Attachment Anxiety and Internalized Heterosexism as Mediators of Discrimination and Depression, Anxiety, and Well-being in College Same Sex Attracted Women

A Dissertation in Counseling Psychology

by

Rachel A. Wix

© 2012 Rachel Angela Wix

Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy

August 2012
The dissertation of Rachel A. Wix was reviewed and approved* by the following:

Kathleen J. Bieschke  
Professor in charge of Graduate Program  
Direction of Training  
Dissertation Advisor  
Chair of the Committee

Susan S. Woodhouse  
Assistant Professor of Counseling Psychology

Joyce Ilfelder-Kaye  
Affiliate Associate Professor of Counseling Psychology

Stephanie Shields  
Professor of Psychology & Women's Studies

*Signatures are on file in the Graduate School.
Table of Contents

List of Tables ........................................................................................................................................ v
List of Figures ......................................................................................................................................... vi
Acknowledgements ............................................................................................................................... vii
Abstract .................................................................................................................................................. 1

CHAPTER 1
Introduction .................................................................................................................................................. 3
Hatzenbuehler’s Framework ................................................................................................................... 4
The Current Investigation ....................................................................................................................... 6
Population of Interest for the Current Investigation ......................................................................... 8

CHAPTER 2
Review of the Literature ......................................................................................................................... 9
Epidemiology ............................................................................................................................................ 10
Explanations for Increased Psychiatric Morbidity: LGB Specific and Universal Processes ............. 12
Hatzenbuehler’s Framework .................................................................................................................... 23
Heterosexist Discrimination: A Group-Specific Distal Stressor ................................................. 25
Discrimination ........................................................................................................................................ 26
Universal Psychological Process: Attachment ....................................................................................... 35
Attachment and LGB Discrimination ..................................................................................................... 39
Change in Attachment ............................................................................................................................ 42
Internalized Heterosexism: A Group Specific Proximal Stressor .................................................. 45
The Current Investigation ....................................................................................................................... 50
Hypothesis .............................................................................................................................................. 52

CHAPTER 3 .............................................................................................................................................. 54
Method .................................................................................................................................................... 54
Participants .............................................................................................................................................. 54
Procedure ............................................................................................................................................... 61
Measures ............................................................................................................................................... 62

CHAPTER 4
Results ....................................................................................................................................................... 71
Preliminary Analysis ............................................................................................................................... 71
Testing Assumptions .............................................................................................................................. 74
Testing Assumptions Summary ........................................................................................................... 80
Data Analysis Strategy .......................................................................................................................... 81
Hypothesis Testing ............................................................................................................................... 85
Summary of Results ............................................................................................................................... 92
Post Hoc Analysis ............................................................................................................................... 93
Group and Subscale Difference Summary ....................................................................................... 99
Final Analyses using HHRDS Subscale “Rejection” ........................................ 99

CHAPTER 5
DISCUSSION ........................................................................................................ 108
  Findings ............................................................................................................. 112
  Limitations ........................................................................................................ 119
  Future research ................................................................................................. 124
  Conclusions ....................................................................................................... 128

References ............................................................................................................. 130
  Appendix A List-Serve Recruitment Notice .................................................... 148
  Appendix B Facebook Post ................................................................................. 149
  Appendix C Implied Consent ............................................................................. 150
  Appendix D Drawing Entry Form .................................................................... 152
  Appendix E Resources ....................................................................................... 153
  Appendix F Debriefing Statement .................................................................... 154
  Appendix G Demographic Questionaire ........................................................... 155
  Appendix H Outness Inventory ........................................................................ 157
  Appendix I HHRDS ......................................................................................... 158
  Appendix J ECR-SF .......................................................................................... 159
  Appendix K LGIS ............................................................................................... 160
  Appendix L GAD-7 ............................................................................................ 162
  Appendix M CES-D ........................................................................................... 163
  Appendix N Flourishing ..................................................................................... 164
List of Tables

Table 3.1 Participants Sexual Orientation and Relationship Status
Table 3.2 Participants Academic Institutions and Class Standing
Table 3.3 Post-Secondary institutions where at least one list-serv administrator was contacted for recruitment
Table 4.1 Skewness and Kurtosis
Table 4.2 Independence of Errors
Table 4.3 Multicollinearity Statistics
Table 4.4 Correlations among variables used in the current investigation
Table 4.5 Indirect Effects of Discrimination on Depression
Table 4.6 Indirect Effects of Heterosexist Discrimination on Anxiety
Table 4.7 Indirect Effects of Heterosexist Discrimination on Well-being
Table 4.8 HHRDS Frequency Table
Table 4.9 HHRDS Means by Sexual Orientation
Table 4.10 Group Differences on the HHRDS
Table 4.11 Indirect Effects of Harassment and Rejection Subscale on Depression
Table 4.12 Indirect Effects of the Harassment and Rejection Subscale on Anxiety
Table 4.13 Indirect Effects of Heterosexist Discrimination on Well-being
List of Figures

Figure 4.1 Unstandardized Regression Coefficients for the Model Predicting Depression ...... 84
Figure 4.2 Unstandardized Regression Coefficients for the Model Predicting Anxiety......... 87
Figure 4.3 Unstandardized Regression Coefficients for the Model Predicting Well-being ........89
Acknowledgements

As I review my journey through graduate school and writing my dissertation, I am thankful to have had a wonderful, kind, and supporting committee chair and advisor, Dr. Kathy Bieschke. Kathy has provided more to me that I can express in words. Kathy believed in me when I did not believe in myself. She sat with me as my anxiety about writing, perfectionism, and “being good enough” were paralyzing and encouraged me to find my passion, interests, and voice. She nurtured my curiosity, passion, and interests and helped me find direction. But, most of all she provided me with the unconditional positive regard that I needed to learn to trust myself and find my voice as a researcher, presenter, clinician, and person. She is a gift to her students and I am honored to be moving forward with her as a lifelong colleague and mentor.

I would like to thank my husband, Joseph Wix, for his incredible support and patience with my graduate education in general and writing my dissertation specifically. There were some long weeks when I was “in” my dissertation your support and lighthearted presence made the difficult times for manageable. Thank you for laughing with me, holding me while I cried, and cheering me on. I know that it has been challenging to put off the next steps in our life so that I could reach the ambitious goals I set for myself. I would also like to thank my mother, Kathy Davis, and grandmother, Emma Davis for your generous support and encouragement on my journey to becoming a psychologist. Finally, to Jake VanEpps, I would like to offer since thanks for being a wonderful friend and colleague. I will never forget our summer of studying for comps, theory talks, and the long and interesting conversations that made what we were learning
come to life. In addition, Megan Marks, Jessica Effrig, Petra Rovers, Anna Dendy, and Dan Elreda for their friendship, and support. It is rare to find so many colleagues and friends that support and challenge you through the difficult times, celebrate with you for each success, and genuinely enjoy each other day to day.
Abstract

This purpose of the current investigation is to examine how sexual orientation related discrimination experiences affect same sex attracted college women’s well-being, depression, and anxiety using Hatzenbuehler’s (2009) psychological mediation model. Previous research has consistently demonstrated that discrimination experiences are related to negative outcomes. Further, previous research has fruitfully demonstrated that some variables, such as self-esteem, have the ability to buffer the discrimination - distress link. The goal of the current investigation was to extend previous research examining mediators that explain how discrimination influences important psychological outcomes. Hatzenbuehler suggests that mediators be universal processes which are known to influence all people or group specific processes. Therefore, attachment anxiety and internalized heterosexism were examined as mediators of the discrimination - distress link. College women were recruited from campus LGB resource centers, women’s center, and multicultural resource centers around the country, as well as, campus student groups using listserv announcements and Facebook posts. Participants were 128 undergraduate same sex attracted women. Results of the current investigation did not support attachment anxiety or internalized heterosexism as mediators of the discrimination - distress link. However, college students in the current investigation did not report many experiences of discrimination and discrimination was not related to the outcome variables. Post-hoc analyses revealed that women reported more discrimination related to harassment and rejection than in other domains. In addition, lesbian women reported higher levels of discrimination than bisexual identified women; whereas, queer identified women did not
differ significantly from either lesbian or bisexual identified women. Finally, when the subscales of internalized heterosexism were considered in isolation as potential mediators, it was found that personal feelings about being a lesbian did partially mediate the relationship between discrimination and depression scores.
Chapter 1

Introduction

Sexual minority individuals live within a sociopolitical culture that holds prevalent heterosexist norms and negative beliefs about LGB individuals (Szymanski, 2008). As a consequence of those norms, individuals who identify as sexual minorities are grouped into a social category that is associated with social stigma and experiences of discrimination (Mohr, 1999). Meyer (1995; 2003) developed minority stress theory to provide a theoretical framework for understanding the impact of the unique social stigma on LGB individuals. According to Meyer, the unique stressors associated with navigating a sexual minority identity add a layer stress on top of the stress associated with daily living. As a result of the increased burden, sexual minority individuals’ coping resources are taxed leaving the individual more vulnerable to psychological distress.

In line with Meyer’s hypothesis, research investigating between group differences, consistently find that sexual minority individuals experience higher levels of psychological distress when compared to their heterosexual counterparts (Balsam, Beauchaine, Mickey, & Rothblum, 2005; Balsam & Mohr, 2007; Cochran, Ackerman, Mays, & Ross, 2004; Cochran & Mays, 2006; Gilman et al., 2001; Mays & Cochran, 2001). From a minority stress perspective, these differences occur as a result of sexual orientation related stressors (e.g., discrimination, anti-LGB victimization, identity concealment, and internalized heterosexism) which heterosexual individuals are not forced to cope with. From a minority stress perspective coping strategies are investigated as moderators of the stress-distress link.
Minority stress theory has provided a useful framework for understanding how the social climate affects LGB individuals. However, minority stress theory has been criticized for not explaining how stressors cause psychological distress (Hatzenbuehler, 2009; Hatzenbuehler, Hilt, & Nolen-Hoeksema, 2010; Hatzenbuehler, McLaughlin, & Nolen-Hoeksema, 2008; Meyer, 2003; Szymanski, Kashubeck-West, & Meyer, 2008a, 2008b). Building upon minority stress theory, Hatzenbuehler (2009) proposes a psychological mediation framework in which minority stressors “get under the skin” through a mediator variable. The purpose of the current investigation is to examine mediators of the stress-distress link using Hatzenbuehler’s model.

**Hatzenbuehler’s Framework**

Hatzenbuehler’s psychological mediation framework brings together two separate bodies of literature which have emerged to explain this increased level of distress experience by LGB individuals (Hatzenbuehler, 2009). The majority of previous research has focused on the role of minority stressors in the development of psychological distress (Meyer 2003; 2005). However, more recently, other researchers have focused on individual differences in universal psychological process, such as attachment patterns (Sherry, 2007), emotion regulation (Hatzenbuehler, et al., 2008), cognitive process (Pachankis, 2007), interpersonal factors (Balsam & Szymanski, 2005), and coping (McCarthy, 2008; Miller, 2006) to explain how discrimination experiences influence distress. Both lines of research have fruitfully explained some the variance in psychological distress experienced by sexual minority individuals (Hatzenbuehler, 2009). However, research has not integrated both group specific and universal process
explanations for the increased levels of distress by sexual minority individuals.

Hatzenbuehler’s (2009) psychological mediation framework integrates both group specific minority stressors and universal psychological process variables into a single model in order to gain a fuller understanding of sexual minority individuals’ experiences of psychological distress.

Using minority stress theory (Meyer, 1995, 2003) as a foundation, Hatzenbuehler’s model hypothesizes that group-level, stigma-related stressors, such as discrimination, result in psychological distress. However, the relationship between the stressor (discrimination) and psychological distress are mediated by any number of universal psychological processes which have been demonstrated to predict psychological distress (e.g., emotion regulation, social/interpersonal processes, cognitive processes, attachment patterns) for all people. As a result of the mediation, the general psychological process becomes the mechanism through which minority stressor influences psychological distress.

In addition to the basic psychological mediation model described above, Hatzenbuehler formulated integrative model which includes both externally experienced stressors (i.e., discrimination) and internally experienced stressors (i.e., internalized heterosexism). Hatzenbuehler’s model provides that internally experienced stressors (particularly group identity related stressors, such as internalized heterosexism) mediate the external stress – psychological distress link. This is a divergence from minority stress theory, which conceptualizes these variables as predictors of distress, not mediators.
Finally, Hatzenbuehler’s model extends minority stress theory by emphasizing the importance of examining specific types of psychopathology instead of examining distress generally. Within the minority stress framework, increased stress leads to increases in general distress. However, interventions are not targeted at broad experiences of distress. Therefore, it is important to examine the effects of discrimination on particular types of distress in order to more tailor more effective interventions.

The Current Investigation

The purpose of this investigation is to examine the mechanisms that transform stressors into distress, using Hatzenbuehler’s framework. There are a number of sexual minority stressors (Meyer, 1995, 2003) which can be examined. However, experience of discrimination represents a stressor with established deleterious health and mental health effects in a number of minority populations.

Similar to other minority groups, sexual minority individuals experience discrimination in multiple domains, including the workplace and school (D'Augelli, 1992; Hatzenbuehler, McLaughlin, Keyes, & Hasin, 2010; Szymanski & Balsam, 2010; Waldo, 1999). Research in sexual minority groups shows that experiencing discrimination is associated with overall psychological distress, depression, and anxiety symptoms. However, the research on discrimination in the LGB community is still in its infancy. As a result, previous research has not examined mediators of the discrimination distress link. Using Hatzenbuehler’s framework, the current investigation extends previous research by examining potential mechanisms that facilitate the cascade from experiencing discrimination into experiencing depressive and anxiety related symptoms.
Hatzenbuehler suggests that appropriate mediators are those variables which have been demonstrated to confer risk of psychopathology and psychological distress in non-LGB-specific samples. Attachment was selected as a mediator variable in this research. Insecure attachment patterns have been demonstrated to be related to psychopathology in a number of studies (Dozier, 2008; Dozier, Stovall, & Albus, 1999). In addition, attachment has been examined as a mediator of other types of distress related to interpersonal trauma (Sandberg, Suess, & Heaton, 2010; Whiffen & MacIntosh, 2005). Therefore, in an effort to explore how discrimination experiences influence distress, attachment theory may offer a useful perspective (Mohr, Cassidy, & Shaver, 1999; Mohr & Fassinger, 1998, 2003; Zakalik & Wei, 2006).

Hatzenbuehler further suggests that proximal stressors also be examined as potential mediators between the stress-distress link. Internalized heterosexism is an internally experienced stressor which involves translating negative messages about same sex attraction and applying those messages to the self. For example, an individual’s upbringing may indicate that being gay is “disgusting.” If an individual internalizes the negative cultural message, “disgust,” then they would view themselves as disgusting. Previous research indicates that internalized heterosexism predicts psychological distress. However, internalized heterosexism is not examined as variable that is affected by other minority stressors. Yet, since internalized heterosexism is conceptualized as an internalization of negative cultural messages, it is plausible that discrimination would convey negative cultural messages, which would then be internalized by the individual, and lead to distress.
Population of Interest for the Current Investigation

Though Hatzenbuehler (2009) does not suggest studying men and women separately there are theoretical and practical reasons for studying sexual minority men and sexual minority women separately. For example, from a theoretical perspective, sexual minority men and women experience differential salience of minority stressors, most likely related to gender role socialization (Fassinger & Arseneau, 2007; Todosijevic, Rothblum, & Solomon, 2005). For example, Todosijevic et al. found that lesbian women experience more stress related to family reactions whereas sexual minority men are more concerned with stressors related to violence and harassment. Further, from a practical standpoint, while men and women may both experience internally experienced stressors such as internalized heterosexism (IH), the measurement of IH is conducted using instruments which are specific to either sexual minority men or women. As a result of differences in instrumentation, it difficult to examine both men and women within the same model and draw meaningful conclusions from the results (Szymanski, et al., 2008b). In sum, socialization and measurement issues create challenges in developing meaningful results when the experiences of sexual minority men and women are studied concurrently. Therefore, while the purpose of this investigation is to test the psychological mediation framework which applies to all sexual minority individuals, I have decided to examine sexual minority women in isolation. Sexual minority women were selected in particular because of the high prevalence rates of depression experience by women in general, regardless of sexual orientation.
Chapter 2

Review of the Literature

In population-based studies, self-identified lesbian and bisexual women have consistently reported higher rates of mental health disorders, adolescent and young adult suicidality, and childhood and lifetime victimization (e.g., Cochran, Sullivan, & Mays 2003; Mays & Cochran, 2001; Matthews, & Adams, 2009; Szymanski, 2008; Balsam, 2005) than heterosexual women. As a result, researchers have sought to identify the mechanisms responsible for this discrepancy. Minority stress theory (Meyer, 1995, 2003) was developed to explain how the unique stress experienced by sexual minority individuals, resulting from the social environment, accounts for the increased psychological distress. The theory draws on the work of stress and coping researchers (Lazarus & Folkman, 1984) to document how stress leads to psychopathology and expands the scope of stressors beyond general life stressors to include stressors resulting from the social realm. Other researchers have examined more universal experiences such as emotion regulation or attachment patterns to explain variation in the experiences of sexual minority individual’s psychological distress. However, little research has integrated both levels of analysis. Hatzenbuehler (2009) proposes a psychological mediation framework which integrates both unique stressors and universal process.

This chapter begins with a brief review of the lines of research which have informed Hatzenbuehler’s framework including: a) epidemiological research; b) minority stress theory; and, c) general psychological process. Secondly, Hatzenbuehler’s framework is outlined and described. After the theoretical framework is explicated, the
variables of interest for the current investigation are described, beginning with the literature on heterosexist discrimination. In the following section, attachment theory is reviewed as the variable which mediates the effect of discrimination. Literature which highlights the theoretical links between attachment patterns and psychological distress as well as the links between attachment and discrimination are reviewed. Finally, this chapter concludes with a list of hypotheses for the current study.

**Epidemiology**

A burgeoning body of research suggests that sexual minority individuals are at higher risk for developing psychological distress when compared to heterosexual individuals (Cochran & Mays, 2000a, 2000b, 2006; Cochran, Mays, Alegria, Ortega, & Takeuchi, 2007; Gilman, et al., 2001; King, Semlyen, et al., 2008; Matthews, 2009; Meyer, 2003). In a recent meta-analysis of population-based epidemiological research using comparison groups, King et al. (2008) found that LGB individuals have elevated risk of suicidal behavior, mental disorders, and substance use. More specifically, results reveal that LGB individuals are more likely to experience depression, anxiety, and substance abuse. In a separate meta-analysis, Meyer (2003) found that sexual minority individuals are two-and-a-half times more likely than their heterosexual peers to have a life-time prevalence of a mental disorder and are two times more likely to currently meet criteria for a mental disorder than their heterosexual peers.

In population-based research that has focused exclusively on sexual minority women, similar results have emerged. For example, Cochran, Sullivan, and Mays (2003) found that sexual minority women were four times more likely than heterosexual women
to meet criteria for two or more Axis I disorders in the past year. In other population-based studies, self-identified lesbian and bisexual women have consistently reported higher rates of mental health disorders and adolescent and young adult suicidality (Cochran & Mays, 2006; Cochran, et al., 2007; Mays & Cochran, 2001; Szymanski, et al., 2008b) than heterosexual women. In addition, Gilman et al. (2001) found that lesbians were at risk for earlier onset of substance use disorders as well as greater persistence of substance use over the past year than their heterosexual peers.

In sum, these results demonstrate that sexual minority individuals are at higher risk for a number of psychological problems and that lesbian women are particularly at risk for substance use disorders. It is also important to acknowledge the limitations of population-based LGB research. In population-based studies, LGB individuals typically constitute a small comparison group. For example, Mays and Cochran (2001) compared over two thousand heterosexual individuals to \( n = 2844 \) fewer than one hundred sexual minority \( n = 73 \) individuals. Inequality in sample lessens the power of the investigation’s findings. Further, with so few people in the comparison group it is difficult to generalize the results to all sexual minority individuals. Therefore, sample size is an important consideration when drawing conclusions about the nature of psychological distress experienced by sexual minority individuals. Additionally, epidemiological research simply describes the characteristics of the population without attention to the explanations of those characteristics. For example, epidemiological research demonstrates that sexual minority individuals have higher rates of suicide but does not attempt to identify the cause of the increase risk. Therefore, research is needed
that attends to the mechanisms which predict the disparate outcomes demonstrated by epidemiological research.

**Explanations for Increased Psychiatric Morbidity: LGB Specific and Universal Processes**

Hatzenbuehler’s psychological mediation framework integrates two bodies of literature which have emerged to explain the increased risk for psychological distress experienced by sexual minority individuals. The first line of research introduced in this section is Meyer’s minority stress theory. Meyer (1995; 2003) argues that LGB individuals experience unique, chronic and acute stress from their negative, sometimes hostile, social environment and that those experiences produce psychological distress. Meyer’s framework focuses on the impact of distal and proximal stressors as the antecedents to psychological distress. In contrast, other research introduced in this section has examined the role of universal psychological processes that are known risk factors for psychological distress in heterosexual samples. Therefore, instead of focusing on the unique stressors experienced by sexual minority individuals, this research focuses on the common processes that all individual share regardless of their membership in a majority or minority group.

**LGB-Specific Processes: Minority Stress.** Minority stress theory was developed as an extension of social stress theory to account for the unique stressors that minority individuals encounter due to their membership in a socially stigmatized group (Meyer, 1995, 2003; Meyer, Schwartz, & Frost, 2008). Minority stress theory suggests that sexual minority individuals experience unique stressors above and beyond those experienced by
heterosexual individuals. This increased level of stress requires an increased level of adaptation and coping in order to maintain psychological health. When the increased demands for coping are not met, psychological distress increases, thus explaining the higher levels of psychological distress found in the LGB community.

In the theoretical development of minority stress theory, three assumptions were made about the nature of minority stress: a) minority stress has an additive effect over general stressors; therefore, individuals who are members of stigmatized groups must develop adaptive skills that go beyond those needed by individuals who are not members of a stigmatized group, b) minority stress is chronic as a result of the relatively stable social structures, and c) minority stress is socially based and is not a result of the biological or other nonsocial characteristics of the individual (Meyer, 1995, 2003).

There is a growing body of literature which supports the notion that social stressors predict psychological distress. Although the exact number and type of LGB minority stressors are debatable (Meyer; 2003) several stressors have been found to negatively impact LGB individuals. Stressors are conceptualized on a continuum ranging from more distal or externally experienced to more proximal or internally experienced. Literature supporting the minority stress framework is organized below in the distal and proximal categories.

**Distal Stressors.** Meyer defined distal stressors as “objective stressors” or “external stressors” occurring outside of the individual (Meyer, 2003, p.676). Examples of distal stressors include objective experiences of discrimination and violence. Research has demonstrated that lesbian and bisexual women experience higher levels of these
events than their heterosexual peers in adolescence and adulthood (Balsam, et al., 2005; Balsam & Mohr, 2007; D'Augelli, Grossman, & Starks, 2006; D'Augelli, Hershberger, & Pilkington, 2001; D'Augelli, Pilkington, & Hershberger, 2002; Morris & Balsam, 2003).

Sexual minority individuals experience victimization across the life-span. In comparison to heterosexual girls, research has found that sexual minority adolescent girls experience higher levels of peer victimization then heterosexual girls (Russell & Joyner, 2001). This is because at school lesbian, gay, and bisexual youth are targeted for victimization specifically because of their sexual orientation identification (D'Augelli, et al., 2006; D'Augelli, et al., 2002). Additionally, this group difference in peer victimization was shown to partially account for higher levels of suicide risk in the lesbian and bisexual community (Russell, 2003). Thus, these results support the assertion that distal stressors have a direct impact on psychological distress.

Examining the prevalence of victimization among adults as compared to heterosexual adults, Balsam, Rothblum, and Beuchaine (2005) used a novel group comparison design. Balsam et al. (2005) compared rates of victimization between LGB individuals to their heterosexual siblings. Results indicated that sexual minority individuals reported higher levels of physical and sexual abuse than their heterosexual siblings. Further, the researchers found that the higher rates of victimization experiences partially accounted for the increased level of psychological distress experienced by the sexual minority sibling.

Examining within group differences of the prevalence of victimization experiences, researchers have found more than half of sexual minority women report
having experienced a hate crime (Herek, 2009; Morris & Balsam, 2003). For example, Morris and Balsam (2003) found that 62% of a nation-wide sample of sexual minority women reported experiencing a hate crime or bias victimization specifically because they identified as a sexual minority individual. In a more recent investigation, a significant number of lesbian women reported experiences of anti-LGB violence and victimization (12.5%) and over half (54.5%) of lesbian women report experiencing verbal harassment or abuse related to their sexual orientation (Herek, 2009).

In addition to victimization experiences, lesbian women are more likely than their heterosexual peers to report experiences of discrimination. The relationship between heterosexist discrimination and negative psychological outcomes has been examined across multiple domains including: structural/institutional discrimination (e.g., Hatzenbuehler, McLaughlin, Keyes, Hasin, 2010), workplace discrimination (e.g., Waldo, 1999), discrimination in universities (e.g., D’Augelli, 1989), and discrimination related to fertility and parenting (e.g., Short, 2007). Research has supported that experiences with heterosexist discrimination influence rates of psychological distress (e.g., Hatzenbuehler, Nolen-Hocksema, & Ericson, 2008), psychiatric diagnosis (Burgess, Lee, Tran, & van Ryn, 2007; Wei, Ku, Russell, Mallinckrodt, & Liao, 2008; Zakalik & Wei, 2006), and substance use (McCabe, Bostwick, Hughes, West, & Boyd, 2010). Szymanski and Balsam (2010) found that experiences of anti-LGB victimization account for unique variance in sexual minority women's post-traumatic stress disorder (PTSD) symptoms.

