

2-1-2012

Health, well-being, and experiences of discrimination for lesbian, gay, and bisexual people

Paulette J. Christopher

Follow this and additional works at: https://digitalrepository.unm.edu/psy_etds

Recommended Citation

Christopher, Paulette J.. "Health, well-being, and experiences of discrimination for lesbian, gay, and bisexual people." (2012).
https://digitalrepository.unm.edu/psy_etds/23

This Dissertation is brought to you for free and open access by the Electronic Theses and Dissertations at UNM Digital Repository. It has been accepted for inclusion in Psychology ETDs by an authorized administrator of UNM Digital Repository. For more information, please contact disc@unm.edu.

Paulette J. Christopher

Candidate

Psychology

Department

This dissertation is approved, and it is acceptable in quality and form for publication:

Approved by the Dissertation Committee:

Bruce W. Smith, Ph.D., Chairperson

Angela Bryan, Ph.D.

Steven P. Verney, Ph.D.

Michael J. Dougher, Ph.D.

Elizabeth A. Klonoff, Ph.D.

**HEALTH, WELL-BEING, AND EXPERIENCES OF DISCRIMINATION FOR
LESBIAN, GAY, AND BISEXUAL PEOPLE**

By

PAULETTE J. CHRISTOPHER

B.A., University Studies, University of New Mexico, 2005
M.S., Psychology, University of New Mexico, 2008

DISSERTATION

Submitted in Partial Fulfillment of the
Requirements for the Degree of

**Doctor of Philosophy
Psychology**

The University of New Mexico
Albuquerque, New Mexico

December 2011

Dedication

In memory of my mother Helen L. Christopher who passed away on January 31st, 2011 before she had the chance to see her hard work come to fruition.

This manuscript is dedicated to my family. To my mother Helen Lavina who taught me about acceptance of all people, and to my father Felicio Paulo who taught me to love words, to work hard, and to be kind. I am very grateful to my father for telling me his stories about the prejudice and hardship our family faced after immigrating to America.

I also dedicate this work to my grandparents Giuseppe and Giuseppa Crisafulli who braved the ocean, the unknown, and discrimination to make a better life for our family and to whom I am grateful for the privilege that allowed me to obtain this degree. Finally, I am grateful to my brother Phillip who lived and died with dignity even though he was discriminated against for his sexual orientation and for having AIDS. I miss you all and you all contributed greatly to my interest in discrimination and health and health psychology.

Acknowledgements

It is impossible to acknowledge everyone who made this project possible. Several people were instrumental and bear mentioning. Thanks to my mentor Bruce W. Smith for encouraging me to pursue this subject matter and his confidence in my ability to complete this project. My committee was gracious and helpful at all times and a pleasure to work with. I would also like to thank the members of the LGB community who took the time to complete the survey.

On a personal level, my friends and family were always encouraging and understanding of my frequent disappearances in order to work. I'd like to especially mention Chris Heffner, Anne Arkin, and Marty Attea for taking care of emergencies that could have delayed this project and made it harder to complete. I'm grateful to have had the support of the Metropolitan Community Church of Greater St. Louis (MCCGSL) for making me feel at home when I was far from home. Many thanks go to the OWLS from MCCGSL who took me under their collective wing, literally and figuratively. Finally, I would like to thank my fiancé Kerry Higdon for understanding when I had to work late every night and every weekend to get this done. She was always encouraging and believed in me when obstacles arose and when I was too tired to believe in myself.

Thank you all. It took all of us to get this done.

**HEALTH, WELL-BEING AND EXPERIENCES OF DISCRIMINATION FOR
LESBIAN, GAY, AND BISEXUAL PEOPLE**

By

Paulette J. Christopher

B.A., University Studies, University of New Mexico, 2005

M.S., Psychology, University of New Mexico, 2008

Ph.D., Psychology, University of New Mexico, 2011

ABSTRACT

Like racial and ethnic minorities, sexual minorities (lesbian, gay, and bisexual (LGB) people) are at increased risk for mental (Meyer, 2003; Hatzenbuehler, 2009) and physical (Conran, Mimiaga, & Landers, 2008; Gay and Lesbian Medical Association, 2010; Huebner & Davis, 2007) health problems compared to heterosexuals. The current study attempted to 1) determine if the stress related to discrimination mediated the relationship between discrimination and health and well-being for LGB people, and 2) and identify risk and resilience factors specific to LGB people that might moderate the relationship between discrimination related stress and LGB health, mental health and satisfaction with life.

Three hundred and five people who self-identified as LGB completed an online survey. Thirty nine percent of participants self-identified as lesbian, 33% identified as gay male, 16% identified as bisexual female, and 11% identified as bisexual male. Mean age was 42 years (SD=16.04). The racial/ethnic composition of the sample was Caucasian (78%), Hispanic (6%), Black (4%), Asian (3%), Alaskan (1%) and Multiracial (8%). Annual

household income was less than \$20,000 (17%), \$20,000-\$39,999 (22%), \$40,000-\$59,999 (19%), \$60,000-79,999 (13%), and over \$80,000 (29%).

MOS-36 mental health composite scores for the sample were one-half standard deviation below the general population mean. Correlational analysis revealed relationships between mental health outcomes and most of the study variables including discrimination. Significant similarities were found between racial and sexual minority populations' experiences of discrimination. Three path analyses investigated whether perceived stress mediated the relationship between lifetime experiences of discrimination and the dependent variables of the study; 1) physical health 2) mental health, and 3) satisfaction with life. Four analyses examined moderating effects of LGB risk and resilience factors (internalized heterosexism, stigma consciousness, disclosure of sexual orientation and community connectedness), on the relationship between perceived stress and the dependent variables. Only a trend towards a significant interaction was found for internalized heterosexism moderating the relationship between perceived stress and mental health outcomes.

Table of Contents

List of Figures.....	x
List of Tables	xi
Chapter 1 Introduction	1
Chapter 2 Literature Review	5
Evidence for the Effects of Stress on Health	5
Stress theory.....	5
Stress theory in relation to the present study.	8
Stress research.....	9
Minority Stress.....	11
Stigmatizing processes: How minorities are differentially exposed to stress. 12	
Perceived discrimination and health disparities in racial/ethnic minority	
populations.....	14
The effects of perceived discrimination on mental health.....	16
The effects of perceived discrimination on physical health.....	18
Coping with racial/ethnic discrimination.....	20
Factors that interfere with coping.	24
Summary of discrimination, health, and coping, in racial and ethnic	
minorities.	27
Perceived discrimination and health in LGB populations.	29
Mental health disparities for LGB people.....	29
Perceived discrimination and LGB mental health.	30
Physical health disparities for LGB people.....	33

Perceived discrimination and LGB physical health.....	35
Coping with Heterosexism.....	36
Community connectedness.	37
Disclosure of sexual orientation.....	38
Internalized heterosexism.	42
Stigma consciousness.....	43
Summary and comparison of discrimination, health, and coping in LGB and racial and ethnic minority people.....	45
Models Linking Minority Stress and Health Relevant to the Present Study	47
The transactional model of stress and coping	47
Meyer’s minority stress model.....	47
The Current Study.....	48
Research Questions and Hypotheses	49
Chapter 3 Method.....	50
Participants and Recruitment	50
Procedures.....	51
Measures	52
Demographics.	52
Perceived discrimination due to sexual orientation.	52
Internalized heterosexism.	54
Disclosure of sexual orientation.....	54
Community connectedness.	55
Stigma consciousness.....	55

Health related quality of life.....	55
Satisfaction with life scale.....	56
Statistical Analysis.....	57
Chapter 4 Results.....	58
Demographics.....	58
Demographics and Outcomes.....	59
Relationships between Independent Variables.....	59
Comparing African-American and LGB samples.....	60
Results for Mediation.....	62
Results for Moderation.....	64
Chapter 5 Discussion and Future Directions.....	65
Correlations.....	65
Comparison of African-American and LGB samples.....	67
Mediation Results.....	71
Moderation Results.....	73
Limitations.....	77
Implications for Intervention.....	78
Figures.....	80
Tables.....	83
Appendix A: Measures.....	86
References.....	96

List of Figures

Figure 1. Mediational Path Analyses	80
Figure 2. Path Analyses Examining Moderation by Risk Factors	81
Figure 3. Path Analyses Examining Moderation by Resilience Factors.....	81
Figure 4. Results for Moderation Analysis	82
Figure 5. Interaction Effects of IH on Perceived Stress and Mental Health Scores	82

List of Tables

Table 1. Bivariate Correlations between Study Variables	83
Table 2. Results for the Schedule of Heterosexist Events-II	84
Table 3. Results for the Schedule of Racists Events.....	85

Chapter 1

Introduction

All people have a right to optimal health, yet research shows that health disparities, between group differences in morbidity, mortality, and access to healthcare, (Brennan Ramirez, Baker, Metzler, 2008; Paradies, 2006; United States Department of Health and Human Services, 2001, 2010) exist between mainstream and minority populations in the United States (Gay and Lesbian Medical Association, 2010). Determining why these disparities exist and how to reduce them is a central question of health disparities research (Dressler, Oths, & Gravlee, 2005) and a major goal of the Healthy People 2010 and 2020 initiatives (U.S. Department of Health and Human Services 2001, 2010). Like racial and ethnic minorities, sexual minority populations (lesbian, gay, and bisexual (LGB) people) are also at increased risk for mental (Meyer, 2003; Hatzenbuehler, 2009) and physical (Conran, Mimiaga, & Landers, 2008; Gay and Lesbian Medical Association, 2010; Huebner & Davis, 2007) health problems compared to heterosexuals. With goals similar to the Healthy People 2010 and 2020 initiatives, the Institute of Medicine (IOM), the health arm of the National Academy of Sciences, recently formed a committee to investigate LGB health issues. Its aim is to identify research gaps and opportunities in order to advance knowledge in the field of LGB health (IOM, 2010). The IOM cited the social determinants of LGB health, such as exposure to discrimination, and identification of risk and resilience factors specific to the LGB population as important areas of interest (GLMA, 2001). The current investigation will assess experiences of discrimination and minority stress in an LGB sample in order to a) determine if differences exist in type and frequency of discriminatory experiences, and stress

appraisals between LGB and racial minorities and b) to partially test the transactional model of stress and coping and minority stress theory.

Theories of the relationship between stress, coping, and health (Anselm 2009; Dohwenrend, 2000; Dressler, Oths, & Gravlee, 2005; Pearlin, 1999) especially as conceptualized by Lazarus and Folkman, (1984) and Meyer's (2003) model of LGB specific minority stress processes provide the theoretical underpinnings for the present investigation. A series of path analyses were undertaken to test the hypotheses put forth. The following path diagrams illustrate these hypotheses: Three analyses whether perceived stress mediates the relationship between lifetime experiences of LGB discrimination and physical health (analysis 1), mental health (analysis 2), and satisfaction with life (analysis 3). Two path analyses will examine the possible moderating effects of LGB specific risk factors (Internalized Heterosexism and Stigma Consciousness) on the relationship between perceived stress and LGB health and satisfaction with life. Two analyses will examine the possible moderating role of LGB specific resilience factors (disclosure of sexual orientation and community connectedness) on the relationship between perceived stress related to discrimination and LGB health and satisfaction with life.

It is hoped that the current study will contribute to the literature on discrimination and health in sexual minority populations in several respects. First, little data exists comparing experiences of discrimination between racial/ethnic and LGB populations. Second, research linking racial and ethnic discrimination and disparities in mental and physical health outcomes has been conducted for some time (Brondolo, et al. 2003; Dressler, Oths, & Gravlee, 2005; Landrine, Klonoff, Corral, Fernandez, & Roesch, 2006; Paradies, 2006; Pascoe & Richman, 2009; Williams & Mohammad, 2009) however, little research exists that

explicitly examines the effects of discrimination as perceived stress on the health and well-being of sexual minorities (Herek, 2000). Third, the vast majority of studies that have examined the link between discrimination and health disparities have concentrated on mental health disparities (Paradies, 2006; Pascoe & Smart, 2009; Williams, Neighbors, & Jackson, 2008). This is especially true in studies of the LGB population (Hatzenbeuhler, 2009; Meyer, 2003). The present study will examine both LGB mental and physical health outcomes.

Fourth, the current investigation is a test of stress process theory in that discrimination is not directly linked to health outcomes but is mediated by the subjective experience of stress. It has been widely theorized that life experiences “cause” stress, which in turn takes its toll on the organism through physiological and psychological processes (Dohrenwend, 2000; Lazarus & Folkman, 1984; Selye, 1952). By testing a model that includes stress as a mediator between discrimination and health, we may gain some insight into how discrimination “gets under the skin” (Hatzenbeuhler, 2009). Fifth, research that attempts to identify specific processes which affect the relationship between LGB discrimination and health, rather than merely identify correlations, is rare. Further, few studies of healthy coping processes have been conducted in the LGB population. By examining LGB specific coping processes it is hoped that the present study will add to knowledge of the stress-coping model in general (Lazarus & Folkman, 1984), and of the LGB minority stress model in particular (Meyer, 2003). As Szymanski and Owens (2008) put it, “Given the popularity of the minority stress model in LGB psychology, it is surprising that no studies have examined the moderating roles suggested by this theory” (p.96). This study is a first step in the direction of identifying the processes that influence LGB health as laid out by Meyer’s (2003) minority stress model. It is hoped that this and future research may eventually lead to a reduction in health

disparities, inform healthcare providers, direct efforts toward prevention and treatment of LGB physical and mental health problems, guide public policy, illuminate processes amenable to intervention, and, hopefully, improve the lives of LGB people.

