus state self-esteem. Global self-esteem remains constant and resistant to acute events, whereas state self-esteem changes in response to life events and would seem most vulnerable to experiences of discrimination (Henley, 2010; Swim, et al., 2009).

One consistent theme in the literature identified the inverse relationship that selfesteem has with anxious symptoms, child sexual abuse, gay-related stress, and the number of sexual partners (Herek, 2009). This suggests that, when an individual reported symptoms of anxiety, experiences of abuse and gay stress, the levels of self-esteem decreased. There are considerable implications for social support, which include group identity and self identity, that have shown to be direct buffers for levels of self-esteem (Swim, et al., 2009; Ueno, 2005). Herek (2009) found a positive relationship between the coming-out process and self-esteem, postulating that, when an LGBT-identified individual disclosed his or her gay identity, the level of self-esteem increased.

One study found that self-esteem was a significant moderator between heterosexist events and psychological distress (Szymanski, 2009). Therefore, LGBT individuals with lower levels of self-esteem may be experiencing significant amounts of distress related to his/her identity and experiences of discrimination and prejudice. Conversely, LGBT individuals with higher levels of self-esteem cope more effectively with psychological distress or experiences of heterosexism.

## **Gay Identity Development**

Developmental identity is a construct that is continually studied, but not understood in its entirety. With the LGBT population, there may be additional minority statuses contributing to the decreased levels of self-esteem, not to mention their experiences with heterosexism. There is much controversy surrounding the mediating factors and the influence that each individual identity has on one's mental and physical health. One study investigated the influence of dual-identity development of African-American gay and bisexual men (Crawford, Allison, Zamboni & Soto, 2002). Research has shown that, with LGBT people of color, sexual identity remains secondary to racial/ethnic identity (Grov, et al., 2006). This is an area of research that makes it difficult to determine which identity is

most salient for a minority of any status (e.g., ethnicity, race, religion, or sexual orientation) (Phellas, 1999). Individuals identifying with numerous minority statuses could present on different stages of identity development for the various identities. In addition, individuals may be negotiating an interaction between multiple identities (e.g., student, partner, and parent), which would also interfere with the intersection of each identity. With regard to LGBT individuals, authors have found that the inability to deconstruct the heteronormativity of an environment impedes on the individual identity (Abes & Kasch, 2007).

As mentioned earlier, identity has been studied often, but it is not absolute when considering multiple minority identities. One hypothesis for this study suggested that, from a developmental point of view, gay identity would significantly correlate with level of physiological stress, emotional distress, and self-esteem. The findings from previous research were not as absolute as one might expect. For example, Swim, et al., (2009) conducted a qualitative study, which included LGBT individuals and their experiences of heterosexism through journaling. They did not find a main effect of identity on affective distress, which suggested that an individual's identity to group did not buffer or impact reported affective distress. In fact, they found that, the more an individual identified with the LGBT identity, the more the individual was negatively affected by heterosexist hassles (Swim, et al., 2009). This finding was also supported by the Huebner and Davis (2005) study that found higher stress reactivity in men who disclosed their sexual identity at work.

The complexity of self-identity is perhaps immeasurable; however, there are significant relationships between identity formation, emotional experiences, and physical health (Huebner & Davis, 2005; Swim, et al., 2009). Cole, Kemeny, Taylor and Visscher (1996a) found a significant positive relationship between identity development and higher

incidence of cancer and other infectious diseases. Cole, Kemeny, Taylor, Vischer and Fahey (1996b) also found a faster HIV progression.

There have been many theories published over the past several years to measure the level of one's sexual identity (Brady& Busse, 1994; Cass, 1979; Mohr & Fassinger, 2000; McCarn and Fassinger, 1996). Often revered as the foundation of sexual minority identity formation, Cass (1979) identified six stages of identity for both gay men and lesbians. Her model incorporated the cognitive, affective, and behavioral components of sexual minorities. Certainly, Fassinger and her associates were progressive in creating a model with phases, rather than stages; however, Cass (1979) provided a discrete categorization that was further supported by Brady and Busse (1994). McCarn and Fassinger (1996) developed a model for gay identity for lesbians, which was later revised for gay males by Fassinger and Miller in 1996. The model places respondents in "phases," rather than "stages," to allow for the fluidity between stages (Mohr & Fassinger, 2000, p. 67). In summary, the Fassinger models (1996) include awareness, exploration, deepening/commitment, and internalization/synthesis (Fassinger & Miller, 1996; McCarn & Fassinger, 1996; Weber, 2008).

In order to support theory, we must measure the suggested variables and, in response to this need, many instruments were created. Brady and Busse (1994) developed an instrument for gay men that measures a gay respondent whose scores place him into a stage with regard to his gay identity. The six stages are identified from the work of Cass (1979) and include (1) identity confusion, (2) identity comparison, (3) identity tolerance, (4) identity acceptance, (5) identity pride, and (6) identity synthesis. Models like this provide a working model of factors that are related to psychological vulnerabilities and resiliency.

Literature on other minority groups (e.g., ethnic, racial) found that stage of identity development places groups at a higher risk for psychological distress and physiological stress (Cross, 1971; Utsey, et al., 2008).

There are a variety of theoretical orientations under which clinicians are currently trained. A family systems approach to an LGBT individual would explore and identify the significant family interactions and relationships that are impacting the LGBT identity. Elizur and Ziv (2001) found that a supportive family was more likely to be gay-affirming. Other significant findings included: the family support has direct impact on a gay man's psychological adjustment, family acceptance fully mediated identity formation, and family knowledge of the gay identity and gay culture impacted the individual's gay identity. However, Szymanski (2009) found that strongest experiences of heterosexism were in fact reported within the context of their families. LGBT individuals who had families that were perceived to be nonsupportive or ambivalent reported negative emotions (Rososky, Korfhage, Duhigg, Stern, et al., 2004).

#### **Summary and Conclusions**

There does not seem to be a biopsychosocial coherent model in the research for the LGBT population—specifically for gay men. This inadvertently places gay men in a high risk category for incomplete psychological, robust and healthy integrated identity (i.e., sense of self).

There have been promising advancements in the research of the LGBT population.

Much of the current literature has investigated critical aspects of the LGBT experience, with the recognition of, and studies related to, internalized heterosexism, the political movement advocating for equal rights in marriage and adoption, HIV/AIDS education and community

outreach, sexual minority identity theory, and the acknowledgment of the physical and psychological impact the acts of bias have on the LGBT population. This manuscript contributes to the literature by adding the measurement of the physiological stress response system to emotional stressors.

#### CHAPTER III

#### **METHODOLOGY**

This chapter provides a detailed description of the methodology for this study, including detailed descriptions of participants and study procedures. An overview of all the instruments administered, along with a review of psychometric properties are provided in this chapter. Power analyses were conducted to obtain meaningful outcomes, and are reported along with a description of the analysis plan.

#### Design

This study used a correlational design. The independent variables in the study were the scores on the Internalized Homophobia Scale (IHP) (Herek, 2009), the scores achieved on the Gay Identity Questionnaire (GIQ) (Brady & Busse, 1994), the scores on the Rosenberg Self Esteem Scale (RSES) (Rosenberg, 1965), and the scores on the Gay Affect and Life Events Scale (GALES) (Rosser & Ross, 1989). The dependent variables in the study were the levels of the physiological marker for stress; namely, difference in the heart rate variability, change in skin temperature, and Galvanic Skin Response (Rockloff, Signal, & Dyer, 2007).

#### **Participants**

Participants were White males identifying as a sexual minority (i.e., gay included only) Recruitment occurred at LGBTQ centers in the New York/New Jersey Metropolitan area. After recruitment, participants were scheduled for a meeting to complete the surveys and the biofeedback session. The research project was introduced by the principal researcher. It was emphasized that participation in the study was voluntary, and that participants are free

to withdraw from the study at any time. Those participants willing to participate signed the informed consent that explained the study in detail and each participant's rights.

#### **Instruments**

# **Demographic Questionnaire**

This survey was used to obtain background information for participants in the study. Participants were asked to report age, gender, race, socioeconomic status (SES), and sexual orientation. In addition, participants reported handedness, religion, relationship status, employment status, income, physical health questions, substance use, amount of sleep, mental health history, and questions about the coming-out process.

## The Gay Identity Questionnaire (GIQ) (Brady & Busse, 1994)

The GIQ is a 45 true-false item measure that is designed for clinicians and researchers to identify gay men in the developmental stages of the coming-out process. Individuals are placed into a stage based on the number of items endorsed (e.g., 4 endorsed items normed as Stage 4, and 3 normed on Stage 5, would place the individual in Stage 4). The instrument was created based on the homosexual identity formation proposed by Cass (1979). A sample item reads, "My homosexuality is a valid private identity that I do not want make public." The final version was normed on 225 self-identifying homosexual male respondents, with an average age of 28.8 (M=28.8 years) and the majority identifying as White, non-Hispanic (179 respondents). There were too few respondents who were identified in the first two stages (Stage 1, identity confusion; and Stage 2, identity comparison), to include accurate psychometrics for these stages.

If participants for this study were coded in Stages 1 or 2, these data were excluded from the final analysis. Reliability coefficients are available for the other four stages, as

follows: Stage 3 (identity tolerance), r=0.76; Stage 4 (identity acceptance), r=0.71; Stage 5 (identity pride), r=0.44; and Stage 6 (identity synthesis), r=0.78. There were significant findings supporting the central construct of Cass's (1979) homosexual identity formation (HIF) with regard to psychological well-being (F,(3,189)=8.67, p<0.01, and Stage 3. That is, respondents in Stage 3 reported having less psychological well-being when compared to those in Stages 4, 5, and 6. Other significant relationships were found between the HIF and five indexes assessing homosexual adjustment. This suggests that this measure was significantly related to the formation of HIF. Respondents in Stage 3, when compared to those in later stages (4, 5, and 6), reported homosexuality as being a less viable identity, F(3, 190)-9.86, p<0.01; they were less exclusively homosexual, F(3, 188)=14.34, p<0.01; they were less likely to have come out to significant others, F(3, 190) = 25.04, p<0.01; they were less sexually active, F(3,191) = 4.52, p<0.01; and they had fewer involvements in intimate homosexual relationships,  $X^2$  (3, N=194) = 9.68, p<0.01 (Davis, Yarber, Bauserman, Schreer & Davis, 1998).

#### Gay Affect & Life Events (GALES) (Rosser & Ross, 1989)

The GALES is a 66-item Likert scale questionnaire designed to measure the relationship between life change and emotional distress. Two main domains are scored, Emotional Distress (ED) and Life Change (LC). A third domain, named Experience (EX), measures a participant's individual experience with the various life experiences. A sample item is "You were beaten up, physically abused, or arrested because you were gay." Respondents were given directions to answer each item on a scale of 0 (no emotional distress) to 20 (maximum emotional distress).

The GALES was revised by Rosser and Ross (1989), and tested on a group of gay men. The original sample was normed on a group of gay men from New Zealand and Australia, and yielded strong correlation coefficients for each domain with the Original Life Events Scale (Tennant & Andrews, 1976). For the Australian sample, the correlation coefficient between the ranks of the ED and LC scales was 0.91, between the Gay Life Events Scale ED and original Life Events ED Scale the correlation coefficient was 0.93, and between the Gay Life Events Scale LC and the original Life Events LC Scale the correlation coefficient was 0.71. For the New Zealand sample, the correlation between the ED and LC scales was 0.77, between the Gay Life Events Scale ED and the original Life Events ED Scale the correlation coefficient was 0.94, and between the Gay Life Events Scale LC and original Life Events LC Scale the correlation coefficient was 0.75. Comparison between the data from the Australian and New Zealand samples revealed a correlation of 0.95 for the GALES ED scale and 0.91 for the GALES LC scale (Rosser & Ross, 1989). The high correlations between the LC and ED scales in the samples of homosexual men from two countries confirm that similar events are also evaluated in terms of adjustment to life change and emotional distress. The results of the factor analysis indicate that the GALES is psychometrically stable and confirms the three-scale structure (Rosser & Ross, 1989). For the purpose of this study, the third domain (i.e., EX) was used to account for the frequency of discriminatory acts experienced by the sample.

#### Internalized Homophobia Scale (IHP) (Herek, Cogan, Gillis & Glunt, 1998)

The IHP is a commonly used measure which was originally developed in 1992 by Martin and Dean (as cited in Meyer, 1995). It consists of 9 items derived from the diagnostic criteria for ego-dystonic homosexuality contained in the 3rd Edition of the *Diagnostic and* 

Statistical Manual of the American Psychiatric Association (1980). A sample item is "I have tried to stop being attracted to men in general." The self-administered version of the IHP scale has acceptable internal consistency, and correlates as expected with relevant measures (Herek & Glunt, 1995). IHP items were administered with a 5-point response scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Scores are interpreted, and higher scores suggest higher levels of internalized heterosexism and lower scores indicate lower levels. For the standardized sample, alpha = 0.71 for women and 0.83 for men. Men scored significantly higher than women on the IHP measure, and bisexuals scored significantly higher than homosexuals (Ms = 14.79 for gay men, 19.91 for bisexual men, 11.68 for lesbians, and 16.87 for bisexual women). Analysis of variance (ANOVA) yielded significant main effects for sex (F(1, 138) = 14.66, p < .001) and sexual orientation (F(1, 138) = 15.89, p < .001) (Herek, et al., 2009).

# Rosenberg Self-Esteem Scale (RSES) (Rosenberg, 1965)

The RSES is a 10-item Likert scale, with items answered on a four point scale—from strongly agree (SA), agree (A), disagree (D), to strongly disagree (SD). A sample item is "I feel that I'm a person of worth, at least on an equal plane of others." Higher scores indicated higher levels of self-esteem (Walters & Simoni, 1993). The RSES is one of the most widely used instruments for measuring self-esteem. The original sample for which the scale was developed consisted of 5,024 high school juniors and seniors from 10 randomly selected schools in New York State. Psychometrically, the RSES proves reliable, with test-retest reliability in the range of .85-.90 (Rosenberg, 1965).

## **Physiological Measures**

The Psychophysiology Studies software company manufactures software and equipment used in the sciences to obtain data for research and for classroom settings. With many options, it seems that measures of the autonomic nervous system would be most reliable and valid for the purpose of this study (Chida & Hamer, 2008). For this study, stress activation was measured by three parameters (i.e., difference in the heart rate variability, change in skin temperature, and Galvanic Skin Response) attached to the main acquisition. Participants are sat comfortably and connected to the three leads. The GSR (i.e., skin conductance) was connected to the participant's ring and index fingers, an adhesive lead was attached to the participant's middle finger to measure skin temperature, and one other parameter was attached to the thumb to record the heart rate variability. Data were sent to an IBM Think Pad using the Psychophysiology software. Results were interpreted from the generated charts and tables for each participant.

#### **Procedure**

Overall, this study required one hour to one hour and fifteen minutes for each participant to complete the entire research protocol. Following the informed consent, each participant completed the demographic questionnaire. After answering any questions, the participants were given additional instructions for each measure. Each participant completed the Gay Identity Questionnaire (Brady & Busse, 1994), the Internalized Homophobia Scale (Herek, 2009), the Gay Affect and Life Events Scale (Rosser & Ross, 1989), and the Rosenberg Self Esteem Scale (Rosenberg, 1965). Upon completion of the measures, each participant was connected to the biofeedback unit and was explained what the connection would entail.

Then, a scene representative of an act of heterosexism (i.e., the Bill O'Reilly vignette) was shown in an attempt to elicit a stress response, after the baseline was established (i.e., a garden scene of colorful flowers). The clip was reviewed by three academic professionals specializing in treating LGBT individuals and in queer theory to validate its purpose (i.e., to potentially elicit a stress response). The vignette was extracted from youtube.com depicting heterosexist slurs by Bill O'Reilly. A full transcription for this vignette can be seen in Appendix F. Finally, to ensure that a participant did not leave feeling distressed, I debriefed each participant and provided additional information for counseling and other supportive resources.