Importantly, researchers have recently turned their attention to factors which might reduce the impact of discrimination on distress (Szymanski, 2005, 2006, 2008;
Minority stress theory is based in the broader stress literature, and therefore specifically examines the role of moderators in the stress-psychopathology link (Meyer, 2003). As a result, coping styles, self-esteem, and social support have all been examined as moderators in the relationship between heterosexist discrimination and psychological stress (Szymanski, et al., 2008b; Szymanski, 2003, 2006, 2008; Szymanski & Chung, 2003; Szymanski & Kashubeck-West, 2008; Szymanski & Owens, 2008, 2009).

However, little support has been garnered for the moderating associations. Instead, self-esteem has been found to mediate the stress-psychopathology link. Thus, more research is needed to develop a clearer understanding of the mechanisms through which heterosexist discrimination affects LGB individuals. Diverging from minority stress theory, Hatzenbuehler suggests that universal processes act as mediators of the stressor – psychopathology link. Therefore the current investigation extends previous literature by examining alternatives to moderation.

**Proximal Stressors.** Proximal stressors are distinct from distal stressors because they are internally experienced and chronic. Meyer (2003) defined proximal stressors as “subjective,” “internal,” and dependent on each individual’s “personal identity and meaning making process” (p. 676). Meyer theorized that individuals infer meaning about themselves from the social environment. Thus, an individual’s negative social experiences interact with the individual’s internal meaning-making processes to produce psychological distress.
Similar to distal stressors, Meyer suggests that proximal stressors have a direct and unique influence on psychological distress. Meyer identified three proximal process which lead to psychological distress: identity concealment, expectation of rejection (rejection sensitivity or stigma consciousness), and internalized heterosexism. The first stressor Meyer identifies is identity concealment. Individuals concealing stigma must make decisions about when to disclose, fear being found out, and experience social isolation. In addition, engaging in self-concealment can keep an individual from connecting with others who could provide social support, which, according to minority stress theory, can buffer the negative effect of minority stress.

In addition to self-concealment, Meyer also suggested that the expectation that prejudice is likely to occur is a proximal stressor, however, this construct has not been operationalized within a minority stress framework. Pinel (1999) coined the term “stigma consciousness” to describe the expectation that prejudice will occur. Pinel argued that individuals vary in the degree to which they expect to be stereotyped by others. In her own research, Pinel found that women, lesbians, and gay men who were high on stigma consciousness were more likely to believe and worry that discrimination was directed at their minority group in general and directed at them personally. Stigma consciousness has been demonstrated to lead to negative outcomes in samples of both lesbians and gay men (Lewis, Derlega, Clarke, & Kuang, 2006; Lewis, Derlega, Griffin, & Krowinski, 2003). Lewis et al. (2003) found that stigma consciousness directly impacted depressive symptoms. Lewis et al. (2003) found that stigma consciousness was associated with depression and internalized heterosexism in both gay men and lesbian women. In
addition, Lewis et al. (2006) found that stigma consciousness was associated with intrusive thoughts and physical symptoms.

Internalized heterosexism (IH) is a proximal stressor that involved translating negative social views of LGB individuals to the self and then incorporating those views into the self-concept. This internalization can lead to internal conflicts, poor image of self, and self-deprecating attitudes (Meyer & Dean, 1998). Consistent with minority stress theory, internalized heterosexism has been demonstrated to be uniquely related to measures of psychological distress, poor self-esteem, depression, and suicidal ideation (see Szymanski, Kashubeck-West, & Meyer, 2008 for a review). Furthermore, recent meta-analysis of IH studies demonstrate that IH is connected to internalizing mental health problems (Newcomb & Mustanski, 2010). Since IH is a variable of interest for the current investigation, IH is more thoroughly discussed later in this chapter.

**Minority Stress Summary.** Minority stress theory provides a group level explanation for the increased levels of distress experienced by the sexual minority individuals. From a minority stress perspective, individuals who belong to sexual minority groups are faced with distal and proximal stressors that create unique stress above and beyond the stress endured by heterosexual individuals. As a result of the unique and additive stressors endured, sexual minority individuals experience higher levels of distress. Thus, minority stress theory focuses on the impact the social environment has on sexual minority individuals.

Overall, literature has supported the theory’s assumption that stressors result in psychological distress. Researchers examining victimization, discrimination, self-
concealment, and IH have all found that experiences of these stressors are related to higher levels of psychological distress. However, because minority stress theory focuses on group-specific processes, individual differences are not attended to and mechanisms that explain how minority stress creates distress are lost. Further, the relationship between minority stressors and other known stressors that are universal to all individuals (substance abuse) are largely ignored. In an effort to extend previous research, the current investigation uses Hatzenbuehler’s framework, which attempts to extend minority stress theory and address its limitations by including these factors.

**Universal Processes: Known Risk Factors for Psychological Distress.** Minority stress theory focuses on the unique stressors that sexual minority individual’s experience. However, other research has concentrated on examining the role of universal psychological processes which all individuals share and which constitute shared risk factors for psychological distress (Diamond, 2003; Savin-Williams, 2001). The proponents of the shared processes approach report that research investigating LGB individuals and heterosexual individuals has become increasingly segregated. Furthermore, the shared process proponents argue that neglecting the importance of these universal processes results in a poorer understanding of the ways in which normative psychological processes influence the mental health of sexual minority individuals. For example, a researcher interested in the increased levels of alcohol use within the lesbian community might investigate the influence of commonly known risk factors for substance abuse, such as poor emotion regulation, instead of exclusively focusing on the unique stressors experienced by lesbian women. However, researchers at this level of
analysis rarely include variables related to internal psychological processes, such as internalized heterosexism. As a result of this critique, Hatzenbuehler suggests that researchers investigate any known risk factor which influences psychological distress in individuals who identify as heterosexual because those factors likely play a similar role in sexual minority individuals.

Emerging research demonstrates that sexual minority individuals’ increased risk of psychological distress may be related to increased levels of known risk factors of psychological distress in non-LGB samples. For example, in studies which compare heterosexual individuals to sexual minority individuals, researchers have found that LGB individuals have higher rates of hopelessness (Plöderl & Fartacek, 2005), emotion dysregulation, (Hatzenbuehler, et al., 2008) and social isolation (Plöderl & Fartacek, 2005). However, the study of these common risk factors in LGB samples has not extended to the investigation of why these risk factors are elevated within the LGB population. Therefore, more research is needed to explore the triggers of these variables which are risk factors for the development of psychopathology.

Although Hatzenbuehler does not discuss attachment as a universal contributor to distress, in his writing on the psychological mediation framework, Hatzenbuehler suggests that any universal process which has been shown to confer risk in heterosexual samples could be a potential mediator of the minority stress-psychological distress link. The attachment behavioral system is a universal psychological process that develops in childhood and continues to function in adulthood, becoming activated in times of distress (Bowlby, 1982, 1988, 2005; Brennan, Clark, Shaver, Simpson, & Rholes, 1998b;
Mikulincer & Shaver, 2007a; Mikulincer, Shaver, & Horesh, 2006; Mikulincer, et al., 2003; Romano, Fitzpatrick, & Janzen, 2008; Shaver & Mikulincer, 2002, 2007). Insecure attachment strategies have been demonstrated to be predictive of a number of different forms of psychopathology, including depression, anxiety, and post-traumatic stress (Dozier, 2008; Dozier, et al., 1999; Mikulincer, et al., 2006).

In addition, the few research studies which have investigated attachment and minority stressors have found that attachment insecurity is related higher levels of minority stress (Mohr & Fassinger, 1998, 2003; Sherry, 2007; Zakalik & Wei, 2006). Therefore, it is likely that it would be fruitful to examine attachment as a universal psychological process variable within Hatzenbuehler’s model.

**Summary of LGB-Specific Processes and Universal Processes.** Two bodies of literature have emerged to explain higher rates of distress experienced by sexual minority individuals. One body of literature focuses on the unique impact of the heterosexist environment. The other body of literature has focused on universal psychological processes and the role they play in contributing to psychological distress within LGB samples. From this literature, it is clear that both the stress caused by the negative climate as well as other known risk factors for psychological distress affect LGB individuals.

Examining the heterosexist environment, Meyer offers a conceptual framework explaining the disparate prevalence of mental health disorders among sexual minority individuals. Minority stress theory represents an important contribution to the literature because it effectively shifts blame for negative mental health outcomes from the sexual minority individual to social oppression. Minority stress theory suggests that LGB
individuals experience unique stressors, related to sexual orientation, which are experienced above and beyond those experienced by heterosexual individuals. As a result of this additional stress, LGB individuals coping resources are taxed, and the additional demand for coping cannot always be met, which accounts for the disparity between LGB and heterosexual individuals’ mental health.

Meyer’s minority stress theory conceptualizes stressors on a continuum from the more distally experienced to more proximal. Distal stressors such as violence, verbal harassment, and discrimination based on sexual orientation have been demonstrated to be negatively impactful to sexual minority individuals. In addition, more proximal experienced stressors such as internalized heterosexism have also been shown to have a detrimental effect.

While researchers provided evidence for negative impact of minority stressors on sexual minority women, questions about the individual variation in the experience of these stressors remain. For example, Szymanski (2008) highlighted that while it has been well established that internalized heterosexism has a negative impact on psychological health, it is unknown what makes one individual more likely than another to internalize heterosexist messages. In addition, it is unclear how IH develops.

The literature on universal psychological processes demonstrates that LGB individuals experience higher levels of risk factors associated with psychological distress. However, research has not investigated the reasons for which these risk factors are elevated within the LGB population. Furthermore, the unique stressors associated with sexual minority status have not been integrated into this literature. Therefore, in order to
gain a more holistic understanding of how LGB individuals experience sexual minority stressors and how general psychological processes interact with those experiences, further exploration is needed.

**Hatzenbuehler’s Framework**

Hatzenbuehler’s psychological mediation framework conceptualizes how both unique minority stressors and risk factors that confer common vulnerability can be incorporated into a single model. Hatzenbuehler’s model extends previous literature in important ways. First, as previously stated, minority stress theory does not provide causal mechanisms through which social stress produces distress. Instead, minority stress theory focuses on moderators which allow researchers to examine factors that reduce or exacerbate the effect of minority stress. In contrast, Hatzenbuehler’s framework allows the mechanisms that mediate the stress-distress link to emerge.

Within Hatzenbuehler’s psychological mediation framework, distal stressors such as discrimination are experienced as a result of the heterosexist environment. Those stressors are thought to influence the mediating variables which are known risk factors for psychological distress (i.e., depression as a risk factor for suicide; insecure attachment as a risk factor for psychopathology). Then, those risk factors (i.e., insecure attachment strategies) influence distress. This model is similar to minority stress theory because both models hypothesize that unique stigma-related stress contributes to psychological distress. However, unlike minority stress theory, which focuses on the relationship between social status and psychological distress within the LGB population (social status → minority stress → psychological distress), Hatzenbuehler’s model emphasizes how
minority stress creates psychological distress through universal risk factors or processes (minority stress → universal process → psychological distress).

In addition, Hatzenbuehler critiques the minority stress literature for not examining psychological distress in a more specific manner. From a minority stress perspective, stressors have a general effect on psychological distress and specific types of distress are not hypothesized. However, drawing from developmental literature which increasingly examines specific internalizing (i.e., anxiety, depression) and externalizing (i.e., alcohol and drug abuse) disorders, Hatzenbuehler suggests that investigating the pathways from experiencing a minority stressor to the development of specific types of symptoms may lead to more effective intervention and prevention strategies. Yet, research has not generally measured specific pathways through which minority stressors lead to specific disorders or classes of disorders. Hatzenbuehler suggests that researchers investigate these pathways by examining more specific disorders rather than focusing exclusively on overall levels of psychological distress.

Another salient distinction between minority stress theory (Meyer, 1995; 2003) and Hatzenbuehler’s (2009) framework is the usage of distal and proximal stressors. Meyer conceptualizes both types of stressors as unique and direct predictors of psychological distress. Confirming this conceptualization, research has found that both proximal and distal stressors contribute to psychological distress. However, Hatzenbuehler’s basic meditational model does not include proximal stressors. However, Hatzenbuehler’s extended model suggests the possibility of a more complex role of proximal stressors than Meyer. Theoretically, Hatzenbuehler hypothesizes that internally
experienced group specific processes may mediate the stress-psychopathology link. For example, experiencing discrimination could also activate elevate negative self schemes, such as internalized heterosexism, and thus influence psychological distress. However, research has not conceptualized proximal stressors in this way; therefore, more research is needed to investigate this possible relationship. This extension of the basic model is examined as part of the current investigation. In the next section, a more in-depth review of the variables used in the current investigation is provided.

**Heterosexist Discrimination: A Group-Specific Distal Stressor**

There are a number of distal stressors that emerge from the negative social climate endured by sexual minority individuals. The majority of the research examining distal stressors focus on hate crime victimization and the psychological trauma it causes (Balsam, et al., 2005; Herek, 2009; Herek, Chopp, & Strohl, 2007; Herek & Sims, 2007; Szymanski & Balsam, 2010). However, in addition to hate crime victimization, other manifestations of anti-gay attitudes have negative implications for sexual minority individuals. Heterosexist discrimination experiences are also distressing and have the potential to be trauma-inducing. For example, Szymanski and Balsam (2010) found that similar to anti-LGB victimization experiences, heterosexist discrimination accounted for unique variance in sexual minority women’s self-reported PTSD symptoms.

In this section, literature pertaining to heterosexist discrimination is reviewed. This literature reveals that sexual minority individuals are exposed to heterosexist discrimination and that those experiences of discrimination are linked to negative mental health outcomes. Although it is becoming clear that heterosexist discrimination is
associated with psychological distress, little is understood about how the psychological
distress is created. In addition, a review of the literature demonstrates problematic
aspects of the instruments that have been used in the past to study heterosexist
discrimination and reveals the recent development of a new and more psychometrically
sound measure.

**Discrimination**

Discrimination is a prevalent manifestation of social oppression directed at
minority groups (Burgess, et al., 2007; Cassidy, O'Connor, Howe, & Warden, 2004;
Corning, 2002; D'Augelli, 1992; Gordon & Meyer, 2008; Hatzenbuehler, McLaughlin, et
al., 2010; Huebner, Rebchook, & Kegeles, 2004; Hwang, & Goto, 2008; Moradi, &
Risco, 2006b; Ruggiero & Taylor, 1995). Minority stress theory suggests that individuals
who perceive higher levels of discrimination in their environment report a higher level of
distress (Meyer 1995; 2003). Indeed, researchers have established the relationship
between self-reported perceptions of discrimination and psychological distress in a
number of minority groups (Kessler, Mickelson, & Williams, 1999), including samples
of women (Corning, 2002; Fischer & Holz, 2007; Friedman & Leaper, 2010; Moradi &
Subich, 2003), African American men and women (Fischer & Shaw, 1999; Gee, Ryan,
Laflamme, & Holt, 2006), Latina/o men and women (Moradi & Risco, 2006a), Asian
international students (Wei, et al., 2008) and LGB individuals (Hatzenbuehler,
McLaughlin, et al., 2010; Huebner, et al., 2004; Mays & Cochran, 2001; Smith &
Ingram, 2004; Waldo, 1999; Wei, et al., 2008). While a number of minority groups
experience discrimination and its effects, the focus of this review is on individuals who identify as sexual minorities.

Epidemiological research has examined the prevalence and impact of heterosexist discrimination (Huebner, et al., 2004; Mays & Cochran, 2001). Using a national random sample, Mays and Cochran examined the relationship between discrimination and one-year prevalence of psychological distress. Three thousand eighty five individuals were randomly selected by a random-digit-dialed telephone, then mailed questionnaires in the MacArthur Foundation National Survey of Midlife Development in the United States (MIDUS). Of the 3485 participants who returned surveys (87% return rate), the majority identified themselves as heterosexual ($n = 2844$) and a minority identified themselves as gay ($n = 41$) or bisexual ($n = 32$). Discrimination was measured using three items: lifetime occurrences of discrimination (e.g., one-time job loss due to discrimination); frequency of day-to-day discrimination; reasons for discrimination. Each respondent answered either “never,” “rarely,” “sometimes,” or “often.” Responses were collapsed into two categories (never and rarely versus sometimes and often). Psychological distress and psychiatric diagnosis were measured using structured telephone interviews. Chi-square and odds ratios were used to analyze results. Results indicated that over 76% of LGB participants reported experiencing either a lifetime discriminatory event or day-to-day occurrences of discrimination related to their sexual orientation (OR= 33.33; 95% CI = 12.28, 100.00). In addition, experiencing discrimination was positively associated with experiencing psychological distress and the odds of having a psychiatric disorder were significantly increased in individuals reporting experiences of either lifetime (OR = 1.81;
95% CI = 1.34, 2.45) or day-to-day (OR = 1.87; 95% CI = 1.34, 2.59) sexual-orientation-related discrimination. However, the percentages of participants with specific diagnoses are not provided.

Data from this investigation reveal that sexual minority individuals who have experienced discrimination are at disproportionate risk for negative psychological outcomes. Although this research supports the hypothesized association between LGB-related discrimination and psychological distress, there are important psychometric limitations that must be considered. Discrimination was operationalized using three items which had face validity; however psychometric validity was not assessed. In addition, Likert scale data were collapsed into discrete categories which reduce the specificity of the measurement. Finally, the researchers collapsed all psychiatric disorders into a singular category in order to improve power; however, the prevalence of particular disorders was lost as a result.

Using a domain-specific measure of heterosexist discrimination, two studies have examined the relationship between heterosexist discrimination in the workplace and psychological distress (Smith & Ingram, 2004; Waldo, 1999). Both studies examined direct (e.g., anti-gay jokes) and indirect (e.g., assumptions of heterosexuality) workplace discrimination experiences using community samples of gay, lesbian and bisexual people and the Workplace Heterosexist Experiences Questionnaire (WHEQ) developed by Waldo. The WHEQ is a 22-item survey which asks respondents to rate their experiences with discrimination in the workplace on a 0-4 scale, with 15 items measuring direct workplace discrimination and seven items assessing indirect discrimination experiences.
Waldo did not provide report reliability data, however, Smith and Ingram (2004) report Cronbach’s alpha of .92.

Waldo (1999) examined the relationship between heterosexist workplace discrimination and psychological distress, health complaints, and job satisfaction using 287 participants. The majority of the sample were educated (more than half had a Bachelor’s degree), Caucasian (approximately 93%), and male (58%). Psychological distress was measured using the anxiety and depression subscales of the Brief Symptom Inventory (BSI), the Rosenberg Self-Esteem Scale, and the Satisfaction with Life Scale. Health-related outcomes were measured using two symptom checklists: The Health Conditions Index and Health Satisfaction Scale. Job satisfaction was measured using the Job Descriptive Index and measure of work withdrawal. Results indicated that experiences of discrimination were related to psychological distress ($r = .28, p < .001$), as well as health complaints ($r = .13, p < .001$), and job satisfaction ($r = -.39, p < .001$). In addition to examining the relationship between workplace heterosexist discrimination and psychological distress, Waldo (1999) examined the mediating role of “outness” at work. Waldo found that those individuals who were “out” at work experienced higher levels of perceived discrimination than those not “out” at work, which in turn, predicted higher levels of psychological distress.

Smith and Ingram (2004) examined the effect of workplace discrimination, psychological distress, and physical symptoms in a sample of 97 individuals who were mostly well-educated (over 80% completed some college), Caucasian (82%), and male (59%). Psychological distress was measured using the Center for Epidemiological
Studies Depression Scale (CES-D) and the Brief Symptom Inventory (BSI). Health-related symptoms were assessed using the Pennebaker Inventory of Limbic Languidness (PILL). Results indicated that workplace discrimination experiences were related to depression scores \( (r = .30, p < .01) \) and psychological distress scores as measured by the BSI \( (r = .36, p < .001) \). However, discrimination experiences were not related to physical symptoms in this sample \( (r = .02, p > .05) \). In addition to examining the role of discrimination, the researchers also investigated the potential moderating role of negative social interactions following a discriminatory event. Specifically, when individuals experienced heterosexism and then told a coworker, the coworker’s reaction moderated the level of distress. The researchers found that when the coworker’s response was minimizing or blaming, the individual was more distressed than when the interaction was more positive.

Data from these studies reveal that workplace experiences of discrimination impact psychological distress and job satisfaction. However, these studies were limited by the fact that the participants were mostly educated, white men. Without sampling the wider strata of the sexual minority population, it is difficult to generalize these results. Further, these results are context dependent. While this research represents an important contribution to the literature, it raises new questions about the impact of discrimination experiences occurring outside the workplace. Last, these studies demonstrate that the impact of discrimination experiences can be altered by a third variable (e.g., social interaction, outness), however more research is needed to determine which variables impact the discrimination – distress link.
In order to measure heterosexist discrimination in a non-context dependent manner, Szymanski (2006) developed a measure of heterosexist discrimination called the Heterosexist Harassment, Rejection, and Discrimination Scale (HHRDS; Szymanski, 2006). The HHRDS is a 14-item measure, with three factors, each having moderate to high internal consistency. The three subscales are: Harassment and Rejection ($\alpha = .89$), Workplace and School Discrimination ($\alpha = .84$), and Other Discrimination ($\alpha = .78$). Total scale scores ($\alpha = .90$) were correlated with overall psychological distress ($r = .35$), somatization ($r = .30$), obsessive compulsiveness ($r = .34$), interpersonal sensitivity ($r = .29$), depression ($r = .23$), and anxiety subscales of the Hopkins Symptom Checklist ($r = .27$). This measure has been used in recent investigations of heterosexist discrimination in order to develop a broader understanding of the ways in which discrimination impacts sexual minority individuals.

Szymanski (2009) investigated the impact of heterosexist discrimination on psychological distress in a sample of 210 highly educated (61% had at least a Bachelor’s degree) white (85%) sexual minority men. Heterosexist discrimination was measured using the HHRDS. Psychological distress was assessed using the Hopkins Symptom Checklist. Results indicated that heterosexist events were positively associated with psychological distress ($r = .24, p < .05$). In addition, self-esteem, social support, and avoidant coping were assessed as potential moderators of the discrimination-distress link. No support was found for the moderating role of social support or avoidant coping. However, results indicated that self-esteem moderated the relationship, with low self-esteem associated with the highest levels of distress.
Szymanski and Owens (2009) examined the relationship between both heterosexist and sexist discrimination and psychological distress in a sample of well-educated (69% reported attending a 4-year university or graduate school), White (87% Caucasian), sexual minority women. Results indicated that both forms of discrimination, heterosexist ($r = .41$, $p < .001$) and sexist ($r = .34$, $p < .001$), were positively associated with psychological distress as assessed using the Hopkins Symptom Checklist. Further, the researchers investigated group-level coping (feminist and lesbian) as moderators of the discrimination-distress link. Results indicated that feminist coping moderated the sexist events – distress link but that group-level lesbian coping did not buffer the impact of heterosexist discrimination.

The HHRDS measures day-to-day experiences of discrimination, occurring within the past year. Insidious trauma refers to the ongoing negative experiences associated with living as a member of an oppressed group (Root, 1992). Recently, sexual minority discrimination has been conceptualized as a form of insidious trauma (Szymanski, & Balsam, 2010). Szymanski and Balsam (2010) examined the relationship between experiences of heterosexist discrimination, anti-LGB victimization, and women’s experiences of post-traumatic stress disorder symptoms in a sample of 247 lesbian women. Participants ranged from 19-80 with the average age of 40.77. The majority of respondents were Caucasian (91%) and were well educated (65% report having a Bachelor’s degree or higher). Heterosexist discrimination was measured using the HHRDS. Hate crime victimization was assessed using Herek’s series of questions concerning victimization, and PTSD symptoms were measured using the PTSD checklist.
Results indicated that both heterosexist discrimination \((r = .34, p < .05)\) and hate crime victimization \((r = .24, p < .05)\) uniquely predicted PTSD symptoms. Results of this investigation not only confirm that chronic experiences of heterosexist discrimination are distressing but also that they are potentially trauma-inducing.

Research has generally revealed that heterosexist discrimination is related to psychological distress. However, there has been one notable exception to these results. In a sample of 178 Asian American men (52%) and women (48%), Szymanski and Gupta (2009) found that heterosexist discrimination as measured by the HHRDS only predicted psychological distress, as measured by the Hopkins Symptom Checklist, when it was examined in isolation. The authors report that when other predictor variables (internalized heterosexism and racist events) were included, the relationship between discrimination and distress disappeared. Though not the focus of the current investigation, these results suggest a complex relationship between multiple oppressions that warrants further investigation.

**Heterosexist Discrimination: Summary and Critique.** Epidemiological research on heterosexist discrimination reveals that three-quarters of LGB individuals report experiencing discrimination. In addition, the research indicates that experiences of heterosexist discrimination are correlated with psychological distress, substance abuse, depression, and anxiety. Although epidemiological research provides information about the prevalence of discrimination and its effects, the research is limited by the poor psychometric properties of the discrimination measure and categorical data analysis.
Investigating domain specific discrimination experiences, researchers have found that heterosexist discrimination in the workplace negatively impacts health, job satisfaction, and psychological health (Smith & Ingram, 2004; Waldo, 1999). A limitation of the research is difficulty generalizing results. The majority of research samples were composed of educated, middle aged, white men in corporate jobs.