Chapter 2

Literature Review

The review of the literature that follows begins by outlining the transactional model of stress and coping, relating the variables of interest included in the present study to this theory, and examining the evidence for the effects of stress on health. The concept of minority stress is introduced and an explanation of how minority stress might affect health is presented. An overview of the literature on the physical and mental health effects of minority stress in the context of racial and ethnic discrimination is next undertaken and evidence for the moderating effects of coping with racial and ethnic discrimination is presented. Support for the effects of minority stress on the health of LGB populations is presented and a comparison of the literature on racial/ethnic minority stress and LGB minority stress is offered in order to determine similarities and differences in the experiences of discrimination between these populations and the processes that lead from minority stress to health outcomes. The LGB specific coping processes and factors that interfere with coping examined in the present study are then presented in the context of the transactional model and with regard to how they may function similarly to racial and ethnic minority coping processes. Finally, the theoretical models most relevant to the present study (transactional model of stress and coping and the minority stress model) are reviewed and details of the current study are presented.

Evidence for the Effects of Stress on Health

Stress theory. Stress process theorists have long held that stress has effects on both physical and mental health (Dohrenwend, 2000; Lazarus & Folkman, 1984; Pearlin, 1999; Pearlin, Lieberman, Menaghan, & Mullin, 1981). Lazarus and Folkman (1984)

conceptualize stress as a process rather than a stimulus (something that exists in the environment which elicits a response) or a response (behavior elicited by something in the environment). They define the stress process as a transaction between a person and the environment in which the person appraises the situation as taxing, exceeding resources, or a threat to well-being (Lazarus & Folkman, 1984).

Key features of the transactional model include appraisal and coping. Appraisal involves verbal behavior related to the process of evaluating the possible consequences for the organism in a particular interaction with the environment. Lazarus and Folkman (1984) describe appraisal as a highly symbolic set of “mental” processes that have evolved in order for humans to survive in an environment whose characteristics are constantly changing. They cite experience and learning as the source of cognitive appraisals. Two types of appraisals are important to the model. Primary appraisal is the process that involves the organism’s evaluation of the magnitude or threat of the stressor related to important consequences for the organism. Secondary appraisal involves the organism’s evaluation of how controllable the stressor is and of their own behavioral repertoire for coping. In other words, “What is it that I can do about the situation?”

Lazarus and Folkman (1984) conceptualize coping as constantly changing efforts to control specific demands that an organism appraises as taxing or exceeding resources. Several types of coping are included in the transactional model. Emotion focused coping attempts aim to reduce emotional distress around a taxing person-environment interaction. Positive emotion-focused strategies include positive reframing and seeking social support, and negative strategies include smoking or using alcohol or drugs to attenuate negative emotions. Emotion focused coping is often found to be related to better outcomes when

stressors are “uncontrollable or unsolvable” or when more instrumental behaviors in the environment are unsuccessful. Problem-focused coping seeks to solve or manage the interaction leading to the stress itself. Problem-focused strategies include gathering information, planning, and acquiring resources to deal with the problem. It is generally task oriented and aimed at the environmental “cause” of the stressful interaction (Lazarus, & Folkman, 1984). The resilience factors examined in the present study as moderators of stress on outcomes are considered problem-focused strategies. Disclosure of sexual orientation might function to increase social support, reduce the stress associated with hiding one’s identity, and increase self-acceptance when coming out is supported by others in the life of the LGB person. Community connectedness is hypothesized to increase social support and information about resources to deal with discrimination-related stress, and facilitate acceptance.

Meaning-focused coping involves finding meaning in aversive person-environment transactions. Strategies include enhancing attention to the ways in which the aversive interaction aligns with one’s with personal values, beliefs and goals. For example, a person who is coping with a cancer diagnosis might examine the relationship between the diagnosis and improved family relationships, or increased connection with their spirituality. The diagnosis may have increased behaviors relating to living a life more in line with what the person values, and therefore may be reinforcing. Community connectedness might function to help an individual find meaning in being a member of a stigmatized community as well as to appraise discrimination as a community-wide phenomenon and not a “personal affront”.

Other model components include coping outcomes, and dispositional coping styles such as information seeking (Glanz, Rimer, & Lewis, 2002). Outcomes of coping relevant to

health can be assessed as changes in functional status, emotional well-being, and health behaviors. In the present study, physical and mental health composite scores and satisfaction with life are considered outcomes of coping. Dispositional coping styles involve an individual's relatively stable behavior patterns that have effects on emotional or functional reactions to stressors. Information seeking is a type of dispositional coping style. It is defined as a relatively stable behavioral repertoire for a particular individual that involves either vigilant behavior related to attention to potential stressors, or avoidant behaviors related to dealing with potential stressors. Stigma consciousness and internalized heterosexism are conceptualized here as dispositional coping styles which have effects on (moderate) health and well-being outcomes. Stigma consciousness is also conceptualized as a vigilant information seeking style which an individual employs to avoid threat. Internalized heterosexism can be thought of as a pessimistic appraisal style which may hinder coping efforts. Discrimination may be felt to be "deserved" by individuals high in IH and therefore nothing need be done about it. It might also lead to appraisal of the event as "uncontrollable" and a fact of life for an LGB person.

Stress theory in relation to the present study. In relation to the present study the stressors of interest are experiences of discrimination based on sexual orientation. Perceived stress related to these experiences can be conceptualized as both a primary and secondary appraisal process because the perception of stress involves both the evaluation of the stressor's significance in relation to desired goals and consequences for the organism, and the evaluation of the organism's resources for dealing with that stressor. The moderators included in the present model can be considered emotion or problem-focused coping efforts. These instrumental strategies function to change a stressful situation or affect change in one's

relationship to a stressful situation through reappraisal and emotion regulation. More elaboration on the possible functions of the moderators investigated here and how they buffer the stress response is given below.

Stress research. Over 50 years of research findings from a diversity of disciplines including medicine, sociology, social work, public health, nursing, and psychology, have found consistent evidence for an inverse relationship between stress exposure and various types of physical and mental health problems (Ader & Cohen, 1993; Anshensel, 1992; 2009; Cohen, Janicki-Deverts, & Miller, 2007; Cooper, 2005; Dohrenwend, 2007; Herbert & Cohen, 1993; Holmes and Rahe, 1967; Seeman, Singer, Rowe, Horwitz, & McEwen, 1997; Thoits, 2010; Turner, 2010).

Hans Selye (1956) well-known in psychoneuroimmunology, the study of the interaction of psychological processes and the nervous and immune systems, defined stress as a universal set of physiological responses to environmental demands and focused on these physiological processes. The psychoneuroimmunology literature is mature and provides strong evidence for the effects of stress on health. A recent review and summary of the findings in the of the psychoneuroimmunology literature was presented by Cohen, Janecki-Diverts, and Miller (2007).

The authors state that associations between psychological stress and disease are clearly recognized for depression, cardiovascular disease, and HIV/AIDS. They also report that evidence is accumulating for the role of stress in upper respiratory tract infections, asthma, autoimmune diseases, herpes viral infections, and wound healing. The authors caution that these studies are prospective and observational in nature and therefore cannot be used to establish a causal relationship between stress and disease. However, they note that

these results are consistent with the results of natural experiments involving the effects of real-life stress exposure on disease risk; with results of laboratory experiments showing that stress modifies disease-relevant biological processes; and with results of animal studies investigating stress as a causative factor in disease onset and progression. They argue that this consistency of research findings strongly supports the hypothesis of a causal link between stress and disease.

Research evidence is also accumulating for the role of stress in two endocrine response systems, the hypothalamic-pituitary-adrenocortical axis (HPA) and the sympathetic-adrenal-medullary (SAM). Prolonged activation of these systems related to chronic exposure to stress can interfere with their control of other physiological systems resulting in increased risk for physical and psychiatric disorders (Cohen, Kessler, & Gordon, 1995; McEwan, 1998). Chronic stress exposure is often considered more “toxic” than acute exposure because it is more likely to result in enduring or even permanent changes in physiological, emotional, and behavioral responses that may influence disease onset and prognosis (Cohen, Janicki-Deverts, & Miller, 2007; McEwan, 1998; Miller, Cohen, Ritchey, 2002; Payton, 2009; Thoits, 2010).

Turner and Avison (2003) showed that the influences of chronic strains on mental health were stronger than those of acute negative events or traumas. In addition to chronicity, Lazarus and Folkman list controllability as a factor influencing the appraisal of a person environment interaction as stressful. The less predictable and controllable exposure to a stressor is the more it is likely to be perceived as stressful (Dohrenwend, 2000; Lazarus & Folkman, 1984). One type of stressor that meets the criteria for being low in predictability is “social stress”.

In the social sciences, including psychology and sociology, theorists began to expand on stress theory to include not only personal events, but conditions in the social environment as sources of stress that may lead to poor mental and physical health outcomes (Aneshensel, 1992; Dohrenwend, 2000; Meyer, 1995, 2003; Pearlin, 1999; Thoits, 2010). The concept of social stress rests on psychological and sociological theories that hold that the person must be seen in the context of their interactions with the environment (Allport, 1954; Skinner, 1953; Goffman, 1963; Meyer, 2003). One particular manifestation of social stress is minority stress, conceptualized by Meyer (2003) as, “the excess stress to which individuals from stigmatized social categories are exposed as a result of their social, often a minority, position” (p.675).

Minority Stress

People belonging to minority or low status groups including those of low socioeconomic status, non-White race, female sex, or non-heterosexual sexual orientation, face stressors not encountered by those of the majority population. Prejudice and discrimination related to these categories creates power differentials and status hierarchies which impact the lives of minorities and potentially subject them to prejudice and discrimination. These experiences of prejudice and discrimination are expected to induce changes that tax the individual’s resources and require coping and adaptation. Further, these experiences are not a given in every social interaction and hence, minority individuals may have increased vigilance, heightened sensitivity, and a greater perception of stress related to these experiences compared to stressors of the “daily hassles” variety. These experiences may also be “felt” as more personal affronts than daily stressors such as getting stuck in traffic, losing one’s keys, or waiting in line at the store. Appraisal of experiences of

discrimination as a “personal affront” might be seen as a threat not only to one’s safety, but to one’s very identity.

Stress related to minority status is often supposed to be primarily related to socioeconomic status (SES). It is often postulated that institutional and individual discrimination limits upward mobility and decreases the availability of basic needs. For example, the chronic stress of poverty and differential access to resources may preclude the disadvantaged from access to health services, healthy food choices, adequate time and energy to initiate exercise, or healthy environments in which to live. However, research evidence suggests that controlling for SES does not completely account for racial and ethnic health disparities (Dressler, Oths, & Gravlee, 2005; Hoyt D’Anna, Ponce, & Siegel, 2010; Landrine, Klonoff, Corral, Fernandez, & Roesch, 2006).

Research evidence does support a social causation explanation in which experiences of discrimination take their toll within minority populations and affect both physical and mental health (Aneshensel, 2009; Brondolo et al., 2003; Hatzenbeuhler, 2009; Krieger, & Sidney, 1996; Meyer, 2003; Utsey, 1998) and lead to health disparities. What follows is an explanation of (a) how society can stand as a stressor for LGB individuals through stigmatization processes, (b) a review of the empirical evidence for the relationship between racial and ethnic discrimination and health and, (c) a review of the literature on LGB discrimination and health. The purpose of these reviews is to compare outcomes for racial/ethnic and sexual minorities, and processes that link discrimination and health that may be similar between racial and ethnic and sexual minority populations.

Stigmatizing processes: How minorities are differentially exposed to stress.

Social theorists such as Allport (1954) and Goffman (1963) have long discussed the adverse

effect of social conditions on the lives of minority individuals. The well-known sociologist Emile Durkheim (1951) postulated that society stands as a stressor for marginalized individuals because dominant social structures, norms, and values are not in line with those of the minority group. Some current examples of this marginalization for LGB people include the withholding of the sanctioning of gay marriage, and the “Don’t Ask Don’t Tell” policy of the armed forces, which, while currently repealed, is still in danger of being reinstated.

Developmental theorists and self-image researchers suggest that society provides individuals with meaning and organization for their experiences as well as models for self-comparison (Markus & Kitayama, 1991). Allport (1954) and stress theorists (e.g. Lazarus & Folkman, 1984; Dohrenwend, 2000) also postulate that general disharmony with one’s environment, as well as prejudice and discrimination; can have harmful effects on individuals. The stigmatization process can help illuminate how prejudice and discrimination come to exist and exert their effects on health through individuals and socially sanctioned institutions.

Past conceptualizations of stigma have defined it as a mark or a characteristic of a person (Allport, 1954) that is “deeply discrediting” (Goffman, 1963, p.3). This conceptualization has been criticized for using language that may lead to focusing on individuals who are stigmatized rather than the processes that are involved in being stigmatized. The danger lies in seeing the stigma or designation as something within an individual rather than as a label ascribed by others. Using the term stigma and focusing on the labeled person directs our attention to the recipients of stigmatizing labels and not on the people who do the rejecting and discriminating (Link & Phelan, 2001).

Link and Phelan (2001) present an approach to defining stigma as a set of interrelated components. When these elements converge, stigmatization can be said to have occurred. The components of the stigmatization process include the following: (a) people identify and label human differences, (b) dominant cultural beliefs link labeled persons to undesirable characteristics (negative stereotypes), (c) labeled persons are placed in distinct categories in order to achieve some detachment from the stigmatized and the separation of “us” from “them”, (d) labeled persons encounter status loss and discrimination that lead to unequal outcomes, (e) a necessary condition for the perpetration of stigmatization is access to social, economic, or political power that allows identification of differentness, the construction of stereotypes, the separation of labeled persons into distinct categories, and the full execution of disapproval, rejection, exclusion, and discrimination. Link and Phelan (2001) propose that all of these components must converge in order for stigmatization to occur.

Based on the criteria above, LGB people are the recipients of stigmatization, and it is this process that leads to the formation of a discriminatory environment and to the stress related to living in that environment. Link and Phelan (2001) describe the results of stigmatization as a “cascade of negative effects on all manner of opportunities” (p.373) through discriminatory processes. Evidence of these negative effects in the area of health disparities in racial and ethnic minorities as well as in LGB populations, is presented below.