## **Hypotheses and Analysis Plans**

## Hypothesis 1

It was expected that a gay male would evidence increased physiological stress indicators when he reported higher levels of internalized heterosexism. Therefore, it was expected that internalized heterosexism would be a predictor for the activation of the stress response. This hypothesis was tested using a simple regression. Internalized heterosexism was entered as the independent variable used to predict the dependent variable, or the physiological stress response.

## **Hypothesis 2**

It was hypothesized that the level of gay identity development would be inversely related to the physiological stress response. To establish the strength of relationship between these variables, a bivariate correlation was conducted, with gay identity development entered as the dependent variable and physiological stress as the independent variable.

## Hypothesis 3a

It was anticipated that the level of gay identity development would be positively related to reported level of self-esteem, and negatively related to physiological stress. This hypothesis was tested using a bivariate correlation, with gay identity development, reported level of self-esteem and the physiological stress markers as the variables.

# Hypothesis 3b

It was hypothesized that there would be a significant positive relationship between self-esteem and developmental gay identity development. This hypothesis will be tested using a bivariate correlation. In this analysis, reported self-esteem was analyzed with the phase of gay identity development to determine if there was a significant relationship.

## Hypothesis 4

It was expected that cumulative life stressors and emotional distress would be significantly related to the physiological stress response. This hypothesis was tested using a correlation analysis, with the item frequencies and gay-related physiological stress response as the variables.

#### **Power Analysis**

The "power" of a statistical analysis refers to the likelihood that the test would produce a statistically significant result, given that the variable outcome being tested is in fact present. More recently, Witte and Witte (2008) defined statistical power of a hypothesis as the probability of detecting a particular effect; that is, of rejecting a false null hypothesis. Power analyses are generally conducted prior to data collection in order to determine appropriate sample size for meaningful outcomes. Power analyses for this study were performed using the computer program G-Power (Version 3.0.3 for Windows) (Buchner,

Erdfelder, Faul & Lang, 1992). The power analyses were conducted for each research hypothesis on the basis of the planned statistical analysis procedures.

## **Hypothesis 1**

A power analysis was conducted in order to have meaningful outcomes. The first hypothesis, comparing physiological stress markers as the dependent variable and the levels of internalized heterosexism as the independent variable, was tested using a simple regression. With alpha = 0.05 and power = 0.80, a sample size of 82 is required.

## Hypothesis 2a and 2b

This hypothesis was tested using a correlation analysis. In this analysis, the gay identity development and the physiological stress markers were the variables. With an alpha level of 0.05, the required sample size was 77 with an effect size of 0.15 and power at 0.80.

## Hypothesis 3a

Hypothesis 3a was tested using a correlation. The variables were the reported levels of self-esteem, the gay identity development, and the measures of the physiological stress response. To have meaningful outcomes, with an alpha level of 0.05, a sample size of 68 with an effect size of 0.15 and power at 0.80 was required.

## Hypothesis 3b

A power analysis was conducted in order to have meaningful outcomes. The reported levels of self-esteem were used as the dependent variable, and the gay identity development was analyzed as the independent variable. With alpha = 0.05 and power = 0.80, a sample size of 82 is required.

# Hypothesis 4

This hypothesis was tested using a correlation analysis in which the experiences of emotional distress and life stressors, and the various measurements of the physiological stress response, were the variables. To have meaningful outcomes, a sample size of 68 with an alpha of 0.05, an effect size of 0.15, and power at 0.80 was required.

## **Summary**

Given the power analysis results, this study included a sample of 82 self-identifying White gay males. The hypotheses were tested after the data were collected and analyzed using SPSS version 17.0. Upon completion of the study, there was a donation made on behalf of the participants to a selected LGBT research organization.

#### **CHAPTER IV**

#### RESULTS

This chapter provides the descriptive statistics for the physiological measures,

Internalized Heterosexism, Gay Identity Development, Self-Esteem, results of the hypothesis tests, supplemental analyses, and summary of the findings of this study. Descriptive statistics of the sample are also detailed in this chapter.

# **Purpose of the Study**

The purpose of this study was to determine how gay men react to experiences of heterosexism. It is known that the LGBT population is at risk for experiences of discrimination and prejudice (Herek, 2009; Herek, et al., 1997; Langton & Planty, 2011); however, there did not seem to be a coherent biopsychosocial model to help understand how the LGBT population is affected by these experiences. This study also sought to explore the contribution of relationship status, gay identity development, socioeconomic status (SES), and self-esteem, as they related to the stress response. The total sample size for this study was 89, and included only those participants who identified as White gay males (N=82). One participant was not included after he selected he was Bisexual, another was excluded after he scored in Stage 1, and two other participants were not included, since they selected Hispanic, along with White, as their racial/ethnic identity. Lastly, there were three surveys that were excluded after contact was terminated and the biofeedback follow-up appointment did not occur. All analyses were performed using the Statistical Package for Social Sciences (SPSS Version 17 for Windows).

# **Descriptive Statistics**

All of the participants (100%) were males (N=81). The age of the participants ranged from 18 to 76 years old. The mean age for the participants in this study was 38.1 years old, with a standard deviation of 13.93. All of the participants (N=81) identified their sexual orientation as gay.

# Participants' Relationship Status

Regarding the relationship status, 53 participants indicated that they were single (64.6 %), 24 participants marked that they were in a relationship (29.3%), and 4 selected that they were married or in a union (4.9 %). Of those who reported that they were either in a relationship or married, 7 of the participants (24.1 %) selected that they were in an open relationship, and the remaining 21 partnered participants (72.4 %) indicated that they were monogamous. The average length of relationship was 54.15 months (4.5 years; SD=64.17), where the longest relationship was 244 months (20.3 years) and the shortest was 5 months.

Table 1.

Relationship Status, Type and Length

	N	Percent	
Relationship Status			
Single	53	64.6	
In a relationship	24	29.3	
Married/union	4	4.9	
Relationship Type			
Monogamous	7	24.1	
Open	21	72.4	
	N	M	SD
Length of			
Relationship	28	54.15*	64.17*
* lawath in maantha			

<sup>\*</sup> length in months

# Participants' Religion

Every participant completed this question, and 44 participants indicated that they practiced a religion (53.7 %) and 38 indicated that they did not (46.3 %). Participants were able to write in their practiced religion, and 29 indicated that they practiced Catholicism or Roman Catholicism (42.7 %), 4 reported that they were Jewish (4.9 %), 3 were Christian (3.7 %), 2 were Greek Orthodox, 2 Lutheran, and 2 Presbyterian (2.4 % each), and 1 Buddhist, 1 Orthodox, 1 Pentecostal, 1 Unitarian, and 1 Wicca (1.2 % each).

## Occupational Status, Income, and Education

Each participant was asked to complete the demographic questionnaire, which included items related to their occupational status, income, and highest earned education. Fifty-one of the participants (62.2 %) reported that they were employed full time, 11 were employed part time (13.4 %), 6 participants were not employed, 6 others were full-time students, and 6 were retired (7.3 % each). Two participants were both employed part/full time and full time students (2.4%). Three participants did not answer for their estimated household income. Of the remaining 79 participants, 29.3 % of the (N=24) participants reported that they earned over \$100,000, 22% (N=18) indicated they earned between \$41,000 and \$60,000, 13.4 % (N=11) reported earning less than \$20,000, and 12.2 % of the participants reported that they earned either between \$21,000 and \$40,000, or between \$81,000 and \$100,000 (N=10 for each category). Lastly, level of education ranged from a high school degree to a post-graduate degree. Thirty-six percent (N=30) reported that they earned a college degree, 35.4 % (N=29) earned a high school degree, 23.2 % (N=19) earned a graduate degree, and 4.9% (N=4) earned a post-graduate degree.

## Height, Weight, and Handedness

Participants' average height was 69.88 inches (5'8"), with a standard deviation of 2.50. The heights of the participants ranged from 64 to 75 inches. Participants' reported average weight was 185.96 pounds, with a standard deviation of 35.34. The reported weights ranged from 125 to 280 pounds. Lastly, 63 participants (76.8 %) reported that they were right-hand dominant, 17 participants (20.7 %) were left-hand dominant, and 2 participants (2.4 %) reported that they were ambidextrous.

# **Family Medical History**

Participants were asked to record whether there was a significant family medical history for various health disorders, or current medical problems. Forty participants (48.4 %) reported having high blood pressure/hypertension; 24 (29.3 %), depression; 17 (20.7 %), diabetes; 16 (19.5 %), cancer; 14 (17.1 %), anxiety; 8 (9.8 %), rheumatoid arthritis; 5 (6.1 %), stroke; 5 (6.1 %), obsessive-compulsive disorder; 4 (4.9 %), seizures; 3 (3.7 %), attention-deficit hyperactivity disorder; 2 (2.4 %), schizophrenia; and no participants reported fibromylagia.

#### **Prticipant's Substance Use**

**Caffeine consumption.** Three (3.7%) participants reported that they never drink caffeine; 56 (68.3%), daily; 19 (23.2%), weekly; 2 (2.4%), monthly; and 2 (2.4%), more than monthly. All of the participants completed this question.

Cigarette smoking. Forty-one (50 %) participants reported that they never smoke cigarettes; 32 (39 %), daily; 8 (9.8 %), weekly; 1 (1.2 %), monthly; and none answered more than monthly. All of the participants also completed this question.

**Marijuana smoking.** Fifty-four (65.9 %) of the participants reported that they never smoke marijuana; 9 (11 %), daily; 6 (7.3 %), weekly; 1 (1.2 %) monthly; and 12 (14.6 %), more than monthly. All participants completed this question.

**Alcohol consumption.** Nine (11 %) of the participants reported that they never drink alcohol; 6 (7.3 %), daily; 48 (58.5 %), weekly; 15 (18.3 %), monthly; and 4 (4.9 %), more than monthly. Every participant completed this question.

Cocaine use. Sixty-five (79.3 %) indicated that they never use cocaine; no participants reported using cocaine daily; 6 (7.3 %), weekly; 3 (3.7 %), monthly; and 7 (8.5 %), more than monthly. One participant did not answer this question.

Other substances. Each participant could select an "other" substance on the demographic questionnaire and write in his response, but most participants chose to leave this answer blank. Of those who wrote a response, one wrote *ecstasy* more than monthly and one wrote *GHB* (i.e., Growth Hormone) more than monthly.

## Participants' Sleep and Restfulness

The participants reported an average of 6.53 (SD=1.10) hours of sleep per night and 45.45 (SD=8.55) hours of sleep per week. Thirteen (15.9 %) of the participants reported that they felt well-rested (response number 1); 24 (29.3 %), rested (response number 2); 21 (25.6 %), in the middle between rested and not well rested (response number 3); 18 (22 %), not rested (response number 4); and 6 (7.3 %), not well rested (response number 5).

# Participants' Mental Health

Participants were asked whether they had received a mental health diagnosis or were in counseling. Twenty-seven (32.9 %) participants reported that they have been diagnosed with a mental health condition, and 55 (67.1 %) of the participants indicated that they had not

been diagnosed with a mental health condition. Ten participants (12.2 %) indicated that they had been treated for depression; 8 (9.6 %) reported that they were treated for anxiety or a combination of anxiety and depression; 5 (6.1 %,) for ADHD; 2 (2.4 %), for bipolar disorder; 2 (2.4 %) wrote in HIV; and 1 (1.2 %), OCD.

Fifteen (18.3 %) of the participants indicated that they were currently seeing a therapist, 65 (79.3 %) selected that they were not currently seeing a therapist, and 2 (2.4 %) participants wrote in that they have seen a therapist in the past. It is clear that having the "seeing a therapist in the past" option might have significantly changed these data. Based on the numbers of participants who have been diagnosed with a mental health condition, the number of participants seeking a therapist seems quite low. If, in fact, this number is representative of the percentage of LGBT individuals seeking therapy, this might well serve as a significant finding, suggesting the need for additional psychoeducation or outreach. This is not to suggest that there is a higher prevalence of psychopathology in LGBT individuals than in the general population, but simply that psychotherapy is beneficial, even for those individuals without a mental health diagnosis.

#### **Reported Outness**

Participants were asked various questions about how open they were regarding their sexual orientation. Sixty-three (76.8 %) of the participants reported that they were "living outside of the closet," and 19 (23.2 %) reported that they were sometimes living out. None of the participants reported that they were not open about their sexuality. Of the 66 participants who completed the next portion of the question ("For how long have you been living out of the closet?"), 66 participants stated that they have been open about their sexuality for an average of 10.7 years (SD=7.41). Forty-nine of the participants (59.8 %)

reported that they were open about their sexuality at work, 9 (11 %) were not open, and 24 (29.3 %) were sometimes open about their sexuality at work. Sixty-one (74.4 %) indicated that they were open about their sexuality with their family, 9 (11 %) were not open, and 12 (14.6 %) were sometimes open.

Participants were then asked whom they first came out to, and to describe this experience as positive, negative, mixed, or uneventful. Fifty-seven (69.5 %) of the participants reported that they first came out about their sexuality to their friends; 11 (13.4 %), to their parents; 4 (4.9 %), to their siblings or other; 3 (3.7 %), to coworkers; and 3 (3.7 %) were mixed between parents and friends and coworkers. With regard to the description of the event, 39 % (N=32) described it as positive; 35.4 % (N=29), as mixed; 22 % (N=18), as uneventful; and 3.7 % (N=3) as negative.

# **Descriptive Statistics Correlation Matrixes**

To determine if there were any significant relationships between the demographic variables and the key variables (i.e., internalized heterosexism, gay identity development, and self-esteem) a correlation matrix was performed. There was a significant positive relationship (p<0.05) between IH and household income (See Table 2).

Table 2.

Internalized Heterosexism and Household Income Correlation

		Total for IHP	Household Income
Total for IHP	Pearson Correlation	1	.239 <sup>*</sup>
	Sig. (2-tailed)		.036
	N	80	80
Household Income	Pearson Correlation	.239	1
	Sig. (2-tailed)	.036	
	N	80	80

<sup>\*.</sup> Correlation is significant at the 0.05 level (2-tailed).

However, there were no other significant relationships between the key variables (i.e., internalized heterosexism, gay identity development, and self-esteem) and any of the other demographic variables as shown in Table 3 below. Since there was a significant relationship between household income and IH, income was also analyzed with the physiological measures, but there were no significant relationships.

Table 3.

Correlation Matrix Between Key and Demographic Variables

								Religion		Partner		
				Self				(yes or	Relationship	length (in		
		IHP	GIQ	Esteem	Age	Height	Weight	no)	Status	months)	Work	Education
IHP	Pearson	1	148	210	104	121	.149	102	047	181	.000	114
	Sig. (2-tailed)		.190	.064	.358	.289	.190	.368	.679	.387	1.000	.315
	N	81	81	81	81	81	81	81	81	25	81	81
GIQ	Pearson Correlat	148	1	085	.164	.055	.144	.002	.147	122	.019	.198
	ion											
	Sig. (2-tailed)	.190		.452	.140	.628	.201	.989	.191	.553	.86 2	.075
	N	81	81	81	81	81	81	81	81	26	81	81
Self	Pearson	210	085	1	.121	.009	.008	076	.031	.258	010	.066
Esteem	Correlat ion											
	Sig. (2-tailed)	.064	.452		.285	.934	.941	.504	.788	.214	.928	.564
	N	81	81	81	81	81	81	81	81	25	81	81

# **Key Variables**

The key variables measured were internalized heterosexism (IH), gay identity development, and self-esteem. Table 4 shows the means and standard deviations for IH and self-esteem. The frequencies for gay identity development can be found in Table 5.