Szymanski (2006) developed a measure of heterosexist discrimination which can be used to obtain day-to-day experiences with discrimination based on sexual orientation. The HHRDS includes a subscale examining workplace and school related discrimination but also includes harassment and rejection, and discrimination with service providers, helping professionals, and strangers. Szymanski’s measure has been used to examine the role of heterosexist discrimination in the psychological distress in samples of lesbians and gay men. Research has consistently demonstrated that heterosexist discrimination is related to psychological distress. In fact, day-to-day experiences of discrimination have been demonstrated to be potentially traumatizing. However, there is one notable exception to this pattern of findings. The research has been mostly conducted with well-educated, White participants. When a racial minority sample was used and racial discrimination was measured, the relationship between sexual orientation discrimination and distress was lost. These finding suggest a complex relationship between various components of minority identity. Thus, a limitation of the research using the HHRDS is the difficulty generalizing results.

Finally, the HHRDS has been shown to have predictive validity of psychological distress in most samples. However, a careful examination reveals the HHRDS has mostly
been used to predict psychological distress as measured by the Hopkins Symptom Checklist. As a result, the predictive validity of the HHRDS with other measures of general psychological distress or more specific psychiatric diagnosis is unclear. The current investigation extends previous research by using specific measures of depression and anxiety.

Finally, moderators and mediators of the discrimination – distress link have been considered. Much of the sexual orientation discrimination literature has been developed from a minority stress perspective. Therefore, moderating variables which are protective or exacerbate the discrimination-distress link are usually examined. Therefore, applying Hatzenbuehler’s framework represents the opportunity to extend the current research on heterosexist discrimination by examining a possible mediator in the heterosexist discrimination-distress link.

**Universal Psychological Process: Attachment**

Within the psychological mediation framework, experiences of heterosexist discrimination and other distal forms of minority stress influence universal process variables which, in turn mediate the stress-psychological distress link. For the purpose of the current study, attachment is examined as a universal process that all individuals experience regardless of sexual orientation.

Attachment was selected as a mediator variable because attachment has been demonstrated to be related to interpersonal trauma (Sandberg, Suess, & Heaton, 2010; Whiffen & MacIntosh, 2005); and, recently, researchers have begun exploring chronic experiences of oppression, such as discrimination, as a form of trauma (Szymaksi &
Further, research has also demonstrated that insecure attachment strategies lead to risk of developing various types of psychological distress.

In this section, attachment theory is described. Theory regarding the relationship between attachment and distressing interpersonal situations in adulthood is reviewed. A discussion of attachment and sexual minority individuals follows. Finally, this section concludes with a review of the literature which has examined the relationship between heterosexist discrimination and attachment.

**Overview of Attachment Theory.** Attachment theory, developed by Bowlby (1969; 1973; 1980) explains that humans have a biological drive for close relationships to insure survival. The primary goal of attachment-related behaviors is to attain emotional and physical protection and security (Bowlby, 1969a, 1982). Bowlby theorized that the quality of parental attachment relationships is crucial to the development of a secure and stable sense of self.

As infants, humans are vulnerable and rely on their caregivers to meet their needs and protect them from danger. The attachment behavioral system helps them to seek out help and support (Mikulincer & Shaver, 2007a; Shaver & Mikulincer, 2007). When the child’s attachment needs are met the infant is comforted, emotions are regulated, and the distress is resolved. Empirical evidence has consistently supported the relationship between experiences of distress, proximity seeking, and emotion regulation in studies of children (Cassidy, 1994; Cassidy & Mohr, 2001; Main, Kaplan, & Cassidy, 1985).

Through repeated experiences of distress, children are hypothesized to develop cognitive representations of their attachment figures and themselves (Bowlby, 1969b,
Cognitive representations, or internal working models, serve as organizational schemes, scripts, and prototypes, for understanding oneself and others (Cassidy & Mohr, 2001; Collins & Allard, 2004). Internal working models are hypothesized to become reinforced, stable, and difficult to change over time and become cognitive structures which influence feeling, thoughts, and relational expectations (Collins & Allard, 2004; Mikulincer & Shaver, 2007b; Mikulincer, et al., 2003).

Attachment in adulthood varies along two continuous orthogonal dimensions: attachment anxiety and attachment avoidance (Brennan, Clark, & Shaver, 1998). Individuals who are secure (low anxiety, low avoidance) are comfortable relying on others, maintain comfort with closeness and separation, and typically experience resilience in times of distress. Individuals who develop insecure attachment patterns have learned that others are not available to aid in times of distress or are unreliable or insufficiently responsive. In response to this, individuals develop compensatory strategies, with the primary goal of gaining the support that they need. Compensatory strategies can be conceptualized along a continuum of hyperactivating (anxious) to deactivating (avoidant) strategies.

Individuals who demonstrate an anxious attachment pattern (high anxiety, low avoidance) typically rely on hyperactivating strategies for coping with distress (Dozier, et al., 1999; Mikulincer & Shaver, 2005, 2007b). These individuals tend to experience intense emotions and sometimes feel that they cannot control their emotions. Attachment anxiety is also associated with negative internal working model of the self, meaning that anxiously attached individuals have learned that they are not able to effectively manage
distress. As a result, individuals high in attachment anxiety tend to apprise distress as intense and themselves unable to cope with that intensity (Mikulincer, et al., 2003).

Individuals high in attachment anxiety have been shown to be hypervigilant to cues of rejection and negative evaluation in the social environment. Researchers examining the impact of attachment anxiety on psychological distress have generally found that individuals high in attachment anxiety report lower levels of self-esteem, higher levels of depression, and higher levels of anxiety than security attached individuals (Dozier, et al., 1999; Egeland & Carlson, 2004; Sandberg, et al., 2010). In addition, recent research has found that attachment anxiety mediates the relationship between interpersonally-related traumatic experiences and PTSD and depressive symptoms in samples of adolescent and college-aged women (Sandberg, et al., 2010; Whiffen & MacIntosh, 2005).

In contrast to attachment anxiety, individuals high in attachment avoidance (low anxiety, high avoidance), have been shown to defensively turn their attention away from their own distress, resulting in the deactivation or suppression of attachment related needs (i.e. intimacy, safety, security, comfort; Brennan, Clark, Shaver, Simpson, & Rholes, 1998a; Fraley, Garner, & Shaver, 2000; Mikulincer, Dolev, & Shaver, 2004; Mikulincer & Shaver, 2007b). These individuals typically deny their own distress (self-report vs. physiological measurement), use cognitive suppression to block the experience of negative emotion, and experience difficulty recalling painful material (Mikulincer, et al., 2006).
Although attachment avoidance may serve as a self-protective mechanism that allows individuals to divert their attention away from their own distress, Mikulincer et al. (2003) warn that deactivating strategies may lead to adjustment problems. Further, Mikulincer et al. speculate that during times of extended distress, avoidant individuals’ deactivating strategies fail and leave the individuals feeling overwhelmed and unable to effectively mobilize resources to cope with the distress. Supporting this conceptualization, Mikulincer et al. (2004) found when individuals high in attachment avoidance experience a high cognitive load, they are unable to inhibit the processing of attachment-related information and therefore were more able to access negative internal working models of themselves.

In adults, avoidance is associated with discomfort in close relationships, difficulty trusting, and the need for independence. A growing body of research also indicates that attachment avoidance is associated with depression, anxiety, and other forms of psychopathology (Dozier, 2008; Dozier, et al., 1999; Meins, Harris-Waller, & Lloyd, 2008; Rodin et al., 2007; Zakalik & Wei, 2006).

**Attachment and LGB Discrimination**

Attachment theory typically has been used to conceptualize the way that individuals relate to others, themselves, and the environment. In spite of similarities between heterosexual and non-heterosexual individuals, there are LGB-specific minority stressors, such as discrimination, that warrant investigation from an attachment perspective. Mohr (1999) suggested that individual’s ability to cope with anti-gay prejudice may be related to their attachment security. Literature examining the impact of
stressful events and attachment has generally found that those individuals with insecure attachment patterns have less positive outcomes than those who are secure (e.g., Lopez & Brennan, 2000). Attachment theorists have even examined whether significant life stressors can influence an individual’s attachment security. In the current investigation, the possibility that attachment patterns can be influenced by external LGB specific events is examined.

**Discrimination and Attachment.** When attachment is considered as consistent across time, attachment strategies can be used to understand how individuals are likely to cope with the stressors associated with experiences of discrimination (Mohr et al., 1999). Examining the individual differences in perceptions of discrimination, experimental research has found that some individuals are likely to either minimize or deny that discrimination has occurred (Crosby, 1982; Crosby, Pufall, Snyder, O’Connell, & Whalen, 1989; Ruggiero & Taylor, 1995) while other minority group members are highly aware of negative stereotypes and are sensitive to negative feedback and cues of discrimination (Crocker & Major, 1989; Crocker, Voelkl, Testa, & Major, 1991).

Building on this research from an attachment perspective, Zakalik and Wei (2006) proposed individuals high in attachment anxiety should be hypervigilant for cues of discrimination in the environment, whereas, individuals high in attachment avoidance would be more likely to minimize or deny discrimination experiences. A sample of gay men was recruited for participation. Participants were recruited from a variety of locations including internet Yahoo groups, gay pride events, support groups, affirming churches in Pennsylvania, Maryland, and Iowa, and by direct contact with the
researchers. Participants ranged in age from 18-80 ($M = 37$) and included 147 participants who completed the questionnaires via the internet and 87 participants who completed the pen and pencil version of the survey. The majority of participants were Caucasian (77.4%), reported a Christian religious affiliation (45%), and a middle class income ($M = $46,354). Additionally, most participants reported being “out” to their friends (92%), family (76%), and coworkers (69%).

Attachment was measured using the Experiences in Close Relationships Scale (ECR; Brennen et al., 1998). The ECR provides a dimensional measurement of the attachment anxiety and avoidance dimensions and has been shown to be a valid and reliable measure of adult attachment. Heterosexist discrimination was measured using a collection of modified measures which assessed verbal harassment, restricted rights, perceived prejudice in interpersonal domains, and negative reactions from others (Zakalik & Wei, 2006). Depression was measured with two widely-used depression checklists: The Center for Epidemiological Studies-Depression Scale (CES-D) and the Depression subscale of the Depression, Anxiety, and Stress Scales.

Zakalik and Wei (2006) hypothesized that since individuals high in attachment anxiety are more likely to be hypervigilant to cues of rejection in the environment, they would be more likely to perceive heterosexist events. In turn, it was hypothesized that experiencing heterosexist events would cause psychological distress. Results of the investigation supported these hypotheses. Perceived discrimination was supported as a partial mediator of the relationship between attachment anxiety and depression. Attachment avoidance, on the other hand, while associated with depression ($R^2=.46, p <$
was not associated with perceived discrimination ($R^2 = -0.02, p > .05$). Perceived discrimination did not mediate the relationship between attachment avoidance and depression.

In this investigation, Zakalik and Wei (2006) examined attachment security as a predictor of perceived discrimination. However, this research is cross-sectional in design, therefore, causation cannot be determined. In addition, this study focused exclusively on gay men and therefore it is difficult to generalize these results to same sex attracted women.

**Change in Attachment**

Attachment is theorized to be relatively stable throughout the life-span. However, research has generally found that attachment has about 70% consistency over time (Bladvin, & Fehr, 1995; Waters, Hamilton, & Weinfield, 2000), which indicates that attachment can be altered. Theory and research suggest that it is possible, and even useful for working models to be updated to reflect environmental changes (Bowlby, 1969) or changes regarding to caregivers (Bowlby, 1988). Researchers have found support for this when significant interpersonal events occur such as marriage and relationship breakups (Davila et al., 1999; Kirkpatrick & Hazan, 1994), interpersonal loss (Waters, Merrick, Treboux, Crowll, & Albersheim, 2000), and in response to childhood trauma (Roche, Runtz, & Hunger, 1999; Sandberg, Suess, Heaton, 2010).

There are many aspects of sexual minority individual's identity development that can lead to environmental changes and changes with caregivers. For example, when an individual comes out they risk increased amounts of discrimination when interacting with
other people or social structures. Individuals also risk changes in relationships with parents and close friends when disclosing their sexual orientation (Meyer, 2003).

Theoretically, stressful interpersonal experiences associated with the coming out process may influence attachment security either positively or negatively (Mohr, 2008).

Mohr and Fassinger (2003) found that parental support for sexual orientation is related to the individual’s attachment security. In this example, parental rejection is conceptualized as type of heterosexist discrimination. Participants were a large sample of gay and bisexual men \((n = 288)\) and lesbian and bisexual women \((n = 201)\) ranging in age from 18 to 68 years \((M = 36.28)\). The majority of participants identified as Caucasian \((84.9\%)\) and were well educated. The number of years since coming out ranged from 1-48 years \((M = 14.3)\). Participants self-reported their representations of childhood attachment using three items developed by Hazan and Shaver for both their mother and father. Participants also reported their perceived parental support, specifically related to sexual orientation for each parent individually. Attachment anxiety and attachment avoidance were examined as mediators of the relationship between perceived parental support and several outcome variables. Attachment avoidance was supported as a mediator of perceived maternal support and difficulty accepting one’s sexual orientation. Attachment anxiety was found to mediate the relationship between low levels of paternal support and difficulty accepting sexual orientation. The results of the study reveal the possibility that heterosexist events from attachment figures may influence attachment security.
Attachment Summary and Related Hypothesis. The attachment behavioral system develops during infancy and continues functioning throughout the life-span. The attachment behavioral system consists of a set of evolutionarily based behaviors, which involve the seeking attachment figure, either literally or figuratively, who can provide a safe haven in times of distress. Effective responses from the attachment figure result in a felt sense of security, emotion regulation, and provide procedural knowledge or a script for managing distress. When an individual does not experience effective responses, the individual develops secondary insecure strategies for coping with distress.

In adulthood, attachment security is conceptualized along two continuous orthogonal dimensions of anxiety and avoidance. Individuals low on both dimensions are said to have obtained attachment security. Individuals high in attachment anxiety utilize hyperactivating strategies when coping with threat or rejection. Hyperactivating strategies allow for the rapid detection of threat or rejection-related information in the environment, a negative cognitive representation of the self, and elevated self-reports of psychological distress. On the other hand, attachment avoidance is associated with deactivating the attachment system and defensively diverting attention away from distress, and can be protective. However, if the cognitive load becomes too taxing, the defensive strategy breaks down and the ability to suppress negative information diminishes. Ultimately, insecure attachment strategies are associated with psychopathology, including experiences of anxiety and depression.

Zakalik and Wei (2006) investigated perceived discrimination as a mediator of attachment and self-reported depression symptoms. Results revealed that attachment
anxiety influenced perceived discrimination, and in turn, perceived discrimination influenced depression. These results support the presence of a relationship between attachment anxiety and discrimination. Zakalik and Wei considered attachment to be a stable characteristic which would shape the way that individuals perceived their environment. However, it is feasible that heterosexist events can be powerful enough to influence stable attachment patterns. Mohr and Fassinger found support for attachment anxiety and attachment avoidance to mediate the relationship between a heterosexist discrimination perpetrated by a family member and outcomes variables. Additionally, researchers investigating trauma have found that attachment mediates the influence of the childhood trauma and the development of post-traumatic stress disorder.

Congruent with Hatzenbuehler’s theory, attachment is considered to a potential mediator of the relationship between heterosexist discrimination and indices of psychological distress. This is a largely exploratory hypothesis. Research has suggested that a relationship between attachment anxiety and discrimination exists; however, the relationship between the variables was conceptualized from a different theoretical perspective. Attachment, however, has been found to be influenced by parental support and rejection which are sexual orientation related stressors. It is unknown whether individuals will experience a variety of heterosexist discrimination experiences as salient and emotionally relevant enough to influence attachment.

**Internalized Heterosexism: A Group Specific Proximal Stressor**

In addition to examining attachment as a mediator of the discrimination – distress link, Hatzenbuehler suggests that group specific proximal stressors, especially those
related to identity formation may mediate the relationship between external stressful events and specific mental health outcomes. Internalized heterosexism (IH) is an internally-experienced stressor, which involves translating the negative social views of LGB individuals to the self and then incorporating those views into the self-concept. IH has been included as a measurement of LGB identity formation, with lower levels of IH indicating more positive LGB identity formation (Eliason & Schope, 2007; Mohr & Fassinger, 2003; Rosario, Schrimshaw, Hunter, & Braun, 2006). Therefore, in the current investigation, IH is conceptualized as a potential mediator of discrimination and distress.

Examining IH as a mediator is a novel way of conceptualizing the relationship between IH and psychological distress. More frequently, IH is investigated as a stressor which leads to distress (Internalized Heterosexism → Psychological Distress). Therefore, research has focused on factors influence (moderate) the effects of internalized heterosexism. However, within the Hatzenbuehler model, an antecedent to internalized heterosexism is introduced. Hatzenbuehler’s model proposes that distal stressors, such as discrimination, influences an individual’s identity process (i.e., IH) and that that identity process variable is what actually causes the distress. The causal relationship between discrimination and IH has never been examined. However, the relationship between IH and psychological distress is well-established. As a result, only literature which highlights the relationship between IH and psychological distress is reviewed in this section.

**Internalized Heterosexism as a Predictor of Psychological Distress.** Sexual minority individuals live in a society which devalues same-sex attraction. The internalization of those negative attitudes and application of those negative social
attitudes to the self is termed internalized heterosexism and was first introduced by Weinberg (1972). When the term internalized homophobia was originally introduced it was a revolutionary idea and lead to the study and impact of negative cultural messages. However, as time has progressed, the terms homophobia and internalized homophobia have been criticized. Today, many terms have been used to describe the internalization of negative societal messages including internalized homonegativity, internalized stigma, and internalized heterosexism. Szymanski (2008) suggests that the term “internalized heterosexism” best captures the structural social contribution of this construct. Therefore, in order to provide consistency in language, I will refer to internalized negative social beliefs (i.e., devaluing and questioning whether LGB sexual orientation are legitimate) that have been internalized by LGB individuals as internalized heterosexism (IH).

Internalized heterosexism was one of the original stressors Meyer hypothesized would influence psychological distress among sexual minority individuals. Congruent with minority stress theory, researchers have found robust support for the relationship of IH and psychological distress, anxiety, and depressive symptoms (Szymanski, et al., 2008a, 2008b; D. Szymanski, 2005; Szymanski & Balsam, 2010; Szymanski & Chung, 2001, 2003; D. Szymanski & Kashubeck-West, 2008). In addition, researchers have found that IH is associated with a number of other negative psychological outcomes. For example, in sexual minority woman, research has found that high levels of IH are related to poor self-esteem (Peterson & Gerrity, 2006), fewer social supports, increased self-harming behavior (Alexander & Clare, 2004; King, Semelyn, et al., 2008), increased loneliness (D. Szymanski & Chung, 2001), and increased substance use (Amadio &
Chung, 2004; Bux, 1996; Cochran, et al., 2004; Hughes, 2005). Recent meta-analysis suggests that moderate correlations between IH and depression and anxiety are consistently found in the literature (Newcomb & Mustanski, 2010).

Taken together, this research demonstrates that internalizing the negative messages that society provides about being gay lead to a variety of negative outcomes. Although much is known about the negative impact of IH, research has not typically examined how IH develops and then ultimately leads to psychological distress.

**Internalized Heterosexism as a Mediator of Distress.** Once researchers identified that IH was predictive of number of negative outcomes, attention turned to finding variables that attenuated this relationship. Therefore, internalized heterosexism has been viewed as a predictor of psychological distress which is either moderated or mediated. For example, McGregor et al. (2001) found that IH leads to low self-esteem, which in turn leads to elevated psychological distress (IH → self-esteem → psychological distress). However, the psychological mediation model suggests that IH may be an important mediator of the relationship between external stressors and psychological distress (discrimination → IH → psychological distress). This represents a novel conceptualization of the function of IH which necessitates further empirical examination. I have identified two studies which examine or discuss the role of IH as a mechanism involved in the external stress – psychological distress link. The first of these is an investigation which examined IH as a potential moderator of discrimination. The second is a case study, in which the authors report curiosity about the possibility of an external stressor increasing levels of IH.
Szymanski (2006) examined the role of internalized heterosexism as a moderator of heterosexist events, including discrimination and psychological distress in a sample of 143, predominately white, lesbian women. Specifically, IH was hypothesized to exacerbate the effects of heterosexist events on mental health. Participants were recruited on social and academic listservs as well at a LGB pride festival. Heterosexist events were measured using the Heterosexist Harassment, Rejection, and Discrimination Scale (HHRDS; Szymanski, 2006). IH was measured using the Lesbian Internalized Homophobia Scale (LIHS). Psychological distress was measured using the Hopkins Symptom Checklist. Results indicated IH and heterosexist discrimination both uniquely predicted psychological distress ($R^2 = .256$, $F(5, 132) = 9.099, p < .005$). However, after the main effects were accounted for, IH was not supported as a moderator of psychological distress ($R^2$ change =.008, $p > .05$). That is, internalized heterosexism and discrimination did not interact to predict psychological distress.

Although not an experimental or correlational design, Kaysen, Lostutter, and Goines (2005) published a case study using cognitive therapy to treat a gay male client following a sexual orientation based hate crime. Following the victimization experience, the client was asked to fill out a number of self-report measures. Included in those measures was a measure of IH. The client’s self-reported IH score was a 102, well above the published mean of 61.5. The author acknowledges that it is possible that the client had elevated IH scores prior to the assault, but hypothesized that experiencing the hate crime elevated his level of IH, which in turn lead to experiencing distress.
Taken together, these studies indicate that more information is needed to uncover the nature of the relationship between discrimination, internalized heterosexism, and psychological distress. Hatzenbuehler suggests a mediating role, which has not been examined in the literature. However, the case study provides some indication that it may be useful to examine the possible mediating instead of a moderating role of IH. The current investigation will extend previous literature by examining this link.

**The Current Investigation**

Sexual minority women face unique stressors which result from membership in a marginalized group. Discrimination is a widespread problem, affecting nearly three-quarters of sexual minority individuals. Furthermore, research has demonstrated that discrimination is related to increased levels of psychological distress, health complaints, depression, and anxiety symptoms. However, little is known about how those discrimination influences distress. The current investigation builds upon previous research and theory to test Hatzenbuehler’s integrative psychological mediation framework which integrates both minority specific risk factors for psychopathology as well as universal risk factors for psychopathology.

Within the basic psychological mediation framework, an externally experienced minority stressor influences a universal process variable, which in turn results in psychopathology. Research has demonstrated that discrimination is a minority stressor which has negative consequences in several minority groups including sexual minority groups. Therefore, discrimination is investigated as the stressor of interest in the current investigation.
Hatzenbuehler specifies that potential mediators of the stress-psychological distress link should be known risk factors for psychological distress in non-sexual minority specific samples. Insecure attachment strategies are a known risk factor for psychological distress. Furthermore, LGB specific stressors such as discrimination, parental support, and internalized heterosexism have been found to be related to attachment security. The current study extends previous literature by examining the role of attachment in mediator of the stress - psychological distress link. Specifically, it is expected that attachment anxiety may be influenced by discrimination which, in turn, will influence psychological distress. Attachment avoidance is not expected to mediate the link because previous research has not supported a relationship between attachment avoidance and discrimination.

Also, in accordance with Hatzenbuehler’s framework, the current investigation examines specific psychological symptoms instead of focusing on distress generally. Depressive symptoms and anxiety symptoms were selected because the literature on discrimination has demonstrated a link to both depression and anxiety; however, more research is needed to verify these finding with more current instrumentation. Usually, research assumes that the absence of symptom’s indicating well-being; however, it is possible that the absence of symptoms reflects simply that the participant’s distress was not measured. Therefore, a measure of well-being is included.

In addition to providing a basic mediation model, Hatzenbuehler also suggests that proximal stressors (e.g., IH) may function as a potential mediator of the stress-psychopathology link. This is a novel conceptualizations of the way in which IH
functions, therefore, the current investigation builds on Hatzenbuehler’s theory and extends previous relationships by investigating these hypothesized relationships.

**Hypothesis**

The current study seeks to examine the role of minority stressors within Hatzenbuehler’s psychological mediation model. Listed below are the hypotheses for the current investigation.

1. Attachment anxiety is hypothesized to mediate the relationship between discrimination and measures of depression, anxiety, and overall psychological well-being.
   a) It is expected that discrimination will influence attachment anxiety.
   b) It is hypothesized that attachment anxiety will influence measures of depression, anxiety, and well-being.

2. Attachment avoidance is not hypothesized to mediate the relationship between discrimination and measures of depression and anxiety.
   a) Discrimination will not influence attachment avoidance. Previous research has not supported a relationship between heterosexist discrimination and attachment avoidance (Zakalik & Wei, 2006).
   b) Attachment avoidance will influence depression, anxiety, and well-being. Insecure attachment strategies in general and attachment anxiety in particular have been demonstrated to be related to depression and anxiety.
in a number of studies (Dozier, 2008; Dozier, et al., 1999). Also, as previously reviewed, Zakalik and Wei (2006) found a positive association between attachment anxiety and psychological distress.

3. Internalized heterosexism will mediate the relationship between discrimination and measures of depression, anxiety, and well-being.

   a) Discrimination will influence IH. This hypothesis is largely exploratory, but is supported by qualitative research.

   b) IH will influence depression, anxiety, and well-being. Szymanski (2008) in a review of the literature, found consistent evidence predicted within minority stress theory.

   c) Discrimination will influence scores on depression, anxiety, and well-being. This relationship has been supported in epidemiological studies (Gilman, et al., 2001; Mays & Cochran, 2001) and is predicted by both minority stress theory (Meyer, 1995, 2003) and Hatzenbuehler’s psychological mediation model.
CHAPTER 3

Method

Chapter Two presented a review of Hatzenbuehler’s integrative theoretical framework as well as empirical literature, which supports the model. This chapter presents the method for exploring the hypotheses of the current investigation. In addition, information describing participants, recruitment of participants, data collection procedures, and information about the measures that were utilized are presented.