Perceived discrimination and health disparities in racial/ethnic minority populations. As described above, persons labeled with a stigma experience a “cascade of negative effects” (Link & Phelan, 2001, p.373). These are evident in a variety of life domains including employment, healthcare, access to education and social services, and in day-to-day experiences with others to name a few. While progress in civil rights has been made,

discrimination still exists in the U.S. and has a stressful impact on those who experience it (Brondolo, ver Halen, Pencille, Beatty, & Contrada, 2009). According to stress theory, both the stressful event itself, and an individual's perception of stressful events are important parts of the process linking stress and health.

Perceived discrimination (PD) has been defined as the subjective experience of discriminatory events in a person's life (Mays & Cochran, 2001). Despite differences in assessment and limitations and inadequacies in the research, the association between perceived discrimination and health is persistent in the empirical literature (Kreiger, 1999; Paradies, 2006; Pascoe & Smart, Williams & Mohammed, 2009; Williams, Neighbors, & Jackson, 2003). Most research related to discrimination and health rests theoretically on the larger stress literature related to the processes by which stressors can affect health (Aneshensel, 2009; Cohen, Kessler, & Gordon, 1995; Dohrenwend, 2000; Lazarus & Folkman, 1984; Pearlin, 1999; Thoits, 2010). The findings of studies linking discrimination and health are similar across a broad range of physical and mental health outcomes, and across a broad spectrum of socially disadvantaged groups (Hoyt D'Anna, Ponce, & Siegel, 2010; Paradies, 2006; Pascoe & Smart, 2009; Schnittker, & McLeod, 2005; Williams & Mohammed, 2009; Williams, Neighbors, & Jackson, 2003). Brondolo et al. (2009) state that members of most racial and ethnic minority groups report exposure to discrimination over the course of their lifetime, and that some groups report experiencing race or ethnicity related negative events on a weekly basis. Since racial and ethnic discrimination is a highly prevalent phenomenon, (Brondolo, Brady ver Halen, Pencille, M., Beatty, & Contrada, 2009) it is important to investigate its effects on health and well-being and to identify strategies minorities use to cope. Further, it is important to compare experiences of discrimination in

racial/ethnic and sexual minorities in order to see how findings from research regarding racial/ethnic discrimination might inform the literature on sexual minority discrimination and affect the lives of LGB people.

The effects of perceived discrimination on mental health. Strong evidence exists for the association between racism and mental health disparities (Brondolo, et al., 2008; Kessler, Mickelson, & Williams, 1999; Paradies, 2006; Williams, Neighbors, & Jackson, 2003). Results have found perceived discrimination in racial and ethnic minorities to be related to higher levels of depression, anxiety, and psychological distress, lower ratings of subjective well-being, and increased risk for substance abuse as well as other mental health outcomes (Williams, Neighbors, & Jackson, 2003; Williams & Mohammed, 2009; Paradies, 2006; Pascoe & Smart, 2009).

Williams, Neighbors, & Jackson (2003) reviewed 53 studies that examined the link between racial/ethnic discrimination and health. Twenty-five of these studies examined mental health outcomes. Twenty of these reported a positive association between discrimination and general psychological distress, three reported an unspecified conditional relationship, and two reported null results. Their analysis also included nine studies examining psychological well-being. Outcome measures included happiness, life satisfaction, self-esteem, and mastery and control. All nine studies found associations in the expected direction. Other significant results reviewed in the meta-analysis included the finding that higher levels of PD were positively correlated with major depression, generalized anxiety disorder, early initiation of substance abuse, psychosis, and anger.

Pascoe and Smart (2009) conducted a meta-analytic review of the literature on perceived discrimination and health. One hundred and ten studies were included in their

analysis. Measures included symptomology scales for mental illness, psychological distress, and indicators of general well-being. The average correlation between PD and mental health measures was $r = -.20$. This analysis also determined that increases in PD were significantly related to more negative mental health outcomes. The correlation was not specific to types of mental health outcome and was equally strong across mental health variables assessed. Findings indicated that recent discrimination, as opposed to chronic or lifetime experiences of discrimination, had the strongest negative effects on mental health ($r = -.15$).

Williams and Mohammed (2009) reviewed recent empirical research on perceived discrimination and health. The authors reviewed studies listed in PubMed that had been published between 2005 and 2007. In relation to mental health outcomes, they found a consistent negative correlation between perceived discrimination and mental health. The authors cited more than 47 studies that assessed PD and mental health in a diverse group of racial and ethnic minorities in several countries. They found that PD was positively related to anxious and depressive symptoms in American and Caribbean Blacks, Southeast Asian refugees, Korean immigrants in Toronto, Mexican-American families, teens in Hong Kong, British Muslims, Hispanic-American immigrants, and Latino adolescents. PD was related to rebellious behavior in Black and Puerto Rican elementary school students, and psychological distress in Black college students, Blacks, Whites, and Bangladeshis. Incidence of past year mental disorders were positively related to PD in Asian American adults. Other findings indicated that PD was positively associated with psychosis, PTSD symptoms, drug use, violence, sleep disorders, suicidal ideation, externalizing and internalizing behaviors, intimate partner violence, chronic stress emotions, and daily experiences of negative mood and emotions in various populations (Williams & Mohammed, 2009). The authors stated

that, “Almost without exception, studies of discrimination and mental health find that higher levels of discrimination are associated with poorer mental health status” (p. 22).

In an effort to expand and update earlier reviews of the link between discrimination and health Paradies (2006) reviewed 138 of the most recent studies in the field. His analysis included 206 mental health outcomes. In 72% of these outcomes evidence of a positive relationship between experiences of discrimination and poor mental health were found. Mental health outcomes assessed included emotional distress, depression, depressive symptoms, obsessive-compulsive symptoms, somatization, anxiety, stress, and negative affect. Positive mental health outcomes such as satisfaction in the areas of life, work, and being a patient, as well as self-esteem and general mental health were also assessed. Findings indicated that 48% of positive mental health outcomes were negatively associated with perceived discrimination, eight percent were associated with higher level of perceived discrimination, and 44% showed no association. In summary, Paradies (2006) stated that of the 613 health outcomes he assessed, “the most consistent association between self-reported racism and health was found for negative mental health outcomes” (p. 892). While mental health outcomes are the most studied dependent variable to date, the evidence is mounting for the effects of perceived discrimination on physical health.

The effects of perceived discrimination on physical health. According to Schnittker and McLeod (2005) longitudinal survey data support a causal effect of perceived discrimination and health. Results indicate that baseline discrimination is associated with subsequent poor physical health, and baseline psychological distress does not appear to affect later reports of discrimination. Pascoe and Smart (2009) investigated the relation between PD and physical health through meta-analysis of 36 studies. Measures of health outcomes

included cardiovascular risk factors, diabetes, general indicators of illness (pain, headaches, nausea), respiratory conditions, and general health questionnaires. After weighting for sample size, the average effect size was $r = -.13$. Even when demographic characteristics such as socioeconomic status and education were entered into regression models, a strong relationship between any type of PD and health was evident.

In Williams, Neighbors, and Jackson's (2003) review of population-based studies of discrimination and health six studies included a global self-rated health item. All six studies found that perceived discrimination was associated with poorer health status. They reviewed 11 studies that examined other indicators of health status including chronic conditions, indicators of disability and other global health indicators. Six of these studies revealed a positive relationship and five found no association between discrimination and physical health.

Williams and Mohammed (2009) reviewed the literature on discrimination and racial disparities in health and found evidence of positive relationships between PD and physical health problems in diverse populations. Findings included an association between PD and vascular and cardiovascular reactivity in Black and White adults, reactivity to phenylephrine in employed Blacks and Whites, chronic health conditions in a group of Asian and Filipino Americans, self-reported physical health in aboriginal and other Australians, low birth weight and prematurity in a large sample of Arab women, incidence of uterine leiomyomata, breast cancer incidence, and coronary artery calcification in Black women, fatigue in employed men and women, health problems in immigrant teens from Bosnia and Herzegovina, and hemoglobin A1c and poor physical functioning in adult diabetics.

In Paradies' (2006) meta-analytic review, 26 studies were included in which objective measures of health outcomes were employed. These outcomes included blood pressure, birth weight, BMI/obesity, and mortality. Of these objectively measured outcomes 44% were significantly associated with self-reported racism compared to 36% of negative health outcomes overall. Paradies found significant associations between racism and health in the expected direction for increased blood pressure, low birth weight, heart disease, increased heart rate, diabetes, higher BMI, SF(MOS)-12 and SF(MOS)-36 assessment of health, cigarette smoking, substance and alcohol misuse, and global measures of self-rated health. The percentage of variance accounted for by self-reported racism was reported in ten studies included in the review. Percent of variance explained ranged from 4-42% with a median and mode of 18%. While evidence is stronger and more persistent for the relationship between racial and ethnic discrimination and mental health, it is quite clear that discrimination takes its toll on physical health as well. Two important questions have begun to be asked in the discrimination literature and are relevant to a transactional model of stress processes ; "How do minorities cope with experiences of discrimination?" and "Does coping attenuate the effects of stress on health?".

Coping with racial/ethnic discrimination. First, it is important to note that as Brondolo et al. (2009) point out, identifying coping strategies employed to attenuate the effects of discrimination does not intend to give the message that "the burden of coping with racism should be placed on the shoulders of targeted individuals" (p.65). The burden clearly lies with individual members of majority and non-stigmatized groups, as well as within families, schools, religious institutions, educational venues, activist organizations, legal institutions, and with health and mental health providers to name a few. Any citizen in a

position of power has an obligation to speak out against discrimination whenever possible in order to decrease its incidence, and attenuate its effects. However, given that macro level changes, such as a shift in cultural norms that allow discrimination will be slow to reach fruition, it is important to identify strategies for coping with discrimination and examine their effectiveness in order to guide interventions that reduce human suffering.

In their review of the literature on coping with racism, Brondolo et al. (2009) list the range of consequences that must be coped with due to discrimination. Their list includes blocked opportunities, social exclusion, interpersonal conflict, anger, nervousness, sadness, hopelessness, physiological consequences of painful emotions, effects of discrimination on other members of their group, and management of damage to self-concept or identity. The most common types of specific coping processes examined in the literature on discrimination and coping are racial identity development, and social support seeking (Brondolo, et al., 2009; Mossakowski, 2003;Pascoe and Smart, 2009; Uchino, 2006) as well as the effects of general types of coping processes; problem-focused versus avoidance/emotion-focused coping (Barnes & Lightsey, 2005; Schnittker & McLeod, 2005). Two factors that interfere with coping, and are considered important to investigate in the coping with race/ethnic discrimination literature, are internalized racism and stigma consciousness (Pyke, 2010; Schnittker &McLeod, 2005).

Racial/ethnic identity. Racial/ethnic identity has been defined as a sense of commitment to one's ethnic or racial group (Mossakowski, 2003). As reported in Brondolo et al. (2009) Cokley defines ethnic identity as, "the subjective sense of ethnic group membership that involves self-labeling, sense of belonging, preference for the group, positive evaluation of the ethnic group, ethnic knowledge, and participation in ethnic group activities"

(p.225). It is related to the construct of community connectedness in the present study because community connectedness proposes to measure the same construct in LGB populations.

Having a strong identity and connection with one's group is thought to buffer the effects of stress by helping individuals "make sense" of and respond to their experiences as a member of a stigmatized group. It may also influence the salience of experiences of discrimination and appraisals of ability to cope with these experiences. It may also function to defer self-blame and self-stigmatization by assisting a person to evaluate discriminatory events as directed at the group as a whole rather than at the individual (Brondolo et al., 2009). The authors hypothesize that a sense of belonging to a community may ameliorate the effects of ostracism from the mainstream. Of the 12 studies examining racial/ethnic identity that Brondolo and her colleagues included in their meta-analysis, only two showed stress-buffering effects for racial/ethnic identity.

Social support. The results for social support moderating the effects of discrimination on health are more promising. Social support has been defined as the availability of a network of persons who provide concern, love, and care for an individual. Social support has long been examined in the literature and evidence for its physical and psychological benefits are well known (Brondolo et al., 2009). It is presumed to function similarly to identity or connectedness to community in that it provides access to others who understand an individual's experience, deflects self-blame for discrimination, and connects victims of discrimination with models for methods of coping.

Brondolo et al. (2009) identified three studies which examined the stress-buffering effects of social support on psychological distress. Two of these found main effects for social

support on depressive symptoms. Four studies included in the meta-analysis involved the effects of social support on physical health. One study found that instrumental support was related to better perceived health in a sample of Mexican-Americans. Two studies found an effect for support seeking on health, but only at low levels of racism. The final study found that providing support in a laboratory setting did not reduce cardiovascular reactivity in response to racist provocation.

Coping styles. Consistent with the broader literature on coping, the literature on coping with discrimination indicates that problem-focused coping is associated with better outcomes for health than avoidance coping (Barnes & Lightsey, 2005; Lazarus & Folkman, 1984; Sanders Thompson, 2006; Schnittker & McLeod, 2005). For example, Barnes and Lightsey (2005) conducted a study involving 114 African-American students. They found that both problem-solving and avoidance coping accounted for significant variance in stress in the expected directions.

Utsey, Ponterotto, Reynolds, and Cancelli (2000) investigated the effects of coping style on life satisfaction and self-esteem among African-Americans. Two hundred and thirteen students participated in the study which assessed coping strategies including social support seeking, and problem-focused and avoidance coping. The Index of Race-related Stress was used to examine experiences of discrimination. The Satisfaction with Life Scale and the Rosenberg Self-Esteem Scale assessed the dependent variables. They found that seeking social support significantly predicted reduced stress, and that avoidance coping strategies significantly predicted lower self-esteem and satisfaction with life. Clark and Adams (2004) found that Black women who engaged in active coping produced a protective effect for systolic and diastolic blood pressure. Finally, in Pascoe and Smart's meta-analysis

(2009) 64 relationships between discrimination and negative health behaviors were examined. Engaging in unhealthy behaviors is often considered to function as an avoidance coping strategy. Results indicated that 89% of these relationships found perceived discrimination to be negatively related to healthy behaviors.