# Participants' Internalized Heterosexism

Each participant completed the Internalized Homophobia Scale (IHP) (Herek, et al., 1998). Of the 82 participants, 81 completed the IHP, with an average score of 14.5, lower

numbers indicating lower levels of internalized heterosexism. The scores for the IHP ranged from 9 to 41, with a standard deviation of 7.29. Twenty-three participants (28%) scored a 9 for the IHP, which was the smallest possible score to earn for this 9-item scale. Seventy-seven percent of the participants scored below 18, indicating that this sample presented with low levels of IH (i.e., participants in this sample did not endorse the internalization of heterosexism).

## **Participants' Self-Esteem**

Each participant was asked to complete the Rosenberg Self Esteem Scale (Rosenberg, 1965). Scores for this scale ranged from 10 to 30. The average score was 23.64, with a standard deviation of 4.86. Table 4 highlights the item mean scores and the standard deviation for three of the measures that were administered.

Table 4.

Means and Standard Deviations for Internalized Heterosexism & Self-Esteem

	N	M	SD
Internalized			
Heterosexism	81	14.5	7.29
Self-Esteem	81	23.64	4.86

## Participants' Stage of Gay Identity

Each participant completed the Gay Identity Questionnaire (GIQ) (Brady & Busse, 1994). If scores were equal between two stages, participants were considered to be in between those two stages. For example, one participant scored equal items for Stages 4 and 6, and was therefore coded as being in Stage 4/6 (N=1. (This participant was excluded from the data set as he was the only participant to score as such and was determined an outlier).

Sixty-seven participants (81.8%) scored in Stage 6, seven (8.5 %) scored in Stage 5, seven (8.5 %) scored in Stage 4, and one participant (1.2%) scored in Stage 1.

Frequencies and Percentages for Gay Identity Development

Stage 1	1	1.2
Stage 2	0	0
Stage 3	0	0
Stage 4	7	8.5
Stage 5	7	8.5
Stage 6	67	81.8
Total	82	

# Participants' Biofeedback Data

Table 5.

Each participant was connected to the Infiniti Pro, after having completed the survey protocol, by which heart rate variability, skin conductance, and skin temperature were measured while viewing a vignette that depicted heterosexism. Table 6 shows the descriptive statistics for each of the measured physiological components. Throughout the analyses, the labels for the physiological measures are written as "Baseline," "Stimulus" (or "Stim"), and "Difference" (or "Diff), which indicate the mean value during the 30-second baseline video (i.e., a neutral scene of flowers), the mean value recorded during the vignette, and the difference between the baseline and stimulus, respectively. To determine the difference between the mean scores at baseline and during the exposure to the stimulus, the mean value from the exposure to the stimulus was subtracted from the baseline mean. Therefore, a positive value represented an increase during the exposure to the stimulus, whereas a negative value indicated a decrease from the baseline when the participant was exposed to the stimulus.

Table 6.

Means and Standard Deviations for the Biofeedback Data

	M	SD
Heart Rate Variability Baseline	78.02	12.99
Heart Rate Variability Stimulus	79.16	13.50
Heart Rate Variability Difference	1.19	4.61
Skin Conductance Baseline	1.74	3.11
Skin Conductance Stimulus	1.84	3.21
Skin Conductance Difference	0.10	0.34
Skin Temperature Baseline	84.86	6.67
Skin Temperature Stimulus	85.66	9.96
Skin Temperature Difference	0.99	1.87

# **Primary Analyses**

# **Hypothesis 1**

The first hypothesis examined whether gay identity development would predict the stress response (i.e., skin conductance) of gay men. Table 7 shows that gay identity development alone was not a significant predictor for the stress response. Gay identity development accounted for only 3.6 % of the variance of the stress response, and the shrinkage to 2.4 % suggested that gay identity development is even less likely to account for the variance of the stress response in the general gay population. With a Durbin-Watson value of 2.153, the assumption of independent errors is tenable.

Table 7.
Simple Regression Model Summary for Gay Identity Development

Model	R	R Square	Adjusted R Square		
1	.189ª	.036	.024	.33936	2.153

- a. Predictors: (Constant), Gay identity development
- b. Dependent Variable: Skin conductance difference

Further, an F value of 2.930 suggested that the already insignificant account of variance that gay identity development has on the stress response could have occurred by chance. Of course this value is greater than one, however; and with such a small R<sup>2</sup> value and this F value together, Hypothesis 1 was rejected.

Table 8.

Simple Regression ANOVA Model Summary for Gay Identity Development

**ANOVA<sup>b</sup>** df F Model Sum of Squares Mean Square Sig. 2.930 .091a Regression .337 .337 9.098 79 Residual .115 9.435 Total

a. Predictors: (Constant), Gay identity development

b. Dependent Variable: Skin conductance difference

# **Hypothesis 2**

A bivariate correlation analysis was performed to test the strength of the relationship between the gay identity development and the physiological stress response variables. Using a one-tailed correlation analysis, it was determined that there were no significant relationships between the skin conductance variables and gay identity development.

Table 9.

Skin Conductance (SC) and Gay Identity Development

		Gay Identity	SC Baseline	SC Stimulus	SC Diff.
		Gay Identity			
	Pearson Correlation	1	.011	.031	.192
Development	Sig. (1-tailed)		.918	.784	.085
	N	81	81	81	81
Skin	Pearson Correlation	.011	1	.995**	.344**
Conductance	Sig. (1-tailed)	.918		.000	.002
Baseline	N	81	81	81	81
Skin	Pearson Correlation	.031	.995**	1	.409**
Conductance	Sig. (1-tailed)	.784	.000		.000
Stimulus	N	81	81	81	81
Skin	Pearson Correlation	.192	.344**	.409**	1
Conductance	Sig. (1-tailed)	.085	.002	.000	
Difference	N	81	81	81	81

<sup>\*\*.</sup> Correlation is significant at the 0.01 level (1-tailed).

When analyzing the heart rate variability, no significant relationships were found between the gay identity development and heart rate variability at baseline, during the exposure to the stimulus, or with the difference between the two variables (See Table 10).

Table 10.

Heart Rate Variability (HR) and Gay Identity Development

		Gay Identity	HR	HR Stimulus	HR Diff.
	Pearson Correlation	1	.003	.016	.042
Development	Sig. (1-tailed)		.982	.889	.706
	N	81	81	81	81
Hear Rate	Pearson Correlation	.003	1	.941**	.077
Variability	Sig. (1-tailed)	.982		.000	.493
Baseline	N	81	81	81	81
Heart Rate	Pearson Correlation	.016	.941**	1	.265**
Variability	Sig. (1-tailed)	.889	.000		.008
Stimulus	N	81	81	81	81
Heart Rate	Pearson Correlation	.042	.077	.265**	1
Variability	Sig. (1-tailed)	.706	.493	.016	
Difference	N	81	81	81	81

<sup>\*\*.</sup> Correlation is significant at the 0.01 level (1-tailed).

There were also no significant relationships found between the level of gay identity development and the skin temperature at baseline, during the exposure to the stimulus, or the difference between the two (See Table 11).

Table 11.

Skin Temperature (ST) and Gay Identity Development

		Gay Identity	ST Baseline	ST Stimulus	ST Difference
Gay Identity	Pearson Correlation	1	118	098	.053
Development	Sig. (2-tailed)		.293	.380	.635
	N	81	81	81	81
Skin	Pearson Correlation	118	1	.907**	362**
Temperature	Sig. (2-tailed)	.293		.000	.001
Baseline	N	81	81	81	81
Skin	Pearson Correlation	098	.907**	1	443**
Temperature	Sig. (2-tailed)	.380	.000		.000
Stimulus	N	81	81	81	81
Skin	Pearson Correlation	.053	362**	443**	1
Temperature	Sig. (2-tailed)	.635	.001	.000	
Difference	N	81	81	81	81

<sup>\*\*.</sup> Correlation is significant at the 0.01 level (2-tailed).

# Hypothesis 3

To test whether there was a significant relationship between the levels of self-esteem and physiological stress reaction, a bivariate correlation was performed. Skin conductance was found to be significantly related to level of self esteem at all points, including at baseline (p<0.05), during the exposure to the stimulus (p<0.05), and the difference between the two (p<0.01).

Table 12.

Skin Conductance (SC) and Self-Esteem

		Self Esteem	SC Baseline	SC Stimulus	SC Diff.
Self Esteem	Pearson Correlation		236 <sup>*</sup>	240*	277**
Total	Sig. (1-tailed)		.017	.016	.006
	N	81	81	81	81
Skin	Pearson Correlation	236 <sup>*</sup>	1	.995**	.344**
Conductance	Sig. (1-tailed)	.017		.000	.001
Baseline	N	81	81	81	81
Skin	Pearson Correlation	240 <sup>*</sup>	.995**	1	.409**
Conductance	Sig. (1-tailed)	.016	.000		.000
Stimulus	N	81	81	81	81
Skin Conductance	Pearson Correlation	277**	.344**	.409**	1
	Sig. (1-tailed)	.006	.001	.000	
Difference	N	81	81	81	81

<sup>\*.</sup> Correlation is significant at the 0.05 level (1-tailed).

When analyzing the heart rate variability, a significant positive relationship was found between heart rate variability difference and self-esteem, using a one-tailed test (p<0.05) as shown below in Table 13.

<sup>\*\*.</sup> Correlation is significant at the 0.01 level (1-tailed).

Table 13.

Heart Rate Variability (HR) and Self-Esteem

		Self Esteem	HR Baseline	HR Stimulus	HR Difference
Self Esteem	Pearson Correlation	1	.098	.023	.197*
Total	Sig. (1-tailed)		.194	.420	.041
	N	81	81	81	81
Heart Rate	Pearson Correlation	.098	1	.941**	.077
Variability	Sig. (1-tailed)	.194		.000	.247
Baseline	N	81	81	81	81
Heart Rate	Pearson Correlation	.023	.941**	1	265**
Variability	Sig. (1-tailed)	.420	.000		.008
Stimulus	N	81	81	81	81
Heart Rate	Pearson Correlation	.197*	.077	265**	1
Variability	Sig. (1-tailed)	.041	.247	.008	
Difference	N	81	81	81	81

<sup>\*.</sup> Correlation is significant at the 0.05 level (1-tailed).

Lastly, when analyzing the relationship between skin temperature and self-esteem, no significant relationships were found, either using a one-tailed or two-tailed analysis (see Table 14). Consistent with the findings in this study, it seemed that skin temperature was not a sensitive measure, and will be addressed in the discussion section in Chapter V.

<sup>\*\*.</sup> Correlation is significant at the 0.01 level (1-tailed).

Table 14.

Skin Temperature (ST) and Self-Esteem

					ST
		Self Esteem	ST Baseline	ST Stimulus	Difference
Self Esteem Total	Pearson Correlation	1	.106	.050	.007
	Sig. (2-tailed)		.349	.663	.951
	N	81	81	81	81
Skin Temperature	Pearson Correlation	.106	1	.907**	.362**
Baseline	Sig. (2-tailed)	.349		.000	.001
	N	81	81	81	81
Skin Temperature	Pearson Correlation	.050	.907**	1	.443**
Stimulus	Sig. (2-tailed)	.663	.000		.000
	N	81	81	81	81
Skin Temperature	Pearson Correlation	.007	.362**	.443**	1
Difference	Sig. (2-tailed)	.951	.001	.000	
	N	81	81	81	81

<sup>\*\*.</sup> Correlation is significant at the 0.01 level (2-tailed).

Self-esteem, internalized heterosexism and gay identity development. To test whether there was a significant correlation between self-esteem, internalized heterosexism, and gay identity development, a correlation matrix was performed. There was a significant negative relationship between self-esteem and internalized heterosexism (p<0.05). This suggests that, as an individual reported higher levels of self-esteem, he endorsed lower levels of internalized heterosexism.

Table 15.

Correlation Matrix Among Self-Esteem, Gay Identity Development & Internalized Heterosexism

		Self Esteem	Gay Identity	ΙΉ
Self Esteem	Pearson Correlation	1	120	210 <sup>*</sup>
Total	Sig. (1-tailed)		.147	.032
	N	81	81	81
Gay Identity	Pearson Correlation	120	1	101
Development	Sig. (1-tailed)	.147		.188
	N	81	81	81
Internalized	Pearson Correlation	210 <sup>*</sup>	101	1
Heterosexism	Sig. (1-tailed)	.032	.188	
	N	81	81	81

<sup>\*.</sup> Correlation is significant at the 0.05 level (1-tailed).

# Hypothesis 4

Cumulative life stressors. Frequency analyses were performed to determine the most common experiences of distress among the gay male population. Participants were asked to identify items that they had experienced within their lifetime. Table 16 shows the most frequently reported experiences of emotional distress related to sexual orientation or sexual identity.

Table 16.

GALES Items Related to Sexual Identity

Item Question	Response	Frequency	Percent
3. Your lover died.	No	74	90.2 %
42. You admitted to yourself that you could be/were gay/bisexual	Yes	73	89 %
43. You came out to an immediate member of your family	Yes	70	85.4 %
44. You told someone that you were gay/bisexual	Yes	75	91.5 %
45. You went to a gay nightclub/bath, etc for the first time	Yes	72	87.8 %
46. You came out to your workmates	Yes	69	84.1 %
48. Somebody tells an anti-gay joke in your presence	Yes	75	91.5 %

Of utmost significance here is that 91.5 % of the participants indicated that someone had told an anti-gay joke in their presence. This number is much higher than that which was suggested by Herek (2009), who found that LGBT individuals reported that they had encountered such discrimination approximately 20-60 % of the time. Certainly, the societal acceptance of politically incorrect statements and entertainment (e.g., television shows such as Bill Maher or Chelsea Lately) might affect one's reaction. However, findings from this study might suggest that, even when a gay male with low levels of IH and high levels of self-esteem does not believe that he is affected by these "jokes," there may be a stress reaction.

There were many experiences which involve issues surrounding school, work, and family that also seemed to be common among this sample. The items that were seemingly unique to the LGBT population are listed in Table 17.

Table 17.

Selected Significant GALES Items

Item Question	Response	Frequency	Percent
47. A close family member/friend/workmate who is	Yes	69	84.1 %
not gay found out that you are gay			
49. You have to live/work/socialize with someone who	Yes	42	51.2 %
is homophobic.			
50. You were beaten up, physically abused or arrested	No	68	82.9 %
because you were gay			
51. You were hassled or verbally threatened by another	Yes	46	56.1 %
because you were gay.			
54. You decided to have an HIV test.	Yes	61	74.4 %
55. You find out your lover has the AIDS virus	No	67	81.7 %
56. You find out a person with whom you had a sexual	Yes	22	26.8 %
encounter or relationship has the AIDS virus.			
57. You find out a close friend of yours (not a lover)	Yes	47	57.3 %
has an AIDS-related condition.			
59. You found out that you had a sexually transmitted	Yes	26	31.7 %
disease (e.g., syphilis, gonorrhea).			
60. You went for an HIV (AIDS) test and were told	Yes	61	74.4 %
that you did not have the virus.			
66. You find out an acquaintance has an AIDS-related	Yes	60	73.2 %
condition			

## **Post-hoc Analyses**

With skin conductance appearing to be the most sensitive to the stress response for this study, a correlation analysis was conducted with the skin conductance at baseline, during the stimulus exposure, and the difference between the two measurements, with items 44 and 48 (see above) from the GALES to explore the nature of a significant relationship. A one-tailed correlation analysis (p<0.05) indicated a significant relationship between the skin conductance baseline and skin conductance during the exposure to the stimuli. There was no significant relationship between the skin conductance difference and these two GALES test items (i.e., 44. You told someone that you were gay/bisexual; and 48. Somebody tells an anti-gay joke in your presence).

Table 18.