Participants

Participants for the current study were 128 undergraduate women attending community college, colleges, or universities who identify as non-heterosexual and reside in the United States. Participants ranged in age from 18-27 ($M = 20.81$, $SD = 1.88$). The majority of participants identified as White (77.3%), however participants also identified themselves as Hispanic (10.2%), Biracial (4.7), Asian (3.9%), African American (2.3%), and Middle Eastern (.8%). One person (.8%) did not provide information about their racial/ethnic background. Women varied in their responses to questions regarding sexuality. The largest proportions of women self-identified as lesbian (47.7%), mostly attracted to females (35.9%), in a partnered relationship (49.2%) and self-reported a sexual history with women only (35.9%) or both men and women (35.9%; see Table 3.1).
Table 3.1

Participants Sexual Orientation and Relationship Status

<table>
<thead>
<tr>
<th>Sexual Orientation</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self-Identification</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesbian</td>
<td>61</td>
<td>47.7</td>
</tr>
<tr>
<td>Bisexual</td>
<td>42</td>
<td>32.8</td>
</tr>
<tr>
<td>Queer/flexible</td>
<td>25</td>
<td>19.5</td>
</tr>
<tr>
<td><strong>Attraction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Only attracted to females</td>
<td>41</td>
<td>32</td>
</tr>
<tr>
<td>Mostly attracted to females</td>
<td>46</td>
<td>35.9</td>
</tr>
<tr>
<td>Equally attracted to females</td>
<td>25</td>
<td>19.5</td>
</tr>
<tr>
<td>and males</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mostly attracted to males</td>
<td>16</td>
<td>12.5</td>
</tr>
<tr>
<td><strong>Sexual History</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men only</td>
<td>21</td>
<td>16.4</td>
</tr>
<tr>
<td>Women only</td>
<td>46</td>
<td>35.9</td>
</tr>
<tr>
<td>Both men and women</td>
<td>46</td>
<td>35.9</td>
</tr>
<tr>
<td>I have not had sex</td>
<td>15</td>
<td>11.7</td>
</tr>
<tr>
<td><strong>Relationship Status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single, not dating</td>
<td>26</td>
<td>20.3</td>
</tr>
<tr>
<td>Single, and dating</td>
<td>34</td>
<td>26.6</td>
</tr>
<tr>
<td>In a committed relationship</td>
<td>63</td>
<td>49.2</td>
</tr>
<tr>
<td>Separated from a partner</td>
<td>5</td>
<td>3.9</td>
</tr>
</tbody>
</table>

The majority of participants were from state universities (82.8%), however, those from private universities (9.4%), and community colleges (7.8%) also responded (Table 3.2). The largest proportions of students were seniors (40.6%) and were from institutions with greater than 30,000 students in enrolled (40.6%).
Table 3.2

Participants Academic Institutions and Class Standing

<table>
<thead>
<tr>
<th>Type of Institution</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community College</td>
<td>10</td>
<td>7.8</td>
</tr>
<tr>
<td>Private University</td>
<td>12</td>
<td>9.4</td>
</tr>
<tr>
<td>State University</td>
<td>106</td>
<td>82.8</td>
</tr>
<tr>
<td>Enrollment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fewer than 5000</td>
<td>9</td>
<td>14.8</td>
</tr>
<tr>
<td>5000-15,000</td>
<td>38</td>
<td>29.7</td>
</tr>
<tr>
<td>15,000-30,000</td>
<td>19</td>
<td>14.8</td>
</tr>
<tr>
<td>More than 30,000</td>
<td>52</td>
<td>40.6</td>
</tr>
<tr>
<td>Class Standing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freshman</td>
<td>15</td>
<td>11.7</td>
</tr>
<tr>
<td>Sophomore</td>
<td>26</td>
<td>20.3</td>
</tr>
<tr>
<td>Junior</td>
<td>35</td>
<td>27.3</td>
</tr>
<tr>
<td>Senior</td>
<td>52</td>
<td>40.6</td>
</tr>
</tbody>
</table>

**Recruitment.** Participants were recruited from post-secondary institutions across all four major regions of the United States defined by the US Census Bureau (west, south, northeast, Midwest; see Table 3.3) for an online survey. Participants were recruited from listservs and Facebook groups associated with LGBTQ organizations. The recruitment notice also encouraged those reading it to forward it on to others who might be interested in participating, thus utilizing a snowball effect. This method has been successful in previous research with sexual minority individuals (Meyer, 2009). IRB approval was also obtained from each school when an IRB was available. Often, community colleges
did not have an IRB and therefore approved the study on the basis of it being approved by The Pennsylvania State University’s Office for Research Protections.

Post-secondary institution listservs were first identified through the use of The LGBTQ Center Directory on Consortium of Higher Education LGBT Resource Professionals (http://www.lgbtcampus.org/directory/). To reach students attending institutions without an LGBTQ center, LGBTQ student organizations were identified using the Human Rights Campaign LGBT Campus Group Directory. Finally, Campus Pride, a national LGBTQ college student organization, allowed a recruitment notice to be posted on their website.

**The LGBTQ Center Directory on Consortium of Higher Education LGBT Resource Professionals.** The LGBTQ Center Directory on Consortium of Higher Education LGBT Resource Professionals is a directory of campus LGBTQ resource centers in the United States and Canada. In order to qualify as a LGBTQ resource center, each center must have a professional staff person or a graduate assistant for at least 20 hours a week. Institutions were selected from the database in order to maximize geographic diversity based on the data available on the Consortium’s directory (Table 3.3).

If no response was received from the institutions or permission to recruit was denied, additional sites were contacted for recruitment from each region. Once an LGBTQ center was identified, other student affairs divisions at the same university were also identified for recruitment (e.g., women’s resource centers, multicultural centers). The intention of this was twofold. First, sexual minority, college student, women represent a
small proportion of college students. Therefore, recruitment of participants from several
college listservs where sexual minority women may be affiliated was used to increase the
likelihood gaining a sufficient number of participants. Secondly, sampling from multiple
types of listservs was used to increase the diversity in participant’s level of outness and
connection to the LGBTQ community.

**Human Rights Campaign LGBT Campus Group Directory.** The LGBTQ Center
Directory did not contain any listings for 11 states including: Alaska, Nevada, Montana,
Wyoming, New Mexico, North Dakota, South Dakota, Oklahoma, Arkansas, Mississippi,
and Alabama. Although there were no formal LGBT resource centers in those states, it
seemed important to try to gain access to students which did not have the same structural
supports as those with access to resource centers. Thus, in order to gain access to
individuals not represented by the Directory of LGBT Resource Professionals, the
Human Rights Campaign LGBT Campus Group Directory was used to identify potential
recruitment sites (http://www.hrc.org/issues/youth_and_campus_activism/4926.htm).

The majority of student organizations did not have a listserv available to forward
on study requests. However, most did have a Facebook group. Facebook is a social
networking tool that is widely, and sometimes exclusively, used by Gay-Straight
Alliances and LGBTQIA student organizations, especially at community colleges. Also,
LGBTQIA Resource Centers at many community colleges do not have web space or
listservs for their students and instead rely on Facebook to communicate with group
members. Therefore a Facebook wall post was created to be posted of the wall of LGBT
student organizations. Permission to post on each entity's Facebook wall was gained prior to posting.

*Campus Pride*. Finally, a recruitment notice was also posted on the Facebook page of Campus Pride as well as the blog they maintain. Campus Pride is the only national nonprofit 501(c)(3) organization for student leaders and campus groups working to create a safer college environment for LGBT students. The organization is a volunteer-driven network "for" and "by" student leaders. The primary objective of Campus Pride is to develop necessary resources, programs and services to support LGBT and ally students on college campuses across the United States.

Table 3.3

*Post-Secondary institutions where at least one list-serv administrator was contacted for recruitment*

<table>
<thead>
<tr>
<th>Northeast</th>
<th>Midwest</th>
<th>South</th>
<th>West</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Connecticut</strong></td>
<td><strong>Indiana</strong></td>
<td><strong>Alabama</strong></td>
<td><strong>Alaska</strong></td>
</tr>
<tr>
<td>Connecticut College</td>
<td>DePauw University</td>
<td>University of Alabama</td>
<td>University of Alaska</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Tuscaloosa</td>
<td>Fairbanks</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Florida</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Broward County Community College</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Florida Institute of Technology</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Florida International University</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tallahassee Community College</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>University of South Florida</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>University of Florida</td>
<td></td>
</tr>
<tr>
<td><strong>Maine</strong></td>
<td><strong>Iowa</strong></td>
<td><strong>Kansas</strong></td>
<td><strong>Arizona</strong></td>
</tr>
<tr>
<td>Husson University</td>
<td>Northwestern University</td>
<td>Rockhurst University</td>
<td>Arizona State</td>
</tr>
<tr>
<td></td>
<td>University of Iowa</td>
<td></td>
<td>University*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Chandler-Gilbert</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Community College</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mesa Community College</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>College</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Maricopa Community Colleges</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Massachusetts</strong></td>
<td><strong>Dartmouth College</strong></td>
<td><strong>University of Kansas</strong></td>
<td><strong>California</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>University of North Florida</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Florida</td>
<td>California Polytechnic State</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>University of St. Louis</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Obispo</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>City College of San Francisco</td>
</tr>
<tr>
<td>College Name</td>
<td>University Name</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>----------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Greenfield Community College</td>
<td>University of South Florida-Tampa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hampshire College</td>
<td>Gulf Coast State College</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Massachusetts Institute of Technology</td>
<td>Joliet Junior College</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Massachusetts</td>
<td>McHenry County College</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Assumption University</td>
<td>University of Chicago</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bentley University</td>
<td>Southern Illinois University</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>New Hampshire</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of New Hampshire</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>New Jersey</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Montclair State University</td>
<td>McDaniel College*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rutgers University – New Brunswick</td>
<td>Towson University</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New York</td>
<td>University of Maryland</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New York University</td>
<td>Wor-Wic Community College</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colgate University*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College of St. Rose*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cornell University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUNY College at Oneonta</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vassar College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pennsylvania</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bryn Mawr College</td>
<td>University of South Carolina</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community College of Philadelphia</td>
<td>University of Tennessee*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dickinson College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kenyon College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kutztown University of Pennsylvania</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shippensburg University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The Pennsylvania State University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Illinois</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elgin Community College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illinois College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Joliet Junior College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McHenry County College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Chicago</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southern Illinois University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Michigan</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grand Valley State University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kellogg Community College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Michigan-Dearborn</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Michigan-Flint</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washukenaw Community College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College for Creative Studies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kalamazoo Valley Community College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lansing Community College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mott Community College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Minnesota</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minnesota State University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>St. Cloud State University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macalester College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Riverland Community College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Missouri</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Truman State University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Missouri</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>St. Louis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washington U. in St. Louis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Kentucky</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Georgia</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Georgia Tech</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kennesaw State University*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Maryland</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>McDaniel College*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Towson University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Maryland</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mississippi</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northwest Mississippi Community College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mississippi State University*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>North Carolina</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Duke</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>East Carolina University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Carolina State University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Oklahoma</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Oklahoma*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>South Carolina</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of South Carolina</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clemson University</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Tennessee</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Tennessee*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Colorado</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colorado College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colorado School of Mines*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community College of Denver</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fort Lewis College</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metropolitan State College of Denver</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Colorado at Colorado Springs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Colorado Boulder</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Northern Colorado</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hawaii</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Hawaii Manoa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Idaho</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of Idaho</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>New Mexico</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>University of New Mexico</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Oregon</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Procedure

In this section the process of data collection is explained first and then information on recruitment is provided. Participants for the current investigation were recruited through a listserv announcement (Appendix A) or Facebook post (Appendix B) for an online study. Those individuals interested in participation then navigated to www.psychdata.com and entered the survey number for the current investigation.
Psychdata is an online webhosting survey site which was designed specific for psychological research. Once participants clicked on the link to the survey, they were directed to an implied consent form (Appendix C) which explained the nature of the investigation, the benefits and risks of participation, as well as the rights of the participant. Those interested in continuing with the investigation were then directed to a drawing entry form (Appendix D). At the request of The Pennsylvania State University’s IRB review board, participants were then directed to a printable resources page (Appendix E) providing participants with a link to online support services and reminding participants of their right to stop participation at any time.

After reading the resources page participants were directed to one of the six counterbalanced sets of surveys. Participants were not able to tell that they had been redirected to a separate database. After completing the survey, participants were directed to a printable debriefing statement which included a list of on-line support resources and links that offer connection to the sexual minority community (Appendix F).

As an incentive for completing this study, participants were offered the opportunity to enter a drawing for one of several email gift-certificates in the amount of $10.00 to Amazon.com. There was a gift certificate drawing for every 25 individuals who participated. A total of eight gift certificates were issued to participants.

**Measures**

**Demographic Questionnaire (Appendix G).** A demographic questionnaire was constructed for this investigation which assesses age, gender, ethnicity, SES, verification that participants are college students, class standing, and sexual orientation. Sexual
orientation is considered to be a latent construct and therefore was measured using multiple indicators as suggested by the Williams Institute (2009) best practices guidelines for assessing sexual orientation. Four indicators of sexual orientation were used (i.e., self-identification; sexual behavior; sexual attraction; and marriage, partnership, and cohabitation status). Individuals were included in the investigation as long as they did not indicate exclusive opposite sex sexual behavior, sexual attraction, or relationship status.

**Outness (Appendix H).** Level of outness was measured using the Outness Inventory (OI; Mohr & Fassinger, 2000). The OI is a 10-item measure, with three subscales, assessing an individual’s level of outness to: family (mother, father, siblings, extended family); the world (new straight friends, work peers, work supervisors, strangers/new acquaintances; and religious individuals (leaders of the religious community, members of the religious community). Participants rate their outness on a 7-point scale (1 = *person definitely does not know your sexual orientation status* to 7 = *person definitely knows your sexual orientation status, and it is openly talked about*). Higher scores indicate greater levels of outness. The OI can be used to examine outness in a particular domain using an individual subscale total score. Alternatively, an overall outness index score can be obtained by calculating and average of all three subscale scores. In the current investigation the later scoring method was used.

Mohr and Fassinger (2000) demonstrated the subscales to have moderate to high internal consistency: outness to family ($\alpha = .74$), outness to the world ($\alpha = .79$), out to religion ($\alpha = .97$). In a separate investigation, Balsam and Mohr (2007) demonstrated
high internal consistency for the overall outness index score ($\alpha = .87$). In the current investigation the reliability coefficients were .76, .74, and .95 respectively. The total scale reliability coefficient was .80.

**Heterosexist Discrimination (Appendix I).** The Heterosexist Harassment, Rejection, and Discrimination Scale (HHRD; Szymanski, 2006) is a 14-item measure which assesses the frequency of heterosexist discrimination that occurred within the last year. Factor analysis reveals that the HHRD has three factors: Harassment and Rejection ($\alpha = .89$); Workplace and School Discrimination ($\alpha = .84$); and Other Discrimination ($\alpha = .78$). Participants are asked to rate each question on a 1-6 scale: 1 = *This event has never happened to you (0% of the time)*; 2 = *This event happened once in a while (less than 10% of the time)*, 3 = *This event happened sometimes (10-25% of the time)*, 4 = *This event happened a lot (26-49% of the time)*, 5 = *This event happened most of the time (50-70% of the time)*, and 6 = *This event happened most of the time (50-70% of the time)*.

Individual items on the HHRDS were originally created for use with lesbian-identified women. In the current investigation, items were modified to be inclusive of bisexual women. Modifying items in this manner is common within the LGBT literature (Szymanksi, 2001). In 2008, Szymanski modified the items to be inclusive of bisexual individuals. An example of a modification is “I live in fear that someone will find out I am a lesbian/bisexual woman.” Examples of the items on the Harassment and Rejection subscale include: “How many times have you been verbally insulted because you are a Lesbian/Bisexual?” and “How many times have you been rejected by friends because you are a Lesbian/Bisexual woman?” Items on the Workplace and School Discrimination
subscale include: “How many times have you been treated unfairly by co-workers, fellow students, or colleagues because you are a Lesbian/Bisexual woman?” and “How many times have you been treated unfairly by your employer, boss, or supervisors because you are a Lesbian/Bisexual woman?” The final subscale, Other Discrimination, includes items such as: “How many times have you been treated unfairly by strangers because you are Lesbian/Bisexual woman?” and, “How many times have you been treated unfairly by people in service jobs (by store clerks, waiters, bartenders, waitresses, bank tellers, mechanics, and others) because you are a Lesbian/Bisexual woman?”

The HHRDS utilizes a total scale score. The total score consists of scale score averages with higher scores indicating more experiences of heterosexist discrimination, rejection, and harassment. In the current study participants indicated low levels of discrimination ($M = 1.81; SD = .71$). Szymanksi reported the total scale score reliability was high ($\alpha = .90$). In the current investigation, internal consistency scores were similar to the original investigation: Harassment and Rejection ($\alpha = .82$); Workplace and School Discrimination ($\alpha = .86$); and Other Discrimination ($\alpha = .80$). In addition, the total scale score demonstrated high internal consistency score ($\alpha = .90$). Although the HHRDS has three subscales, only the total score has been used in previous research. Therefore, the total scale score was used in the current investigation.

**Attachment (Appendix J).** The Experiences in Close Relationships-Short Form (ECR-SF; Wei, Russell, Mallinckrodt, & Vogel, 2007) was used to measure attachment anxiety and attachment avoidance in the current investigation. The ECR-SF is a 12-item is an abbreviated version of the original 36 - item Experiences in Close Relationships
Scale (Brennen, Clark, & Shaver, 1998). The ECR-SF has 2 orthogonal subscales: attachment anxiety (6 items) and attachment avoidance (6 items), and both were used in this study. Participants rate each item is rated on a 7-point rating scale from 1 (strongly disagree) to 7 (strongly agree). Attachment anxiety is represented by items such as ‘my desire to be very close sometimes scares people away.” Attachment avoidance is represented by items such as, “I’m nervous when my partner gets too close.”

Wei et. al (2007) found the ECR-SF had lower, but acceptable, reliability when compared to the ECR. The ECR-SF demonstrated moderate reliability for each subscale: anxiety ($\alpha = .78$); avoidance ($\alpha = .84$). In the current investigation, internal consistency was moderate for attachment anxiety ($\alpha = .81$) and attachment avoidance ($\alpha = .78$).

**Internalized Heterosexism (Appendix K).** The short form of the Lesbian Internalized Homophobia Scale (LIHS-SF; Piggot, 2004) which is the abbreviated version of the Lesbian Internalized Homophobia Scale (LIHS; Szymanski & Chung, 2001b), was used as a measure of internalized heterosexism. The LIHS-SF is a 39-item measure and consists of five subscales: Personal Identification as a Lesbian (16 items), Interaction with the Lesbian Community (8 items), Knowledge of Lesbian History and Resources (5 items), Personal Feelings about Being a Lesbian (6 items), and Attitudes toward Other Lesbians (4 items). Each item is rated on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree).

The LIHS-SF contains items such as, “I hate myself for being attracted to other women.” For use in the current investigation, some items were modified to be inclusive of bisexual women. An example of a modification are, “I act as if my same sex lovers are
merely friends,” “I have respect and admiration for other same sex attracted women,” and “I am proud to be a lesbian/bisexual woman.” Modifying items in this way is a common practice within the sexual minority literature (Szymanski, 2001). For example, Balsam and Szymanski (2005) modified the items to be inclusive of bisexual women.

Szymanski and Chung (2001a) report that the LIHS-SF is correlated with self-esteem, loneliness, depression, social support, and identity concealment. In addition, the LIHS-SF has been validated in international samples (Piggot, 2006). Szymanski and Chung (2001a) reported LIHS-SF subscales have moderate to high internal consistency with coefficients ranging from .74 - .92. Only the total scale score is used in the current investigation. The total scale score for this sample demonstrated high internal consistency ($\alpha = .91$).

**Anxiety (Appendix L).** Anxiety was measured using an anxiety screening tool, the Generalized Anxiety Disorder-7 scale (GAD-7; Spitzer, Kroneke, Williams, & Lowe, 2006). The GAD-7 contains seven items which assess common symptoms of anxiety such as by asking participants to reflect on their anxiety over the last two weeks. Participant’s rate items on a four-point scale ranging from 0 (not at all) to 3 (nearly every day). Examples of items are “Feeling nervous, anxious, or on edge” and “Feeling afraid as if something awful might happen.” The total scale score is created by summing the items. Total scale scores range from 0-21. Scores of 5-9 represent “mild anxiety,” scores of 10-14 represent “moderate anxiety,” and scores of 15-21 represent “severe anxiety.” When the GAD-7 is used as a screening tool scores greater than 10 indicate that further diagnostic evaluation should be used to assess for an anxiety disorder. In the current
investigation, participants reported a mild amount of anxiety (M=8.04, SD = 5.15) and the items demonstrated acceptable internal consistency (α = .89).

The GAD-7 was originally developed to assess generalized anxiety disorder in a primary care setting (Spitzer, Kroenke, Williams, & Lowe, 2006). The GAD-7 was validated in a large sample (N = 2740) in a primary care setting, demonstrated good criterion validity, and adequately predicted a diagnosis of GAD (r = .97) as determined by two mental health professional using structured interviews. In a separate investigation of 965 participants, the GAD-7 was also demonstrated to be highly correlated with other anxiety disorders including panic disorder (r = .94), social anxiety disorder (r = .88), and posttraumatic stress disorder (r = .90; Kroneke, Spitzer, Williams, Monahan, Lowe, 2007). In a sample comprised of the general population (N = 5030), the GAD-7 was demonstrated to be predictive of anxiety disorders for both men and women with women reporting higher levels of anxiety than men (Lowe et al., 2008).

**Depression (Appendix M).** The Center for Epidemiological Studies–Depression Scale (CES – D; Radloff, 1977) measures various aspects of emotional well-being. The CES-D is 20-item measure. Participants are asked to report the frequency of depressive symptoms experienced during the previous week using a scale ranging from 0 (rarely or none of the time) to 3 (most or all of the time). The CES-D has four subscales. The Depressed Affect subscale (5 items) measures feeling depressed and having crying spells. The Positive Affect subscale (4 items) measures happy feelings. The Somatic and Vegetative Activity subscale (7 items) measures problematic appetite, sleep, and
concentration patterns. The Interpersonal Symptoms subscale (4 items) measures the participants’ views of others as being unfriendly.

Total scores on the CES-D range from 0 to 60, with higher scores indicating higher levels of depressive symptoms. A score of 16 or over is used as an indicator of the presence of depression (Radloff, & Locke, 2000). Overall, participants in the current investigation indicated sub-clinical depression ($M = 12.29; SD = .40$). Internal consistency has been measured many times for the CES-D (Radloff, & Locke, 2000) and has been found to range between .85-.90 in nonclinical and clinical populations. Internal consistency of the total scale score was high in the current investigation ($\alpha = .90$).

The CES-D scores have also been shown to have moderate test-retest reliability, concurrent, and construct validity (Radloff, 1977). Construct validity of the CES-D has been demonstrated by correspondence with self-reported and clinical interviews of depressive symptoms in a number of studies (e.g., Milette, Hudson, Baron, & Thombs, 2010). Furthermore, the CES-D has been shown to be highly correlated with other depression symptom inventories (see Shafer, 2006 for a review).

**Well-being (Appendix N).** The Flourishing Scale (Diener et al., 2009; 2010) is an 8-item measure designed to assess self-perceived success in relationships, self-esteem, purpose, and optimism. Participants are asked to indicate their agreement with items on a scale ranging from 7 (strongly agree) to 1 (strongly disagree). Scale scores range from 8 to 56 with higher scores indicating greater flourishing.

The flourishing scale has been demonstrated to have strong convergent validity with longer measures of well-being, happiness, and optimism (Diener et al., 2009; 2010).
The flourishing scale has demonstrated adequate test retest reliability across a one month time period. Factor analysis has confirmed that all items load on one strong factor (eigenvalue 4.24) accounting for 53% of the variance in scale items. Diener et al. (2010) report that the Flourishing scale has strong internal consistency ($\alpha = .87$).
CHAPTER 4

Results

SPSS 19 was used for all data analysis. In the current investigation, attachment anxiety, attachment avoidance, and internalized heterosexism were examined as mediators of the discrimination – psychological distress link. In this chapter, preliminary analyses are used to examine the data. Then, hypothesis testing using multiple mediation and bias corrected accelerated bootstrapping is provided. Finally, results of post-hoc analyses are presented.

Preliminary Analysis

A total of 178 individuals participated in the current investigation. Of those, four participants completed the informed consent and drawing entry form but none of the measures. Therefore, only the remaining 174 participant’s data were examined. First, data were examined to insure that participant inclusion criteria were met. Cases that did not meet inclusion criteria were removed from the dataset (i.e., identification as a student, non-heterosexual, and non-male). Nine individuals (5.17%) were removed because they indicated they were not students and three participants (1.72%) were removed because they indicated they were male. Finally, one participant (0.5%) was removed because she self-identified as heterosexual, exclusively attracted to men, endorsed having an exclusive sexual history with men, and endorsed being in a current relationship with a man. Finally, seven participants’ data were removed from the dataset based on age. The majority of respondents self-reported ages ranged from 18-27 (94.8%), however, seven respondents reported ages between 30-52. Initially, there was concern that the older
individuals may have different experiences of discrimination because they have lived longer and because of cohort effects. An examination of the data revealed that indeed, women over 30 reported higher levels of overall discrimination, $F(1, 153) = 14.07, p < .001$. After participants were removed from the data set for not meeting inclusion criteria or being outside the age range of most participants, 154 (87%) remained.