Factors that interfere with coping. Internalized racism. Schnittker and McLeod (2005) define internalized racism as, “the acceptance of the larger society’s negative characterizations of one’s group as characteristics of the self” (p.91). The authors state that internalized racism may interfere with the reporting of experiences of discrimination due to perceptions of unfair treatment as deserved. They report that internalization of negative stereotypes are related to increased anxiety, and impaired social and psychological functioning in members of stigmatized groups. They summarize the literature and report that findings indicate that internalized racism increases the risk for obesity, alcohol consumption, and depression, and has detrimental effects on self-esteem. Schnittker and McLeod (2005) were only able to summarize the results of five studies related to internalized racism although they cite it as an important variable related to discrimination and health. Further, Pyke (2010) calls for more research on internalized racism and cites it as one of the most important and understudied aspects of the effects of discrimination.

One interesting study on the effects of internalized racism was undertaken by Tull, Shea, Butler, and Cornelious (2005). Participants were recruited from a sample of 244 non-diabetic Black women who resided on the Caribbean island of Dominica. These women participated in the Dominica Diabetes and Obesity Risk Survey. A random sample of 27 non-diabetic women who scored in the upper third of the distribution of scores on a measure of internalized racism, and a random sample of 26 women frequency matched by age and BMI

who scored in the lowest third of the distribution of scores were compared. Outcome measures included perceived stress, coping, and cortisol levels. Results indicated that higher levels of internalized racism were significantly associated with higher levels of restraint and denial coping. Women with high levels of internalized racism were more likely to abstain from taking action to solve a stressful problem, or to deny that the problem was affecting them. Behavioral disengagement coping style, also referred to as “defeated coping”, approached significance ($p=.06$). A positive relationship was found for high internalized racism and perceived stress scores. Perceived stress scores and behavioral disengagement coping were associated with dysregulation of cortisol levels in women high in internalized racism. Overall, the literature and theorists indicate that the effects of internalized racism are important to consider in models of the link between discrimination and health.

Stigma consciousness. As Goffman proposed, a stigmatized person “may perceive, quite correctly, that whatever others profess, they do not really “accept” him and are not ready to make contact with him on equal grounds” (1963, p.7). Pinel (1999) defines stigma consciousness as the extent to which stigmatized individuals expect to be stereotyped or negatively evaluated by others. It has been proposed that vigilance to the reactions of others about one’s stigmatized status contributes to stress. Meyer (2003) explains that minority persons learn to expect negative appraisal from members of the dominant culture, and in turn, are chronically vigilant for this reaction.

Pinel (1999) reviewed the empirical literature on targets of stereotypes and their interpretation of interactions with others. One study by Major, Carrington, and Carnevale (1984) in which attractive students received positive feedback, found that students were more likely to ascribe the favorable feedback to their appearance when their rater could see them

then when they could not. Kleck and Sprenta (1980) found that when participants with cosmetically applied facial scars interacted with a confederate, they revealed that the scar affected their interaction even when the scar had been secretly removed before the interaction. Pinel reviews a study by Ruggiero and Taylor (1997) in which women were told that male raters would judge them and that either 100%, 75%, 50%, 25%, or 0% of them had been known to discriminate against women. The women then received an F on a test of their future prospects. Only when they were certain that the judge was sexist, did women attribute the grade to discrimination. Another important concept Pinel highlights is that when people are raised in a community of mostly out-group members the tendency to perceive a high probability of being stereotyped increases.

Pinel (1999) conducted six interrelated studies examining stigma consciousness. The studies involved females, males, gay men and lesbians, Blacks, Whites, Hispanics and Asians. Across groups, the studies found that people high in stigma consciousness were more likely to perceive discrimination directed both at their group in general, and toward them specifically. They were also more likely to provide reasonable evidence for these perceptions. Those high in stigma consciousness were also more likely to forego opportunities to contradict stereotypes about their group. This may lead to behavioral inhibition in social interactions in general and to less disclosure of sexual orientation for LGB people. She concludes that there could be adverse effects related to excessive attention to stigmatized status, such as attributing evaluation to the stigmatized characteristic and not to other attributes, or deleterious effects on self-esteem.

Schnittker and McLeod (2005) review the stigma consciousness and health literature. They report that stigma consciousness (also referred to as heightened vigilance) is a stressor

that has effects on health even in the absence of immediate threats in the environment. They report that deleterious effects have been found for stigma consciousness and the depletion of mental and physical energy through impression management. Pascoe and Smart (2009) report findings that stigma consciousness may decrease self-control and lead to risky health behaviors.

Summary of discrimination, health, and coping, in racial and ethnic minorities. As we have seen from the literature review, discrimination is prevalent in the U.S and is an important factor related to health disparities for racial and ethnic minorities (Brondolo, et al., 2009). The evidence is strongest for the effects of PD on mental health with results indicating that discrimination affects a wide variety of mental health outcomes for members of many different races and ethnicities (Brondolo, et al., 2009; Kessler, Mickelson, & Williams, 1999; Paradies, 2006; Williams & Mohammed, 2009). Some of the mental health outcomes in the studies reviewed here included depressive symptoms, major depressive disorder, anxiety, general psychological distress, well-being, psychosis, anger, life satisfaction, mastery and control, happiness, substance abuse, suicidal ideation, negative mood, negative emotion, and generalized anxiety disorder.

Physical health outcomes found to be related to perceived discrimination in racial and ethnic minorities included vascular and cardiovascular reactivity, chronic health conditions, breast cancer incidence, fatigue, hypertension, A1C levels, self-reported health, low birth weight, greater BMI, poor physical functioning, mortality, respiratory conditions, diabetes, smoking, and heart disease (Paradies, 2006; Pascoe & Smart, 2009; Williams & Mohammed, 2009; Williams Neighbors, & Jackson, 2003).

Evidence indicates that the most often studied methods of coping with perceived discrimination include having a strong sense of racial identity and seeking social support. Results for ethnic identity are mixed, and may be conditional based on level of stress. The results for social support reducing stress related to discrimination and its health effects are more robust. Findings indicate that support seeking is generally a successful strategy to both reduce the experience of stress related to discrimination, and to attenuate its effects on health. As with social support, findings in both the general stress literature and the racial/ethnic discrimination literature indicate that active, problem-focused coping attenuates perceived stress and its effects on health, while avoidance coping has detrimental effects on health.

Processes that might interfere with coping efforts or influence engagement in less effective coping strategies include internalized racism and stigma consciousness. The literature on internalized racism is sparse but evidence has been found for its effects on anxiety, social and psychological functioning, increased risk for obesity, alcohol consumption, depression, self-esteem, coping processes, perceived stress, and cortisol levels. Stigma consciousness has been found to be related to increased stress, lower self-esteem, depletion of mental and physical energy, and decreased self-control.

Given that the literature on racial and ethnic discrimination and health is more comprehensive and mature than the literature on LGB discrimination, it seems prudent to apply what has been learned from the larger discrimination literature to LGB populations, while remaining cognizant of processes and experiences specific to LGB people. What follows is a review of the mental and physical health effects of discrimination on LGB people, identification of the most prevalent coping processes studied in LGB populations, and a comparison of research on discrimination, health, and coping between racial and ethnic

minorities and LGB populations. Finally, theoretical models most relevant to the present study are presented and the current study is detailed.

Perceived discrimination and health in LGB populations. *Mental health disparities for LGB people.* Several authors have provided comprehensive reviews of recent research evidence regarding the effects of PD on the mental health and well-being of the LGB population (Hatzenbuehler, 2009; Herek & Garnets, 2007; Meyer, 2003). Herek and Garnets (2007) note three important *caveats* for interpreting the findings that LGB people have higher instances of mental health problems (a) differences on measures of psychological well-being can be statistically significant from those of heterosexuals without being clinically significant, (b) an issue of measurement equivalence may exist in that interpretation of items may differ between heterosexual and homosexual and bisexual populations because cutoff scores have been determined using predominantly heterosexual populations and (c) sexual minority individuals are more likely to receive psychotherapy or counseling (similar to females compared to males in the heterosexual population) and therefore may be pathologized for a higher awareness of internal states or for recognizing that therapy can be beneficial even when problems do not meet the level of pathology.

With these *caveats* in mind, Herek and Garnets (2007) summarized empirical findings and concluded that disparities exist between sexual minorities and heterosexuals for anxiety and mood disorders. Sexual minorities are also more likely to report past suicidal ideation and attempts. They also concluded that non-heterosexual women appear to consume alcohol in greater amounts than heterosexual women, and gay men are more likely to use substances than their heterosexual counterparts.

Meyer (2003) conducted a meta-analysis of the literature regarding the prevalence of mental health problems in the LGB population. He found that sexual minorities had higher prevalence of mental disorders compared to their heterosexual counterparts in regards to all disorders, for subclasses of disorders, and for lifetime and current prevalence of disorders. The prevalence of any lifetime disorder for gay men and lesbians was 2.5 times more likely than for their heterosexual counterparts. Randomized studies included in the meta-analysis showed an increase in risk for substance abuse, and mood and anxiety disorders for lesbians and gay men. Meyer (2003) summarizes the literature on suicide and suicidal ideation and concurs with Herek and Garnets; LGB populations are more vulnerable than heterosexuals to suicidal ideation and attempts.

Hatzenbuehler (2009) also offers evidence of the epidemiology of risk of mental health problems in LGB populations. Hatzenbuehler concludes that sexual minority adults are at increased risk for a wide spectrum of mental health problems including depression and anxiety disorders, and alcohol, tobacco, and polysubstance use. These disorders have been found to emerge earlier in sexual minorities versus heterosexuals and are more chronic and persistent. Hatzenbuehler's review also found that LGB people have greater psychiatric comorbidity than their heterosexual counterparts. In his review, Hatzenbuehler cautions that small sample sizes and differing operationalization of sexual minority status have plagued the research literature and may have affected outcomes in the studies reviewed.

Perceived discrimination and LGB mental health. Meyer (2003) asserts that theorists most commonly attribute the higher prevalence of mental disorders among LGB people to stressful social situations and environments that are created by stigma, prejudice, and discrimination and not to some inherent flaw of the populations' members. Meyer makes

clear that while all people experience some degree of stress, the social stress of belonging to a minority population such as the LGB community, has additive effects over and above the everyday stressors common to the general population. This model places the effects of minority stress squarely in the person-environment interaction rather than in inherent shortcomings it is sometimes assumed that LGB people possess. It should also be noted that a gap in the literature that needs to be addressed is that few studies directly assess the perceived stress of discrimination, or even instances of discrimination itself in the LGB population when investigating mental health outcomes.

Mays and Cochran (2001) conducted a study of the mental health correlates of PD in LGB adults. Data was taken from the National Survey of Midlife Development and included both LGB and heterosexual adults ranging in age from 25-74 years. They found that LGB individuals reported more frequent lifetime and day-to-day discrimination than heterosexuals. Examples of discriminatory events assessed were related to school (discouragement from continuing or being denied a scholarship), work (being fired, denied a raise or promotion, not being hired), not receiving services (bank loan, prevented from renting or buying a home, receiving poor service), and social hostility (harassed by police, treated unfairly by neighbors). Respondents were also asked how frequently they experienced each type of discrimination, and the reason for the discrimination (race, ethnicity, religion, gender, age, weight, height, physical disability, sexual orientation, or any other reason). Forty-two percent of the experiences of discrimination assessed were subjectively attributed to sexual orientation and not to any other minority status. PD related to sexual orientation was in turn positively related to harmful effects on quality of life and elevation in indicators of psychiatric morbidity compared to heterosexual counterparts. LGB individuals were

significantly more likely to have one of the three mental health indicators assessed in the study. The results indicated that homosexual and bisexual participants endorsing lifetime discrimination based on sexual orientation had significantly increased odds of having a psychiatric disorder (OR=1.60, CI=1.29,1.99), self-rated “fair” or “poor” current mental health (OR=1.81, CI=1.34,2.45) or current high psychological distress (OR=1.78, CI=1.40,2.26). Respondents who reported experiencing day to day discriminatory behavior had slightly higher odds of having a psychiatric disorder (OR=2.13, CI=1.69, 2.68), self-rated “fair” or “poor” current mental health (OR=1.87, CI=1.34, 2.59) or current high psychological distress (OR=2.46, CI=1.91, 3.17). Importantly, when lifetime events and day-to-day experiences of discrimination were added to the logistic regression, the odds ratios for all of the mental health indices reported above were attenuated. Other results indicated that LGB people were more likely than heterosexuals to report that discrimination had made their life harder, and to indicate that discrimination had interfered with them having a full and productive life.

Lewis, Derlega, Griffin, and Krowinski (2003) examined stressors in relation to depressive symptoms in gay men and found that gay related stress and stigma consciousness independently predicted depressive symptoms over and above general life stress. D’Augelli and Grossman (2001) examined victimization among LGB older adults and found that participants who had been physically attacked reported lower self-esteem, more loneliness, poorer mental health, and more suicide attempts than other LGB older adults. Among LGB youth, PD based on sexual orientation was found to be significantly related to higher scores on a scale of depressive symptomology (Almeida, Johnson, Corliss, Molnar, & Azreal, 2009). Hatzenbuehler, Nolen-Hoeksema, and Erickson (2008) found that IH, external

discrimination, and expectations of rejection, were correlated with depressive symptoms in bereaved gay men. Herek, Gillis, and Cogan (1999) report that LGB survivors of hate crimes showed significantly more symptoms of anxiety, depression, anger, and posttraumatic stress. In a study of lesbians, Szymanski (2005) found that recent hate crime victimization was significantly positively correlated with psychological distress. Meyer (1995) found that anti-gay discrimination and/or violence within the past year was significantly positively correlated with psychological distress in a sample of gay men.