Skin Conductance and GALES Items 44 & 48

		GALES	GALES	SC Stimular	SC Deceller	ac Dia
		# 44	# 48		SC Baseline	SC Diff.
GALES Item	Pearson Correlation	1	.688**	.219*	.223*	.027
Number 44	Sig. (1-tailed)		.000	.024	.022	.406
	N	81	81	81	81	81
GALES Item	Pearson Correlation	.688**	1	.241*	.249*	.019
Number 48	Sig. (1-tailed)	.000		.015	.012	.433
	N	81	81	81	81	81
Skin Conductance Stimulus	Pearson Correlation	.219*	.241*	1	.995**	.409**
	Sig. (1-tailed)	.024	.015		.000	.000
	N	81	81	81	81	81
Skin	Pearson Correlation	.223*	.249*	.995**	1	.344**
Conductance Baseline	Sig. (1-tailed)	.022	.012	.000		.001
	N	81	81	81	81	81
Skin Conductance Difference	Pearson Correlation	.027	.019	.409**	.344**	1
	Sig. (1-tailed)	.402	.429	.000	.001	
	N	81	81	81	81	81

<sup>\*\*.</sup> Correlation is significant at the 0.01 level (1-tailed).

To explore whether there was a significant relationship between the experiences of discrimination and the physiological stress response, a correlation between IH and item 50 on the GALES (i.e., asking whether the participant had been beaten up, physically abused or arrested because he was gay) was conducted. There was a significant negative relationship (p < 0.01) between this item and IH (r = -0.295). This suggests that, as the responses to this item increases (more people report having had these experiences), the level of internalized heterosexism decreases.

<sup>\*.</sup> Correlation is significant at the 0.05 level (1-tailed).

Table 19.

THE THE PLANT OF THE PARTY OF T	Internalized	Heterosexism	GALES Number 50	)
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		IH	GALES # 50
Internalized	Pearson Correlation	1	295**
Heterosexism	Sig. (1-tailed)		.004
	N	81	81
GALES Item	Pearson Correlation	295**	1
Number 50	Sig. (1-tailed)	.004	
	N	81	81

<sup>\*\*.</sup> Correlation is significant at the 0.01 level (1-tailed).

Taking the other hypotheses into account and the primary experimental design (i.e., correlational research) to examine if there was a significant relationship between IH and the stress response, an additional correlation analysis was run to see if there was a significant relationship between these variables. The table below (i.e., Table 21) shows that there were no significant relationships between IH and skin conductance. There were, however, significant relationships between IH and the heart rate variability difference value (See Table 22).

Table 20.

Internalized Heterosexism and Skin Conductance (SC) Correlations

		IH	SC Baseline	SC Stimulus	SC Difference
Internalized	Pearson Correlation	1	083	096	097
Heterosexis	Sig. (1-tailed)		.232	.199	.196
m	N	81	81	81	81
Skin	Pearson Correlation	083	1	.995**	.344**
Conductance Baseline	Sig. (1-tailed)	.232		.000	.001
	N	81	81	81	81
Skin	Pearson Correlation	096	.995**	1	.409**
Conductance	Sig. (1-tailed)	.199	.000		.000
Stimulus	N	81	81	81	81
Skin	Pearson Correlation	097	.344**	.409**	1
Conductance Difference	Sig. (1-tailed)	.196	.001	.000	
	N	81	81	81	81

<sup>\*\*.</sup> Correlation is significant at the 0.01 level (1-tailed).

Table 21.

Internalized Heterosexism and Heart Rate Variability (HV)

		IH	HV Baseline	HV Peak Stimulus	HV Difference
Internalized	Pearson Correlation	1	043	.039	.257*
Heterosexis	Sig. (2-tailed)		.702	.732	.022
m	N	81	81	81	81
Heart Rate	Pearson Correlation	.043	1	.941**	077
Variability Baseline	Sig. (2-tailed)	.702		.000	.493
	N	81	81	81	81
Heart Rate	Pearson Correlation	.039	.941**	1	.265*
Peak Stimulus	Sig. (2-tailed)	.732	.000		.016
	N	81	81	81	81
Hear Rate Variability Difference	Pearson Correlation	.257*	077	.265*	1
	Sig. (2-tailed)	.022	.493	.016	
	N	81	81	81	81

<sup>\*.</sup> Correlation is significant at the 0.05 level (2-tailed).

# Qualitative Analysis of the Vignette and Skin Conductance Peak

It is important to note that, when investigating participants' peaks during the exposure to the stimulus, many participants peaked around the 2:20 minute mark when Bill O'Rielly stated that "sexual preference is different than race. You cannot choose to be Black, but you can choose to be gay" (See Appendix F for the full transcription of the vignette). It is unclear why the data or instruments did not fully capture this reaction, but possible explanations are provided in Chapter V.

<sup>\*\*.</sup> Correlation is significant at the 0.01 level (2-tailed).

#### **Conclusions**

The results suggest partial support for the hypotheses of this study. Overall, it appeared that skin conductance was the most sensitive parameter to measure the stress response. This finding is based both on the quantitative analyses and the qualitative analysis with regard to the observed peaks in response to portions of the vignette.

For the first hypothesis, it was expected that gay identity development would be a significant predictor for the stress response; however, it was not, and therefore Hypothesis 1 was rejected. Due to the aforementioned significance and sensitivity of the skin conductance parameter as a measure of the stress response and the seemingly insignificant relationship with the other physiological measures (i.e., heart rate variability and skin temperature), skin conductance values were analyzed as the dependent variable for this hypothesis.

Next, there was a significant positive relationship between the skin conductance difference and gay identity development (r = 0.192, p < 0.05). That is, as participants identified in higher stages of gay identity development, there was a decrease in the difference between the baseline and the exposure to the stimulus skin conductance. This hypothesis was supported within this domain, but there were no significant relationships found between gay identity development and either the skin temperature or heart rate variability values.

With regard to self-esteem, hypothesis three postulated that as self-esteem increased, the physiological stress response would decrease. During the baseline and the exposure to the stimulus, there was a significant negative relationship (p < 0.05) between these two measurements and the level of self-esteem (r = -0.236 and r = -0.240, respectively). Further, there was also a significant negative relationship (p < 0.01) between the skin conductance difference and the level of self esteem (r = -0.277, p < 0.01). This suggested that, as a gay

male reports higher levels of self-esteem, he is less likely to activate a stress response to experiences of heterosexism. Again, there was no significant relationship between skin temperature and the level of self-esteem, although there was a significant positive relationship (p < 0.05) between the difference in heart rate variability and the level of self esteem (r = 0.197). Lastly, to explore the relationship between the predictor variables, a correlation matrix including IH, self-esteem, and gay identity development found that there was a significant negative relationship (p < 0.05) between IH and self-esteem (r = -0.210).

Lastly, it was hypothesized that gay males would be likely to have similar experiences related to their reported emotional distress in response to heterosexism. Some of the items that represented a significant portion of the sample were listed in Tables 16 and 17. To explore the relationship between the physiological stress response and emotional distress experiences, items 44 and 48 were selected (44. You told someone that you were gay/bisexual; and 48. Somebody tells an anti-gay joke in your presence) to analyze with the physiological stress response indicators (i.e., skin conductance), in order to determine if there was a significant relationship. There was a significant relationship between these two test items and the skin conductance at baseline and at the exposure to the stimulus. Possible explanations and interpretations for the study's results are provided in Chapter V.

#### **CHAPTER V**

# DISCUSSION, IMPLICATIONS, LIMITATIONS AND FUTURE DIRECTIONS Demographics and Physiological Measures

The understanding of heterosexism is an essential aspect when working with and treating LGBT individuals. This study sought to explore the relationships between the physiological stress response, gay identity development, self-esteem, and internalized heterosexism (IH). There seems to be the need for a better understanding of a biopsychosocial model for the LGBT population with regard to experiences of heterosexism. This chapter discusses the statistical findings of the current study, compares this study to the findings of previous studies, discusses implications of this study, and provides future directions in the research of heterosexism and the LGBT population.

Previous research has found that the LGBT population reports unequivocal experiences of prejudice and discrimination, when compared to other minority groups. These studies report experiences of heterosexism ranging from 20% to 40% of the population (Herek, 2009; Herek, et al., 1997). Fifteen percent of the reported hate crimes between 2003 and 2009 were leveled against sexual minorities—second to race/ethnicity and association (Langton & Planty, 2011). It is likely that these numbers will begin to change as the gay rights movement continues to gain additional media exposure and societal acceptance (e.g., same-sex marriage and Don't Ask, Don't Tell). In this study, 56.1 % of the participants indicated that they had been hassled or verbally threatened by others because they were gay. Another 17.1 % reported that they were beaten up, physically abused, or arrested because they were gay.

In a recent study, Rosotsky and her colleagues (2007) found that the anticipation of stigma or discrimination can cause significant distress. To that end, the participants in this study reported that their experiences were based on their gay identity. These beliefs would seem to affect an LGBT individual's sense of self-concept, and perhaps impact his internalized heterosexism.

The subjective nature of one's experience is just that, and should be normalized. This is similar to Marsha Linehan's intervention in Dialectical Behavioral Therapy (DBT), emotional validation (Lynch, Trost, Salsman & Linehan, 2007). It is not to say that one's emotions are correct or incorrect, but that they are his or her own. This too holds true when thinking about the subjective nature of a "perceived threat" (DSM-IV-TR, 2000). Many of the participants in this study reported negative experiences (e.g., being assaulted) as a result of their gay identity. These experiences negatively affect one's psychological and physical health.

## **Demographics**

Based on this potentially negative experience related to one's gay identity, the homogeneity of the sample, and the importance of and interest in factors of resiliency, a correlation matrix was performed to determine the nature of the relationship between demographic variables (i.e., household income, education, employment, etc.) and the various physiological stress markers. The correlation matrix of demographic variables and physiological measures did not result in many significant results. In fact, the only significant relationship was found between IH and household income (r-0.239, p<.05). This would suggest that households having higher income exhibit higher levels of IH. Perhaps it is true

that "money cannot buy happiness," as much of the pop culture media and literature have suggested (Herper, 2004).

# Physiological Measures

As noted throughout this study, the sensitivity of the physiological measures (i.e., skin conductance, heart rate variability, and skin temperature) varied. It seemed that the skin conductance measure was the most sensitive and captured a change (i.e., suggesting a stress reaction) most sensitively. It is important to note that the difference values (i.e., the exposure to the stimulus values subtracted by the baseline value) for each of the three physiological measures were positive. This demonstrated that the overall values for the participants, while exposed to the stimulus (i.e., a heterosexist vignette), were higher when compared to the baseline values (i.e., a neutral scene). For the skin conductance and heart rate variability, this would suggest an overall physiological response during the exposure to the stimulus. However, for skin temperature, the opposite should be true to indicate a stress response. That is, during a stress reaction the skin temperature would typically decrease as the veins constrict (Radu, et al., 2003). Therefore, an increase in the skin temperature during the exposure to the stimulus indicated that the participants' temperature did not change as a result of the stimulus.

## **Discussion of the Results of the Hypotheses**

The first research question investigated whether gay identity development could predict the stress response of gay males as they encountered experiences of heterosexism.

Hypothesis 1 postulated that gay identity development would predict the stress response in gay men as they were exposed to a heterosexist stimulus. This hypothesis was not supported

in this study. Gay identity development alone did not serve as an accurate predictor for the activation of the stress response and therefore hypothesis one was rejected.

The second research question examined the relationship between gay identity development and the stress response. With regard to heart rate variability and skin temperature, no significant relationships were found between either of them and gay identity development. A significant positive correlation was found between the skin conductance difference and gay identity development. This suggests that, as gay men identify in higher levels of gay identity development, there is a decrease in the difference between the baseline and exposure to stimulus value of the skin conductance. Previous studies (Radu, et al., 2003; Rockloff, et al., 2007) have linked skin conductance (or Galvanic Skin Response) to the experimental groups, further supporting this finding from this study.

The research involving the study of skin conductance levels varies with regard to a gamut of psychological disorders, mood symptoms, and clinical interventions (Erisman & Roemer, 2010; Ortner, Kilner, & Zelazo, 2007). Therefore, it is important to interpret these findings cautiously. Chida and Hamer (2008) identified the incidences where certain physiological variables were not vulnerable to emotional triggers. As mentioned earlier, their meta-analysis influenced the decision to utilize the specific physiological variables in this study. They concluded that there were insufficient high-quality studies to draw general conclusions. However, one conclusion was that poorer cardiovascular recovery was associated with general life stress (Chida & Hamer, 2008). Many of the participants endorsed significant life stress in this study, consistent with previous studies (Herek, 2009; Meyer, 2003; Rosotsky, et al., 2007), which may place gay males at a higher risk for cardiovascular problems.

Although not entirely conclusive, it seems that the in vivo exposure to heterosexism (i.e., the Bill O'Reilly vignette) activated the participants' skin conductance in this study. There were significant peaks noted at the 1:50-1:56 minute mark of the stimulus exposure for a majority of the participants (approximately 80%) when Bill O'Reilly stated that "...because race is not conduct. There is a difference between what you are what you do." Bill O'Reilly was comparing gay marriage to marriage between two "African Americans." Many of the participants showed peaks at this point; however, it is unclear why this was not more accurately captured in the findings. It is postulated that, since the exposure to the heterosexist event occurred after the baseline was established and ran for 3:13 minutes, the mean score did not accurately capture this finding.

The third research question investigated the relationship between self-esteem and the stress response. Skin conductance was significantly correlated with the level of self-esteem; there was also a significant relationship between the heart rate variability difference and self-esteem. There was no significant relationship found between skin temperature and self-esteem.

Skin conductance was significantly correlated with self-esteem at all levels, including baseline, during the exposure to the stimulus, and the difference between the two. Increased levels of self-esteem were negatively correlated with the baseline and exposure levels, indicating that, as the participants reported higher levels of self-esteem, their stress response was less reactive. There was also a significant negative relationship between the skin conductance difference and the level of self-esteem. This can be interpreted that participants who reported higher levels of self-esteem were not as affected by the exposure to the

stimulus (i.e., the heterosexism vignette), and subsequently had decreased differences between the baseline and the exposure levels.

For the fourth and final hypothesis, the GALES was administered to gather the data regarding the cumulative life stressors. It was revised by Rosser and Ross (1989) and consists of three domains, including Emotional Distress (ED), Life Change (LC) and Experience (EX). There was a large variability of the ED and LC domains, and many participants were confused and unsure how to respond to the items. As a result of the participants' confusion, and based on the hypothesis which was interested in cumulative life stressors, only the EX domain was analyzed. This domain instructed the participants to place an X in the corresponding item number for any item they had experienced (See Appendix C).

The fourth and final research question aimed to identify common experiences of stress and emotional distress for the LGBT population. It was thought that cumulative life distress would affect the stress response. First, consistent with previous research (Herek, 2009), 17.1% of the participants from this study indicated that they had been assaulted, physically abused or arrested because they were gay. Ninety-one percent of the participants had been in the presence of an anti-gay joke. This finding was also consistent with previous studies, and places the LGBT population at a greater risk of cumulative life stress related to their gay identity (Meyer, 2003;

Swim, et al., 2009).

# **Discussion of Post-hoc Analyses**

To test the relationship between cumulative life stress and skin conductance, the most significant and sensitive indicator of the physiological response, a correlation analysis was performed (Table 19). There was a significant relationship between the two GALES items

that measured affective distress and the skin conductance at baseline and during the exposure to the stimulus. Perhaps having experienced these events, being out about one's sexuality and being subjected to anti-gay jokes (91.5% of the sample endorsed being in the presence of an anti-gay joke), causes LGBT individuals to be hypervigilant when exposed to heterosexist comments. Further, it is possible that the baseline relationship was activating the stress response, since the participants had completed the surveys and knew they were going to be exposed to a video depicting a heterosexist event as was explained in the informed consent.

#### **Implications**

The results of this study have both theoretical and clinical implications for understanding (a) how gay identity development affects LGBT individuals, (b) how gay men are affected by heterosexism, (c) the affect that self-esteem has on physical health, (d) risk factors that LGBT individuals are faced with, and (e) which emotional distress events are most common among gay men.