**Missing data.** Next, missing data were examined for each of the scales used in the investigation. As suggested by Hayes, Slater, and Snyder (2007), data were evaluated to determine if the missing values were missing completely at random (MCAR) or if a pattern of non-responses emerged. Using the SPSS’s missing data module, the chi-square statistic Little’s MCAR was used to examine the randomness of the missing data (Gold, & Bentler, 2000; Hayes et al., Schlomer, & Bauman, 2010). A non-significant chi-square statistic indicates the data are missing at random. Results of the current investigation indicated that the missing data was indeed random ($\chi^2 = 5705.87, [df = 5713; p = .524]$).

Next, missing data were estimated using expectation maximization (EM) imputation. EM imputation is only useful when 30% or fewer items are missing (Gold, & Bentler, 2000). Therefore, data were examined to identify cases where entire scales or a substantial portion of scales for the independent variable or mediators were missing. List-wise deletion was used for the twenty-six cases (16%) in which the participant failed to respond to entire scales or at least 30% of the total items on any scale. Data for the remaining 128 participants were examined to identify the percentage of data missing per case. The majority of participants completed all items ($N = 99, 73.3\%$). Thirty
participants (22.2%) did not respond to one item and six participants did not answer two items (4.4%). No more than one item for any case was missing per subscale.

Finally, missing data for the remaining cases were estimated using (EM) imputation. EM imputation provides values for the missing data which retain the original distribution of the data. EM imputation is useful when the amount of missing data is small (Tabachnick & Fidell, 2007). EM imputation involves a two-step process. First a covariance matrix for the partially missing data based on the data in the data set is created and a parameter is estimated. Then a second step then uses maximum likelihood to obtain an updated parameter (Gold, & Bentler, 2000; Schlomer, & Bauman, 2010; Tabachnick, & Fidel, 2007). When the two steps converge, the missing data is saved in the data set.

**Outliers.** Both multivariate and univariate were investigated. First, univariate outliers were examined using z scores, as suggested by Tabachnick and Fidell, 2007. For each case, each of the variables (heterosexist discrimination, outness, attachment anxiety, attachment avoidance, internalized heterosexism, anxiety, depression, and well-being) were transformed from raw scale scores into z scores. Following Tabachnick and Fidell’s recommendation, if a z score for any variable was above 3.29 ($p < .001$) it was identified as a univariate outlier. Analysis revealed no univariate outliers for variables: outness, attachment anxiety, attachment avoidance, internalized heterosexism, anxiety, depression, and well-being. Two univariate outliers detected for the heterosexist discrimination total scale score. These scores were reduced to be one unit larger than the next most extreme score on the distribution as outlined by Tabachnick and Fidell (2007).
Next, multivariate outliers were assessed using Mahalanobis distance scores and DFBETA influence scores as suggested by Tabachnick and Fidell (2007). Multiple indicators of multivariate outliers were used because Mahalanobis scores, although widely used, are not always reliable (Tabachnick & Fidell, 2007). Criterion for Mahalanobis distance scores was $p < .001$. Using that criterion, it was determined that no multivariate outliers were present. DFBETAS for each variable were also evaluated to identify outliers. DFBETA scores greater than one for any variable are considered to be outliers. However, there were no indications of outliers using this method.

Testing Assumptions

Tabachnick and Fidell emphasize the importance of screening data to insure assumptions are met prior to data analysis. The current investigation utilized a path analytic approach which is based in multiple regression. Therefore, the assumptions for multiple regression (linearity, normality, homoscedasticity, absence of multicollinearity, and independence of errors) were examined. Linearity, homoscedasticity, and normality can be assessed by examining pairwise residual plots (Tabachnick, & Fidell 2007; Pedahauzer, 1997). Examination of the residual plots revealed that data followed a linear pattern, however, data did not appear to be normally distributed or meet the assumption of homoscedasticity. Therefore, bootstrapping was used to correct for these concerns.

Normality. The assumption of normality requires that each variables and each combination of variables be normally distributed (Tabachnick, & Fidell 2007). Normality is an underlying assumption for most multivariate analysis and is assessed using a combination of statistical and graphical analysis. First, residual scatterplots were
examined. If data are normally distributed the residuals appear in the shape of an oval. The majority of residual plots did not reveal this shape.

Next, the distribution for each variable was evaluated for skewness and kurtosis. There is some controversy about the cut-off values for skewness and kurtosis (Tabachnick & Fidell, 2007) which indicate normality. Therefore, instead of using cut-off values Tabachnick and Fidell (2007) suggest that a z-statistic be calculated for skewness and kurtosis. If the z-statistic is significant than the distribution of scores are not normal. Therefore, for the current investigation, skewness and kurtosis values were obtained using SPSS. Then, each statistic was transformed into a z score and evaluated for significance. Results indicated the majority of variables in the current study were skewed. Heterosexist discrimination, attachment avoidance, internalized heterosexism, anxiety, and depression were all positively skewed (see Table 4.1). Scores on the outness and well-being were negatively skewed. The majority of variables were normally shaped. However, scores on the heterosexist discrimination scale and well-being scale were too tall (see Table 4.1).
Table 4.1

Skewness and Kurtosis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Skewness</th>
<th>z</th>
<th>Kurtosis</th>
<th>z</th>
</tr>
</thead>
<tbody>
<tr>
<td>HHRDS</td>
<td>.90</td>
<td>1.78</td>
<td>.06</td>
<td>1.44</td>
<td>6.89*</td>
<td>1.81</td>
</tr>
<tr>
<td>OI</td>
<td>.82</td>
<td>4.93</td>
<td>.13</td>
<td>-.51</td>
<td>-2.4*</td>
<td>-.78</td>
</tr>
<tr>
<td>AAnx</td>
<td>.81</td>
<td>4.01</td>
<td>.12</td>
<td>.097</td>
<td>0.46</td>
<td>-.60</td>
</tr>
<tr>
<td>AAvoid</td>
<td>.78</td>
<td>2.67</td>
<td>.10</td>
<td>.51</td>
<td>2.44*</td>
<td>-.51</td>
</tr>
<tr>
<td>IH</td>
<td>.91</td>
<td>110.62</td>
<td>.73</td>
<td>.72</td>
<td>3.44*</td>
<td>-.22</td>
</tr>
<tr>
<td>Anx</td>
<td>.90</td>
<td>14.99</td>
<td>.45</td>
<td>.62</td>
<td>2.97*</td>
<td>-.38</td>
</tr>
<tr>
<td>Well</td>
<td>.90</td>
<td>34.93</td>
<td>.48</td>
<td>-1.52</td>
<td>-7.27*</td>
<td>2.93</td>
</tr>
<tr>
<td>Dep</td>
<td>.86</td>
<td>12.26</td>
<td>.65</td>
<td>1.17</td>
<td>5.59*</td>
<td>.574</td>
</tr>
</tbody>
</table>

HHRDS=Heterosexist Harassment, Rejection, and Discrimination Scale; OI=Outness Inventory, AANX=Attachment Anxiety, AAVOID=Attachment Avoidance, IH=Internalized Heterosexism, DEP=Depression, WELL=Well-being, ANX=Anxiety
*p < .001

**Homoscedasticity.** Homoscedasticity is the assumption that the error terms are randomly distributed across the values of each independent variable. Pair-wise scatterplots of residuals were used to assess this assumption. Upon examination of the scatterplots it appeared that residuals were evenly distributed for most variables. However, when depression was regressed onto IH, the residuals narrowed as the predicted values increased. Additionally, when IH was regressed onto discrimination the residuals of the predicted values were widest at the center of the distribution than the tails.

**Independence of Errors.** Another assumption of regression is that the errors of predictors are independent of one another. The Durbin-Watson statistic is used in determining non-independence of errors. Field (2009) has suggested that Durbin-Watson
values that are less than one or greater than three violate the assumption. The Durbin-Watson statistic was calculated for each model. Results revealed that all values fell within the expected range and therefore the assumption was met (see Table 4.2).

Table 4.2

*Independence of Errors*

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Durbin-Watson Statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>1.36</td>
</tr>
<tr>
<td>Anxiety</td>
<td>1.49</td>
</tr>
<tr>
<td>Well-being</td>
<td>1.63</td>
</tr>
</tbody>
</table>

**Multicollinearity.** When independent variables are highly correlated they are essentially accounting for the same variance in the dependent variable. When highly correlated variables are included in a model the regression coefficients become inflated as well as the standard error. Multicollinearity can be examined through the examination of Tolerance and VIF statistics. Multicollinearity exists with Tolerance is less than .1 and VIF is greater than 10. Tolerance and VIF scores for the predictors in the current investigation revealed the absence of multicollinearity between predictors (see Table 4.3).

In addition to VIF and Tolerance scores, multicollinearity can be identified by the correlations greater than .70 (Tabachnick, & Fidell, 2007). The correlation matrix for the variables in the current investigation is included in Table 4.4. There were no associations greater than .70, therefore, it was determined that the data were indeed not collinear.
Table 4.3

*Multicollinearity Statistics*

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>HHRDS</td>
<td>.925</td>
<td>1.081</td>
</tr>
<tr>
<td>OI</td>
<td>.602</td>
<td>1.66</td>
</tr>
<tr>
<td>IH</td>
<td>.539</td>
<td>1.857</td>
</tr>
<tr>
<td>AANX</td>
<td>.918</td>
<td>1.089</td>
</tr>
<tr>
<td>AA VOID</td>
<td>.850</td>
<td>1.176</td>
</tr>
</tbody>
</table>

HHRDS=Heterosexist Harassment, Rejection, and Discrimination Scale; OI=Outness Inventory, AANX=Attachment Anxiety, AA VOID=Attachment Avoidance, IH=Internalized Heterosexism

Table 4.4

*Correlations among variables used in the current investigation*

<table>
<thead>
<tr>
<th></th>
<th>HHRDS</th>
<th>OI</th>
<th>AAnx</th>
<th>AAvoid</th>
<th>IH</th>
<th>Dep</th>
<th>Well</th>
<th>Anx</th>
</tr>
</thead>
<tbody>
<tr>
<td>HHRDS</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OI</td>
<td>.26**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAnx</td>
<td>.15</td>
<td>-.15</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAvoid</td>
<td>-.01</td>
<td>-.21*</td>
<td>.02</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IH</td>
<td>-.09</td>
<td>-.53**</td>
<td>.22*</td>
<td>.38**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dep</td>
<td>.02</td>
<td>-.28**</td>
<td>.19</td>
<td>.28**</td>
<td>.42**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Well</td>
<td>-.03</td>
<td>.32*</td>
<td>-.17</td>
<td>-.34**</td>
<td>-.41**</td>
<td>-.61**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Anx</td>
<td>.05</td>
<td>-.26**</td>
<td>.16</td>
<td>.19*</td>
<td>.34**</td>
<td>.63**</td>
<td>-.36**</td>
<td>1</td>
</tr>
</tbody>
</table>

HHRDS=Heterosexist Harassment, Rejection, and Discrimination Scale; OI=Outness Inventory, AANX=Attachment Anxiety, AA VOID=Attachment Avoidance, IH=Internalized Heterosexism, DEP=Depression, WELL=Well-being, ANX=Anxiety

*p<.05
**p <.001
Discussion of Correlations. In the current investigation, the significant associations between variables were in the expected direction. However, not all expected relationships were detected. Specifically, discrimination, as measured by the HHRDS, was not found to be associated to the mediators or outcome variables. This is surprising given that Szymanski (2006) demonstrated the HHRDS to be positively associated with measures of depression, anxiety, and psychological distress. Cohen (1988) suggests that r values of .1, .3, and .5 respectively represent small, medium, and are large effect sizes. In the current study, nearly half of all correlations represented a small effect.

Outness was the only variable significantly associated with discrimination. As expected, experiencing more discrimination was associated with a greater level of outness ($r = .26, p = .004$). In other words, the more out someone is the more likely it is that they experience discrimination. Outness was also positively associated with well-being, indicating the higher the level of outness the greater the amount of well-being ($r = .32, p < .05$). Internalized heterosexism and outness were negatively associated ($r = -.53, p < .001$). Outness was also negatively associated with depression ($r = .29, p = .001$) and anxiety ($r = -.28, p = .003$), meaning that the more “out” someone is the less depression and anxiety are reported.

The mediator variables attachment anxiety, attachment avoidance, and IH were significantly associated to one another in the expected ways. Attachment anxiety was positively associated with IH ($r = .22, p = .014$) and attachment avoidance was also positively associated with IH ($r = .38, p < .001$). Attachment anxiety and attachment avoidance were not significantly related ($r = .02, p = .82$). Attachment avoidance and IH
were associated with the outcome variables in the expected ways. Attachment avoidance was positively associated with depression \( (r = .28, p = .001) \) and anxiety \( (r = .19, p = .029) \) and inversely associated with well-being \( (r = -.34, p < .001) \). IH was also positively associated with depression \( (r = .42, p < .001) \) and anxiety \( (r = .34, p < .001) \) and negatively associated with well-being \( (r = -.41, p < .001) \). Attachment anxiety was positively associated with depression as expected \( (r = .19, p = .037) \) however a significant relationship between attachment anxiety and well-being or anxiety was not supported.

The outcome variables were associated with each other in the expected directions. Well-being was negatively associated with depression \( (r = .61, p < .001) \) and anxiety \( (r = -.36, p < .001) \). Depression and anxiety were positively associated \( (r = .63, p < .001) \).

**Testing Assumptions Summary**

Prior to data analysis, the variables in the current investigation were examined for inclusion criteria, missing values, outliers, and fit between their distributions and multivariate assumptions. Data were excluded if participants indicated they were not sexual minority women who were currently enrolled in an institution of higher education (\( N = 5 \)). The age of participants were also considered. There were seven participants who reported ages ranging from 30-60. However, since there were so few people representing non-traditional college aged students and their scores on the independent variable was significantly different than the other participants, their data were excluded. Missing data were also examined. If a case contained more than 30% missing values, the case was deleted from the data set. In sum, a total of 26 cases were deleted due to missing data,
resulting in a sample size of 126 individuals. Afterward missing data were examined, EM imputation was used to estimate missing values. Finally, univariate and multivariate outliers were examined. Univariate outliers were reduced to be one unit larger than the next most extreme score on the distribution. There were no multivariate outliers detected.

Examination of multivariate assumptions revealed the assumptions of linearity, independence of errors, and absence of multicolinearity were met. The assumptions of normality and homoscedasticity were not met. Given that bootstrapping is robust to these violations, transformations were not used.

In an examination of the correlations between variables in the current investigation, the majority of relationships were in expected directions. However, contrary to expectations, there was not a significant relationship between discrimination and the mediators or outcome variables.

**Data Analysis Strategy**

Three multiple mediation models were used to examine the hypothesis that attachment anxiety, attachment avoidance, and internalized heterosexism mediate the relationship between discrimination and psychological distress (depression, anxiety, and well-being). Given that level of outness should be related to both the IV (discrimination) and the outcome variables because the more out someone is the more likely they are to be discriminated against and to experience elevations in psychological distress (Szymanski, 2006), level of outness is controlled as a covariate in the analysis. Prior to hypothesis testing, the methods used for testing mediation are discussed and rationale for the analytic strategy chosen is reviewed.
**Mediation.** There are two types of mediation: simple mediation and multiple mediation (Preacher & Hayes, 2008). Simple mediation examines how an independent variable (X) affects a dependent variable (Y) through a single mediator (M) whereas multiple mediation allows several mediators to be tested at one time. One of the advantages of multiple mediation is the ability to conclude that a set of variables mediated the impact of the independent variable on the dependent variable. An additional advantage is the ability to test the influence of/effect of one of the mediators relative to the other mediators included in the model.

Mediation can be tested using several different approaches including: the causal steps approach, product of coefficients approach, and bootstrapping (see Hayes, 2009 for a review). The Baron and Kenny (1986) method or causal steps approach for testing mediation is widely used and frequently cited in social science research. However, there are a number of limitations of the Baron and Kenny method (Preacher & Hayes, 2008, Shrout & Bolger, 2002, Mallinckrodt, Abraham, Wei, & Russell, 2006). First, there is no direct way to test the significance of the indirect effect, instead the effect is inferred (e.g., Hayes, 2009). Further, simulation studies have found that the Baron and Kenny method has the poorest power and largest type 1 error of all mediation analyses and thus requires a very large sample size in order to detect an effect (e.g., Hayes, 2009; Preacher & Hayes, 2008).

The majority of other tests of mediation focus on directly calculating the indirect effect. The Sobel test (Sobel, 1982, 1986), also called the product-of-coefficients approach, is an example of this type of test. Although the Sobel test is a useful tool it
relies on a normal distribution and is only able to examine a single mediator. The multivariate delta method (Bishop, Fienberg, & Holland, 1975) is a multivariate extension of the Sobel test and also relies on a normal distribution. Given that data for the current investigation were not normally distributed, other methods were explored.

Bootstrapping is a non-parametric resampling procedure which is advocated when testing mediation because it is robust to violations of multivariate normality (Fritz & MacKinnon, 2007; Preacher & Hayes, 2008; MacKinnon et al., 2002, MacKinnon et al., 2004; Shrout & Bolger, 2002) and homoscedasticity (Stine, 1989). Bootstrapping involves generating a series of datasets from the original dataset using replacement to estimate the indirect effect (e.g., Stine, 1989; Preacher & Hayes, 2008; Wu, 1986). It is recommended that a minimum of 5,000 bootstrap samples be used (Hayes, 2008). There are several different types of bootstrapping procedures available including percentile bootstrapping, bias-corrected bootstrapping (BC), and bias-corrected accelerated bootstrapping (BCa). Percentile bootstrapping assumes a normal distribution and the confidence intervals are known to be too narrow (Shrout & Niall, 2002). Bias-corrected bootstrapping is considered to be an improvement on percentile bootstrapping because it does not assume a normal distribution. Finally, BCa further improves on both percentile bootstrapping and BC by allowing a greater deal of asymmetry in the distribution and adjusting for skewness in the bootstrap distribution (Wu, 1986).

In an empirical investigation of bootstrap methods, Briggs (2006) examined the performance of the product of coefficients strategy and bootstrapping with multiple mediators using a percentile, bias-corrected, and bias-corrected accelerated bootstraps.
Results indicated that bias-corrected bootstrapping was superior to the product of coefficients strategy in small ($N = 30$) to moderate sample sizes ($N = 250$) with the most consistent findings of .8 power occurring at a minimum sample size of 50. Furthermore, she found that bias-corrected and bias-corrected accelerated methods performed best in terms of power and type 1 error. However, in the case of a small sample size ($N = 30$) and a very small indirect effect, type 1 error was inflated in the case of bias-corrected bootstrapping.

**Data Analysis.** In the current investigation, three multiple mediation models are used to assess the relationship between discrimination and each of the outcome variables (depression, anxiety, and well-being). The indirect effects will be examined using bootstrapping. The data for the current study are known to be asymmetrically distributed. Therefore, it was decided that BCa would be used to estimate the indirect effects and confidence intervals for those effects. A total of 20,000 bootstrap samples are used. Mediation is said to occur if the confidence interval does not equal zero (Fritz & MacKinnon, 2007).

SPSS 19 was used to perform all data analysis. However, instead of using AMOS to analyze the data, a macro created by Hayes and Preacher (2008) to test multiple mediation named INDIRECT, was used. The INDIRECT macro was constructed for use in SPSS and estimates path coefficients, indirect effects, and confidence intervals in a multiple mediation model. Further, the macro generates between 1,000 and 20,000 bootstrapped samples with 95% or 99% confidence intervals. The macro was used instead of AMOS because unlike AMOS, the INDIRECT macro provides standard errors of the
indirect effects and provides the simple indirect effects for each mediator in the presence of the other mediators. The macro allows for covariates to be included in the model which is useful for the current investigation. The limitation of using the INDIRECT macro is that only one outcome variable can be examined at a time. As a result, one model is provided for each dependent variable.

**Hypothesis Testing**

In this section hypothesis testing for the current investigation is provided. Each set of hypothesis are organized by the dependent variable (depression, anxiety, and well-being). The variance accounted for by each model and both the direct, and indirect effects are provided.

**Depression:** In the first model attachment anxiety, attachment avoidance, and IH are examined as mediators of the relationship between experiences of discrimination and current symptoms of depression, when level of outness and age are entered as covariates. The model accounted for a significant amount of the variance in depression, \( R^2 = .23, F(6, 121) = 6.04, p < .001 \). However, discrimination experiences did not have a direct effect on depression scores, \( \beta = .91, t(128) = 1.03, p = .30 \)

**Direct Effects of Discrimination on the Mediators.** It was hypothesized that discrimination would have a direct effect on attachment anxiety and IH. However, data only partially supported these hypotheses (see Figure 4.2). The direct effect of discrimination on attachment anxiety was significant, \( \beta = .35, t(128) = 2.24, p < .03 \). Yet, contrary to expectations, discrimination was not found to be predictive of internalized
heterosexism, $\beta = 1.82$, $t(128) = .54$ $p = .59$. As expected, discrimination was not found to predict to attachment avoidance $\beta = .06$, $t(128) = .42$ $p = .67$.

**Direct Effects of the Mediators on Depression.** It was hypothesized that attachment anxiety, attachment avoidance, and IH would have a direct effect on depression. These hypotheses were partially supported (see Figure 4.1). Attachment anxiety did not account for a significant amount of the variance in depression, $\beta = .51$, $t(128) = 1.06$, $p = .30$. Further, attachment avoidance was not a significant predictor of depression, $\beta = .78$, $t(128) = 1.45$, $p = .15$. However, as hypothesized, internalized heterosexism was found to have a significant direct effect on depression, $\beta = .07$, $t(128) = 2.84$, $p < .05$.

Figure 4.1

*Unstandardized Regression Coefficients for the Model Predicting Depression*
**Indirect Effects of Heterosexist Discrimination on Depression.** Attachment anxiety, attachment avoidance, and IH were examined as mediators of the relationship between discrimination and depression when level of outness was controlled. Results indicated the indirect effect of the proposed set of mediators was not significant ($\beta = .37$, SE = .39, 95% BCa CI = -4. to 1.11). When examined individually, it was found that there was not a significant indirect effect for any of the mediators (see Table 4.5).

Table 4.5

*Indirect Effects of Discrimination on Depression*

<table>
<thead>
<tr>
<th>Mediator</th>
<th>Parameter estimate</th>
<th>SE</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>0.36</td>
<td>0.39</td>
<td>-.3156</td>
<td>1.11</td>
</tr>
<tr>
<td>Attachment Anxiety</td>
<td>0.18</td>
<td>0.22</td>
<td>-.0796</td>
<td>0.81</td>
</tr>
<tr>
<td>Attachment Avoidance</td>
<td>0.05</td>
<td>0.15</td>
<td>-.1946</td>
<td>0.54</td>
</tr>
<tr>
<td>Internalized Heterosexism</td>
<td>0.14</td>
<td>0.25</td>
<td>-.2335</td>
<td>0.62</td>
</tr>
</tbody>
</table>

BCa CI = bias-corrected accelerated confidence intervals

**Anxiety.** In the second model, attachment anxiety, attachment avoidance, and IH are examined as mediators of the relationship between experiences of discrimination and current symptoms of anxiety. The model accounted for a significant amount of the variance in anxiety, $R^2 = .16$, $F(6, 121) = 3.96$, $p < .001$. However, discrimination did not have a direct effect on anxiety scores, $\beta = .80$, $t(128) = 1.31$, $p = .20$. Age and outness were entered as control variables. Neither age, $\beta = -.38$, $t(128) = -1.64$, $p = .10$, or outness,
\[ \beta = -.57, t(128) = -1.29, p = .20, \] accounted for a significant amount of variance in the model.

**Direct Effects of Discrimination on the Mediators.** It was hypothesized that discrimination would have a direct effect on attachment anxiety and IH. However, data only partially supported these hypotheses (see Figure 4.2). The direct effect of discrimination on attachment anxiety was significant, \( \beta = .35, t(128) = 2.24, p < .03 \). Yet, contrary to expectations, discrimination was not found to be predictive of internalized heterosexism, \( \beta = 1.82, t(128) = .54, p = .59 \). As expected, discrimination was not found to predict to attachment avoidance, \( \beta = .06, t(128) = .42, p = .67 \).