These studies have found results consistent with the minority stress hypothesis; that discrimination, which is presumed to be a stressful experience, is correlated with mental health outcomes in LGB people. Far fewer studies have directly examined the perceived stressfulness of these experiences as assessed by LGB people or the effects of minority stress on physical health outcomes.

Physical health disparities for LGB people. Healthy People 2020 (USDHHS, 2010) lists topics and objectives for improving LGB health. First, they cite social determinants such as discrimination, societal stigma, and denial of civil and human rights as social problems that cause LGB health disparities. They list legal discrimination in access to health insurance, employment, housing, marriage, adoption, and retirement benefits. Health disparities noted in Healthy People 2020 (U.S. Department of Health and Human Services, 2010) include LGBT people having the highest rates of tobacco, alcohol, and other drug use, high rates of suicide especially for youth, lesbians lacking preventive cancer services and having a higher prevalence of overweight and obesity, higher rates of cancer in both lesbians and gay men, and a higher prevalence of violence and homicide toward LGB people.

Cochran and Mays (2007) analyzed data from 2272 non-heterosexual participants in the California Quality of Life Survey. They examined the relationship between sexual orientation and measures of general physical health and disability. Findings indicated that gay men and homosexually experienced heterosexual men reported more migraines or headaches than heterosexual men. Homosexually experienced heterosexual men reported more liver disease, digestive problems, heart disease, asthma, and chronic fatigue syndrome than heterosexual men.

Among women, homosexually experienced heterosexuals reported the highest rate of non-HIV illnesses (M=1.6) followed by bisexuals (M=1.5) lesbians (M=1.4) and heterosexuals (M= 1.2). Bisexual women were more likely than exclusively heterosexual women to report digestive complaints, back problems, and chronic fatigue syndrome. Homosexually experienced heterosexual women were more likely than exclusively heterosexual women to report asthma and back problems. Both bisexual women and homosexually experienced heterosexual men reported poorer physical health.

In a study of Dutch LG adults (Sandfort, Bakker, Schellevis, & Vanesenbeeck, 2006) LG people scored lower than heterosexuals on the general mental health scale of the SF-36 indicating poorer mental health status. LG people also reported a higher number of acute physical symptoms during the previous two-week period and more chronic conditions than heterosexuals. Bisexual men reported more chronic conditions than heterosexual men. Sexual orientation was not correlated with overall physical health scores on the SF(MOS)-36.

The Massachusetts Department of Public Health (Conran, Mimiaga, & Landers, 2008) investigated the health of its LGB residents. In the area of self-reported health status, bisexuals were most likely to report fair or poor health, followed by lesbians and gay men,

and heterosexuals. Thirty-three percent of bisexuals, 22% of lesbians and gay men, and 15% of heterosexuals reported any limitation in physical activity. Overall, bisexuals reported the worst health and had the most chronic health conditions and health related activity limitations, followed by homosexuals and heterosexuals. It is clear that more epidemiological research is needed to further identify and investigate LGB health disparities (Krehely, 2009). Consequently, there are few studies which directly examine the link between LGB experiences of discrimination and health.

Perceived discrimination and LGB physical health. One of the few studies that investigated PD and health in LGB people was conducted by Huebner and Davis (2007). They examined PD and frequency of nonprescription medication use, number of physician visits, and number of sick days from work in the past year in a sample of gay and bisexual men. The findings were quite similar to the findings for African-American men and indicated an interaction effect between PD and education and health outcomes. The association was curvilinear in men with lower education and positive among men with higher education, meaning that gay and bisexual men who had higher levels of education reported more physician visits and nonprescription medication use as their reported discrimination increased and gay and bisexual men with the lowest educational levels reported more physician visits and medication use at the lowest and highest levels of discrimination. The relationship between PD and sick days was linear in nature. The more discrimination, the more sick days were reported regardless of educational attainment. The authors suggest that failing to recognize or acknowledge discrimination may have negative health implications for some marginalized groups as these findings were similar to those of African-American males. Huebner and Davis hypothesize that some individuals who report low levels or no

discrimination, may be denying that it occurs and suffering health consequences as a result, which would be difficult to test empirically. The authors did not cite any other studies that measured antigay discrimination and its effects on health and could only compare their findings to racial and ethnic minority research.

Zamboni and Crawford (2007) investigated the relationship between minority stress due to racial or sexual orientation status among gay and bisexual African-American men, and sexual dysfunction. They found that minority stress predicted more sexual dysfunction. However, that effect was mediated by psychiatric symptoms such that discrimination predicted psychiatric symptoms which in turn predicted sexual dysfunction.

There is an extreme paucity of research that explicitly examines perceived discrimination and its association with health in LGB populations. This author conducted multiple searches of PubMed and PsychInfo in order to complete a thorough analysis of the literature. Search terms included gay, or, lesbian, or bisexual, or homosexual, and discrimination or perceived discrimination. Only the studies listed above were found indicating the immaturity of the field and the need for more research in this area. Research on the coping processes of LGB people is more prevalent and a review the literature follows. The moderators included in the present study were chosen for the because they are often presumed most important by LGB theorists and researchers and have correlates in the racial/ethnic minority literature (Hatzenbuehler ,2006; Meyer, 2003; Szymanski, Kashubeck-West, & Meyer, 2008).

Coping with Heterosexism

Community connectedness, disclosure of sexual orientation, internalized heterosexism, and stigma consciousness are the coping processes and dispositional coping

styles most frequently included in theoretical and empirical examinations of sexual minority stress. In the present study, they are hypothesized to moderate the relationship between sexual minority stress and health outcomes.

Community connectedness. Community connectedness is a coping resource believed to contribute to resilience to discrimination for LGB people. Community connectedness has been defined as the extent to which LGB individuals identify with and take part in sexual minority communities (Balsam & Mohr, 2007). It is similar in definition and function to racial/ethnic identity described above. Community connectedness is thought to enhance resilience in LGB people by allowing them to make positive social comparisons to others in their minority group rather than to the majority, assisting with reappraisal of incidences of discrimination (Meyer, 2003), and increasing access to information, resources, activism, socialization, and acceptance (Balsam & Mohr, 2007 Crocker & Major, 1989; Lewis, Derlega, Clarke, & Kuang, 2006; Meyer, 2003; Smith & Ingram, 2004). In terms of the transactional model of stress and coping, community connectedness may have several functions. First, it could be conceptualized as emotion-focused coping through social support seeking. Connecting with similar others might reduce the tendency to think of discrimination as a “personal affront” and normalize it for the victim, as well as reduce the pain of ostracism from the majority population. Second, it may function as problem-focused coping in that connecting with similar others provides one with practical information on how to deal with discrimination (for example; information on legal recourse, or finding LGB friendly jobs, neighborhoods, or entertainment venues) or give one models for coping behavior. Connecting with the LGB community might also function as meaning focused coping in that a sense of belongingness to the group and knowledge of group history might provide a

broader framework for making meaning of experiences of discrimination. An individual then becomes part of the larger struggle against discrimination. Given that community connectedness might function through several types of coping processes and its theoretical status as a stress buffer it is considered a moderator of the effect of stress on the health and well-being of LGB people in the current investigation.

Several studies investigate the effects of community connectedness on LGB health outcomes. Russell and Richards (2003) found that LGB respondents to a survey about coping with anti-gay political messages rated community connectedness as an important resilience factor. Balsam and Mohr (2007) found no relationship between community connectedness and psychological well-being in a sample of LGB adults. Frost and Meyer (2009) found the community connectedness was significantly related to internalized heterosexism ($r=-.30$) and disclosure of sexual orientation ($r=.25$). Surprisingly, they also found that community connectedness was negatively correlated with relationship satisfaction. However, the authors used a single-item measure of community connectedness.

Disclosure of sexual orientation. As mentioned previously, sexual minority status is a concealable stigma, that is, it is not always obvious that a person is lesbian, gay, or bisexual. As a consequence of concealability, sexual minorities face daily decisions about the safety of disclosure of sexual orientation that deplete cognitive resources and add to stress (Smart & Wegner, 1999). While it may seem reasonable for a person to conceal a stigma in order to prevent prejudice and discrimination, the efforts a person with a concealable stigma may have to make to protect themselves can have deleterious effects that may outweigh any protective effects.

In his review of the literature, Pachankis (2007) identifies the unique stressors associated with having a concealable stigma as; 1) having to make decisions about disclosure, 2) anxiety related to being found out, 3) isolation from similar others, 4) being detached from one's "true self" (which does not allow for accurate feedback about one's "true" self) and may decrease the probability of experiencing self-acceptance. He further describes the effects of concealing as increases in vigilance, suspiciousness, anxiety, depression, hostility, demoralization, guilt, shame, impression management, social avoidance and isolation, increased importance of feedback, impaired close relationship functioning, negative view of self, identity ambivalence, lack of access to group based resilience factors, and low self-efficacy.

Meyer (2003) and others (DiPlacido, 1998) identify concealing one's sexual orientation as a significant source of stress for LGB people. Meyer reports that fear of workplace discrimination is prevalent in the LGB population and leads to serious psychological, health, and employment outcomes (Waldo, 1999). Herek (2003) described disclosure as a strategy to relieve the stress caused by concealing one's identity, and the benefits of disclosure on intimate relationships and positive self-identity. LGB people who disclose their sexual orientation have generally been found to have better mental health than their concealing counterparts (Herek & Glunt, 1995).

Studies of emotional expression and disclosure by Pennebaker (1997) and others (Stiles, 1995) suggest that disclosing important information is beneficial to health and that suppression leads to poorer health outcomes through increases in anxiety and suppression of acceptance of one's traumatic experiences or personal characteristics. Smyth (1998) conducted a meta-analysis of studies involving disclosure through writing and its effect on

health and found a moderate overall effect size for disclosure. The greatest effects were evidenced in the areas of physiological functioning and psychological well-being.

While only a handful of studies have assessed the relationship between concealment of sexual orientation and physiological functioning, the LGB literature on disclosure and health supports findings from the general disclosure-health literature. Research with HIV positive gay men indicates that concealment of sexual orientation reduced immune function, and led to more health problems than HIV positive gay men who disclosed their sexual orientation had (Cole, et al., 1996a, 1996b). Cole, Kemeny, Taylor and Visscher, (1996) found that gay men who concealed their sexual orientation had increased incidence of cancer, bronchitis, sinusitis, tuberculosis, and pneumonia, compared to gay men who were more able to be open about their sexual orientation.

Three studies have examined a disclosure task and its effects on physiological and psychological functioning in lesbians and gay men. Lewis et al. (2005) conducted a study in which 76 lesbians were instructed to write about their most stressful and traumatic experiences, and the most difficult recurring problems related to their sexual orientation for at least 20 minutes, three times a week for two weeks. The participants were told that their responses were completely anonymous and no one would know who wrote what. Results indicated that lesbians who were less out reported more perceived stress. No results were found for expressive writing on physical symptoms.

Pachankis and Goldfried (2010) conducted a similar study in which gay men wrote about the most stressful traumatic topic related to their sexual orientation for 20 minutes a day, for three days. Results indicated that gay men who wrote about their experiences were more open about their sexual orientation three months post-intervention. Participants who

had lower levels of social support gained the most benefit from the writing task, especially in measures of overall psychological functioning.

Cardiovascular correlates of disclosing sexual orientation were also investigated through a disclosure task (Perez-Benitez, O'Brein, Carels, Gordon, & Chiro, 2007). Twenty-seven gay males were instructed to talk into a microphone for six minutes about negative experiences related to concealing their sexual orientation. Results partially supported the inhibitory model of psychosomatics (Pennebaker, & Keough, 1999). Men who tended to conceal their sexual orientation, but were more open in the laboratory setting showed better psycho-physiological recovery. The authors suggest that concealing sexual orientation may promote a problematic pattern of psycho-physiological activation that may lead to hypertension and other cardiovascular problems. In addition to direct effects on psychological functioning and health, the authors propose that not disclosing sexual orientation may decrease the probability that LGB people can access LGB specific support networks whose benefits have been described above. Inability to access social support and other resources may indirectly affect health through moderating processes.

In terms of the transactional model of stress and coping, disclosure of sexual may function as a coping process in several ways. While disclosure of sexual orientation is sometimes risky, and could lead to increased experiences of discrimination, it can also function to elicit social support from advocates or members of the LGB community when an LGB person encounters discrimination, and reduce the cognitive stress of concealment. Contacting similar others, which involves disclosure of sexual orientation, can lead to emotion regulation through normalizing experiences of discrimination as acts against the group as a whole and not the individual, through social support processes, and by increasing

an individual's information and resources related to problem management of discriminatory experiences. Conversely, not disclosing sexual orientation may involve avoidance processes since it can function to limit other people's access to stigmatizing information about the individual, thereby reducing the probability of both discrimination and access to resources.