#### **Theoretical Implications**

Gay identity development. Cass (1979) introduced, what is still today, the most widely used identity development model for the LGBT population. It was thought that gay identity development would serve as the most significant moderator of the physiological stress response. Findings from this study suggest that it affects the stress response, but not to the degree that was expected. It is possible that the Gay Identity Questionnaire (GIQ) did not accurately capture the gay identity development, or that the homogeneity of the sample did not produce statistically significant results. However, as one of the post-hoc analyses showed, self-esteem accounted for more of the variance in the stress response (as measured

by skin conductance). It is not to suggest that gay identity development is not an important construct to understand, but perhaps it could be captured more accurately.

Mohr and Fassinger (2000) identified the many dimensions to the gay and lesbian experience. This current study supports the difficulty in quantitatively measuring one's global identity development, as many individuals possess countless identities and mood can significantly affect one's response to the test items. As with any generalization, one must be cautious in its interpretation.

Self esteem. Self-esteem is similar to gay identity, in that it is difficult to capture its true effect on an individual's health, although there is an exorbitant amount of literature that supports its protective properties (Henley, 2010). In this study, self-esteem was significantly correlated with skin conductance, suggesting that individuals that reported higher levels of self-esteem were less likely to have a stress response to experiences of heterosexism. From a clinical perspective, which will be addressed shortly, a strength-based approach would enhance an LGBT individual's sense of self. An assessment of self-esteem could provide the client and clinician with valuable information to facilitate treatment planning.

HIV/AIDS. Not very long ago, HIV/AIDS was referred to as the gay disease, and people living with AIDS were far more stigmatized (Herek & Glunt, 1995). In current times, it is possible that individuals might still make the inference that HIV/AIDS and an LGBT identity are synonymous. Perhaps it is because gay men encounter HIV/AIDS more frequently than their heterosexual counterparts, although the current prevalence rates identify African American females as the population with the most significant growth (AVERT: AIDS and HIV information, 2009). In 2006, African Americans represented 12% of the population in the USA living with HIV/AIDS, and accounted for 46% of HIV prevalence and

45% of new HIV infections (World Health Organization, 2009). In this sample, 74.4 % (N=61) of the participants had decided to go for HIV testing, 73.2 % (N=60) found out that an acquaintance has an AIDS-related condition, and 57.3 % (N=47) found out that a close friend has an AIDS-related condition. Also, 18.3 % of the participants reported that they found out a lover has AIDS, and 31.7 % have been diagnosed with a sexually transmitted disease (STD).

Although protected sex within the gay male community may be growing, the exposure to STDs is still quite present. That type of hypervigilance described earlier, when an individual is anticipating a discriminatory act, may be salient because gay men are expecting to encounter HIV/AIDS, and therefore become more vigilant as they engage in sexual encounters.

# **Clinical Implications**

Stress. This study showed that there were significant relationships between the physiological stress activity (i.e., primarily skin conductance) and experiences of heterosexism. This finding was consistent with previous studies, which placed sexual minorities at an increased risk for stress-related illness (Meyer, 2003; Rosotsky, et al., 2007). This study was able to connect it to the physiological stress response, as measured by the various physiological parameters, providing additional physical and mental health implications.

Cochran and Mays (2007) showed that the fear of contracting HIV increased the subjective physical health symptoms and reported distress. This would support the argument that physical health symptoms and distress do not equate to "pathology." Instead, it is the gay male's increased risk of mental health symptoms, his vulnerability, and hypervigilance

with regard to sexual activity and the fear of contracting HIV that produces psychological and physical symptoms. This study produced findings that correlate these experiences with the activation of the stress response. There were significant relationships found between the skin conductance and the experience of being tested for HIV/AIDS, and fear of contracting HIV/AIDS. However, this does not suggest causation—just that there is a significant relationship between these two items (i.e., physiological stress marker and HIV/AIDS awareness). Lastly, the epidemiological pattern found in this study was consistent with the pattern reported by Ueno (2005) as having been found in previous studies. She stated that sexual minority adolescents reported higher levels of psychological distress than the majority of adolescents.

Life stressors and distress. This study attempted to capture some of the most frequent experiences faced by gay males, in an attempt to increase awareness of the multiple sources of stress experienced by this particular group of White gay males, and to quantify the cumulative and chronic stressful experiences. More than 85% of the participants had come out about their sexual orientation to themselves or family members, or had told someone else that they were gay. Eight-four percent had come out to coworkers. This sample represented a group of White gay males who were living outside of the closet most of the time—hence placing them in the higher levels of gay identity development. Still, 91.5% of the sample showed a significant increase in skin conductance activity at baseline and in the in vitro exposure situation of being in the presence of somebody telling an anti-gay joke. This suggests that, the more often individuals are exposed to anti-gay jokes, the more their skin conductance would increase. It is possible that sexual minorities never become numb to heterosexism, and continue to be affected by these experiences across the lifespan.

Mental health and therapy. Previous studies have shown that sexual minorities report poorer mental health, when compared to heterosexuals (Cochran & Mays, 2007; Meyer, 2003; Sandfordt, et al., 2006). Thirty-two percent of the sample reported that they had been diagnosed with a mental health condition, and 18.3 % indicated that they were currently seeing a therapist. Certain theoretical orientations (e.g., cognitive therapies) encourage termination, and short term therapeutic models which could affect these percentages. These numbers appear slightly higher than the general population statistics; an estimated 26.2 percent of Americans ages 18 and older—about one in four adults—suffer from a diagnosable mental disorder in a given year (National Institute for Mental Health [NIMH], 2008).

In 2008, 13.4% of adults in the United States received treatment for a mental health problem. This includes all adults who received inpatient or outpatient care and/or used prescription medication for mental or emotional problems (NIMH, 2008). The sample of this study presented with a slightly higher percentage of mental health diagnoses (i.e., 32%), and a higher percentage of help seeking (i.e., 18.3%). This is a significant finding, as it appeared that the participants were open to psychotherapy, even with a wide variety of diagnoses. The diagnoses ranged from depression to Obsessive Compulsive Disorder (OCD), with the majority reporting some combination of depression and anxiety. Two participants wrote that they received counseling for HIV. These findings are consistent with Swim, et al. (2009), who reported that exposure to heterosexism produced higher levels of anger and anxious mood. They also found that the participants reported a less positive or relaxed mood.

#### Limitations

As with most research, there are many limitations to this study that are noteworthy when interpreting the results. The current study was achieved through a correlational design to determine significant relationships between multiple variables. Correlations provide researchers with significant relationships, but they cannot determine the causality of relationships. Therefore, researchers should cautiously interpret the results and the implications, and remain cognizant of the relational attributes of this type of research. In the future, using a mixed-methods design would be best when addressing both internal and external threats to validity.

Multiple parameters were measured to capture the physiological stress response, as participants were subjected to in vivo exposure (i.e., a vignette depicting heterosexist remarks). Room temperature was measured, but could have affected the skin temperature results since not every meeting occurred in a controlled laboratory setting. For example, one collection occurred in a conference room at a local LGBT organization, and another in an office of a different LGBT organization in the northeast.

Although the vignette was rated by a few psychologists and other professionals versed in queer theory, it is possible that the stress response elicited by the Bill O'Reilly vignette varied with participants' education, income, or other SES variables. It is also possible that individuals have become desensitized to such journalism and such anti-gay rhetoric. However, one might expect that individuals with higher levels of education would be more likely to know of Bill O'Reilly and his political perspectives. There was one participant who stated that he has a reaction every time he simply sees Mr. O'Reilly, irrespective of his comments.

Quantitative research attempts to capture a comprehensive picture through coded items which at times can limit data collection. For example, test items may not have fully captured the treatment histories of each participant, as evidenced by two participants who wrote that they had previously seen a therapist, but were not "currently in treatment," as the question denoted. Even though this was not a focus of this research or an experimental hypothesis, this information is valuable for clinicians as they encounter LGBT individuals in therapy, since previous research (Swim, et al., 2009) placed the LGBT population at a higher risk of mental health diagnoses.

Recruitment occurred at local LGBT organizations and events in the New York

Metropolitan area. It is suspected that individuals attending such events have higher levels of
gay identity development and strong support systems, positive self-concepts and healthy
coping skills. It is also possible that these individuals are better nourished and better
resourced, and possess fewer health risks; demographics alone may be explaining some of
the lack of findings in certain areas. This limitation has been addressed in previous research,
and is also noted here (Rosario, et al., 2002). Additionally, this sample reported high
educational achievement, low levels of internalized heterosexism, and high levels of gay
identity development, which could have significantly affected the results, since such
constructs might assume openness to experience, resilience, and other positive outcomes and
sense of identity.

This sample was purposely homogenous, in an attempt to control for the many variables of diversity that may interfere with the results. For example, there was concern about measuring the physiological stress response of a Black gay male, since it would be unclear which minority status would be reacting to the vignette. A Black gay male might

react to Bill O'Reilly because Bill O'Reilly is White, not because he was making heterosexist statements. This decision may have actually screened out other important risk factors.

Consequently, there is a need to duplicate this study using a diverse sample of racially diverse sexual minorities, in order to attempt to understand the interaction among multiple minority statuses.

#### **Future Directions**

There were many significant findings in this study that can provide a framework from which other researchers can build upon. Research has supported the notion that LGBT individuals report higher levels of psychological symptoms (Ueno, 2005), and therefore there is a need for effective interventions within the context of various environments and policies to protect the LGBT population (e.g., schools, workplace, etc). Now that there is additional awareness and continued support for this argument, there is a need for a better understanding of effective interventions to decrease these symptoms. There is a potential risk for gay males regarding the psychological and physical reactions to the fear associated with HIV/AIDS, and other STDs, that should be explored further. There is also the need to completely understand the relationship between multiple minority statuses and the research studying racial, ethnic and sexual minorities, which could help tease apart the mediating effects among these multiple minority identities. The inclusion of other sexual minorities (e.g., lesbians, bisexuals, and transgender) will be necessary to fully capture the LGBT population. Lastly, with an evolution of the traditional nuclear family, there is the need for a better understanding of LGBT identified families that are rearing children.

## References

- Abes, E. S., & Kasch, D. (2007). Using queer theory to explore lesbian college students' multiple dimensions of identity. *Journal of College Student Development* 48,6; p. 619.
- Adams, B., & McCreanor (2008). Framing gay men's health: An analysis of policy documents. *Gay & Lesbian and Psychology Review*, 4, 2.
- Austin, S. B., Ziyadeh, N. J., Corliss, H. L., Rosario, M., Wypij, D., Haines J., Camargo, C.
  A., & Field, A. E. (2009). Sexual orientation: Disparities in purging and binge eating from early to late adolescence. *The Journal of Adolescent Health*, 45,3. p. 238-245.
- AVERT: AIDS and HIV information (2009). Worldwide HIV & AIDS statistics. Retrieved from http://www.avert.org/worlstatinfo.htm.
- Baker, L. M., & Taylor, W. M. (1954). The relationship under stress between changes in skin temperature, electrical skin resistance, and pulse rate. *Journal of Experimental Psychology*, 48, 5. p. 361.
- Bakke, M., Tuxen, A., Thomsen, C. E., Bardow, A., Alkjaer, T., & Jensen, B. R. (2004).
  Salivary cortisol level, salivary flow rate, and masticatory muscle activity in response to acute mental stress: A comparison between aged and young women. *Gerontology*, 50, 383-392.
- Balkin, R. S., Schlosser, L.Z., & Levitt, D. (2009). Religious identity and cultural diversity:

  Exploring the relationships between religious identity, sexism, homophobia, and
  multicultural competence. *The Journal of Counseling and Development*, 87(4) p. 420.

- Balsam, K. F., Beauchaine, T. P., Mickey, R. M., & Rothblum, E. D. (2005). Mental health of lesbian, gay, bisexual, and heterosexual siblings: Effects of gender, sexual orientation, and family. *Journal of Abnormal Psychology*, 114, 3; p. 471-476.
- Balsam, K. F., & Mohr, J. J. (2007). Adaptation to sexual orientation stigma: A comparison of bisexual and lesbian/gay adults. *Journal of Counseling Pscyhology*, 54, 3; p. 306-319.
- Bergen, G., Chen, L. H., Warner, M., & Fingerhut, L. A. (2008). Injury in the United States: 2007 Chartbook. Hyattsville, MD: National Center for Health Statistics, 2008.
- Bird, C. M., & Burgess, N. (2008). The hippocampus and memory: Insights from spatial processing. Retrieved on February 1, 2008 from www.nature.com/reviews/neuro.
- Blascovich, J., Spencer, S. J., Quinn, D., & Steele, C. (2001). African Americans and high blood pressure: The role of stereotype threat. *Psychological Science*, 12, 225-229.
- Bouzianis, B. Malcolm, J. P., & Hallab, L. (2008). Factors associated with sexual identity disclosure in the workplace by gay men and lesbians: A couples study. *Gay & Lesbian Issues and Psychology Review*, 4,3; p.315.
- Bowers v. Hardwick, 478 U.S. 186 (1986).
- Brady, S. & Busse, W. J. (1994) The gay identity questionnaire: A brief measure of homosexual identity formation. *Journal of Homosexuality*, 26, 4; p. 1-22.
- Bruce, D., Ramirez-Valles, J., & Campbell, R. T. (2008). Stigmatization, substance use, and sexual risk behavior among Latin gay and bisexual men and transgender persons.

  \*\*Journal of Drug Issues\*, 38,1; p. 235.\*\*

- Buchner, A., Faul, F., & Erdfelder, E. (1992). GPOWER: A priori-, post hoc-, and compromise power analyses for the Macintosh [computer program]. Bonn, Germany:

  Bonn University.
- Carroll, D., Smith, G. D., Shipley, M. J., Steptoe, A., Brunner, E. J., & Marmot, M. G. (2001).

  Blood pressure reactions to acute psychological stress and future blood pressure status: A 10-year follow-up of men in the Whitehall II study. *Psychosomatic Medicine*, 63, 737-743.
- Cass, V.C. (1979). Homosexual identity formation: A theoretical model. *Journal of Homosexuality*, 4, 219-235.
- Center for Disease Control and Prevention. United Department of Health & Human Services (2001, June 1). Morbidity and Mortality Weekly Report. 50, 21.
- Chae, D. H., Takeuchi, D. T., Barbeau, E. M., Bennett, G. G., Lindsey, J., & Krieger, N. (2008). Unfair treatment, racial/ethnic discrimination, ethnic identification, and smoking among Asian Americans in the National Latino and Asian American study. American Journal of Public Health, 98,3; p. 485.
- Chida, Y., & Hamer, M. (2008). Chronic psychosocial factors and acute physiological responses to laboratory-induced stress in healthy populations: A quantitative review of 30 years of investigations. *Psychological Bulletin*, 134, 6. p. 829-885.
- Cochran, S.D., & Mays, V.M. (2007). Physical health complaints among lesbians, gay men, and bisexual and homosexually experienced heterosexual individuals: Results from the California quality of life survey. *Research and Practice*, 97, 11 p. 2048.

- Cole, S. W., Kemeny, M.E., Taylor, S. E., & Visscher, B. R. (1996a). Elevated physical health risk among gay men who conceal their homosexual identity. *Health Psychology*, 15, 243-251.
- Cole, S. W., Kemeny, M. E., Taylor, S. E., Visscher, B. R., & Fahey, J. L. (1996b).

  Accelerated course of human immunodeficiency virus infection in gay men who conceal their homosexual identity. *Psychosomatic Medicine*, 58, 219-231.
- Crawford, I., Allison, K. W., Zamboni, B. D., Soto, T. (2002). The influence of dual-identity development on the psychosocial functioning of African-American gay and bisexual men. *The Journal of Sex Research*, 39, 3; p.179.
- Cross, W.E. (1971). The Negro-to-Black conversion experience: Toward a psychology of Black liberation. *Black World*. 20, 13-17.
- Crossley, M. (2004). Making sense of barebacking: Gay men's narratives, unsafe sex, and the resistance habits. *British Journal of Social Psychology*, 43, 225-244.
- Cruess, D. G., Antoni, M. H., Kumar, M., & Schneiderman, N. (1999). Reductions in salivary cortisol are associated with mood improvement during relaxation training among HIV-seropositive men. *Journal of Behavioral Medicine*.23,2 p. 107.
- Davis, C. M., Yarber, W. L., Bauserman, R., Schreer, G., & Davis, S. L. (Eds.) (1998).Handbook of Sexuality-Related Measures. Thousand Oaks, CA: Sage Publications.
- DeAngelis, T. (2009). Life-saving outreach: University counseling centers are launching creative campaigns and retooling student services to prevent student suicides.