**Direct Effects of the Mediators on Anxiety.** It was hypothesized that attachment anxiety, attachment avoidance, and internalized heterosexism would have a direct effect on anxiety. These hypotheses were only partially supported. Neither attachment anxiety, \( \beta = .29, t(128) = .81, p = .42 \), or attachment avoidance, \( \beta = .24, t(128) = .61, p = .54 \), predicted symptoms of anxiety (see Figure 4.2). However, the hypothesized direct effect of internalized heterosexism on anxiety was statistically significant, \( \beta = .04, t(128) = 2.17, p = .03 \).
Indirect Effects of Heterosexist Discrimination on Anxiety. When the set of mediators were considered, mediation was not supported ($\beta = .20$, SE = .22, 95% BCa CI = -.24 to .63). Further, the indirect effects for attachment anxiety, attachment avoidance, and internalized heterosexism were non-significant when examined individually in the context of the other mediators (see table 4.6)
Table 4.6

**Indirect Effects of Heterosexist Discrimination on Anxiety**

<table>
<thead>
<tr>
<th>Mediator</th>
<th>Parameter estimate</th>
<th>SE</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>0.2</td>
<td>0.22</td>
<td>-0.24</td>
<td>0.63</td>
</tr>
<tr>
<td>Attachment Anxiety</td>
<td>0.11</td>
<td>0.14</td>
<td>-0.11</td>
<td>0.48</td>
</tr>
<tr>
<td>Attachment Avoidance</td>
<td>0.02</td>
<td>0.07</td>
<td>-0.07</td>
<td>0.29</td>
</tr>
<tr>
<td>Internalized Heterosexism</td>
<td>0.08</td>
<td>0.14</td>
<td>0.2</td>
<td>0.38</td>
</tr>
</tbody>
</table>

BCa CI = bias-corrected accelerated confidence intervals

**Well-being.** In the final model, attachment anxiety, attachment avoidance, and IH are examined as mediators of the relationship between experiences of discrimination and well-being. The model accounted for a significant amount of the variance in well-being, $R^2 = .24$, $F(6, 121) = 6.35, p < .001$.

**Direct Effects of Discrimination on the Mediators.** It was hypothesized that discrimination would have a direct effect on attachment anxiety and IH. However, data only partially supported these hypotheses (see Figure 4.3). The direct effect of discrimination on attachment anxiety was significant, $\beta = .35$, $t(128) = 2.24, p < .03$. Yet, contrary to expectations, discrimination was not found to be predictive of internalized heterosexism, $\beta = 1.82$, $t(128) = .54 p = .59$. As expected, discrimination was not found to predict to attachment avoidance $\beta = .06$, $t(128) = .42 p = .67$.

**Direct Effects of the Mediators on Well-being.** It was hypothesized that attachment anxiety, attachment avoidance, and IH would have a direct effect on well-
being. The results revealed attachment avoidance, $\beta = -.92, t(128) = -2.32, p = .02$ and IH, $\beta = -.04, t(128) = -2.35, p = .02$, had a significant inverse relationship on well-being (see Figure 4.3). However, the hypothesized direct effect of attachment anxiety on well-being was not supported, $\beta = -.30, t(122) = -.85, p = .40$.

Figure 4.3

Unstandardized Regression Coefficients for the Model Predicting Well-being

Indirect Effects of Heterosexist Discrimination on Well-being. Attachment anxiety, attachment avoidance, and internalized heterosexism were examined as mediators of the relationship between discrimination and well-being when level of outness was controlled. When the set of mediators were considered, mediation was not supported ($\beta = -.24, SE = .29, 95\%$ BCa CI = -.84 to .34). Further, the indirect effects for attachment anxiety, attachment avoidance, and internalized heterosexism were non-
significant when examined individually in the context of the other mediators (see Table 4.7)

Table 4.7

*Indirect Effects of Heterosexist Discrimination on Well-being*

<table>
<thead>
<tr>
<th>Mediator</th>
<th>Parameter estimate</th>
<th>SE</th>
<th>Lower</th>
<th>Upper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>-0.24</td>
<td>0.29</td>
<td>-0.84</td>
<td>0.34</td>
</tr>
<tr>
<td>Attachment Anxiety</td>
<td>0.1</td>
<td>0.15</td>
<td>-0.49</td>
<td>0.14</td>
</tr>
<tr>
<td>Attachment Avoidance</td>
<td>-0.05</td>
<td>0.15</td>
<td>-0.46</td>
<td>0.18</td>
</tr>
<tr>
<td>Internalized Heterosexism</td>
<td>-0.08</td>
<td>0.16</td>
<td>-0.49</td>
<td>0.19</td>
</tr>
</tbody>
</table>

BCa CI = bias-corrected accelerated confidence intervals

**Summary of Results**

Heterosexist discrimination was not associated with most variables in the current investigation in the hypothesized ways. Discrimination was not predictive of depression which was expected because of associations with discrimination and depression in previous research using the same measure of discrimination (Szymanski, 2006). Additionally, heterosexist discrimination was not predictive of measures of anxiety or well-being. This finding is unexpected because discrimination has been demonstrated to be associated with anxiety, and general measures of psychological distress in previous samples (e.g., Szymanski, 2006).

Although there has been some debate about whether mediation can occur if a direct effect between the independent and dependent variable are not found, statisticians now agree that mediation can occur even when a direct effect is not present (Hayes,
Therefore, mediation was investigated even though a direct effect of discrimination was not detected for the outcome variables. In spite of this, multiple mediation was not supported by any of the models in the current investigation.

It was hypothesized that experiences of discrimination would increase negative working models of self as measured by attachment anxiety. Results supported this hypothesis. Although mediation was not supported, attachment anxiety does appear to be related to discrimination experiences. Previous research, using different measures of attachment and internalized heterosexism also found a relationship between these two constructs.

Although the external stressor discrimination was not a predictor of the outcome variables depression, anxiety, or well-being, a more internally experienced sexual minority stressor, IH, was predictive of anxiety and psychological well-being. In addition, IH was correlated with all variables in the expected direction. However, discrimination did not predict internalized heterosexism. These results are consistent with previous research which has conceptualized internalized heterosexism as a predictor variable rather than a mediator.

**Post Hoc Analysis**

In the present investigation, discrimination was related to outness but was not associated with most other variables in the expected manner. Discrimination was not correlated with depression, anxiety, or well-being. Further, discrimination was not found to be related to attachment anxiety, attachment avoidance, or IH. In addition, the mediational hypotheses were not supported. As a result of these findings, it was decided
that it may be beneficial to explore the way in which participants responded to items on the discrimination measure, the HHRDS (Szymanski, 2006).

**Exploratory Analysis of the HHRDS.** First, the mean scores on the HHRDS were low ($M = 1.82, SD = .73$). Meaning that on average, participants experienced discrimination less than 10% of the time. However, we only utilized the total average scale score of the HHRDS. Thus, individual subscale differences were not examined. Using a total scale score may have masked elevations on one or more scales. It is also possible that participants did not experience discrimination as measured by most items because they have not had many opportunities to experience discrimination. Overt discrimination experiences may be less common in this cohort because of social changes in levels of acceptance (Herek, 2012). However, it is possible that a few items may be particularly salient for participants such as discrimination related to friends and family. Either of these questions could lead to future research questions. Thus, in order to gain a more nuanced understanding of the data, we began by creating a frequency table participant’s endorsement of discrimination items and examining subscale differences (see Table 4.8).

Second, the current investigation used a sample of women who could be broadly described as identifying as sexual minority individuals. It is conceivable that group differences between women who identified lesbian, bisexual, and queer influence the relationship between discrimination and other variables in the current investigation. Therefore possible group differences are investigated. Finally, after reviewed group and subscale differences, a new data analysis was performed.
**Frequency of HHRDS Responses.** In order to gain a more complex understanding of participant’s responses to the HHRDS, a frequency table was created (Table 4.8). Examination of the frequency table revels that participants varied in their responses to items on each scale. However, it appears that the majority of participants endorsed having experienced discrimination, at least one in a while, on the Harassment and Rejection Subscale. On the Harassment and Rejection subscale, 85% of participants reported hearing their family member make heterosexist remarks, 71.4% reported being verbally insulted, 70% reported being called a heterosexist name, and half (50%) reported being made fun of, picked on, pushed, shoved, hit, or threatened. Interestingly, while the majority of participants (60%) reported that they had been rejected by friends, the majority (n = 80, 62%) of participants also reported having never been rejected by family members due to their sexual orientation. On the Workplace and School discrimination subscales, most participants did not endorse discrimination experiences in the past year. It is possible the results were found because college students sampled have little experience in the workforce or do not work while they are attending school, thus they have fewer opportunities to experience discrimination in workplace settings. Finally, most participants did not report experiencing discrimination as measured by the Other Discrimination subscale. However, one item was endorsed as having been experienced by the majority of participants. Sixty-three percent of participants endorsed having been treated unfairly by strangers.
Table 4.8

**HHRDS Frequency Table**

<table>
<thead>
<tr>
<th>Harassment and Rejection</th>
<th>1 = Never</th>
<th>2 = Once in a while</th>
<th>3 = Sometimes</th>
<th>4 = A lot</th>
<th>5 = Most of the time</th>
<th>6 = Almost all of the time</th>
<th>Mean</th>
<th>Median</th>
<th>Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Rejected by friends</td>
<td>52</td>
<td>50</td>
<td>15</td>
<td>7</td>
<td>1</td>
<td>3</td>
<td>1.94</td>
<td>2</td>
<td>.815</td>
</tr>
<tr>
<td>2. Verbally insulted</td>
<td>36</td>
<td>52</td>
<td>27</td>
<td>9</td>
<td>3</td>
<td>1</td>
<td>2.17</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3. Made fun of, picked on, pushed, shoved, hit, or threatened</td>
<td>64</td>
<td>42</td>
<td>10</td>
<td>9</td>
<td>2</td>
<td>1</td>
<td>1.8</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>4. Heard anti-lesbian/bisexual gay remarks from family members</td>
<td>19</td>
<td>36</td>
<td>33</td>
<td>14</td>
<td>13</td>
<td>13</td>
<td>3.04</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>5. Rejected by family members because you are a lesbian/bisexual woman</td>
<td>80</td>
<td>19</td>
<td>11</td>
<td>8</td>
<td>3</td>
<td>7</td>
<td>1.88</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6. Called a heterosexist name</td>
<td>38</td>
<td>44</td>
<td>20</td>
<td>16</td>
<td>8</td>
<td>1</td>
<td>2.32</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>7. Treated unfairly by your family</td>
<td>65</td>
<td>26</td>
<td>16</td>
<td>9</td>
<td>4</td>
<td>8</td>
<td>2.10</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Workplace and School Discrimination</th>
<th>1.5</th>
<th>1.25</th>
<th>.864</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Treated unfairly by your employer, boss, or supervisors</td>
<td>100</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>9. Denied a raise, a promotion, tenure, a good assignment, a job</td>
<td>110</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>10. Treated unfairly by teachers or professors</td>
<td>90</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>11. Treated unfairly by your co-workers, fellow students</td>
<td>67</td>
<td>35</td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Discrimination</th>
<th>1.76</th>
<th>1.33</th>
<th>.796</th>
</tr>
</thead>
<tbody>
<tr>
<td>12. Treated unfairly by people in service jobs</td>
<td>77</td>
<td>25</td>
<td>19</td>
</tr>
<tr>
<td>13. Treated unfairly by strangers</td>
<td>48</td>
<td>39</td>
<td>23</td>
</tr>
<tr>
<td>14. Treated unfairly by people in helping jobs</td>
<td>91</td>
<td>18</td>
<td>13</td>
</tr>
</tbody>
</table>

*items are abbreviated

In the current study, a total score was used instead of individual subscales because previous research has not examined subscales in isolation of one another. However, the subscale means shown in Table 4.8, show that on average, participants endorsed items Harassment and Rejection Scale more frequently than the other two subscales. Further,
the average scores on the Harassment and Rejection Scale was greater than two, indicating that participants experienced discrimination in that category, whereas, the mean scores on the remaining subscales were below two, indicating that discrimination did not occur in that domain. Therefore, a series of t-tests were conducted to evaluate whether the difference in mean scores were significant between the Harassment and Rejection Scale and the other two subscales. Results of t-tests revealed that mean scores on the Harassment and Rejection Scale ($M = 2.18; SD = .88$) were greater than scores on the Workplace and School Discrimination Scale ($M = 1.5, SD = .79; t(127) = 27.8, p < .001$). Results also indicated that scores on the Harassment and Rejection Scale ($M = 2.18; SD = .88$) were greater than scores on the Other Discrimination Subscale ($M = 1.77; SD = .86; t(127) = 23.30, p < .001$).

**Group differences.** It is also possible that heterosexist discrimination was not found to be related to the hypothesized variables in the expected ways because there are group differences that are not being accounted for in the current model (Tabachnick, & Fidell, 2007). In this study, sexual minority women are aggregated across women who self-identify as either lesbian (N = 61), bisexual (N = 42), or queer (N = 25). Although it was not originally hypothesized that group differences based on sexual orientation identification would occur, it is possible that lesbian women may experience more discrimination than bisexual women. Recent research has found that lesbian and bisexual women in college-age samples had significantly different scores than one another on the HHRDS (Friedman, & Leaper, 2010). Specifically, the researchers found that lesbian identified women reported higher scores on the HHRDS.
To investigate possible group differences a one-way ANOVA was conducted. Results revealed that significant group differences on two of the HHRDS subscales including: Harassment and Rejection $F(2, 125) = 10.1, \ p < .001$; and, Other Discrimination $F(2, 125) = 6.68, \ p = .002$. Further, group difference were detected on the total scale score $F(2, 125) = 7.25, \ p = .001$. Post hoc analysis using Dunnet C post hoc criterion to determine where specific group difference can be detected (Table 4.9, 4.10). Results of the post-hoc analysis revealed bisexual and lesbian identified women differed significantly from one another on each of the significant HHRDS subscales and the total scale score. However, those who identified as queer did not significantly differ from either group.

Table 4.9

<table>
<thead>
<tr>
<th>HHRDS Means by Sexual Orientation</th>
<th>Mean</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>Harassment and Rejection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bisexual</td>
<td>1.79</td>
<td>.60</td>
</tr>
<tr>
<td>Lesbian</td>
<td>2.5</td>
<td>.94</td>
</tr>
<tr>
<td>Queer</td>
<td>2.0</td>
<td>.85</td>
</tr>
<tr>
<td>Workplace and School Discrimination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bisexual</td>
<td>1.33</td>
<td>.62</td>
</tr>
<tr>
<td>Lesbian</td>
<td>1.6</td>
<td>.87</td>
</tr>
<tr>
<td>Queer</td>
<td>1.5</td>
<td>.79</td>
</tr>
<tr>
<td>Other Discrimination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bisexual</td>
<td>1.46</td>
<td>.67</td>
</tr>
<tr>
<td>Lesbian</td>
<td>2.04</td>
<td>.94</td>
</tr>
<tr>
<td>Queer</td>
<td>1.55</td>
<td>.75</td>
</tr>
<tr>
<td>Total Scale Score</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bisexual</td>
<td>1.5</td>
<td>.55</td>
</tr>
<tr>
<td>Lesbian</td>
<td>2.05</td>
<td>.77</td>
</tr>
<tr>
<td>Queer</td>
<td>1.72</td>
<td>.73</td>
</tr>
</tbody>
</table>

* $p < .05$
Table 4.10

*Group Differences on the HHRDS*

<table>
<thead>
<tr>
<th></th>
<th>Mean Difference</th>
<th>Std error</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Harassment and Rejection</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bisexual vs Lesbian</td>
<td>-.72*</td>
<td>.15</td>
<td>-1.09</td>
<td>-.35</td>
</tr>
<tr>
<td>Bisexual vs Queer</td>
<td>-.22</td>
<td>.19</td>
<td>-.70</td>
<td>.26</td>
</tr>
<tr>
<td>Lesbian vs Queer</td>
<td>.5</td>
<td>.21</td>
<td>-.13</td>
<td>1.01</td>
</tr>
<tr>
<td><strong>Other Discrimination</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bisexual vs Lesbian</td>
<td>-.58*</td>
<td>.16</td>
<td>-.96</td>
<td>-.19</td>
</tr>
<tr>
<td>Bisexual vs Queer</td>
<td>-.15</td>
<td>.18</td>
<td>-.6</td>
<td>.3</td>
</tr>
<tr>
<td>Lesbian vs Queer</td>
<td>.43</td>
<td>.19</td>
<td>-.04</td>
<td>.9</td>
</tr>
<tr>
<td><strong>Total Scale Score</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bisexual vs Lesbian</td>
<td>-.52*</td>
<td>.13</td>
<td>-.84</td>
<td>-.21</td>
</tr>
<tr>
<td>Bisexual vs Queer</td>
<td>-.2</td>
<td>.17</td>
<td>-.62</td>
<td>.23</td>
</tr>
<tr>
<td>Lesbian vs Queer</td>
<td>.33</td>
<td>.18</td>
<td>-.11</td>
<td>.76</td>
</tr>
</tbody>
</table>

*p < .05

*Group and Subscale Difference Summary*

Examination of the HHRDS revealed that participants endorsed more discrimination experiences on the Harassment and Rejection Subscale than on the other two subscales. One-way ANOVA was used to examine group differences among the HHRDS subscales and overall subscale. Significant differences between groups were found for the harassment and rejection, and, other discrimination subscales. Women who identified as bisexual reported fewer discrimination experiences than those who identified as lesbian. There were no differences found between those women who were queer identified and either lesbian or bisexual identified women.

*Final Analyses using HHRDS Subscale “Rejection”*

Examination of subscale scores reveals that the women sampled in this investigation had more exposure to discrimination experiences having to do with
Harassment and Rejection than other sources. In fact, the Harassment and Rejection subscale was the only subscale that participants, on average, reported experiencing discrimination. Results also indicated that lesbian identified women reported more discrimination experiences than bisexual women. In the final exploratory analysis of the data, the theoretical model was re-run taking into account exposure to discrimination. Therefore, the analysis was re-run using the Harassment and Rejection subscale as the independent variable instead of the total scale score. In addition, bisexual women were removed from the analysis because their average score on the Harassment and Rejection subscale was less than two ($M = 1.79$, $SD = .60$) and their scores were significantly lower than their lesbian identified peers. Queer identified women did not differ significantly from lesbian women. Further, queer identified women’s average score indicated they experienced discrimination more frequently than never ($M = 2.5$, $SD = .85$) therefore they were also included in the final analysis. Table 4.11 presents the correlations of the variables used in the lesbian/queer mediation model.

Table 4.11

*Correlations among variables used in the current investigation*

<table>
<thead>
<tr>
<th></th>
<th>REJECT</th>
<th>OI</th>
<th>AAnx</th>
<th>AAvoid</th>
<th>IH</th>
<th>Dep</th>
<th>Well</th>
<th>Anx</th>
</tr>
</thead>
<tbody>
<tr>
<td>REJECT</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OI</td>
<td>-.03</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAnx</td>
<td>.17</td>
<td>-.13</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAvoid</td>
<td>-.03</td>
<td>-.27*</td>
<td>-.04</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IH</td>
<td>.16</td>
<td>-.59**</td>
<td>.12</td>
<td>.38**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Direct Effects of Harassment and Rejection Subscale on the Mediators

Results indicated that scores on the Harassment and Rejection subscale did not predict attachment anxiety, $\beta = .23$, $t(88) = 1.49$, $p = .14$, attachment avoidance, $\beta = .01$, $t(88) = .01$, $p = .99$, or internalized heterosexism, $\beta = 4.9$, $t(88) = 1.59$, $p = .09$.

### Direct Effects of the Mediators on Depression

Neither attachment anxiety $\beta = -.21$, $t(88) = -.39$, $p = .70$, or attachment avoidance $\beta = .43$, $t(88) = .67$, $p = .50$ predicted depression scores. However, internalized heterosexism was predictive of depression scores ($\beta = .06$, $t(88) = 2.02$, $p = .05$).

### Indirect Effects of Harassment and Rejection Subscale on Depression

Attachment anxiety, attachment avoidance, and IH were examined as mediators of the relationship between discrimination and depression when level of outness and age were controlled. Results indicated the indirect effect of the proposed set of mediators ($\beta = .20,$...
SE = .34, 95% BCa CI = -.49 to .90) or the individual mediators were non-significant (Table 4.12).

Table 4.12

*Indirect Effects of Harassment and Rejection Subscale on Depression*

<table>
<thead>
<tr>
<th>Mediator</th>
<th>Parameter estimate</th>
<th>SE</th>
<th>Lower</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>0.20</td>
<td>.34</td>
<td>-.49</td>
</tr>
<tr>
<td>Attachment Anxiety</td>
<td>-.04</td>
<td>.17</td>
<td>-.55</td>
</tr>
<tr>
<td>Attachment Avoidance</td>
<td>-.01</td>
<td>.12</td>
<td>-.22</td>
</tr>
<tr>
<td>Internalized Heterosexism</td>
<td>0.26</td>
<td>0.1</td>
<td>-.92</td>
</tr>
</tbody>
</table>

BCa CI = bias-corrected accelerated confidence intervals

**Anxiety.** In the second model, attachment anxiety, attachment avoidance, and IH are examined as mediators of the relationship between experiences of discrimination and current symptoms of anxiety. The model accounted for a significant but not meaningful amount of the variance in anxiety, $R^2 = .13, F(6, 81) = 2.34, p < .05$.

**Direct Effects of the Harassment and Rejection Subscale on the Mediators.**

Results indicated that scores on the Harassment and Rejection subscale did not predict attachment anxiety, $\beta = .24, t(88) = 1.56, p = .12$, attachment avoidance, $\beta = .02, t(88) = .2, p = .83$, or internalized heterosexism, $\beta = 4.7, t(88) = 1.59, p = .10$.

**Direct Effects of the Mediators on Anxiety.** Neither attachment anxiety $\beta = -.12, t(88) = -.05, p = .96$, or attachment avoidance $\beta = .16, t(88) = .35, p = .73$, or internalized heterosexism, $\beta = .04, t(88) = 1.67, p = .10$, predicted anxiety scores.

**Indirect Effects of the Harassment and Rejection Subscale on Anxiety.** When the set of mediators were considered, mediation was not supported ($\beta = .14, SE = .23,$
95% BCa CI = -.26 to .67). Further, the indirect effects for attachment anxiety, attachment avoidance, and internalized heterosexism were non-significant when examined individually in the context of the other mediators (see Table 4.13).

Table 4.13

*Indirect Effects of the Harassment and Rejection Subscale on Anxiety*

<table>
<thead>
<tr>
<th>Mediator</th>
<th>Parameter estimate</th>
<th>SE</th>
<th>Lower</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>.14</td>
<td>.23</td>
<td>-.26</td>
</tr>
<tr>
<td>Attachment Anxiety</td>
<td>-.01</td>
<td>.12</td>
<td>-.29</td>
</tr>
<tr>
<td>Attachment Avoidance</td>
<td>-.01</td>
<td>.07</td>
<td>-.16</td>
</tr>
<tr>
<td>Internalized Heterosexism</td>
<td>.01</td>
<td>.17</td>
<td>-.05</td>
</tr>
</tbody>
</table>

BCa CI = bias-corrected accelerated confidence intervals

**Well-being.** In the final model, attachment anxiety, attachment avoidance, and IH are examined as mediators of the relationship between experiences of discrimination and well-being. The model accounted for a significant but not meaningful amount of the variance in well-being, \( R^2 = .14, F(6, 81) = 2.22, p = .05 \).

**Direct Effects of the Harassment and Rejection Subscale on the Mediators.**

Results indicated that scores on the Harassment and Rejection subscale did not predict attachment anxiety, \( \beta = .24, t(88) = 1.56, p = .12 \), attachment avoidance, \( \beta = .02, t(88) = .2, p = .83 \), or internalized heterosexism, \( \beta = 4.7, t(88) = 1.59, p = .10 \).

**Direct Effects of the Harassment and Rejection Subscale on Well-being.** Neither attachment anxiety \( \beta = -.07, t(88) = -.04, p = .97 \), or attachment avoidance \( \beta = -.77, t(88) = -1.60, p = .11 \), or internalized heterosexism, \( \beta = -.04, t(88) = -1.77, p = .08 \), predicted anxiety scores.
**Indirect Effects of the Harassment and Rejection Subscale on Well-being.**

Attachment anxiety, attachment avoidance, and internalized heterosexism were examined as mediators of the relationship between discrimination and well-being when age and level of outness was controlled in lesbian and queer identified women. When the set of mediators were considered, mediation was not supported ($\beta = .01$, SE = .28, 95% BCa CI = -.78 to .36). Further, the indirect effects for attachment anxiety, attachment avoidance, and internalized heterosexism were non-significant when examined individually in the context of the other mediators (see Table 4.14).

Table 4.14

**Indirect Effects of Heterosexist Discrimination on Well-being**

<table>
<thead>
<tr>
<th>Mediator</th>
<th>Parameter estimate</th>
<th>SE</th>
<th>Lower</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>.01</td>
<td>.28</td>
<td>-.78</td>
</tr>
<tr>
<td>Attachment Anxiety</td>
<td>.01</td>
<td>.12</td>
<td>-.25</td>
</tr>
<tr>
<td>Attachment Avoidance</td>
<td>.13</td>
<td>.13</td>
<td>-.29</td>
</tr>
<tr>
<td>Internalized Heterosexism</td>
<td>-.01</td>
<td>.19</td>
<td>-.72</td>
</tr>
</tbody>
</table>

BCa CI = bias-corrected accelerated confidence intervals

**Final Analysis using HHRDS Rejection Subscale Summary**

The model for the current investigation was re-run using: a) the groups of women who reported discrimination experiences; b) only used the subscale where discrimination was reported. In spite of this, the results of the model are similar to the original analysis of the data. Discrimination does not predict the mediating variables and mediation is not supported. However, discrimination approached significance ($p = .09$) when predicting internalized heterosexism.
In this analysis each of the five Lesbian Internalized Homophobia Scales (LIHS; Szymanski & Chung, 2001b) were examined as a set of mediators of the relationship between Harassment and Rejection scores and current symptoms of depression, when level of outness and age are entered as covariates. The five subscales of the LIHS are: Personal Identification as a Lesbian, Interaction with the Lesbian Community, Knowledge of Lesbian History and Resources, Personal Feelings about Being a Lesbian, and Attitudes toward Other Lesbians. Although mediation was not supported when the full scale score was considered, it is possible that individual subscales may be better mediators than the overall scale score. In the racial and ethnic identity literature, it has been found that different aspects of identity moderate or mediate the relationship between racial discrimination and measures of distress. However, this has not been investigated within the sexual minority literature. Of the set of subscales the only subscale that was related to both discrimination and depression was Personal Feelings about Being a Lesbian (PFL). Therefore, the second model, presented here examines the PFL in isolation.
Table 4.14

Correlations Among LIHS Subscales, Heterosexist Harrament and Rejection, and Depression

<table>
<thead>
<tr>
<th></th>
<th>Reject</th>
<th>ILC</th>
<th>KOR</th>
<th>PFL</th>
<th>PIL</th>
<th>AOL</th>
<th>DEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reject</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ILC</td>
<td>-.15</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KOR</td>
<td>-.92</td>
<td>.65**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PFL</td>
<td>.18*</td>
<td>-.44**</td>
<td>.48**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PIL</td>
<td>.07</td>
<td>-.49**</td>
<td>.55**</td>
<td>.59**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AOL</td>
<td>.07</td>
<td>-.40**</td>
<td>.35**</td>
<td>.30**</td>
<td>.34**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>DEP</td>
<td>.09</td>
<td>.29**</td>
<td>.37**</td>
<td>.34**</td>
<td>.38**</td>
<td>.15</td>
<td>1</td>
</tr>
</tbody>
</table>

Reject=Heterosexist Harassment and Rejection Discrimination Subscale; ILC=Interaction with the Lesbian Community; KOR = Knowledge of Lesbian History and Resources, PFL = Personal Feelings about Being a Lesbian, AOL = Attitude Toward Other Lesbians, DEP = Depression

** p <.001

**PFL Mediating Rejection and Harassment and Depression**

The model accounted for a significant amount of the variance in depression, $R^2 = .16$, $F(3, 124) = 8.04$, $p = .0001$.