Internalized heterosexism. Internalized heterosexism (IH) has been defined as, “the internalization of negative messages about homosexuality by lesbian, gay, and bisexual (LGB) people” (Szymanski, Kashubeck-West, & Meyer, 2008, p.525.) and as such, is similar to the construct of internalized racism. IH is proposed to arise from the processes involved in being a member of a stigmatized group as described above. IH has been referred to as a form of self-devaluing (Meyer, 2003) and has been correlated with poor outcomes related to sexual identity formation and the coming out process (Kahn, 1991; Nungesser, 1983), mental and physical health (Szymanski, Chung, & Balsam, 2001; Herek, Cogan, Gillis, & Glunt, 1998; D’Augelli, Grossman, Hershberger, & O’Connell, 2001), substance use (Wilsnack et al., 2008; Hughes & Wilsnack, 1997; Amadio & Chung, 2004; Cabaj, 2008), sexual risk taking behavior in gay and bisexual men (Johnson, Carrico, Chesney, & Morin, 2008; Meyer & Dean, 1998; Ratti, Bakeman, & Peterson, 2000), race and ethnicity (Rosario, Schrimshaw, & Hunter, 2004) religion (Horne, & Noffsinger-Frazier, 2003; Rowen & Malcolm, 2002), counselor-client interactions (Barbara, 2002), body image (Kimmel, & Mahalik, 2005), and relationship quality (Frost & Meyer, 2009; Mohr & Daly, 2008).

In stress process terms, internalized heterosexism, functions as an “internal stressor” or verbal behavior which devalues the individual and influences coping efforts, problem management strategies and emotion regulation. It can also be conceptualized as a dysfunctional coping response that seeks to reduce “cognitive dissonance” between the

person and the environment. It may restrict exposure to information regarding LGB people and culture, increase concealment of sexual orientation, and limit access to social support systems (Szymanski, Kashubeck-West, & Meyer, 2008).

Stigma consciousness. The second risk factor examined here is stigma consciousness. Meyer (2003) explains that LGB people learn to expect negative appraisal from members of the dominant culture, and in turn, are chronically vigilant for this reaction. Stigma consciousness can be conceptualized within the transactional model as the dispositional coping style of information seeking. That is, individuals high in stigma consciousness are hypervigilant for information related to negative appraisal, prejudice, or discrimination related to their sexual orientation. If individuals are hypervigilant and “informed” about the environment they are in, they can possibly avoid negative consequences related to their stigmatized status. However, this vigilance may actually increase stress. Several researchers have conducted research on stigma consciousness with LGB people.

Mohr and Fassinger (2006) found that higher levels of stigma consciousness were related to lower romantic relationship quality in same sex couples. Lewis, Derlega, Griffin, and Krowinski (2003) found that gay men and lesbians high in stigma consciousness reported more depression, internalized homophobia, and gay related stress. Lewis, Derlega, Clarke, and Kuang (2006) hypothesized that lesbians who were high in stigma consciousness and had greater social constraints on talking about discrimination due to sexual orientation would exhibit more negative physical and psychological outcomes. They proposed that the process through which stigma consciousness increases social constraints and influence physical and mental health is suppression of subjectively significant and threatening information. They

note that discrimination itself is a stressor on the body and may increase susceptibility to illness. Adding suppression to the mix is hypothesized to inhibit desensitization and habituation to emotionally distressing content related to social stigma, which may prevent relief from stress and, in turn, promote physical ailments. The authors note that another consequence of suppression may be not self-protecting from harm due to stigmatization. Results indicated that higher scores on stigma consciousness and social constraints were positively correlated with negative mood state measures, lesbian status related stress, and physical symptoms. Further, stigma consciousness only marginally significantly predicted internalized heterosexism. Overall, the results were consistent with previous research that LGB stigma consciousness is related to negative psychological outcomes and broadens the literature by demonstrating the association between LGB stigma consciousness and physical symptoms.

Santuzzi and Ruscher (2002) conducted an interesting study on what they termed stigma salience. The experimenters had women role play being a lesbian or a “female student”. Half of the women role-playing a lesbian were told to disclose their stigma to the person they were to interview in a scripted “getting to know you” interview and half were not. The interviewees were confederates who gave ambiguous responses to interview questions which could be conceived as prejudiced or not prejudiced against homosexuals. In a second experiment sexual orientation was never disclosed. Results indicated that in both conditions stigma salience was increased by those playing a lesbian role. However, those participants who role played a lesbian and disclosed sexual orientation had the highest levels of paranoid social cognitions. These results tie into the literature on stigma consciousness

because paranoid social cognitions are closely related to perceived negative evaluation as measured by the stigma consciousness scale.

In Hatzenbuehler's (2009) conceptualization of the link between minority stress and LGB mental health, he recommends that future studies include stigma consciousness as a moderator of the mediating processes advanced in his model. Meyer (2003) also suggests a moderating effect for stigma consciousness in the link between discrimination and the mental health of LGB people.

Summary and comparison of discrimination, health, and coping in LGB and racial and ethnic minority people. Similar to the experiences of ethnic and racial minorities, while gains in civil rights and acceptance for LGB people have been made, members of the LGB community continue to experience health disparities in relation to their heterosexual counterparts (Krehely, 2009). Like their racial and ethnic minority counterparts, these disparities are presumed to be related, in part, to higher rates of stress due to systematic harassment and discrimination (Krehely, 2009; Meyer, 2003). LGB people have been shown to have higher rates of cancer, a 2.5 times greater risk for lifetime prevalence for having a diagnosis of a mental illness than heterosexuals, among the highest rates of suicide for any minority group, higher rates of overweight and obesity for lesbians, and higher rates of alcohol and drug abuse, and tobacco use (Dean et al. (2000); Meyer, 2003). It should be noted that epidemiological research examining health disparities in LGB people has only recently begun. It remains to be seen whether more disparities between LGB and heterosexuals will be found. Based on the research regarding racial/ethnic minority health disparities it seems likely that more gaps between LGB and heterosexual health status will be revealed.

Studies linking perceived discrimination and LGB mental health have revealed relationships between PD and quality of life, psychological distress, tobacco, alcohol, and drug use, and depressive symptoms (Lewis, Derlaga, Griffen, Korinski, 2003; Mays & Cochran, 2001; Meyer, 2003). Physical health disparities between LGB and heterosexual populations include overweight and obesity for lesbians and higher rates of cancer overall (U.S. Department of Health and Human Services, 2000). Disparities for gay men include migraines and headaches, liver disease, digestive problems, heart disease, asthma, chronic fatigue syndrome, and for lesbians and bisexual women, disparities include chronic illness, digestive and back problems, chronic fatigue syndrome, and self-ratings of poor physical health (Cochran & Mays, 2007). There is a paucity of research linking PD and physical health in LGB people. However, studies explicitly examining PD and health have found a relationship between PD and medication use, physician visits, and number of sick days taken from work in gay men, as well as effects on sexual functioning (Huebner & Davis, 2007; Zamboni & Crawford, 2007).

Similar to the research findings for racial and ethnic minorities, health disparities exist between LGB and majority members of society. For both racial/ethnic and sexual minorities, discrimination seems to have a greater effect on mental versus physical health. Far more physical health disparities have been linked to PD in racial and ethnic minorities than to LGB people to date, although it should be noted that research on the relationship between sexual minority health and PD is in its infancy and this may account for differences in findings.

Similarities also exist between the coping processes employed by racial/ethnic and sexual minorities. The literature review indicated mixed results for racial/ethnic identity.

Brondolo et al. (2009) found positive effects for identity in only 2 of 12 studies included in their meta-analysis, and generally positive results for social support. In LGB populations, mixed results were found for community connectedness (Balsam & Mohr, 2007; Frost & Meyer, 2009) and stigma consciousness and internalized heterosexism were shown to be related to poor physical and mental health outcomes (Mohr & Fassinger, 2006; Schnittker & McLeod, 2005; Szymanski, Kashubeck-West, & Meyer, 2008).

Models Linking Minority Stress and Health Relevant to the Present Study

The transactional model of stress and coping. The organism-environment interaction is central to the stress-coping model put forth by Lazarus and Folkman (1984). An organism reacts to experiences of stress in the environment and adapts to that stress. This adaptation process is referred to as coping. This model is employed in most research to date involving experiences of discrimination in minority populations. The assumption is made in most studies that the experience of discrimination is inherently stressful, yet individual differences in the appraisal of the stressfulness of incidences of discrimination are rarely included as a mediator of these relationships. It seems that stress related to discriminatory experiences is oft assumed and seldom measured. By measuring perceived stress related to experiences of discrimination the current study offers an explicit test of the stress-coping model as an explanation of the discrimination-health relationship for LGB people. Further, by examining group-specific coping processes such as disclosure of sexual orientation and community connectedness as moderators of these effects, the current study explicitly tests coping processes as buffers between stress and health.

Meyer's minority stress model. Meyer attempts to explain the processes linking minority stress and health in LGB people. These are (a) the experience of external, objective

stressful events (discrimination); (b) expectations and vigilance (stigma consciousness) for these events, and (c) the internalization of negative societal attitudes (internalized heterosexism). Meyer's model of LGB minority stress is composed of (a) general stressors common to all people in addition to minority stressors, (b) important LGB specific risk factors include expectations of rejection, concealment of sexual orientation, and internalized heterosexism; (c) resilience factors such as problem-focused coping styles and social support (for example community connectedness). These processes are hypothesized to have effects on mental (and physical) health.

The Current Study

As stated above, there is much research related to discrimination and racial/ethnic minority health, and the processes linking them. Research on LGB experiences of discrimination and health outcomes is in its infancy. The first question the present study seeks to answer is, "How does discrimination in LGB and other minority populations differ?" More specifically, results from a study of an African-American sample (Klonoff & Landrine, 1999) using the Schedule of Racist Events, the parent scale for the measure of LGB discrimination used here, will be compared with results assessing experiences of discrimination in the present sample.

The second question addressed here, which is related to the transactional model of stress and coping and Meyer's minority stress model (2003), is "Does stress mediate the link between perceived discrimination and health for LGB people?" The transactional model is tested by explicitly examining whether discrimination (a stressor) leads to perceived stress (an appraisal) which in turn leads to poor health outcomes and lower satisfaction with life for LGB people. Very few studies of racial/ethnic discrimination and health explicitly measure

the stress related to discrimination. Instead, it is implied that discrimination is a stressful experience. Research on these processes in LGB populations is even less prevalent. The last question addressed here is given that perception of stress is shown to be related to health, “what processes might moderate this relationship for LGB people?” Meyer’s minority stress model is partially tested by this examination of the LGB specific coping process that moderate of the effects of perceived discrimination on mental and physical health, and satisfaction with life. A series of path analyses were conducted to address the hypotheses illustrated in Figs. 1-3 and explicated below.

Research Questions and Hypotheses

The first question asked of the data is, “How does discrimination in LGB and other minority populations differ? Comparison of results from an African-American sample and the current sample will be compared.

Two hypotheses to be addressed statistically through SEM procedures are:

H1: Perceived stress related to lifetime frequency of discriminatory events will mediate the relationship of discrimination to poorer scores on both the physical and mental health component scores of the MOS-36 as well as lower scores on the SWLS (See Figure 1 above).

H2: Coping strategies and dispositional coping styles (disclosure of sexual orientation, and community connectedness; and internalized heterosexism, and stigma consciousness) will moderate the effect of stress on MOS-36 physical and mental health composite scores and scores on the SWLS (See Figures 2 and 3).

Chapter 3

Method

Participants and Recruitment

Three hundred and five participants who self-identified as lesbian, gay, or bisexual completed the survey. Participation in the study was limited to adults (18 years of age and older). Participation was limited to residents of the United States in order to avoid confounding of factors related to cultural, national, or regional differences (for example, differences in diet, stress levels, and levels of acceptance of LGB people may all present third variable problems in both levels and types of discrimination and health outcomes). Previous research also suggests that measurement equivalence may be an issue in the interpretation of the instruments if employed cross-culturally (Byrne, Baron, & Balev, 1998).

Participants were recruited via the internet through a link to the study website at LGB specific sites and through advertisements on various LGB specific websites such as Metropolitan Community Churches and Parents and Friends of Lesbians and Gays (P-Flag) websites across the country. LGB community listservs were also be contacted and asked to forward the link to their personal networks through a snowball sampling method. An intensive search of Yahoo Groups was conducted in order to locate groups specific to gay, lesbian, and bisexual individuals over 18 years of age. Yahoo Groups post the number of members and membership criteria (over 18 years of age) openly on their websites. Yahoo Group moderators of groups meeting criteria for the study were contacted in order to gain temporary admission to the group. Once permission was obtained, e-mails were sent through the moderator to each member of the group and an announcement placed on the list's message board. The e-mail explained the study, provided researcher contact information, and

a link to the survey website. Group members were also encouraged to forward the link to other relevant listservs and to LGB friends.

In order to solicit LGB people who may not visit LGB sites, the study was publicized through Google and Yahoo ads. Listservs that advertise participation in research studies or volunteer activities, or provide health information, in major metropolitan, suburban, and rural areas were also be asked to post a link to the survey on their websites. All participants who completed the survey were eligible to enter a drawing to win one of three cash prizes (2-\$50 and 1-\$100 gift cards). Upon completion of the survey those wishing to enter the drawing were directed to a separate website where they could choose to enter contact information which was stored separately from the data collected for the study.

Procedures

The entire survey was conducted on the internet using Opinio survey software under the University of New Mexico's licensure agreement with the software designers. Opinio is a secure, encrypted, online questionnaire tool administered and maintained by UNM Information Technology services. All data was stored on the UNM mainframe computer where personal information for students and employees is stored including social security numbers, grades, UNM Health Sciences Center patient health information and other identifying and sensitive personal information. No survey information was linked with identifiers at any time.

Once a participant clicked on the link to the survey they read an informed consent document explaining the purpose of the survey as well as risks and benefits, and how long the survey would take. Only after they read and agreed to the consent form, verified their sexual orientation and adult status, and agreed to participate, were they given access to a link

to the survey website. After consenting, participants were provided with a list of LGB specific resources available on the internet related to LGB health, mental health, regress for discriminatory practices, a national suicide hotline link, and contact information for various political and religious LGB organizations. Participants were informed that their consent to participate was indicated by beginning the survey. The survey website was configured to accept only one completed survey from any IP address to reduce the likelihood of multiple surveys being completed by any one individual.