  Monitor on Psychology, 40, 8; p. 62.

- Dickerson, S. S., & Kemeny, M. E. (2004). Acute stressors and cortisol responses: A theoretical integration and synthesis of laboratory research. *Psychological Bulletin*, 130, 3. pp 355-391.
- Domes, G., Heinrichs, M., Reichwald, U., & Hautzinger, M. (2002). Hypothalmic-pituitary-adrenal axis reactivity to psychological stress and memory in middle-aged women:

  High responders exhibit enhanced declarative memory performance.

  Psychoneuroendocrinology, 27, 843-853.
- Dohrenwend, B. P. (2000). The role of adversity and stress in psychopathology: Some evidence and its implications for theory and research. *Journal of Health and Social Behavior*, 41; p. 1-19.
- Drescher, J. (2008). A history of homosexuality and organized psychoanalysis. *Journal of the American Academy of Psychoanalysis and Dynamic Psychiatry*, 36,3; p. 443.
- Elizur, Y., & Ziv, M. (2001). Family support and acceptance, gay male identity formation, and psychological adjustment: A path model. *Family Process.* 40, 2; p. 125.
- Embrick, D. G., Walther, C. S., & Wickens, C. M. (2007). Working class masculinity: Keeping gay men and lesbians out of the workplace. *Sex Roles*, 56, p. 757-766.
- Erisman, S. M., & Roemer, L. (2010). A preliminary investigation of the effects of experimentally induced mindfulness on emotional responding to film clips. *Emotion*, 10, 1, pp. 72-82.
- Espelage, D. L., & Swearer, S. M. (2008). Addressing research gaps in the intersection between homophobia and bullying. *School Psychology Review*, 37, 2; p. 155.

- Fahim, K. (2008, December 8). Bushwick Beating Is Investigated as Hate Crime [New York Times]. Retrieved from http://cityroom.blogs.nytimes.com/2008/12/08/bushwick-beating-is-investigated-as-hate-crime/
- Fassinger (1991). The hidden minority: Issues and challenges in working with lesbian and gay men. *Counseling Psychologist*, 19, 157.
- Fassinger, R.E. & Miller, B.A. (1996). Validation of an inclusive model of homosexual identity formation in a sample of gay men. *Journal of Homosexuality*, 32(2), 53-78.
- Feldman, R. S. (2007). Child Development (4th ed.). Upper Saddle River, NJ: Prentice Hall.
- Folkman, S., Chesney, M. A., Pollack, L., & Phillips, C. (1992). Stress, coping, and high-risk sexual behavior. *Health Psychology*, 11,4; p. 218-222.
- Frodl, T., Schaub, A., Banac, S., Charypar, M., Jager, M., Kummler, P. et. al. (2006).

  Reduced hippocampal volume correlates with executive dysfunctioning in major depression. *Journal of Psychiatry Neuroscience*, 31,5; p. 316-325.
- Godoy, M. (2009, September 1). State by state: The battle over gay marriage. *National Public Radio*. Retrieved from http://www.npr.org/templates/story/story.php?storyId=112448663.
- Gonsiorek, J. C., and Rudolph, J. R. (1991). Homosexual identity: Coming out and other developmental events. In J. C.Gonsiorek & J. D. Weinrich (eds.), *Homosexuality:*\*Research implications for public policy (p. 161-176). Newbury Park, CA: Sage.
- Grogan, S., Conner, M., & Smithson, H. (2006). Sexuality and exercise motivations: Are gay men and heterosexual women most likely to be motivated by concern about weight and appearance. *Sex Roles*. 55; p. 567-572.

- Grov, C., Bimbi, D. S., Nanin, J. E., & Parsons, J. T. (2006). Race, ethnicity, gender, and generational factors associated with the coming-out process among gay, lesbian, and bisexual individuals. *The Journal of Sex Research*. 43, 2; p. 115.
- Gruskin, E. P., Greenwood, G. L., Matevia, M., Pollack, L. M., & Bye, L. L. (2007).

  Disparities in smoking between the lesbian, gay, and bisexual population and the general population in California. *American Journal of Public Health*, 97,8; p. 1496.
- Habib, K., Gold, P., Chrousus, G. (2001). Neurocrindology of stress. *Endocrinological Metabolism Clinical North America*, 30, 695-728.
- Hardin, K. N. (1999). The gay and lesbian self-esteem book. New Harbinger Publications, Inc.: Oakland, CA.
- Hatzenbuehler, M.L., Nolen-Hoeksema, S., & Erickson, S.J. (2008). Minority stress predictors of HIV risk behavior, substance use, and depressive symptoms: Results from a prospective study of bereaved gay men. *Health Psychology*, 27, 4; p. 455-462.
- Hegna, K., & Rossow, I. (2007). What's love got to do with it? Substance use and social integration for young people categorized by same-sex experience and attractions.

  \*Journal of Drug Issues\*, 37, 2; p. 229.
- Henley, R. (2010). Resilience enhancing psychosocial programmes for youth in different cultural contexts: Evaluation and research. *Progress in Development Studies*, 10, 4; pp. 295–307.
- Herek, G. M. (1990). The context of anti-gay violence: Notes on cultural and psychological heterosexism. *Journal of Interpersonal Violence*, 5, 3; p. 316-333.

- Herek, G. M. (1995). Psychological heterosexism in the United States. In A. D'Augelli and C. Patterson (Eds.), Lesbian, gay, and bisexual identities over the lifespan:

  Psychological Perspectives (p. 321-346). Oxford, UK: Oxford University Press.
- Herek, G. M. (2004). Beyond "homophobia": Thinking about sexual prejudice and stigma in the twenty-first century. *Sexuality Research and Social Policy: Journal of NSRC*, 1(2), p.6-24.
- Herek, G. M. (2009). Hate crimes and stigma-related experiences among sexual minority adults in the United States: Prevalence estimates from a national probability sample.

  \*\*Journal of Interpersonal Violence\*, 24, 1; p. 54-74.
- Herek, G. M., Cogan, J. C., Gillis, J. R., & Glunt, E. K. (1998). 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., Gillis, J. R., & Cogan, J. C. (2009). Internalized stigma among sexual minority adults: Insights from a social psychological perspective. *Journal of Counseling Psychology*, 56, 1. 32-43.
- Herek, G. M., Gillis, J. R., Cogan, J.C., Glunt, E. K. (1997). Hate crime victimization among lesbian, gay, and bisexual adults: Prevalence, psychological correlates, and methodological issues. *Journal of Interpersonal* Violence, 22; p. 195.
- Herek, G. M., & Glunt, E. K. (1988). An epidemic of stigma: Public reactions to AIDS.

  American Psychologist, 43, 886-891.
- Herek, G. M., & Glunt, E. K. (1995). Identity and community among gay and bisexual men in the AIDS era: Preliminary findings from the Sacramento Men's Health Study. In G.

- M. Herek, & B. Greene (Eds.), AIDS, identity, and community: The HIV epidemic and lesbians and gay men (pp. 55-84). Thousand Oaks, CA: Sage.
- Herper, M. (2004, September). Money won't buy you happiness. *Forbes*. Retrieved from http://www.forbes.com/2004/09/21/cx\_mh\_0921happiness.html.
- Hill, T. D., Schroeder, R. D., Bradley, C., Kaplan, L. M., & Angel, R. J. (2009). The long-term health consequences of relationship violence in adulthood: An examination of low-income women from Boston, Chicago, and San Antonio. *Research and Practice*, 99, 9. p. 1645.
- Holder, J., & Vaux, A. (1998) African American professionals: Coping with occupational stress in predominantly white work environments. *Journal of Vocational Behavior*, 53, 315-333.
- Huebner, D. M., & Davis, M. C. (2005). Gay and bisexual men who disclose their sexual orientations in the workplace have higher workday levels of salivary cortisol and negative affect. *Annals Behavioral Medical*, 30, 3; p. 260-267.
- Huebner, D. M., & Davis, M.C. (2007). Perceived antigay discrimination and physical health outcomes. *Health Psychology*.26,5; p. 627-634.
- Human Rights Campaign (2008). HIV/AIDS & HRC. Retrieved from http://www.hrc.org/.
- Kapuku, G. K., Treiber, F. A., & Davis, H. C. (2002). Relationships among socioeconomic status, stress induces changes in cortisol, and blood pressure in African American males. *Annals of Behavioral Medicine*, 24, 320-325.
- Karlsen, S., & Nauoo, J.Y. (2002). Relation between racial discrimination, social class, and health among ethnic minority groups. *American Journal of Public Health*, 92, 624-631.

- Kinsey, A., Pomeroy, W., and Martin, C. (1948). *Sexual Behavior in the Human Male*. Philadelphia: W.B. Saunders.
- Kinsey, A., Pomeroy, W., Martin, C., and Gebhard, P. (1953). *Sexual Behavior in the Human Female*. Philadelphia: W.B. Saunders.Kitts, R. L. (2005). Gay adolescents and suicide: Understanding the association. *Adolescence*, 40, 159; p. 621.
- Kivlighan, K.T., & Granger, D.A. (2006). Salivary alpha amylase response to competition: Relation to gender, previous experience, and attitudes. *Psychoneuroendocrinology*, 31; p. 703-714.
- Knapp, D. E. (2008). Ready or not? Homosexuality, unit cohesion, and military readiness.

  Employee Responsibilities and Rights Journal, 20, 4. p. 227.
- Krieger, N. & Sidney, S. (1996). Racial discrimination and blood pressure: The CARDIA study of young Black and White adults. *American Journal of Public Health*, 86, 1370-1378.
- Kurdek, L. A. (2004). Are gay and lesbian cohabitating couples really different from heterosexual married couples? *Journal of Marriage and Family*, 66, 4. p. 880.Lawrence v. Texas, 539 U.S. 558 (2003).
- Lampien, T. M., Chan, K., Anema, A., Miller, M., Schilder, A. J., Schechter, M. T., Hogg, R. S., & Strathdee, S. A. (2008). Incidence of and risk factors for sexual orientation-related physical assault among young men who have sex with men. *American Journal of Public Health*, 98, 6. p. 1028.
- Langton, L. & Planty, M. (2011 June). Hate crime, 2003-2009. U.S. Department of Justice Office of Justice Programs Bureau of Justice Statistics. Retrieved from: http://bjs.ojp.usdoj.gov/content/pub/pdf/hc0309.pdf.

- Leserman, J., Petitto, J. M., Golden, R. N., Gaynes, B. N., Gu, H., Perkins, D. O., Silva, S. G., Folds, J. D., & Evans, D. L. (2000). Impact of stressful life events, depression, social support, coping, and cortisol on progressions to AIDS. *The American Journal of Psychiatry*, 157, 8 p. 1221.
- Levenstein, S., Prantera, C., Varvo, V., Scribano, M.L., Berto, E., Andreoli, A., & Luzi, C. (2008). Psychological stress and disease activity in ulcerative colitis: A multidimensional cross-sectional study. *The American Journal of Gastroenterology*, 89,1219-1225.
- Lewis, R. J., Derlega, V. J., Griffin, J. L., & Krowinski, A. C. (2003). Stressors for gay men and lesbians: Life stress, gay-related stress, stigma consciousness, and depressive symptoms. *Journal of Social and Clinical Psychology*, 22, 6 p. 716.
- Lobaugh, E. R., Clements, P. T., Averill, J. B., & Olguin, D. L. (2006). Gay-male couples who adopt: Challenging historical and contemporary trends toward becoming a family. *Perspectives in Psychiatric Care*, 42, 3. p. 184.
- Lynch, T. R., Trost, W. T., Salsman, N., & Linehan, M. M. (2007). Dialectical behavioral therapy for borderline personality disorder. *Annual Review of Clinical Psychology*, 3, pp. 181-205.
- MacGillivray, I.K. (2000). Educational equity for gay, lesbian, bisexual, transgendered, and queer/questioning students: the demands of democracy and social justice for America's schools. *Ed Urban Society*, 32, 3; 303-323.
- Matthews, K. A., Gump, B. B., & Owens, J. F. (2001). Chronic stress influences cardiovascular and neuroendocrine responses during acute stress and recovery, especially in men. *Health Psychology*, 20, 6. p. 403-410.

- McCarn, S.R., & Fassinger, R.E. (1996). Revisioning sexual minority identity formation: A new model of lesbian identity and its implications for counseling and research. *The Counseling Psychologist*, 24, 3; p.508-534.
- McNeil, D. G. (2009, September 25). For the first time, AIDS vaccine shows some success.

  The New York Times. Retrieved from

  http://www.nytimes.com/2009/09/25/health/research/25aids.html?scp=3&sq=aids%2

  Oseptember%2025&st=cse.
- 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, 5; p. 674-697.
- Meyer, I. H., Dietrich, J., & Schwartz, S. (2008). Lifetime prevalence of mental disorders and suicide attempts in diverse lesbian, gay, and bisexual populations. *Research and Practice*. 98,6; p.1004.
- Mohr, J., & Fassinger, R. (2000). Measuring dimensions of lesbian and gay male experience.

  Measurement and Evaluation in Counseling and Development, 33,2, p. 66.
- Morrow, S. L. (2000). First do no harm: Therapist issues in psychotherapy with lesbian, gay, and bisexual clients. In R.M. Perez, K.A. DeBord, and K.J. Bieschke (Eds.), *Handbook of Counseling and Psychotherapy with Lesbian, Gay, and Bisexual Clients* (p. 137-156). Washington, DC: American Psychological Association.
- Nance, J. C. (2008). Measuring levels of stress, anxiety, and depression from sexual orientation indentity, internalized homophobia, level of outness, and marital

- satisfaction within the population of men in heterosexual marriages who choose to engage in sexual activities with other men (Doctoral Dissertation). Retrieved from Dissertation and Theses Database. (UMI Number: 3305960).
- National Coalition for the Homeless (2009). *LGBTQ Homelessness*. Retrieved from http://www.nationalhomeless.org/factsheets/lgbtq.html.
- National Gay and Lesbian Task Force (2008). *Anti-Adoption Laws in the U. S.* Retrieved from http://www.thetaskforce.org/.
- National Institute of Mental Health (NIMH, 2008). *Mental Health Service Use/Treatment Among U. S. Adults* (2004–2008). Retrieved from: http://www.nimh.nih.gov/statistics/3USE\_MT\_ADULT.shtml.
- O'Connell, M. & Lofquist, D. (2009). Counting same-sex couples: Official estimates and unofficial guesses. Paper presented at the Annual meeting of the Population Association of America, Detroit, Michigan, April 30-May 2, 2009.
- Office of the Surgeon General. Surgeon General's Call to Action to Promote Sexual Health and Responsible Sexual BehaviorAt-A-Glance: The Public Health Problem.

  Retrieved from http://www.surgeongeneral.gov/library/sexualhealth/glancelist.PDF.
- Olson, L. R., Cadge, W., & Harrison, J. T. (2006). Religion and public opinion about samesex marriage. *Social Science Quarterly*, 87, 2, 340.
- Ortner, C. N. M., Kilner, S. J., & Zelazo, P. D. (2007). Mindfulness meditation and reduced emotional interference on a cognitive task. *Motivation and Emotion*, 31, 271–283.
- Oswald, R. F. (2002). Resilience within the family networks of lesbians and gay men: Intentionally and redefinition. *Journal of Marriage and Family*, 64, 374.