**Direct Effects of Harassment and Rejection Subscale on Personal Feelings about Being a Lesbian**

Results indicated that scores on the Harassment and Rejection subscale predicted Personal Feelings about Being a Lesbian, $\beta = 1.58$, $t(128) = 2.41$, $p = .02$.

**Direct Effects of Personal Feelings about being a Lesbian on Depression**. Personal Feelings about being a Lesbian significantly predicted depression scores, $\beta = .29$, $t(128) = 3.14$, $p = .002$.

**Indirect Effects of Harassment and Rejection Subscale on Depression**. Personal Feeling
about being a Lesbian was considered as a mediator of the relationship between
discrimination and depression when level of outness and age were controlled. Results
indicated the indirect effect of the proposed set of mediators was significant ($\beta = .01$, SE
= .27, 95% BCa CI = .10 to 1.25).

**PFL Summary**

Personal feelings about being a lesbian was found to partially mediate the relationship
between heterosexist harassment and rejection and current symptoms of depression.
Although the results of the present investigation are not causal in nature, it may indicate
that experiences of discrimination have the ability to negatively influence the way that an
individual thinks about their sexual orientation which in turn, accounts for 16.42% of the
variance in depression scores.
CHAPTER 5

DISCUSSION

The purpose of the current investigation is to explore the influence of sexual orientation related discrimination of same sex attracted women. Extensive research on marginalized populations, including LGB populations, have supported that experiences of perceived discrimination lead to psychological distress (i.e., Hatzenbuehler, McLaughlin, Keyes, Hasin, 2010; Meyer, 2005; Szymanski, 2005; Szymanksi, 2006). The majority of previous research on discrimination experiences within the LGB community has focused on establishing discrimination related to sexual orientation as a stressor which leads to distress. For example, while defining minority stress theory, Meyer (1995) found a significant association between perceived discrimination and indices of psychological distress including: anxiety, sadness, hopelessness, and helplessness. More recent epidemiological research continues to find similar results. For example, Hatzenbuehler, McLaughlin, Keyes, Hasin (2010) found that LGB individuals living in states which had enacted a same sex marriage ban had a significant increase in mood disorders and generalized anxiety disorder between 2001 and 2005. Sexual minority individuals living in states not affected by similar laws did not, however, evidence the same increase.

In addition to identifying and describing the potentially detrimental impact of discrimination experiences on LGB individuals, research has begun to explore factors that influence the relationship between discrimination and psychological well-being. Traditionally, minority stress theory (Meyer, 1995; 2003), which was born from the stress
and coping literature, has been used as a conceptual framework for understanding how the negative social climate influences an individual’s level of stress. From a minority stress perspective, sexual orientation related stressors create stress above and beyond the stress that majority group members experience, thus explaining the increases in psychological distress found in LGB individuals. Meyer theorized that stressors could be more distal (discrimination, hate crime victimization) or proximal (internalized heterosexism,). Further, Meyer suggested that coping strategies serve as moderators, which either buffer or exacerbate the influence of stressors, such as discrimination. Research has found that group (Hershberger & D’Augelli, 1995) and individual level coping strategies are able to ameliorate the potential negative impact of sexual orientation related stressors, thus providing support for Meyer’s conceptualization.

In addition to examining moderators, Meyer (2003) indicated that in order to develop a greater understanding of LGB related stressors “research is needed to explain the mechanism through which stressors related to prejudice and discrimination affect mental health” (p. 689-690). Building upon this, Hatzenbuehler (2009) developed a new theoretical framework in order to investigate factors which mediate the stress-distress link. In Hatzenbuehler’s model, stressors transmit distress through a mediation variable. Hatzenbuehler suggest that psychological processes (e.g., emotion regulation, cognitive processes) which have been found to be predictors of mental health outcomes are variables that should be investigated.

In the current investigation, attachment security was selected as a potential mediator of the stress-distress relationship. Theory and research have found that
attachment security (low attachment anxiety and low attachment avoidance) are associated with psychological health whereas insecure attachment is associated with poorer mental outcomes including depression and anxiety. Further, previous research has supported a relationship between attachment anxiety and perceived discrimination experiences (Zaklik & Wei, 2006). However, I was unable to locate any previous research which examines the hypothesis that discrimination experiences can influence attachment security or that attachment security mediated the relationship between discrimination and psychological health. Therefore, these hypotheses are largely exploratory.

In addition to examining universal process as mediators, Hatzenbuehler’s model considers proximally related stressors (i.e., internalized heterosexism) as potential mediators. Within Meyer's framework, proximal stressors are viewed as independent variables which are manifested as a result of the negative social environment which lead to psychological distress. As a result, research has generally focused on coping related factors that buffer the relationship between the stressor and its negative effects. However, Hatzenbuehler suggests that external stressors may influence proximal stressors which then lead to distress. Therefore, from this perspective, discrimination events have the ability to influence internalized heterosexism, which in turn influences an individual’s psychological health. This is a new way of conceptualizing internalized heterosexism and support for this proposition is limited. Only one study has been completed thus far (Kaysen, Lostutter, & Goines, 2005). This qualitative investigation found that those individuals who experienced hate crime victimization had high levels of internalized
heterosexism, lending some support that experiencing discrimination can affect internalized heterosexism.

Using Hatzenbuehler’s model as a theoretical framework, the current investigation explored attachment anxiety, attachment avoidance, and internalized heterosexism as mediators of the relationship between discrimination and three outcome variables: depression, anxiety, and well-being while controlling for level of outness. Exploring attachment and IH as mediators of this relationship is a novel endeavor; therefore, the current investigation was largely exploratory. Using Hatzenbuehler’s framework, discrimination experiences were hypothesized to influence attachment security and internalized heterosexism, which in turn would influence the outcome variables. Path analysis with bootstrapping was used to test mediation in accordance with the theoretical model. One model was run for each outcome variable due to the limitations of the macro used for data analysis.

Results indicated the model using depression as an outcome variable explained a great deal of the variance in depression. Yet, contrary to expectations the hypothesized mediation results were not supported. In fact, discrimination was not related to many of the study's variables in the expected manner. Therefore, post-hoc analyses were conducted to better understand how participants responded to discrimination items. Analysis focused on describing the discrimination data and identifying differences between domains of discrimination experience and examining potential subgroup differences. Once domain and subgroup differences were identified, the mediation model was reexamined. However, mediation was not supported in the post-hoc analysis either.
In this chapter, the major findings of the current study are reviewed. Then, limitations of the investigation are discussed. Finally, implications for future research are identified.

**Findings**

**Discrimination.** Discrimination is an experience shared by members of most minority groups including LGB individuals (Burgess, et al., 2007; Cassidy, O'Connor, Howe, & Warden, 2004; Corning, 2002; D'Augelli, 1992; Gordon & Meyer, 2008; Hatzenbuehler, McLaughlin, et al., 2010; Huebner, Rebchook, & Kegeles, 2004; Hwang & Goto, 2008; Moradi & Risco, 2006b; Ruggiero & Taylor, 1995). Previous research has found that LGB individuals report higher levels of discrimination when compared to heterosexual individuals. Additionally, previous research has found relationships between self-reported discrimination experiences and general measures of psychological distress, depression, and anxiety (Hatzenbuehler, McLaughlin, et al., 2010; Huebner, et al., 2004; Mays & Cochran, 2001; Smith & Ingram, 2004; Waldo, 1999; Wei, et al., 2008; Zakalik & Wei, 2006).

Building on previous research, it was expected that discrimination would predict psychological distress, specifically measures of depression, anxiety, and well-being. Then that relationship would be explained through attachment anxiety and internalized heterosexism. Discrimination was not related to the outcome variables in the hypothesized ways. As a result, it did not appear there was an effect to be mediated for those outcome variables. New statistical theory has sparked debate about the presence of
mediation when a direct effect is absent (Hayes, 2008), therefore mediation was investigated. However, mediation was not supported.

One potential explanation for these results is that college women in the current investigation did not report many experiences of discrimination; therefore, discrimination was not associated with the outcomes variables in the expected manner. Finding low levels of discrimination in college students is consistent with recent research. Oswalt and Wyatt (2011), using a single-item dichotomous measure of discrimination, found, that 65% of college LGB students in a large national sample, did not endorse discrimination experiences. It is conceivable that these results are reflective of changes occurring within the social climate. researchers suggest that overall attitudes are increasingly accepting in the United States (see Herek, 2012 for a review).

Another potential explanation for these findings is that college women have more limited exposure to discrimination because they have fewer life experiences. The post-hoc analysis revealed that when looking at the total scale score, college women are not endorsing discrimination experiences. However, when examining the subscales is isolation, some interesting differences emerge. It was revealed that college women did not report experiences of discrimination at work. This may be due to a lack of sufficient work experience rather than social changes in sexual politics. Many college students go from high school to college without ever having had a job. In addition, it is possible that even if participants were member of the work force, that they were not “out” at work, thus protecting them from sexual orientation related discrimination (cite me). Post-hoc analysis also indicated that participants did not endorse much “other discrimination.”
Other discrimination experiences include being discriminated against by strangers, service professionals, and helping professionals. Of those three items, the only item endorsed by most participants was being discriminated against by strangers. Considering that college students may have never received services from a helping or services professional, it makes sense that they have never experienced discrimination in those areas. However, everyone has encountered a stranger and many participants in the current investigation reported discrimination perpetrated by a stranger.

Although participants in the current investigation endorsed few discrimination experiences, unexamined group differences may have influenced the results. The post-hoc analysis revealed that lesbian identified women reported a greater frequency of discrimination experiences than bisexual identified women. In addition, lesbian identified women were more “out” than bisexual women. These results are consistent with previous literature which indicates that the more out someone is the more likely it is they experience discrimination (e.g., Smart & Wegner, 2000). Bisexual women experienced the least amount of discrimination. One potential explanation for this is that bisexual identified women have more ability to conceal their sexual orientation from others and to “pass”. As a result, they are less “out” to others, thus, having less opportunity to be discriminated against. Indeed, as post-hoc analysis demonstrated, bisexual women reported less outness than their lesbian identified counterparts in this study.

The first post-hoc analysis focused on understanding how lesbian and queer identified women were affected by harassment and rejection related discrimination. Post-hoc analysis found that the mediation model was not supported even when bisexual
women were removed from the analysis and only discrimination experiences related to harassment and rejection were considered.

The second post-hoc analysis examined the subscales of LIHS to see if one or more of the subscales would mediate the relationship between Harassment and Rejection related discrimination and depression scores. Results indicated that for all participants, personal feeling about being a lesbian/bisexual/queer partially mediated the relationship between harassment and rejection related discrimination and current depression. As a result, it seems that being harassed or rejected by friends, family, and other social influences may lead college same sex attracted women to evaluate their same sex attraction negatively which in turn, leads to higher scores on depression.

**Attachment.** One of the goals of the current investigation was to examine the role of attachment in mediating discrimination and measures of distress and well-being. It was expected that discrimination experiences would influence attachment anxiety, and in turn, attachment anxiety would influence depression, anxiety, and psychological well-being. The mediation hypothesis was not supported. Although discrimination was found to significantly influence attachment anxiety, attachment anxiety was not found to predict depression, anxiety, or well-being. As expected, attachment avoidance was not supported as a mediator of discrimination and the outcome variables.

The mediation hypothesis was largely exploratory. I was only able to locate one other study which included a relationship between adult romantic attachment and LGB related discrimination (Zakalik, & Wei, 2006). Zakalik and Wei examined attachment anxiety as a predictor of how much discrimination someone would perceive in the
environment. Discrimination was then expected to mediate the relationship between attachment anxiety and psychological distress. Although they considered a different relationship between the variables attachment anxiety and discrimination, Zakalik and Wei found that discrimination and attachment anxiety were related in a sample of gay men. The relationship between those variables was replicated in the current investigation. However, in this study discrimination events were expected to influence attachment anxiety instead of attachment anxiety influencing the amount of discrimination perceived in the environment. Yet, due to the correlational nature of the present investigation causality cannot be determined. Therefore, it is possible that the relationship between discrimination and attachment anxiety is as Zakalik and Wei (2006) theorized.

Zakalik and Wei (2006) also found support for a relationship between attachment anxiety and psychological distress. However, in the current investigation no association between attachment anxiety and the outcome variables were detected. One potential explanation for these findings is the differences in measurement of attachment. Unlike the current study which utilized the ECR-R to measure attachment anxiety, Zakalik and Wei used a several indicators of attachment anxiety. Thus, differences in measurement may be responsible for the differences in results. Similarly, Zakalik and Wei used a general measure of psychological distress whereas the current investigation used specific measures of psychological problems, consistent with Hatzenbuehler’s framework, which may explain the differences in the results of both studies.

As expected, discrimination was not found to be related of attachment avoidance. Attachment avoidance was also not supported as a predictor of depression or anxiety
scores. Attachment avoidance was found to be significantly inversely related to psychological well-being. These results are somewhat consistent with recent research on attachment and well-being (Wei, Liao, Ku, & Shaffer, 2011). Wei et al. (2011) examined attachment and well-being in a college sample and community sample. The researchers found that attachment avoidance was inversely related to well-being in the community sample but not in the college sample. However, in the current research the relationship between attachment avoidance and well-being was supported in a college sample. Due to inconsistent results, the relationship between attachment and well-being may benefit from continued exploration. It seems possible that attachment avoidance may work to protect individuals from developing awareness of the stressors in their environment and serve as a protective mechanism which increases well-being.

**Internalized Heterosexism.** Internalized heterosexism is a construct representing the internalization of negative cultural messages and the application of those messages to oneself. As a result, IH has been found to negatively impact an individual’s mental health, identity development, and relationship functioning (see Szymanski, Kashubeck-West, Meyer, 2008, for a review). Consistent with previous research, in the current study, IH was significantly predictive of self-reported anxiety scores. In addition, IH was demonstrated to have a significant inverse relationship with well-being.

The majority of previous research considering IH, examines the influence of IH on psychological distress as well as factors that buffer or exacerbate the impact of IH. For example, Szymanski (2006) examined IH as a moderator of the relationship between discrimination and psychological distress in bisexual and lesbian women. Similar to the
current investigation, a relationship between discrimination and psychological distress was reported. However, IH was not supported as a moderator of the stress-distress link (Szymanski, 2006).

Although I have been unable to locate research which examines IH as a mediator of sexual orientation related stress and distress, identity related variables have been examined in this manner within the racial discrimination literature. Ethnic identity has been as a moderator and mediator of racial discrimination and psychological distress. For example, Tummala-Narra, Inman, and Ettigi (2011) found that the relationship between racist events and self-esteem was mediated by racial identity in a sample of Asian Indians. The current research study extends previous research by examining internalized heterosexism as a mediator of anxiety, depression, and well-being. By examining IH as a mediator, it was hoped that a better understanding of how IH develops would be gleaned. However, a mediating relationship was not supported in any of the models.

Interestingly in the post-hoc analysis, the relationship between discrimination and IH approached significance, \( \beta = 4.7, t(88) = 1.59, p = .10 \), in lesbian and queer identified women. These results were exciting. It makes sense that discrimination events would lead to internalization of anti-LGB attitudes and application of those attitudes toward oneself. It is possible that with more power to detect effects, the hypothesized relationship between discrimination and IH would emerge.

In the second post hoc analysis when each subscale of the IH measure was considered as a mediator of the link between harassment and rejection and depression. Results indicated that most sub-scales of IH measure were non-significant mediators. For
example, experiencing discrimination did not predict how much women knew about the sexual minority community and that knowledge was not related their scores on depression. However, personal feelings about being a lesbian did partially mediate the relationship between harassment and rejection and depression. Indicating that experiencing discrimination is related to more negative feelings about being LBQ identified which in turn resulted in higher scores on depression. These results were especially exciting because different aspects of IH have not been examined separately in the LGB literature. However, the results of this investigation indicate that more close examination may be fruitful in order to better understand LGB identity development and how that identity buffers or is affected by LGB related stressors.

**Limitations**

**Population.** The current investigation utilized college women as the population of interest. Participants were recruited from geographically diverse post-secondary institutions with diverse student body enrollment. Campus LGB resource centers which were listed in the directory of Consortium of Higher Education LGBTA Resource Professionals were first targeted for recruitment. However, Moradi, Mohr, Worthington and Fassinger (2009) suggest that those individuals who are less out are less well studied within the scientific literature. As a result, these individuals can be marginalized by not being represented. In an attempt to recruit individuals with varying levels of “outness” participants were also recruited from woman’s resource centers as well as multicultural resource centers. It was hoped that individuals who may not be connected to LGB related supports may be connected to organizations that represent aspects of their identity they
are more comfortable sharing with others. Further, Moradi et al. (2009) suggest that obtaining racial diversity within samples is one of the major challenges facing sexual minority researchers. Thus, sampling from multicultural resource centers also served as a way to connect with students of color who might not otherwise be connected to the LGB community. Despite efforts to collect an ethnically diverse sample, the majority of participants in the current investigation identified as White.

To reach students who did not have access to LGB resource centers, student organizations were also recruited for participation. This was especially relevant at community colleges which often did not have centers that were staffed to offer support to LGB students. Further, in addition to using traditional email recruitment announcements, Facebook posts were used to increase participation and to better connect to the demographic being sampled.

Many efforts were taken to increase the number and diversity of respondents however recruitment was challenging and recruitment efforts were often unfruitful. As a result, the sample may be biased. Participants in the current study were a small sample of sexual minority college women. There were multiple indices of sexual orientation, defined by the Williams Institute, that were used to assess for sexual orientation. The study included heterogeneous sample of women who indicated to some degree they were not exclusively attracted to men, exclusively fantasize about men, exclusively attracted to men, and identity as something other than heterosexual. Therefore, these results are most generalizable to other traditionally aged college student women who have access to institutional supports related to their sexual orientation. Recruitment for the current
investigation was conducted by locating LGB resource centers, woman’s centers, multicultural centers, and student organizations. In turn, those organizations either accepted or declined the opportunity pass on the research study to their listservs. There were a large number of organizations which did not respond to the research request. It is unknown if there are characteristics that make those organizations different from one another. It is possible that organizations that did not respond because they carefully select studies to pass on to their students. Alternatively, it could be that the organization did not have a listserv to pass on the recruitment notice too.

It is unknown how many students actually received the recruitment notice and responded versus how many received the notice and did not respond. Even though all possible measures were taken to recruit participants, the sample was limited to a smaller number of participants than planned. Although data analytic techniques were used to maximize the power of the investigation, it is not clear how the results may have been different if a larger sample size were obtained. As a result of challenges related to the recruitment of participants it is difficult to generalize these results to all same sex attracted college women.

As previously stated, the sample was limited by response rate of organizations and participants. Historically, LGB individuals have responded favorably to research requests. However, in the current investigation it proved to be difficult to recruit participants. It appears that this cohort of same sex attracted women is not willing to be as active in research as their older counterparts (Rostosky, Riggle, Horne, & Miller, 2009; Syzmanski, Kashubeck-West, & Meyer, 2008). One potential reason for this is they do
not have the same need to find an outlet for their voices to be heard as their more overtly oppressed older peers who lived through the AIDS crisis, sodomy laws, and accusations that being gay was a character flaw. Students today often have access to supportive resources through campus and community LGB resource centers and student organization, they experience more support from allies, and are seeing advancements in the right to marry as well as partner benefits in the workplace. The increases in the privilege of young LGB identified individuals may have created less of a sense of urgency in responding to research. In addition, college students may view email as being “old fashioned” since texting has become a more popular. Therefore, college students may be better reached using alternative methods. Also, college students are inundated with research requests and may disregard those requests as “junk mail.” Additionally, it is possible that because college students receive so many research requests they are less likely to respond to those which have lottery style drawings for incentives to participate and instead elect to participate in only those investigations with guaranteed payment for participation.

Another possible reason that it was difficult to obtain participants is that college students are reluctant to be grouped into categories which describe their sexual orientation. Queer theory suggests that categorical labels are restrictive and fail to capture the full spectrum of individual differences. As a result, students are developing new ways to identify themselves outside of prescriptive categories (i.e., queer, pansexual) which was observed in the current investigation.
The current investigation used recruitment notices that were aimed at sexual minority women. It is possible that many college women who are attracted to other women do not label themselves as sexual minorities. The demographic results of the current investigation reflected a queer labeling trend. In the current investigation, nearly 20% of participants wrote in their sexual orientation as queer. These women did not differ from lesbian or bisexual identified women in terms of the frequency of their experience of discrimination or their level of outness.

Finally, it is possible that using a college sample constrained the results of this investigation. Perhaps using older participants would have endorsed higher levels of discrimination because they have more opportunity to experience discrimination. However, by using college students, we were able to identify that college students do not seem to be experiencing a great deal of discrimination.

Measurement. Until recently, there has not been a valid and reliable measure of sexual orientation related discrimination (Szymanski, 2006). Meyer (2003) discusses that discrimination is a difficult to operationalize construct. As a result, much of the previous research on sexual orientation related discrimination has relied on researchers constructing their own single item measure of discrimination or using subscales and altering wording from measures designed to assess racial/ethnic discrimination. Therefore, this study adds to the current body of literature by including the HHRDS (Szymanski, 2006), a valid and reliable measures of discrimination.

It is important to consider that the measures used to operationalize the constructs from the current study sometimes differed from measures used by previous researchers.
For example, discrimination was measured using a valid and reliable measure; however, the measure was different than previous research investigations which have found associations between the variables of interest. For example, Zakalik and Wei used a composite of measures that were designed to assess racial discrimination.

In addition, the current study used up-to-date measure of attachment security which reflects the current theoretical and empirical conceptualization of this construct. Attachment is now examined by looking at the orthogonal dimension of attachment anxiety and attachment avoidance in adulthood (Brennen, Clark, & Shaver, 1998). Therefore, the measurement of attachment was consistent with this conceptualization. However, previous research using sexual minority participants and attachment measures have not always examined attachment in the same manner (Zakalik, Wei 2006; Sherry 2007). In summary, the differences in measurement of the study's constructs may have influenced the results and explain why this study did not find the same associations as the previous research.

Another consideration is the population for whom the measures used in the investigation were originally intended. The discrimination measure and internalized heterosexism measures were initially created for use with lesbian women. As a result, it is possible that queer and bisexual identified women have internalized negative messages or discrimination experiences that were not assessed using the current measures of IH.

**Future research**

In the current investigation, discrimination was examined as a factor which could influence internal working models of the self through either a universal process
(attachment) or a group specific process (internalized heterosexism) which then would impact influence depression, anxiety, and well-being. Although the results of the current investigation did not support the mediation hypothesis, future research may benefit from continuing to examine how and when discrimination events influence an individual's mental health.

** Discrimination Measures.** It is possible that using the HHRDS to measure discrimination was not a good choice for the current investigation. In the current investigation, discrimination was measured using a Likert scale that represented the chronicity of discrimination over a one year period. However, it is possible that mental health outcomes may require more than chronic experiences of discrimination alone. It is possible that some discrimination events are more salient, more impactful, and more detrimental to the mental health of individuals. In addition, it is possible that there are some discrimination events which may be more likely to influence internalized heterosexism or attachment security. Future research may benefit from reexamining the current model using a sample of college students who have lost a primary relationship after coming out or experienced subjectively traumatic experiences of discrimination.

In addition to examining “high impact” discrimination events, an aspect of discrimination that was not assessed in the current investigation is discrimination that occurs within the LGBTQ community (Herek, 1999, 2002; Mohr & Rochlen, 1999). Discrimination within the LGB community has been documented for bisexual, transsexual, and racial and ethnic minorities. Future research may benefit from further examination of the impact of LGB related discrimination within the LGB community and
how that discrimination affects the ability to successfully connect with necessary social support. In addition, there were aspects of discrimination that appear to be more salient to the college aged cohort. Specifically, most participants report hearing anti-LGB remarks from family members and rejection from friends. The impact of these specific types of discrimination in college students may be fruitfully examined in future research.