Upon survey completion, participants were asked if they wish to submit their contact information to be eligible to participate in the gift card drawing. If so, they were then able to access a link to a site where they provided contact information in the form of an e-mail address. Contact information for the drawing was collected separately from the survey responses and stored in a separate database from the survey responses. This prevents linking survey responses with identifying information. Once the study was completed, the names of participants who submitted contact information were entered into a random number generator function in order to select the prizewinner based on survey ID number.

Measures

Demographics. Demographic characteristics assessed included age, education, annual household income, ethnic and racial identity, and self-identified sexual orientation. One question assessed HIV status, and another assessed the presence of any other illnesses in order to control for a possible confound between LGB status and health related quality of life.

Perceived discrimination due to sexual orientation. The measure of perceived discrimination used in the study, The Schedule of Heterosexist Events, was derived from the

General Ethnic Discrimination Scale (Landrine, Klonoff, Corral, Fernandez, & Roesch, 2006). Precedent exists for modifying the measure for non-heterosexual populations (Huebner & Davis, 2007; Selvidge, 2008; Weber, 2008). The General Ethnic Discrimination Scale consists of 18 items that assess recent, and lifetime discrimination, and the perceived stress associated with these events. (Ex: *How many times have you been made fun of, picked on pushed, shoved, hit, or threatened with harm because of your race/ethnic group?*) Frequency of discriminatory events are assessed using a 6-point Likert scale ranging from *Never* to *Almost all of the time*. Scoring involves summing of responses.

The scale was based on the Schedule of Racist Events (Klonoff & Landrine, 1999) found to have extremely high internal consistency. Cronbach's alpha for recent racist events was .949, .953 for lifetime racist events, and .936 for appraised racist events. The split-half reliability coefficients for the SRE for these subscales ranged from .91-.93. Landrine et al. (2006) employed Confirmatory Factor Analysis (CFA) to assess whether the three subscales of the General Ethnic Discrimination Scale assessed the construct of perceived ethnic discrimination similarly to the SRE. Results indicated that all of the factor loadings for the GEDS subscales were strong and significant for all ethnic groups tested. Landrine and colleagues concluded that the GEDS measures ethnic discrimination similarly to its parent scale, the SRE.

The Schedule of Heterosexist Events II consists of a modified wording of the General Ethnic Discrimination Scale in order to fit the LGB community. The phrase "*race/ethnic group*" was replaced with words more appropriate for the sample. For example, the question "*How many times did you want to tell someone off for being racist*", was changed to, "*How many times did you want to tell someone off for being anti homosexual or anti bisexual?*"

Internalized heterosexism. Internalized heterosexism (IH) was measured using the Internalized Homonegativity Inventory (IHNI) (Mayfield, 2001). The IHNI assesses three dimensions: personal homonegativity, gay affirmation, and morality of homosexuality. The scale consists of 23 items rated on a 6-point Likert scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Scores on the items are summed with higher scores indicating higher levels of IH.

Mayfield (2001) assessed the psychometric properties of the INHI. Internal reliability scores for the three subscales of the IHNI were .93, .80, and .66 respectively. Interscale correlations ranged from .41-.55. Alpha for the full scale was .91. Exploratory factor analysis, strong positive correlations with another measure of internalized homonegativity, and strong negative correlations with gay identity development, emotional stability, and percentage of LGB friends, all supported validity of the IHNI. Mayfield's study also demonstrated that the INHI was conceptually different from neuroticism, extroversion, and social desirability.

Disclosure of sexual orientation. The Outness Inventory (OI) developed by Mohr and Fassinger (2000) is an 11-item scale designed to assess the degree to which LGB people are open to others about their sexual orientation. The OI employs a fully-anchored 7-point Likert scale ranging from 1 (person definitely does not know about your sexual orientation status) to 7 (person definitely knows about your sexual orientation status and it is openly talked about). Initial support has been found for the validity and reliability of the OI (Mohr & Fassinger, 2000). Scores are summed and then an average is computed based on number of items answered, since not all items will be relevant to all participants. For example, someone may not have a religious affiliation, or might not have been aware of their sexual orientation

before a parent passed away. Therefore, the item might not be applicable to them. Higher scores equal a greater degree of disclosure of sexual orientation.

Community connectedness. Feeling connected to the LGB community was assessed using Frost and Meyer's (2009) Connectedness to the LGB Community Scale. The scale consists of eight items that assess feelings and behavior related to community connection. This measure was adapted from a seven-item community cohesion scale used in a study of gay men's physical and mental health (Mills et al., 2001). Frost and Meyer added one item to the original scale to assess symbolic connectedness; *You feel a bond with other gay men*. The scale uses a 4-point Likert scale ranging from 1 (agree strongly) to 4 (disagree strongly). Higher scores indicate greater feelings of connectedness. The eight-item scale had a Cronbach's alpha of .80 in a study conducted by Frost and Meyer (2009).

Stigma consciousness. The degree to which LGB people are likely to expect to be stereotyped or rejected by others due to their sexual orientation was assessed using the 10-item Stigma Consciousness for Gay Men and Lesbians Questionnaire (SCQ) (Pinel, 1999). The scale uses a 7 point-Likert Scale ranging from *strongly disagree* to *strongly agree*. Higher scores indicate greater stigma consciousness. The scale was modified slightly to reflect inclusion of bisexual respondents. Preliminary reliability and validity of the scale was established by Pinel (1999) with an alpha of .81 for gay men and lesbians. Other researchers found that the SCQ had a coefficient alpha of .61 (Lewis, Derlega, Clarke, & Kuang, 2006) however, in this case, the scale was used with an all lesbian population.

Health related quality of life. Information was collected on subjective physical and mental health using the Medical Outcomes Study 36 Item Short Form Health Survey, also known as the SF-36. The MOS-36 consists of 36 items which measure eight commonly

measured health concepts including: physical functioning, bodily pain, role limitations due to physical and emotional problems, social functioning, emotional well-being, energy/fatigue, and general health perceptions. Composite scores for physical and mental health compiled from the eight subscales were used as the outcomes variables in the present study.

The reliability of the MOS-36 has been investigated using both test-retest methods and internal consistency in more than 25 studies (Tsai, Bayliss, & Ware, 1997). Reliability for physical and mental health summary scores frequently exceeds .90. (McHorney, Ware, & Raczek, 1993). Studies of the validity of the MOS-36 have provided strong evidence of content, concurrent, criterion, construct, and predictive validity (McHorney, Ware, & Raczek, 1993). Use of the MOS-36 has been documented in over 4,000 studies. Garratt, Schmidt, Mackintosh, & Fitzpatrick (2002) reported that the MOS-36 was the most widely used generic patient assessed health outcome measure in their study of quality of life measures published in the *British Medical Journal*. Using the MOS-36 in the present study will allow comparisons of health related variables in the general population to that of the current sample since scores are normed with a mean of 50 and an SD of ten allowing for meaningful comparisons across populations. An orthogonal solution is applied to the component scores in order to facilitate examination of the most unique variance for the factors.

Satisfaction with life scale. The Satisfaction with Life Scale was developed by Diener, Emmons, Larsen, and Griffen (1985) to assess overall life satisfaction. It consists of five items that assess life satisfaction as real life vs. ideal, life conditions, life satisfaction, attainment of important things, and whether or not a person would change their life if they could. The items are assessed on a seven-point Likert scale ranging from 1-strongly disagree

to 7 strongly agree. Higher scores indicate greater life satisfaction. The SWLS demonstrates good internal consistency (.87), and test-retest reliability (.82) (Diener et al., 1985).

Coefficient alpha in a sample of 613 LGB adults was .90 (Balsam & Mohr, 2007).

Statistical Analysis

Structural equation modeling (SEM) using Mplus version 6.1 (Muthén, & Muthén, 1998-2011) was employed to examine the hypothesis that perceived stress mediates the relationship between perceived discrimination and: a) mental health, b) physical health, and c) satisfaction with life. The Asymmetric Confidence Interval (ACI) method (see MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; MacKinnon, Lockwood, & Williams, 2004) was used to appropriately estimate confidence intervals for mediated (indirect) effects.

RMediation (Tonfighi & MacKinnon, in press), the most recent version of a program that calculates ACI (i.e., PRODCLIN; see MacKinnon, Fritz, Williams, & Lockwood, 2007) was used to calculate mediated effects with 95% ACIs. Finally, SEM examined the moderation effects of coping processes on health and well-being outcomes. All of the models tested were fully saturated (i.e., degrees of freedom = 0 in estimated models) and thus model fit statistics are not reported (since just-identified models fit the data perfectly). All models were estimated using maximum likelihood.

Chapter 4

Results

Demographics

Four hundred people consented to the survey between January and April, 2010. Of these, 305 completed the survey and were included in the analysis. Fifty-six percent of the sample was female. Thirty nine percent of participants self-identified as lesbian, 33% identified as gay male, 16% identified as bisexual female, and 11% identified as bisexual male. The mean age of the sample was 42 years ($SD=16.04$). The racial/ethnic composition of the sample was predominantly Caucasian (78%), followed by Hispanic (6%), Black (4%), Asian (3%), Alaskan (1%) and Multiracial (8%). Annual household income of the sample was as follows: less than \$20,000 (17%), \$20,000-\$39,999 (22%), \$40,000-\$59,999 (19%), \$60,000-79,999 (13%), and over \$80,000 (29%); two percent of the participants declined to answer this question. Educational attainment for the sample was high. Results indicated that respondents had some high school to high school graduate (13%), associates or technical/vocational certificate (14%), bachelor's degree or some graduate training (36%), master's degree (27%), doctoral degree (10%). Employment status was unemployed (10%), student only (10%), working/student (3%), employed part-time (49%), employed full-time (14%), and retired (14%). Thirty-four percent of the sample indicated they had a physical illness, and three percent were HIV positive. MOS-36 (McHorney, Ware, & Raczek, 1993) scores are reported as t-scores with a mean of 50 and a standard deviation of ten for the general population. The mean score on the MOS-36 physical health composite score was 50.29 ($SD=10.39$). The mean of the MOS-36 mental health composite score was 45.62 ($SD=12.57$). The results indicate that this sample's MOS-36 physical health composite score

is consistent with the general population whereas the MOS-36 mental health scores were one-half standard deviation below the mean of the general population.

Demographics and Outcomes

Statistically significant differences ($p < .05$) were found for the relationship between some of the demographic characteristics and dependent variables of the study. Higher age was related to worse physical ($r = -.27$) and better mental health scores ($r = .15$). Income was positively related to mental health scores, and negatively related to satisfaction with life ($r = -.13$). Race and sexual orientation were not correlated with outcomes.

Relationships between Independent Variables

Bivariate correlations were conducted for all of the independent and dependent variables as well as the mediator and moderators of interest (see Table 1). Of the dependent variables, mental health outcomes were most frequently related to other study variables. Mental health scores were significantly and positively correlated with community connectedness, disclosure of sexual orientation and satisfaction with life and negatively correlated with lifetime and past year discrimination, perceived stress, and internalized heterosexism. Only satisfaction with life was correlated (positively) with physical health outcomes. Satisfaction with life was also positively related to disclosure of sexual orientation and community connectedness, and negatively related to perceived stress and internalized heterosexism. LGB specific risk and resilience factors, the proposed moderators of the relationship between stress and outcomes, were all significantly correlated. The highest correlation was between internalized heterosexism and community connectedness ($r = -.43$).

Comparing African-American and LGB samples

Comparisons were made between perceived discrimination in the present study and results from a sample of African-Americans. Klonoff and Landrine (1999) compared scores from two samples of African-Americans in order to cross-validate the Schedule of Racist Events, which is the parent scale for the current study. Klonoff and Landrine's second sample was larger, more heterogeneous, and more similar to the current sample in demographics. Therefore, results here were compared to Klonoff and Landrine's second sample. Means and SDs for each scale question and for total scores for both samples are presented in Table 2.

Klonoff and Landrine's (1999) sample consisted of 520 African-Americans (277 female, 243 male), mean age 28.2 years, mean income \$16,883, most had graduated high school and attended some college. The majority worked fulltime (37%) followed by 16% fulltime students, 15% students who also worked, 13% were employed part-time, 14% indicated that they were "housewives" or on disability, and 2% were retired. Notably, demographic variables were not significantly related to results in this sample.

Mean scores for the African-American and LGB samples on the three discrimination subscales were respectively (Past year, $M=38.77, 44.87$; Lifetime $M=45.86, 54.08$; Stress $M=44.13, 53.56$). The LGB sample in general, reported more discrimination and more discrimination related stress than the African-American sample.

Types of discriminatory events reported most frequently in the past year for the African-American sample included discrimination by people in service jobs, institutions, strangers, and employers, and having intentions misunderstood by others. Wanting to tell someone off and being angry for something racist that was done to you, were also among the most frequently endorsed past-year items. For the LGB sample, the most frequently reported

past-year discriminatory events were discrimination by strangers, coworkers, service workers, and friends, and having intentions misunderstood by others. Getting angry and wanting to tell someone off were also rated as among the most frequently endorsed items on the scale.

Results for the lifetime incidence of discrimination for the African-American sample indicated that the most frequently reported events were the same as past year except that discrimination by teachers and professors was more frequently reported in the lifetime timeframe. For the LGB sample results the most frequent lifetime events were essentially the same as LGB past year events but also included being called a derogatory name, and discrimination by friends.

African-Americans rated discrimination by service workers, institutions, strangers, employers and teachers as the most stressful events, while the LGB sample rated being discriminated against by friends, being called names, discrimination by coworkers, misunderstood intentions, and discrimination by strangers as most stressful, respectively. Both samples rated wanting to tell someone off, and being angry at someone for discriminating against them as among the most stressful experiences related to discrimination. While the rankings of stress for the African-American and LGB sample differed, the list of most stressful items overall were strikingly similar.