- Ray, N. (2006). Lesbian, gay, bisexual and transgender youth: An epidemic of homelessness.New York: National Gay and Lesbian Task Force Policy Institute and the NationalCoalition for the Homeless.
- Resilience. 2011. In *Merriam-Webster.com*. Retrieved, from http://www.merriam-webster.com/dictionary.
- Riggle, E. D., Whitman, J. S., Olson, A., Rostosky, S. S., & Strong, S. (2008). The positive aspects of being a lesbian or gay man. *Professional Psychology: Research and Practice*. 39, 2; p. 210-217.
- Rockloff, M. J., Signal, T., & Dyer, V. (2007). Full of sound and fury, signifying something:

  The impact of autonomic arousal on EGM gambling. *Journal of Gambling Studies*, 23;
  p. 457-465.
- Rosario, M., Schrimshaw, E.W., & Hunter, J. (2006). A model of sexual risk behaviors among young gay and bisexual men: Longitudinal associations of mental health, substance abuse, sexual abuse, and the coming-out process. *AIDS Education and Prevention*, 18, 5; p. 440-460.
- Rosario, M., Schrimshaw, E. W., Hunter, J. & Gwadz, M. (2002). Gay-related stress and emotional distress among gay, lesbian, and bisexual youths: A longitudinal study. *Journal of Consulting and Clinical Psychology*, 40, 4; p. 967-975.
- Rosenberg M. (1965). Society and the adolescent self-image. Princeton, NJ: Princeton University Press.
- Rosotsky, S. S., Korfhage, B. A., Duhigg, J. M., Stern, A. J., Bennett, L., & Riggle, E.D. (2004). Same-sex couples' perceptions of family support: A consensual qualitative study. *Family Process.* 43, 1. p. 43.

- Rosotsky, S. S., Riggle, E. D. B., Gray, B. E., & Hatton, R. (2007). Minority stress experiences in committed same-sex couple relationships. *Professional Psychology:* Research and Practice, 38, 4; p. 392-400.
- Rosotsky, S. S., Riggle, E.D. B., Horne, S. G., & Miller, A. D. (2009). Marriage amendments and psychological distress in lesbian, gay, and bisexual (LGB) adults. *Journal of Counseling Psychology*, 56, 1; p. 56-66.
- Ross, M. W., Rosser, S., & Neumaier, E. R., & the Positive Connections Team (2008). The relationship of internalized homonegativity to unsafe sexual behavior in HIV-seropositive men who have sex with men. AIDS Education and Prevention, 20, 6. p. 547.,
- Rosser, B. S., & Ross, M. W. (1989). A gay life events scale (GALES) for homosexual men.

  Journal of Gay and Lesbian Psychotherapy, 1, 2. p. 87.
- Sandfort, T. G. M., Bakker, F., Schellevis, F. G., & Vanwesenbeeck, I. (2006). Sexual orientation and mental and physical health status: Findings from a Dutch population survey. *Research and Practice*, 96, 6; p. 1119.
- Savin-Williams, R. C. (2008). Then and now: Recruitment, definition, diversity, and positive attributes of same-sex couples. *Developmental Psychology*, 44, 1. p. 135.
- Schoofs, M. (2010, July 8). Antibody kills 91% of HIV strains. The Wall Street Journal.
- Shernoff, M. (2006). Condomless sex: Gay men, barebacking, and harm reduction. *Social Work*, 51, 2; p. 106.
- Shidlo, A. (1994). Internalized homophobia: Conceptual and empirical issues in measurement. In B. Greene & G. M. Herek (Eds.), *Lesbian and Gay Psychology:*

- Theory, Research, and Clinical Implications. (pp. 176-205). Thousand Oaks, CA: Sage.
- Smith, E. A., Thomson, K., Offen, N., & Malone, R. E. (2008). "If you know you exist, its just marketing poison": Meanings of tobacco industry targeting in the lesbian, gay, bisexual, and transgender community. *American Journal of Public Health*, 98, 6. p. 996.
- Stress. 2011. In *Merriam-Webster.com*. Retrieved, from http://www.merriam-webster.com/dictionary.
- Suicide Awareness, Prevention, and Support. (2005). [Table]. U.S. Suicide Statistics (2005):

  Breakdown by Gender/Ethnicity/Young/Old Age Groups. Retrieved from

  http://www.suicide.org/suicide-statistics.html#2005.
- Sweet, E., McDade, T.W., Kiefe, C.I., & Liu, K. (2007). Relationships between skin color, income and blood pressure among African Americans in the CARDIA study.
  American Journal of Public Health, 97,2253-2259.
- Swim, J. K., Johnston, K., & Pearson, N. B. (2009). Daily experiences with heterosexism: Relations between heterosexist hassles and psychological well-being. *Journal of Social and Clinical Psychology*, 28, 5. p. 597-629.
- Szymanski, D. M. (2006). Does internalized heterosexism moderate the link between heterosexist events and lesbians' psychological distress? *Sex Roles*, 54, p. 227-234.
- Szymanksi, 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, 1; p. 142-151.

- Szymanksi, D. M., Kashubeck-West, S., and Meyer, J. (2008). Internalized heterosexism.

  The Counseling Psychologist, 36, 4, p. 510.
- Tennant, C., & Andrews, G. (1976). A scale to measure the stress of life events. Australian and New Zealand Journal of Psychiatry, 10, 27-32.
- Uchino, B. N., Holt-Lunstad, J., Bloor, L. E., & Campo, R. A. (2005). Aging and cardiovascular reactivity to stress: Longitudinal evidence for changes in stress reactivity. *Psychology and Aging*, 20, 1, p. 134-143.
- Ueno, K. (2005). Sexual orientation and psychological distress in adolescence: Examining interpersonal stressors and social processes. Social Psychology Quarterly, 68, 3; p. 258.
- United States Census Bureau (2008). [Table] *Marriage Statistics*. Retrieved from http://www.census.gov/
- Utsey, S. O., Ponterotto, J. G., & Porter, J. S. (2008). Prejudice and racism, year 2008—still strong: Research on reducing prejudice with recommended methodological advances.

  \*Journal of Counseling and Development, 86, 3; p.339.
- van Stegeren, A. H., Wolf, O. T., & Kindt, M. (2008). Salivary alpha amylase and cortisol responses to different stress tasks: Impact of sex. *International Journal of Psychophysiology*. 69; p. 33-40.
- van Veen, J. F., van Vliet, I. M., DeRijk, R. H., van Pelt, J., Mertens, B., & Zitman, F. G. (2008). Elevated alpha amylase but not cortisol in generalized social anxiety disorder. *Psychoneuroendocrinology*, (2008), doi:10.1016/j.psyneuen.2008.07.004.

- Waldo, C. R. (1999). Working in a majority context: A structural model of heterosexism as minority stress in the workplace. *Journal of Counseling Psychology*, 46, 2. p. 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.
- Weber, G.N. (2008). Using to numb pain: Substance use and abuse among lesbian, gay, and bisexual individuals. *Journal of Mental Health Counseling*. 30,1; p. 31.
- Weinberg, G. (1972). Society and the healthy homosexual. New York: St. Martin's Press.
- Weston, G. (April, 2009). HIV is serious, but not critical? It depends on who you ask.

  Washington Informer, 45, 26; p. 26.
- Witte, R.S. & Witte, J.S. (2007). Statistics (8" ed.). New York: Harcourt Brace College Publishers.
- World Health Organization (2009). UNAIDS Fact Sheet. Retrieved from www.unaids.org.
- Yamaguchi, M., Kanemaru, M., Kanemori, T., Mizuno, Y., & Yoshida, H. (2003). Salivary amylase activity monitor used for stress evaluation. *Proceedings of the 25<sup>th</sup> Annual International Conference of the IEEE EMBS*, Sept. 17-21.
- Zamboni, B.D., & Crawford, I. (2007). Minority stress and sexual problems among African-American gay and bisexual men. *Archives of Sexual Behavior*. 36; p. 569-578.
- Zellner, J. A., Martinez-Donate, A. P., Sanudo, F., Fernandez-Cerdeno, A., Sipna, C. L., Hovell, M. F., and Carrillo, H. (2009). The interaction of sexual identity with sexual behavior and its influence on HIV risk among Latino men: Results of a community

survey in Northern San Diego County, California. *Research and Practice*, 99, 1. p. 125.

# Appendix A

# **Background Information**

Participant ID:	Researc	:her:	Date:
Please fill in the info	rmation below:		
<b>DEMOGRAPHICS</b>			
Date of Birth	Ha	ndedness:	
Age: (in years)	Height	Weight:	
Gender:MaleTi	rangenderedFen	nale	
Sexual Orientation:Gay	Bisexual	MSM	
Race/Ethnicity (check all that apply)	:WhiteBlack or African AHispanic or LatinoAsianAmerican Indian ofNative Hawaiian ofOther	or Alaskan Native or Other Pacific Islan	nder
Do you practice or ic	lentify with a religion	?YesNo	
If Yes, which	religion?		
Relationship Status:In a relationship	Married (U	nion)Single	
Length of rela	ationship (in months):_		
If you are in aMale	a relationship, what isTransgendered	your partner's genFemale	der:
Mc	a relationship, how wo pnogamous ner	Open (Non-mon	
Current Employmen		full time	student

employed part time	;				part time stu	dent
not employed				retired		
other					***	
Approximate househo	old incor	ne:				
Below 20K			61-80	)K		
21-40K	_	81-10	)0K			
41-60K	_	Over	100K			
Highest level of educa	tion con	npleted	:			
Grammar School	_	Colle	ege Deg	gree		
Middle School		Grad	luate De	egree		
High School		Post-	-gradua	te Degree		
DIIVOICAI IIEAI TI	т					
PHYSICAL HEALTI	1					
Have you, your	mother, o	or father	been di	iagnosed w	ith, or receiv	ed treatment
for any of the fol	lowing c	ondition	s withir	ı the last 6		
						ease circle the
					appropri	ate # below:
				You	Mother	Father
High Blood Pr	essure	Yes	No	1	1	1
Stroke		Yes	No	$\tilde{2}$		
Diabetes		Yes	No	$\overline{3}$	2 3	2 3
Hypertension		Yes	No	4	4	4
Depression		Yes	No	5	5	5
Anxiety Disor	der	Yes	No	6	6	6
Schizophrenia		Yes	No	7	7	7
ADHD		Yes	No	8	8	8
Seizures/Epile	psy	Yes	No	9	9	9
Obsessive-	,	Yes	No	10	10	10
Stroke/TIA		Yes	No	11	11	11
Cancer		Yes	No	12	12	12
Cushing's Syn	drome	Yes	No	13	13	13
Fibromyalgia		Yes	No	14	14	15
Rheumatoid A	rthritis	Yes	No	15	15	15
Please answer the foll	owing a	uestion	s as bes	it von can	l.	
	•			•	•	
How often do you hav	e a drin	k conta	ining c	affeine?		
Never 1	Daily	W	eekly		Monthly	>Monthly
If so, when was	the last	time yo	u used i	it?		
How often do you smo	oke ciga	rettes?				
•	Ū		Zaalsler		Manthle	N.Mamelila
Never I	Daily	M	/eekly		Monthly	>Monthly

If so, when	n was the last t	ime you used it?		
How often do you	u smoke marij	juana?		
Never	Daily	Weekly	Monthly	>Monthly
If so, when	n was the last t	ime you used it?		
low often do you	u have a drink	containing alcoho	1?	
Never	Daily	Weekly	Monthly	>Monthly
If so, when low often do you		ime you used it?		
Never	Daily	Weekly	Monthly	>Monthly
If so, wher	n was the last t	ime you used it?		
ther:			MATHEMATINA AND AND AND AND AND AND AND AND AND A	
Never	Daily	Weekly	Monthly	>Monthly
If so, when	n was the last t	ime you used it?		
veek?	well rested de	do you sleep per nig o you feel (1= well n		per
IENTAL HEAI	<u>.TH</u>			
lave you been d	iagnosed with	mental health con	dition:Yes	_No
If yes, plea	ise explain:			
o you see a ther	apist:Yes	No Couple	es counseling:	esNo
EXUALITY				
re you open abo	out your sexua	ality and living "ou	tside of the closet'	??
Vec No	Cometimes			

If Yes, how long have you been living out of the closet:											
Are you open about your sexuality in the workplace?Y	esNoSometimes										
Are you open about your sexuality with your family?YesNoSome											
To whom did you first disclose your sexuality?											
ParentsSiblingsFriendsCoworkersOthe	r										
How would you describe your "coming out" process:											
PositiveNegativeMixedUneventfulOth	er										

# Appendix B

# Gay Identity Questionnaire (Brady & Busse, 1994)

Directions: Please read the following statements carefully and then circle whether you feel the statements are true (T) or false (F) for you at this point in time. A statement is circled as true if the entire statement is true; otherwise, it is circled as false.

1. I probably am sexually attracted equally to men and women.	True	False
2. I live a homosexual lifestyle at home, while at work/school I do not	T	F
want others to know about my lifestyle.		
3. My homosexuality is a valid private identity, that I do not want made	T	F
public.		
4. I have feelings I would label as homosexual.	Т	F
5. I have little desire to be around most heterosexuals	T	F
6. I doubt that I am homosexual, but still am confused about who I am sexually.	T	F
7. I do not want most heterosexuals to know that I am definitely	T	F
homosexual	*	*
8. I am very proud to be gay and make it known to everyone around me.	T	F
9. I don't have much contact with heterosexuals and cant say that I miss it.	T	F
10. I generally feel comfortable being the only gay person in group of	T	F
heterosexuals.	*	1
11. I'm probably homosexual, even though I maintain a heterosexual	Т	F
image in both my personal and public life.	*	1
12. I have disclosed to 1 or 2 people (very few) that I have homosexual	T	F
feelings, although I'm not sure I'm homosexual.	1	•
13. I am not as angry about treatment of gays because even though I've	Т	F
told everyone about my gayness, they have responded well.		
14. I am definitely homosexual, but I do not share that knowledge with	Т	F
most people.		
15. I don't mind if homosexuals know that I have homosexual thoughts	T	F
and feelings, but I don't want others to know.		
16. More than likely I'm homosexual, although I'm not positive about it	Т	F
yet.		
17. I don't act like most homosexuals do, so I doubt that I'm homosexual.	Т	F
18. I'm probably homosexual, but I'm not sure yet.	T	F
19. I am openly gay and fully integrated into heterosexual society.	Т	F
20. I don't think that I'm homosexual.	T	F
21. I don't feel as if I'm heterosexual or homosexual.	Т	F
22. I have thoughts I would label as homosexual.	Т	F
23. I don't want people to know that I may be homosexual, although I'm	T	F
not sure if I am homosexual or not.		
24. I may be homosexual and I am upset at the thought of it.	Т	F
25. The topic of homosexuality does not relate to me personally.	Т	F

26. Getting in touch with homosexuals is something I feel I need to do,	T	F
even though I'm not sure I want to.		
28. I have homosexual thoughts and feelings but I doubt that I'm	T	F
homosexual.		
29. I dread having to deal with the fact that I may be homosexual.	T	F
30. I am proud and open with everyone about being gay, but it isn't the	Т	F
major focus of my life.		
31. I probably am heterosexual or non-sexual.	T	F
32. I am experimenting with my same sex, because I font know what my	T	F
sexual preference is.		
33. I feel accepted by homosexual friends and acquaintances, even though	Т	F
I'm not sure I'm homosexual.		
34. I frequently express thoughts to others, anger over heterosexuals'	T	F
oppression of me and other gays.		
35. I have not told most of the people at work that I am definitely	T	F
homosexual.		
36. I accept but would not say I am proud of the fact that I am definitely	T	F
homosexual.		
37. I cannot imagine sharing my homosexual feelings with anyone.	T	F
38. Most heterosexuals are not credible sources of help for me.	T	F
39. I am openly gay around heterosexuals.	Т	F
40. I engage in sexual behavior I would label as homosexual.	T	F
41. I am not about to stay hidden as gay for anyone.	Т	F
42. I tolerate rather than accept my homosexual thoughts and feelings.	Т	F
43. My heterosexual friends, family, and associates think of me as a	T	F
person who happens to be gay, rather than as a gay person.	1	
44. Even though I am definitely homosexual, I have not told my family.	T	F
45. I am openly gay with everyone, but it doesn't make me feel all that	T	F
different from heterosexuals.	1	1
distribut from heteropyanis.		