**Internalized Heterosexism.** Research identifying the factors which contribute to the development of IH would be beneficial to researchers and applicable to professional psychology practice. There is an abundance of evidence that has suggested that IH leads to a variety of negative mental health outcomes. The results of the current investigation were consistent with those finding. However, research identifying how IH develops is in its infancy. In the current study, discrimination experiences were hypothesized to influence the development of IH. However, those results were not supported. In previous research, IH has been considered a moderator which could exacerbate or buffer the impact of discrimination in sexual minority women, however, those hypothesis were not supported either (Szymanski, 2006). Future research would benefit from exploring whether IH moderates or mediates the relationship between discrimination and mental health outcomes. An important consideration will be how IH is measured. In a review of the literature on IH, Szymanski (2008) reports that many measures of IH have been constructed, each with its own strengths and limitations. However, each measure also taps a different dimension of IH. Future researcher must consider how defining the construct affects the results. In the present investigation, it was also found that one dimension of IH mediated the relationship between discrimination and distress. More research is needed to
further develop a more nuanced understanding of the way that different components of IH function.

**Attachment.** Upon reflection, it is clear that attachment may not have been the best choice for a mediator in the current investigation. First, Hatzenbuehler indicated that universal psychological process should be examined as a mediator of the stress-link. Although attachment is theorized to be universally experienced, it may not be malleable enough to be influence by low levels of discrimination experience. Other variables which are more easily influenced by external events are more congruent with the theoretical model.

Second, Collins and Read (1994) suggested that in order to effect changes in attachment style, interpersonal experiences must be relatively long in duration and emotionally significant. For example, Sandberg, Suess, and Heaton (2010) found support for attachment as a mediator between traumatic experiences and post-traumatic stress. In the current investigation, the emotional significance of discrimination events was not examined.

**Alternative Mediators.** Using Hatzenbuehler’s framework, it may be useful to consider removing attachment as a variable of interest and instead focusing on variables which are more easily affected by external events. For example, cognitive rumination may be an appropriate mediator of the relationship between discrimination and depression. Nepon, Flett, Hewitt, Molnar (2011) found that negative social feedback and rumination following interpersonal events successfully predicted psychological distress.
Discrimination events are often interpersonal in nature and therefore, rumination about those interpersonal events may lead to mental health problems.

**Queer.** Finally, future research may also benefit from developing a better understanding of the needs of the queer generation. Fassinger and Aresanu (200) emphasize the importance of cohort effects within the LGB population. College students represent a young cohort of same sex attracted women with unique characteristics. It appears that this cohort of women is choosing new labels and descriptions of their attraction and behaviors. Many women are choosing not to label within the traditional categorical system. As a result, future research would benefit from further exploring the characteristics and qualities of individuals who are part of the queer movement. It is possible that the queer identified new cohort of individuals do not differ from other sexual minority individuals in their age group. In the current investigation, there were no differences between women who identified as queer versus lesbian or bisexual. However, the sample of queer identified women was too small in the current investigation to draw any conclusions. Thus, research examining the unique experiences of this generation is needed.

**Conclusions**

The current study sought to examine factors which may mediate the relationship between an external stressor and depression, anxiety, and well-being. It was anticipated that discrimination experience would have the ability to affect and modify an individual’s self-schemas which would influence measures of mental health. Although mediation was not supported in the current investigation, there were limitations which may have reduced
the ability of the current investigation to detect the influence of discrimination. Future research studies would benefit from improving measurement of discrimination to include an index of emotional salience. In addition, longitudinal research which could measure the differences in attachment anxiety and internalized heterosexism would provide more evidence of a causal relationship. Finally, choosing variables which are more easily affected by discrimination experiences may provide more evidence for Hatzenbuehler’s model. Despite not finding the expected results, the current investigation did reveal that college women are not subjected to high levels of discrimination experiences. However, same attracted women did seem to experience some harassment and rejection related to their sexual orientation. Further, when harassment and rejection was experienced it seemed increase depression scores by negatively influencing their personal feeling about their same sex attraction.
References


Mikulincer, M., Birnbaum, G., Woddis, D., & Nachmias, O. (2000). Stress and accessibility of proximity-related thoughts: Exploring the normative and


Appendix A

List-Serve Recruitment Notice

Hello,

I am seeking undergraduate women who are NOT heterosexual from across the country to participate in an online study with the chance to win, one of several, $10.00 email gift-card to Amazon.com. Women from any post-secondary institution (e.g., community colleges, colleges, and university students) are welcome to participate. This research is affiliated with The Pennsylvania State University and had been approved by The Pennsylvania State University, IRB# 35874.

Everyone who participates will be asked to complete a questionnaire that includes questions about your age, gender, sexual orientation, and sexual preferences. Afterward you will be asked to complete several survey items. This research study is being completed as part of my doctoral dissertation.

The purpose of this research investigation is to examine the impact of discrimination experiences on relationships, psychological distress, and internalized heterosexism. In addition the study will examine the potential of attachment to influence the effects of discrimination and lead to higher overall scores on a measure of well-being.

- You must be at least 18 years of age or older to take part in this research study. Undergraduate women of non-traditional college age are encouraged to participate.
- Study participants can use their email address to enter to win a $10.00 email gift-card to Amazon.com. One gift card will be issued for every 25 individuals who participate.

Please forward this message to individuals who may be interested or listservs you administer.

If you wish to participate, please click on the link below. All responses are confidential.

Go to www.psychdata.com then in the top right hand corner enter the survey number 139459
OR

Copy and Paste this link into your internet browser www.psychdata.com/s.asp?SID=139459

Thank you! Rachel Wix

If you have questions about this study, please contact Rachel Wix, M.A., Doctoral Student (raw941@psu.edu) or Professor Kathleen Bieschke, Ph.D., (kbieschke@psu.edu) Department of Counselor Education, Counseling Psychology, and Rehabilitation Services, The Pennsylvania State University, 306 CEDAR Building, University Park, PA 16802
Appendix B

Facebook Post

Undergrad women 18 & over who are NOT heterosexual are invited to participate in an online study and enter to win a $10.00 email gift-card to Amazon.com! Your responses may help researchers understand how discrimination impacts women’s relationships and well-being. This study is approved by Pennsylvania State University, IRB#35874.

https://www.psychdata.com/s.asp?SID=139459 Questions? email Rachel Wix raw941@psu.edu
Appendix C

Implied Consent

Informed Consent Form for Social Science Research

The Pennsylvania State University

**Title of Project:** The influence of attachment security on lesbian and bisexual women’s experiences with sexual orientation stressors, psychological distress, and psychological well being

**Principal Investigator:** Rachel Wix, M.A., Doctoral Student
Department of Counselor Education, Counseling Psychology, and Rehabilitation Services
Pennsylvania State University
316 CEDAR Building, University Park, PA 16802
raw941@psu.edu
765-215-9321

**Advisor:** Kathleen Bieschke, Ph.D., Professor
Department of Counselor Education, Counseling Psychology, and Rehabilitation Services
Pennsylvania State University
306 CEDAR Building, University Park, PA 16802
814-865-3296
kbieschke@psu.edu

1. **Purpose of the Study:** The purpose of this research study is to examine sexual minority women’s experiences with sexual orientation related discrimination and its effects on relationships, psychological distress, and well-being.

2. **Procedures to be followed:** You will be asked to provide some basic demographic information and complete questions on an online survey.

3. **Discomforts and Risks:** There are no risks in participating in this research beyond those experienced in everyday life. Some of the questions are personal and might cause discomfort.

4. **Benefits:** Results of this investigation will help researchers understand the impact of discrimination on the psychological health of sexual minority women.

5. **Duration/Time:** It will take approximately 15-20 minutes to complete the survey.
6. **Statement of Confidentiality:** Your confidentiality will be kept to the degree permitted by the technology being used. This study will use [www.psychdata.net](http://www.psychdata.net) online survey system to collect and store data. This system is a professionally developed server and many studies have used it. Your answers are encrypted using 256 SSL technology (Secure Socket Layer), which is equivalent to the industry standard for securely transmitting credit card information over the internet. Once research data is stored on the psychdata sever, it will be held in an isolated database that can only be accessed by the principal investigator. Email addresses used for the drawing will be kept separate from survey responses.

The Pennsylvania State University’s Office for Research Protections, the Institutional Review Board and the Office for Human Research Protections in the Department of Health and Human Services may review records related to this research study. In the event of any publication or presentation resulting from the research, no personally identifiable information will be shared because your name is in no way linked to your responses.

7. **Right to Ask Questions:** Please contact Rachel Wix, MA at (765) 215-9321 with questions, complaints or concerns about this research. You can also call this number if you feel this study has harmed you. If you have any questions, concerns, problems about your rights as a research participant or would like to offer input, please contact The Pennsylvania State University’s Office for Research Protections (ORP) at (814) 865-1775. The ORP cannot answer questions about research procedures. Question about research procedures can be answered by the research team.

8. **Payment for participation:** For every 25 people who participate in this study, there will be a drawing for one $10.00 email gift-card to Amazon.com. The drawings will take place on August 31, 2011 and winners will be notified by receiving an email gift-card.

9. **Voluntary Participation:** Your decision to be in this research is voluntary. You can stop at any time. You do not have to answer any questions you do not want to answer. Refusal to take part in or withdrawing from this study will involve no penalty or loss of benefits you would receive otherwise.

You must be 18 years of age or older to take part in this research study.

Completion and return of the survey implies that you have read the information in this form and consent to take part in the research.

Please keep this form for your records or future reference.

**ORP OFFICE USE ONLY – DO NOT REMOVE OR MODIFY:** This informed consent form (Doc.# 1001) was reviewed and approved by The Pennsylvania State University’s Office for Research Protections (IRB#35874) on 02-24-2011. It will expire on 02-16-2012. (JDM)
Appendix D
Drawing Entry Form

Enter the Drawing

Thanks so much for your help! Enter the drawing to win one of several 10.00 email gift-cards to Amazon.com. There will be 1 gift card drawing for every 25 people who participate. Drawings will take place on August 31, 2011. Winners will be notified by receiving an email gift-card. If you would like to be entered in the drawing please provide your email address below. Please use an email address that you will have access to after August 31, 2011.
If do not wish to participate in the drawing you may leave your email address blank.

Please enter your email address below

STOP! Please double check your email address to make sure it is correct. This is the only way that you can be notified if you are selected to receive a gift card.
Appendix E

Resources

RESOURCES

Many of the survey items use the words bisexual or lesbian and therefore it is recommended that you complete this survey in a private location.

For this study, you will be asked to complete several brief questionnaires concerning your personal experiences of discrimination, relationship styles, and current symptoms of psychological distress and psychological well-being.

For some, reflecting on this information may provoke some psychological discomfort. In the event that you experience any discomfort as a result of completing these surveys, I have provided links to LGBTQI help centers below. I have also included links that offer connection to the LGBTQI community.

1. The Trevor Project http://www.thetrevorproject.org/
2. GLBT National Help Center http://www.glbtnationalhelpcenter.org/
3. Campus Pride http://www.campuspride.org/
5. Curve http://www.curvemag.com/
6. Advocate http://www.advocate.com/

Please recall from the Informed Consent page that your decision to be in this research study is voluntary. You can stop at any time. You do not have to answer any questions you do not want to answer. Exiting the survey will involve no penalty or loss of benefits you would receive otherwise.

Please save or print this form for your reference or for your personal records.
Appendix F

Debriefing Statement

THANK YOU!

For this study, you were asked to complete several brief questionnaires concerning your personal experiences of discrimination, relationship styles, and current symptoms of psychological distress and psychological well-being. In the event that you experienced any discomfort as a result of completing these surveys, I have provided links to LGBTQI help centers. I have also included links that offer connection to the LGBTQI community.

Online Support

1. The Trevor Project http://www.thetrevorproject.org/
2. GLBT National Help Center http://www.glbtnationalhelpcenter.org/
3. Campus Pride http://www.campuspride.org/
5. Curve http://www.curvemag.com/
6. Advocate http://www.advocate.com/

If you are interested in the results of this study, you may contact Rachel Wix at the completion of this study (December 2012). Global results, not individual results, will be disclosed.

You may print this form for your future reference or for your personal records. Thank you for your participation! If you have any questions or concerns about this study, please do not hesitate to contact me.

Rachel Wix, MA
raw941@psu.edu
Appendix G

Demographic Questionnaire

1. Do you consider yourself to be:
   a) Heterosexual or straight;
   b) Gay or lesbian; or
   c) Bisexual?

2. In the past 5 years who have you had sex with?
   a) Men only,
   b) Women only,
   c) Both men and women,
   d) I have not had sex

3. People are different in their sexual attraction to other people. Which best describes your feelings? Are you:
   a) Only attracted to females?
   b) Mostly attracted to females?
   c) Equally attracted to females and males?
   d) Mostly attracted to males?
   e) Only attracted to males?
   f) Not sure?

4. Which of the following best describes your relationship status?
   a) Single, not dating
   b) Single and dating
   c) In a committed long-term relationship, domestic partnership, civil union or marriage
   d) Separated from a partner with whom I had a committed relationship, domestic partnership, civil union or marriage
   e) Divorced from a partner with whom I had a committed relationship, domestic partnership, civil union or marriage
   f) Widowed

5. Are you a college student?
   a) yes
   b) no

6. What is your class standing?
   a) Freshman
   b) Sophomore
   c) Junior
d) Senior
  e) graduate student

7. How do you describe your gender? _____________

8. How do you describe your Race/Ethnicity? ________________

9. What is your current household income in U.S. dollars?
   a) Under $10,000
   b) $10,000 - $19,999
   c) $20,000 - $29,999
   d) $30,000 - $39,999
   e) $40,000 - $49,999
   f) $50,000 - $74,999
   g) $75,000 - $99,999
   h) $100,000 - $150,000
   i) Over $150,000
**Appendix H**

**Outness Inventory**

Use the following rating scale to indicate how open you are about your sexual orientation to the people listed below. Try to respond to all of the items, but leave items blank if they do not apply to you.

1 = Person definitely does NOT know about your sexual orientation status
2 = Person might know about your sexual orientation status, but it is NEVER talked about
3 = Person probably knows about your sexual orientation status, but it is NEVER talked about
4 = Person probably knows about your sexual orientation status, but it is RARELY talked about
5 = Person definitely knows about your sexual orientation status, but it is RARELY talked about
6 = Person definitely knows about your sexual orientation status, and it is SOMETIMES talked about
7= Person definitely knows about your sexual orientation status, and it is OPENLY talked about

0 = Not applicable to your situation; there is no such person or group of people in your life

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother</td>
<td></td>
</tr>
<tr>
<td>Father</td>
<td></td>
</tr>
<tr>
<td>Siblings (sisters, brothers)</td>
<td></td>
</tr>
<tr>
<td>Extended family/relatives</td>
<td></td>
</tr>
<tr>
<td>My <strong>new</strong> straight friends</td>
<td></td>
</tr>
<tr>
<td>My work peers</td>
<td></td>
</tr>
<tr>
<td>My work supervisor(s)</td>
<td></td>
</tr>
<tr>
<td>Members of my religious community (e.g., church, temple)</td>
<td></td>
</tr>
<tr>
<td>Leaders of my religious community (e.g., church, temple)</td>
<td></td>
</tr>
<tr>
<td>Strangers, new acquaintances</td>
<td></td>
</tr>
<tr>
<td>My <strong>old</strong> heterosexual friends</td>
<td></td>
</tr>
</tbody>
</table>
Appendix I

HHRDS

Please think carefully about your life as you answer the questions below. Read each question and then circle the number that best describes events in the PAST YEAR, using these rules:

1=If the event has NEVER happened to you
2=If the event happened ONCE IN A WHILE (less than 10% of the time)
3=If the event happened SOMETIMES (10–25% of the time)
4=If the event happened A LOT (26–49% of the time)
5=If the event happened MOST OF THE TIME (50–70% of the time)
6=If the event happened ALMOST ALL OF THE TIME (more than 70% of the time)

1. How many times have you been rejected by friends because you are a LESBIAN/BISEXUAL?
2. How many times have you been verbally insulted because you are a LESBIAN/BISEXUAL?
3. How many times have you been made fun of, picked on, pushed, shoved, hit, or threatened with harm because you are a LESBIAN/BISEXUAL?
4. How many times have you heard ANTI-LESBIAN/BISEXUAL/ANTI-GAY remarks from family members?
5. How many times have you been rejected by family members because you are a LESBIAN/BISEXUAL?
6. How many times have you been called a HETEROSEXIST name like dyke, lezzie, or other names?
7. How many times have you been treated unfairly by your family because you are a LESBIAN/BISEXUAL?
8. How many times have you been treated unfairly by your employer, boss, or supervisors because you are a LESBIAN/BISEXUAL?
9. How many times were you denied a raise, a promotion, tenure, a good assignment, a job, or other such thing at work that you deserved because you are a LESBIAN/BISEXUAL?
10. How many times have you been treated unfairly by teachers or professors because you are a LESBIAN/BISEXUAL?
11. How many times have you been treated unfairly by your co-workers, fellow students, or colleagues because you are a LESBIAN/BISEXUAL?
12. How many times have you been treated unfairly by people in service jobs (by store clerks, waiters, bartenders, waitresses, bank tellers, mechanics, and others) because you are a LESBIAN/BISEXUAL?
13. How many times have you been treated unfairly by strangers because you are a LESBIAN/BISEXUAL?
14. How many times have you been treated unfairly by people in helping jobs (by doctors, nurses, psychiatrists, caseworkers, dentists, school counselors, therapists, pediatricians, school principals, gynecologists, and others) because you are a LESBIAN/BISEXUAL?
Appendix J

ECR-SF

The statements below concern how you feel in emotionally intimate relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Respond to each statement by circling the number to indicate how much you agree or disagree with the statement.

1  2  3  4  5  6  7
Strongly Agree                Strong Disagree

1. It helps to turn to my romantic partner in times of need.
2. I need a lot of reassurance that I am loved by my partner.
3. I want to get close to my partner, but I keep pulling back.
4. I find that my partner(s) don't want to get as close as I would like.
5. I turn to my partner for many things, including comfort and reassurance.
6. My desire to be very close sometimes scares people away.
7. I try to avoid getting too close to my partner.
8. I do not often worry about being abandoned.
9. I usually discuss my problems and concerns with my partner.
10. I get frustrated if romantic partners are not available when I need them.
11. I am nervous when partners get too close to me.
12. I worry that romantic partners won't care about me as much as I care about them
13. I am nervous when partners get too close to me.
Appendix K

LGIS

Please indicate your agreement or disagreement with each of the following statements by writing in the appropriate number from the scale below. There are no right or wrong answers; however, for the data to be meaningful, you must answer each statement given below as honestly as possible. Your responses are completely anonymous. Please do not leave a statement unmarked. Some statements may depict situations that you have not experienced; please imagine yourself in those situations when answering those statements.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Moderately Disagree</th>
<th>Slightly Disagree</th>
<th>Neutral</th>
<th>Slightly Agree</th>
<th>Moderately Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

1. I try not to give signs that I am not heterosexual. I am careful about the way I dress, the jewelry I wear, the places, people and events I talk about.
2. I can't stand same lesbian/bisexual women who are too "butch". They make lesbian/bisexual women as a group look bad.
3. Attending lesbian/bisexual events and organizations is important to me.
4. I hate myself for being attracted to other women.
5. I believe female homosexuality is a sin.
6. I am comfortable being an "out" lesbian/bisexual woman. I want others to know and see me as a lesbian/bisexual woman.
7. I have respect and admiration for other same sex attracted women.
8. I wouldn't mind if my boss knew that I was a lesbian/bisexual woman.
9. If some lesbian/bisexuals would change and be more acceptable to the larger society, lesbian/bisexuals as a group would not have to deal with so much negativity and discrimination.
10. I am proud to be a lesbian/bisexual woman.
11. I am not worried about anyone finding out that I am a lesbian/bisexual woman.
12. When interacting with members of the lesbian/bisexual community, I often feel different and alone, like I don't fit in.
13. I feel bad for acting on my lesbian/bisexual desires.
14. I feel comfortable talking to my heterosexual friends about my everyday homosexual life with my lesbian/bisexual partner/lover or my everyday activities with my lesbian/bisexual friends.
15. Having lesbian/bisexual friends is important to me.
16. I am familiar with lesbian/bisexual books and/or magazines.
17. Being a part of the lesbian/bisexual community is important to me.
18. It is important for me to conceal the fact that I am a lesbian/bisexual from my family.
19. I feel comfortable talking about homosexuality in public.
20. I live in fear that someone will find out I am a lesbian/bisexual.
21. If I could change my sexual orientation and become heterosexual, I would.
22. I do not feel the need to be on guard, lie, or hide my lesbian/bisexualism to others.
23. I feel comfortable joining a lesbian/bisexual social group, lesbian/bisexual sports team, or lesbian/bisexual organization.
24. When speaking of my lesbian/bisexual lover/partner to a straight person I change pronouns so that others will think I'm involved with a man rather than a woman.
25. Being a lesbian/bisexual makes my future look bleak and hopeless.
26. If my peers knew of my lesbian/bisexualism, I am afraid that many would not want to be friends with me.
27. Social situations with other lesbian/bisexuals make me feel uncomfortable.
28. I wish some lesbian/bisexuals wouldn't "flaunt" their Lesbian/bisexualism. They only do it for shock value and it doesn't accomplish anything positive.
29. I don't feel disappointment in myself for being a lesbian/bisexual woman.
30. I am familiar with lesbian/bisexual movies and/or music.
31. I am aware of the history concerning the development of lesbian/bisexual communities and/or the lesbian/bisexual/gay rights movement.
32. I act as if my lesbian/bisexual lovers are merely friends.
33. I feel comfortable discussing my lesbian/bisexualism with my family.
34. I could not confront a straight friend or acquaintance if she or he made a homophobic or heterosexist statement to me.
35. I am familiar with lesbian/bisexual music festivals and conferences.
36. When speaking of my lesbian/bisexual lover/partner to a straight person, I often use neutral pronouns so the sex of the person is vague.
37. Lesbian/bisexuals are too aggressive.
38. I frequently make negative comments about other lesbian/bisexuals.
39. I am familiar with community resources for lesbian/bisexuals (i.e., bookstores, support groups, bars, etc.).
Appendix L

GAD-7

How often during the past 2 weeks have you felt bothered by:
1. Feeling nervous, anxious, or on edge?
   0 = not at all
   1 = several days
   2 = more than half the days
   3 = nearly everyday

2. Not being able to stop or control worrying?
   0 = not at all
   1 = several days
   2 = more than half the days
   3 = nearly everyday

3. Worrying too much about different things?
   0 = not at all
   1 = several days
   2 = more than half the days
   3 = nearly everyday

4. Trouble relaxing?
   0 = not at all
   1 = several days
   2 = more than half the days
   3 = nearly everyday

5. Being so restless that it is hard to sit still?
   0 = not at all
   1 = several days
   2 = more than half the days
   3 = nearly everyday

6. Becoming easily annoyed or irritable?
   0 = not at all
   1 = several days
   2 = more than half the days
   3 = nearly everyday

7. Feeling afraid as if something awful might happen?
   0 = not at all
   1 = several days
   2 = more than half the days
   3 = nearly everyday
Appendix M

CES-D

Instructions: Below is a list of the ways you might have felt or behaved. Please tell me how often you have felt this way during the past week.

1. Rarely or none of the time (Less than 1 day)
2. Some or a little of the time (1-2 days)
3. Occasionally or a moderate amount of time (3-4 days)
4. Most or all of the time (5-7 days)

During the past week:
___I was bothered by things that usually don’t bother me.
___I did not feel like eating; my appetite was poor.
___I felt that I could not shake off the blues even with help from my family and friends.
___I felt that I was just as good as other people.
___I had trouble keeping my mind on what I was doing.
___I felt depressed.
___I felt that everything I did was an effort.
___I felt hopeful about the future.
___I thought my life had been a failure.
___I felt tearful.
___My sleep was restless.
___I was happy.
___I talked less than usual.
___I felt lonely.
___People were unfriendly.
___I enjoyed life.
___I had crying spells.
___I felt sad.
___I felt that people dislike me.
___I could not get “going.”
Appendix N

Flourishing

Below are 8 statements with which you may agree or disagree. Using the 1–7 scale below, indicate your agreement with each item by indicating that response for each statement.

7    Strongly agree
6    Agree
5    Slightly agree
4    Mixed or neither agree nor disagree
3    Slightly disagree
2    Disagree
1    Strongly disagree

1. I lead a purposeful and meaningful life.

2. My social relationships are supportive and rewarding.

3. I am engaged and interested in my daily activities

4. I actively contribute to the happiness and well-being of others

5. I am competent and capable in the activities that are important to me

6. I am a good person and live a good life

7. I am optimistic about my future

8. People respect me
Education
Counseling Psychology PhD Program
The Pennsylvania State University
University Park, PA 16802
APA Accredited Program

M.A. Clinical Psychology
Ball State University
Muncie, IN

B.S. Psychology
Texas Woman’s University
Denton, TX

Clinical Experience
Counseling and Psychological Services
Clemson University
Predoctoral Intern

Counseling and Psychological Services (CAPS)
Graduate Assistant
The Pennsylvania State University

Centre Volunteers in Medicine-Community Mental Health
Advanced Practicum
The Pennsylvania State University

The Meadows- Inpatient Hospitalization
Advanced Practicum
The Pennsylvania State University

Counseling and Psychological Services (CAPS)
Practicum Counselor
The Pennsylvania State University

Bank of America Career Services Center
Practicum Career Counselor
The Pennsylvania State University

Professional Presentations