# Appendix C

# Gay Affects and Life Events Inventory Items

This questionnaire is confidential. Please do NOT place your name anywhere on the form.

This questionnaire has three parts:

(A) EMOTIONAL DISTRESS: "Amount of emotional distress" refers to the *amount of emotional feeling caused by the event*, regardless of the desirability of the event. Thus, emotional distress is about how much you would feel distressed with this event occurring in your life (whether or not you see the event to be good or bad).

You are asked to rate a series of life events as to their relative degrees of emotional distress. In scoring, use all of your experience in arriving at your answer. This means personal experience as well as what you have learned to be the case for others.

The mechanics of the rating are these: The statement: "You had a serious non-fatal illness, injury or operation needing hospitalization or a month or two off work," has been given an arbitrary value of 10 on a scale of 0 (no emotional distress) to 20 (maximum emotional distress). As you complete each of the remaining events think to yourself, "Is this event more or less emotionally distressing than a serious illness?" If you decide the emotional distress is more, then choose a *larger* number and place it in the blank opposite the event in the column marked "ED" (for emotional distress). If you decide the event represents less than a major illness, then indicate how much less by placing a *smaller* number in the opposite blank. If the event is *equal* in emotional distress to a serious illness, record the number 10 opposite the event.

PLEASE COMPLETE'COLUMN "ED" NOW.

(B) LIFE CHANGE: "Extent of Life Change" refers to the amount of change in lifestyle and behavior caused by the event. As such, it measures both the intensity and the length of time necessary to accommodate to a life event, regardless of the desirability of the event. Thus, extent of life change is about how much and how long it would take you to adjust to this event occurring in your life (whether or not you see the event to be good or bad). You are asked to rate a series of life events as to their relative degrees of life change. In scoring use all of your experience as well as what you have learned to be the case for others.

The mechanics of the rating are these: The statement: "You had a serious non-fatal illness, injury or operation needing hospitalization or a month or more off work," has been given an arbitrary value of 10 on a scale of 0 (no life change) to 20 (maximum life change). As you complete each of the remaining events think to yourself, "Would this event require more or less life change than a serious illness?" "Would the adjustment take longer or shorter to accomplish?" If you decide the readjustment is more intense and protracted, then choose a larger number and place it in the blank directly opposite the event in the column marked "LC" (for life change). If you decide the event represents less and shorter readjustment than a major illness, then indicate how much less by placing a smaller number in the opposite blank. (If an event requires an intense readjustment over a short time span, it may approximate in value an event requiring less intense readjustment over a long period of time.) If the event is equal in readjustment to a serious illness, record the number 10 opposite the event.

Please note that some events may require a lot of life change but not much emotional distress. Other events may require little actual change of lifestyle and behavior but accompany much emotional distress. Finally, there may be sonic events that have an equal amount of change of lifestyle and emotional distress. Therefore, please do not refer to your answers in part A (about emotional distress) when filling in part B (about life change).

## PLEASE COMPLETE COLUMN "LC" NOW.

(C) EXPERIENCE: Once more please go through the questionnaire and place an "X" (for experience) in the column marked "X" beside any event that has occurred in your life. Please note that all questionnaires are confidential, so do NOT place your name anywhere on the form. Finally, please fill out the questions on the final page.

# **QUESTIONS**

## **HEALTH**

- You had a minor illness or injury like one needing a visit to the doctor or a couple of days off work
- 2. A close relative had a serious illness (from which they did not (lie)

#### **BEREAVEMENT**

- 3. Your lover died
- 4. A close family member died (e.g., parent, brother, etc.)

Close friend or relative died (e.g., aunt, uncle, grandparent, cousin, etc.)

#### RELATIONAL

- 6. Your relationship with your lover ended (not because of outside factors like having to leave the country or death)
- 7. There has been a marked improvement in the way you and your lover are getting on
- 8. There have been increasingly serious arguments with your lover
- 9. You have been separated from your lover for more than a month for reasons other than relationship difficulties
- 10. You began a steady relationship with another man
- 11. You have been separated from your lover for more than a month because of relationship difficulties

#### FRIENDS AND RELATIVES

- 12. There has been a serious increase in arguments or problems with someone who lives at home (excluding a lover/partner)
- 13. You have been separated from someone important to you (other than your partner or close family members)
- 14. There have been serious problems with a close friend, neighbor or relative not living at home
- 15. There has been a marked improvement in the way you get on with someone close to you (excluding your lover/partner)
- 16. A new person came to live in your household

#### **EDUCATION**

- 17. You failed an important exam
- 18. You completed your training program
- 19. You studied for, or did, important exams
- 20. You dropped out of your training program
- 21. You started a course (i.e., university, college, apprenticeship or other occupational training course)

#### WORK

- 22. You began to have trouble or disagreements with your boss, supervisor or fellow workers
- 23. You started in a completely different type of job
- 24. You were sacked
- 25. You were downgraded or demoted at work
- 26. You were promoted
- 27. You had a big change in the hours you worked
- 28. You had holidays for a week or more
- 29. You have been unemployed and seeking work for a month or more

- 30. You had a big change in the people, duties or responsibilities in your work MOVING HOUSE
  - 31. You moved house (flat, etc.) in the city (town, etc.) where you work
  - 32. You moved to this city (town, etc) from elsewhere in the country
  - 33. You moved to this city (town, etc.) from overseas

## FINANCIAL AND LEGAL

- 34.. You are much better off financially
  - 35. Something you valued or cared for greatly was stolen or lost
  - 36. You had a jail sentence or were in prison
  - 37. You had moderate financial difficulties
  - 38. You had important problems with the police or the authorities (not related to your sexuality) leading to a court appearance
  - 39. You had a major financial crisis
  - 40. You had minor difficulties with the police or the authorities (e.g., speeding fine, etc.) which did not require a court appearance nor was related to your sexuality • -
  - 41. You were involved in a traffic accident that carried serious risk to the health or life of yourself

#### **SEXUALITY**

- 42. You admitted to yourself that you could be/were gay/bisexual
- 43. You came out to a member of your immediate family (e.g., parents, wife, child, etc.)
- 44. You told someone else that you were gay/bisexual
- 45. You went to a beat/gay nightclub/bath etc. for the first time
- 46. You came out to your workmates

#### **GAY LIFESTYLE**

- 47. A close family member/friend/workmate who is not gay found out you are gay
- 48. Somebody tells an anti-gay joke in your presence
- 49. You have to live/work/socialize with someone who is homophobic (i.e., unaccepting of gay people)
- 50. You were beaten up, physically abused or arrested because you were gay
- 51. You were hassled or verbally threatened by another(s) because you were gay
- 52a. You had safe sex before you knew about AIDS
- 52b. You had safe sex after you knew about AIDS
- 53a. You had unsafe sex before you knew about AIDS
- 53b. You had unsafe sex after you knew about AIDS

### **DISEASE**

- 54. You decided to have an HIV (AIDS) test
- 55. You find out your lover has the AIDS virus
- 56. You find out a person with whom you had a sexual encounter or relationship has the AIDS virus
- 57. You find out a close friend of yours (not a lover) has an AIDS-related condition
- 58. You find out your lover has AIDS
- 59. You found out you had a sexually transmitted disease (e.g., syphilis:, gonorrhea)
- 60. You went for an HIV (AIDS) test and were told you did not have the virus
- 61. Your doctor told you you have an AIDS-related condition
- 62. You went for an HIV (AIDS) test and were told you have been in contact with the virus (antibody positive)

- 63. Your doctor told you you have AIDS
- 64. You get some symptoms similar to those who get AIDS (swollen glands, diarrhea, etc.)
- 65. You decided not to take an HIV (AIDS) test
- 66. You find out an acquaintance has an AIDS-related condition

You have reached the end of the questionnaire. Please place a tick in the box corresponding to the instructions you have finished:.

I have finished part A (1

(Now please go back and read part B).

I have finished part B [] (Now please so back and read part C).

111

- Otis, M. D., Rostosky, S. S., Riggle, E. D. B., & Hamrin, R. (2006). Stress and relationship quality in same-sex couples. *Journal of Social and Personal Relationships*, 23,1; p. 81.
- Parrott, D. J., Peterson, J. L., Vincent, W., & Bakeman, R. (2008). Correlates of anger in response to gay men: Effects of male gender role beliefs, sexual prejudice, and masculine gender role stress. *Psychology of Men and Masculinity*, 9, 3; p. 167-178.
- Parrott, D. J. & Zeichner, A. (2005). Effects of sexual prejudice and anger on physical aggression toward gay and heterosexual men. *Psychology of Men & Masculinity*, 6, 1; p.3-17.
- Phellas, C. N. (1999). Sexual and ethnic identities of Anglo-Cypriot men residents in London who have sex with men. *Dissertation Abstracts International, C: Worldwide,* 60, 559-C-560-C.
- Ploderi, M., & Fartacek, R. (2005). Suicidality and associated risk factors among lesbian, gay, and bisexual compared to heterosexual Austrian adults. *Suicide & Life-Threatening Behavior*, 35,6; p. 661.
- Powers, S. I., Pietromonaco, P. R., Gunlicks, M., & Sayer, A. (2006). Dating couples' attachment styles and patterns of cortisol reactivity in response to relationship conflict.

  \*\*Journal of Personality and Social Psychology. 90, 4: p.613-628.

# N.B.: PLEASE MAKE SURE YOU HAVE FILLED IN PARTS A, B, AND C BEFORE STARTING THIS PAGE.

P	LF	A	SE	FII	Ι.	IN	THE	FO	LIC	.(	X(	IT	N(	71	IN	F	)R	M.	ΑТ	10	N	1 /	R	0	רוז	۲,	70	H	R	SF	I	F٠

- 1. Age:
- 2. Gender: Male / Female

For the next two questions, please use the following scale:

- 0. Exclusively heterosexual (straight) with no homosexual (gay).
  - 1. Predominantly heterosexual, only incidentally homosexual.
  - 2. Predominantly heterosexual, but more than incidentally homosexual.
  - 3. Equally heterosexual and homosexual.
  - 4. Predominantly homosexual, but more than incidentally heterosexual.
  - 5. Predominantly homosexual, only incidentally heterosexual.
  - 6. Exclusively homosexual. .
  - X. Don't know, refuse to answer.
  - 3. In the last three years, my sexual relationships have been\_\_\_\_\_
  - 4. In the last three years, I have felt or consider myself to be\_\_\_\_\_
- 5. Are you currently in a monogamous relationship (i.e., a relationship with only one sexual partner where both of you do not have sex with anyone else)? Ycs / No If yes, for how long have you been in this relationship? months/years \_\_\_\_/\_\_\_
  - 6. Ethnic Background: (tick one only)

Australian []

Aboriginal []

European []

Mediterranean[]

NZ Maori []

NZ Pakeha []

Pacific Islander []

African []

Asian []

American/Canada []

Other []

Thank you for answering this questionnaire.

# Appendix D

# Internalized Homophobia (IHP) Scale Items

Men's Version

	r each of the following statements, mark the response that best indicated person. Please be as honest as possible in your responses.	es your experiences as a
Strong		gly Agree
1.	1I have tried to stop being attracted to men in general.	
2.	2If someone offered me the chance to be completely heteros	exual, I would accept
	the chance.	
3.	3I wish I weren't gay/bisexual.	
4.	4I feel that being gay/bisexual is a personal shortcoming for	me.
5.	5I would like to get professional help in order to change my	sexual orientation from
	gay/bisexual to straight.	
6.	6I have tried to become more sexually attracted to women.	
7.	7I often feel it best to avoid personal or social involvement v	with other gay/bisexual
	men.	
8.	8I feel alienated from myself because of being gay/bisexual.	
9.	9I wish that I could develop more erotic feelings about wom	en.

# Appendix E

# Rosenberg Self-Esteem Scale (Rosenberg, 1965)

Instructions: Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle SA. If you agree with the statement, circle A. If you disagree, circle D. If you strongly disagree, circle SD.

1.	On the whole, I am satisfied with myself.	SA	Α	D	SD
2.	At times, I think I am no good at all.	SA	Α	D	SD
3.	I feel that I have a number of good qualities.	SA	Α	D	SD
4.	I am able to do things as well as most other people.	SA	Α	D	SD
5.	I feel I do not have much to be proud of.	SA	Α	D	SD
6.	I certainly feel useless at times.	SA	Α	D	SD
7.	I feel that I'm a person of worth, at least on an equal plane with others.	SA	Α	D	SD
8.	I wish I could have more respect for myself.	SA	Α	D	SD
9.	All in all, I am inclined to feel that I am a failure.	SA	Α	D	SD
10.	I take a positive attitude toward myself.	SA	Α	D	SD

# Appendix F

## Transcription of Heterosexist Vignette

Bill O'Reilly says...

Bill O'Reilly: I think everybody's got to relax will all of this gay stuff.

Two months later...

**Bill O'Reilly**: We're also going to tell you about um uh Harry Potter and the gay agenda. Apparently that's uh going on.

the hypocrisy begins.

Harry Potter: I don't know what happened tonight and I don't know why.

Bill O'Reilly: Also, the gay agenda and Harry Potter... If J.K. Rowling wanted to make the character gay why didn't she just make the character gay? She'd just make the character gay, rather than going to Carnegie Hall in New York? And you were in the audience, and announcing that he's gay. I don't get the strategy, is it just publicity? She did it to provoke. I think this is a provocateur, this woman is a provocateur... Now many a parents are worried in America about the gay agenda and indoctrination of their children to see homosexuality in a certain way. That debate is raging all over the country... There are millions of Americans who feel that the media and the educational system are trying to indoctrinate their children to a certain way of life, and that includes parody for homosexuals with heterosexuals. And that is what this Rowling thing is all about, because she sells so many books, so many kids read it, that she comes out and says, "Oh, Dumbledore is gay and that's great," and it's another in the indoctrination thing. That's what the belief system is amongst some Americans. (00:20-01:20)

**Dennis Miller:** Bill...I'll be honest with you. I don't think you can indoctrinate a kid into being gay. You might indoctrinate him into trying it and going "I guess I'm not gay."

Bill O'Reilly: No, but its tolerance. Yeah, he's not gonna be gay, but its tolerance of it.

And continues.

**Laura Berman:** You'd be okay with the cutest couple heterosexual couple though.

**Bill O'Reilly:** I would be because that is the norm of society. See, it's the same gay marriage thing. You have a 6% option here. Ah, homosexuals, according to research are 6% of the population. And, if you were basing... (1:33-1:43)

Laura Berman: But since minorities...

Bill O'Reilly: What?

Laura Berman: But since African Americans are a minority, would you have a problem with an

African American heterosexual couple as the cutest couple?

Bill O'Reilly: No because Af...because race is not conduct. There's a difference between

who you are and what you do.(1:50-1:56)

And continues.

**Narrator:** Is the media celebrating gay culture? Inside Rosie's family cruise...

Bill O'Reilly: Back of the book segment tonight. There's no question that some powerful

forces in American want to mainstream the gay lifestyle, and now you can decide whether that's a good or a bad thing because it's all on the table.

(2:05-2:14)

**Woman:** I don't have a problem with this.

Bill O'Reilly: Even when the mainstreaming now has become fairly intrusive.

You know, you look at television or you pick up the newspaper and you know.

(2:16-2:25)

**Woman:** Is it really intrusive Bill though?

**Bill O'Reilly:** To some people.

"There's a difference between who you are and what you do." "good or bad thing" "parity for homosexuals" "gay stuff"...

**Bill O'Reilly:** I think everybody's got to relax with all this gay stuff. (2:40-2:43)

Not feeling relaxed? Go to mediamatters.org/billophobia to take action today.