One factor that differs between LGB and African-American populations is that LGB people have a concealable stigma while most African-Americans are easily identified as African-Americans. In order to discover whether differences in frequency of discriminatory event reporting existed for LGB people who were more readily identifiable as LGB, I asked the question, *“How often to do you think people who you are not out to can tell your sexual*

orientation?”. Responses were based on a Likert scale ranging from 1=never to 5=always. Approximately 16% percent of the sample answered *never*, and 8% answered *always*. The rest of the sample had varying degrees of concealability. As one would expect, concealability was significantly related to lifetime experiences of discrimination ($r=.34$, $p<.05$).

Results for Mediation

I hypothesized that perceived stress related to lifetime frequency of discriminatory events would mediate the relationship of discrimination to poorer scores on both the physical and mental health dimensions of the MOS-36 as well as lower scores on the SWLS. In other words, discrimination “causes” stress, which in turn affects outcomes.

Notably, the observed correlation between the independent variable of lifetime frequency of discriminatory events and the mediator variable of perceived stress was .86, suggesting that these measures were not tapping into separate constructs but rather reflecting the same phenomenon in this sample. To explore this further, correlations among the items contributing to the lifetime frequency of discriminatory events and to perceived stress were estimated. The highest correlations were not found within scale but rather across scales for a given discrimination/stress item. For example, the average across scale correlation for a given item (e.g., How often have you been treated unfairly by **teachers and professors** because of your sexual orientation?) between lifetime discrimination (i.e., How often [has the situation above occurred] in your entire life?) and perceived stress (i.e., How stressful was this [situation described above] for you?) was .77; this correlation was substantially higher than the average within-scale correlations across all items for both discrimination (average $r = .41$) and stress (average $r = .43$). Given the dependent structure of the stress question on the discrimination item (i.e., one cannot report stress for an event that did not occur), these

high correlations are perhaps not surprising. To further illuminate that these separate measures appear to be tapping into the same construct, two latent variables were estimated, one for discrimination that consisted of items from the discrimination scale and one for stress that consisted of items from the stress scales. These latent variables were estimated and correlated within the same model. The fit of this model was especially poor, χ^2 (559), 4510.12, $p < .0001$, CFI = .55, TLI = .52, RMSEA = .15, 90% CI [.15, .16], SRMR = .08. Consistent with the average correlations above, model fit indices suggested that correlating residuals between the discrimination and stress items would improve model fit (e.g., the modification index of correlating the discrimination and stress item above was 171.13; as reference, the minimum modification index is 10.00). Despite the poor fit, the correlations between the two latent variables was .91 ($p < .001$), again suggesting these two “separate” measures are, empirically, reflecting the same construct as it does in racial and ethnic minority populations (Landrine, Klonoff, Corral, Fernandez, & Roesch, 2006). Given these issues, the proposed mediation models were not presented (see the *Discussion* section for further consideration of this issue). These findings are quite in line with the findings of Landrine, Klonoff, Corral, Fernandez, and Roesch (2006) in their model of the effects of perceived ethnic discrimination on psychiatric symptoms. The latent construct of perceived discrimination was predicted by all three subscales of the General Ethnic Discrimination Scale. The current study seems to confirm that lifetime frequency of discriminatory events and the appraisal of these events as stressful, are essentially, measuring the same construct, perceived discrimination.

Results for Moderation

I hypothesized that LGB specific social coping processes (disclosure of sexual orientation and community connectedness) and processes that interfere with successful coping (IH, stigma consciousness) and would moderate the effect of stress on MOS-36 physical and mental health composite scores and lower scores on the SWLS (See Figures 2 and 3).

Of the twelve models, (four LGB specific risk and resilience factors moderating effects of stress on the three DVs) only a trend towards a significant interaction was found for internalized heterosexism on perceived stress and mental health outcomes ($b=-.01$, $p=.05$). No significant effects for moderation were found for any of the other risk and resilience factors (Stigma Consciousness, Community Connectedness, Disclosure of Sexual Orientation) moderating the effects of stress on health and well-being (See Figures 4 and 5).

Chapter 5

Discussion and Future Directions

Correlations

The bivariate correlation presented in Table 1 suggest that discrimination has effects on the health of LGB people, and that risk and resilience factors are also related to these outcomes. Consistent with findings in the literature on the effects of racial/ethnic discrimination on mental and physical health (Pascoe, & Smart, 2009), mental health was the most consistently predicted outcome variable in relation to discrimination, stress, and the study moderators. Most of the literature on discrimination and health that has been published, found evidence for the effects of discrimination on specific health outcomes such as hypertension, coronary artery disease, disability, chronic conditions, or sick days (Taylor & Turner, 2002). Only a few found evidence for effects on self-rated health (Paradies, 2006; Pascoe & Smart, 2009). Perhaps future investigation should include disparities specific to the LGB community as dependent variables such as obesity (for lesbians) and cancer. It also may be the case that studies have been conducted that did not find results for physical health outcomes for LGB people and thus, results were not published. Landrine and Klonoff (1996) found perceived discrimination to be strongly related to cigarette smoking. It would seem to make sense to examine the effects of discrimination on health behaviors that might be a path to poor health. It may also be the case that physical health problems take a longer time to manifest than mental health problems, and hence, relationships are not as easily detectable.

In comparing the results for lifetime and past year frequency of discriminatory experiences, the findings indicated that lifetime experiences ($r=.86$) accounted for more of the variance in stress than past year experiences ($r=.58$). This may again be a result of the

dependency of the questions. Overall stress is rated as relating to the cumulative effects of discrimination and, hence, would relate more closely to lifetime frequency than past year frequency. Both past year and lifetime discrimination were correlated ($r=-.25$) with mental health outcomes. Satisfaction with life was correlated nearly equally with lifetime ($r=-.13$) and with past year ($-.18$). Of the risk and resilience factors only disclosure of sexual orientation was correlated with lifetime discrimination and only stigma consciousness was correlated with past year discrimination. It makes sense that the more “out” a person is regarding their sexual orientation, the more likely they are to experience discrimination. However, the correlation was small ($r=.13$) which perhaps indicates that the consequences related to concealing sexual orientation outweigh the risks of encountering increased discrimination. The positive relationship between stigma consciousness and past year discrimination might be seen as evidence for the ineffectiveness of hypervigilance as a strategy to avoid discrimination. It might also reflect a higher probability that those who expect rejection to report benign interactions as discriminatory. It might also be the case that stigma consciousness may have been “caused” by higher rates of discrimination. Increased vigilance seems an understandable reaction in this context and the closer in time the discrimination occurred to the present, the more salient it might be to an individual and the more conscious they might be of stigma. Further research needs to be conducted in order to tease apart these effects.

Stress theorists (Lazarus, & Folkman, 1984) hypothesize that chronic experiences of discrimination are most likely to have deleterious consequences for health and well-being than occasional stressors. Lifetime experiences of discrimination are presumably more chronic and frequent overall, and were more highly correlated with stress than past year

discrimination. However stress was assessed “overall” and dependent upon cumulative “lifetime” experiences, and as mentioned earlier, these subscales were found to be measuring the same construct. As far as the effects of lifetime vs. past year effects on outcomes, no real differences were found. Correlations were the same ($r=-.25$) for mental health scores and virtually the same ($r=-.18$ lifetime; $r=-.16$ past year) for satisfaction with life scores. Future studies should incorporate diverse outcome measures in order to see if specific disparities are affected by discrimination rather than assessing self-reported health and well-being. Perhaps using the eight subscales of the MOS-36 as dependent variables might yield more information related to specific health outcomes.

Relationships in the expected direction were found for the DVs mental health and satisfaction with life, and discrimination, stress, and the risk and resilience factors in the present study. Given that no effects were found for moderation effects between stress and outcomes, it seems worthwhile to conduct mediational path analyses of the relationship between stress and outcomes for the risk and resilience factors presented here. The literature suggests that coping processes can function to both mediate and moderate the effects of stress on health (Brondolo et al., 2006).

Comparison of African-American and LGB samples

As discussed above, in general, the experiences rated as most frequently experienced were also ranked most stressful. This is not surprising given the dependent nature of the stress questions on having experienced the discriminatory event. However, this might also be an indication of the effects of chronicity of events “wearing down” an individual’s resources. For example, having one instance of a friend discriminating against an LGB individual is likely to be a stressful experience, having several friends discriminate against an individual

would presumably increase appraised stress due to the consequences being more painful. Alienation, reduced social support, ostracism, and the higher probability of discrimination perpetrated by more than one friend being “taken personally” may increase with increases in frequency of this event. One might think that more experience with a specific stressor would increase one’s ability to cope with that stressor, however, the results of the current study do not support that hypothesis. It seems more likely that the “uncontrollable” nature of discriminatory events leads to appraisal of these events as stressful and to poorer mental health outcomes rather than to better coping and better outcomes.

Another point to mention related to the reporting of discrimination in the African-American and LGB samples is that the patterns of responses are very similar in type and frequency of events. Hence, it seems unlikely that reports of discrimination in the LGB sample are overstated. The LGB sample did report more frequent discrimination and more frequent stress than the African-American sample in general, but the types of discrimination and the related stressfulness ratings were quite similar. Future analysis of the data should include tests of the significance of the differences between samples.

Given that the appraisal of stress related to discriminatory events and the reporting of events themselves is highly correlated and that both appear to measure the same construct (perceived discrimination) one might suggest that only one subscale is measured in future studies since assessing both increases the burden on respondents. However, assessment of both frequency and appraised stress is likely to be informational depending on the question asked of the data. In the current data, *on average*, we obtain the same results for outcomes whether we measure stress or frequency of events. However, if we examine the rated stress for individual items we obtain additional information. For example, the most frequently

reported lifetime experiences of discrimination in the LGB sample ranked in descending order from most to least frequently experienced are; wanting to tell someone off for something doing or saying something discriminatory, being called a derogatory name, getting angry for something that was done to you, and discrimination by strangers, coworkers, institutions, and friends respectively. However, when examining the rank order of stressful experiences, being discriminated against by friends ranks as the second most stressful event as compared to the seventh most frequent event. This suggests that while statistically significant differences do not exist for the effects of stress and discrimination on outcomes, clinically and personally significant effects do. Thus measuring stress and frequency of discrimination is beneficial for understanding the experiences of discrimination for LGB people and for developing and implementing interventions.

Discrimination by friends ranks as the ninth most common event for the African-American sample and the fourth most common event for the LGB sample. Being called a derogatory name was ranked second in frequency in the LGB sample and fourth in appraised stress, while it was ranked 15th in both frequency and stressfulness in the African-American sample. This might be explained by the cultural consequences being less stringent for calling LGB people derogatory names than for calling African-Americans derogatory names. For example, it is not uncommon to hear “that’s so gay” in the media and in the conversations of young people. However, it is quite uncommon to hear anyone besides African-Americans themselves using the word nigger”. Indeed, it is common for non-African-Americans to only use the term “the N-word”. The terms “faggot” and “dyke”, and the recent popularity of the term “gay” as a slur, for example, seem to be used more frequently than “nigger” in common parlance, and with less prohibition . Thus, political correctness, while oft maligned, may have

had some effect on the frequency with which African-Americans are called derogatory names. Further, LGB individuals are far less likely over the course of their lifetime, to have predominantly or exclusively LGB friends compared to African-Americans having exclusively or predominantly African-American friends. LGB people may therefore be more susceptible to discrimination by friends. Future studies should also assess experiences of discrimination specific to the LGB community such as hearing anti-LGB political and religious messages, and discrimination perpetrated by family members. Experiences of discrimination should be assessed as additive to the general stressors of life encountered by most people in order to confirm the hypothesis that minority stress is additive, and to control for the impact of stress overall, versus discrimination-related stress, on health and well-being. A larger more heterogeneous sample would allow for assessment of the intersection of race-related discrimination with sexual minority identity and possibly illuminate stress processes unique to racial/ethnic LGB people.

Concealability was related to frequency of lifetime experiences of discrimination for LGB people. Those who indicated a higher frequency of being identified as LGB, reported more discrimination. This finding in and of itself seems commonsensical. However, given that 16% of the sample indicated that they could *never* be identified as LGB, the rates of discrimination reported in the LGB sample were still higher than the African-American sample. Frequency of discrimination was lower for those who were not obviously LGB, but the LGB respondents overall reported more discrimination than the African-American sample. It should also be noted that the data for the African-American sample were collected in 1991. One would hope that discrimination would decrease over a 20 year period and perhaps, a current sample of African-Americans would report even less discrimination.

While this is a possibility, discrimination against minorities is difficult to influence and time does not necessarily equate with decreases in racism.

Mediation Results

Discrimination here has been conceptualized within a stress-coping framework. Results of the mediation analyses indicated that the effects of lifetime experiences of discrimination on health and well-being are not mediated by appraisal of the events as stressful. Indeed, results indicated that frequency of lifetime experiences of discrimination and perceived stress related to these experiences are measuring the same construct, perceived discrimination. In other words, discrimination does not “cause” stress, which then mediates effects on outcomes. Rather, discrimination *IS* stress, or as conceptualized by Landrine, Klonoff, Corral, Fernandez, and Roesch (2006) both the frequency of events and the subjective appraisal of stress are measuring the latent construct of perceived discrimination. One possible way to conceptualize these results lies in Lazarus and Folkman’s (1984) transactional model of stress and coping. They define stress itself as neither a stimulus (discriminatory events) nor a response (physiological and mental processes) in and of itself, but rather a transactional process between the person (the felt experience of stress) and the environment (the event). In other words, both the event and the physiological and mental experiences related to the environmental experience, constitute “stress”, in this case, the stress related to perceived discrimination. Hence, “perceived stress” is not in and of itself an appraisal process. It is a felt experience, a person environment interaction. The perception of the event as stressful, at least in the manner assessed in the current study, is inherent in the event itself.

Other investigations have found different results for the relationship between discrimination, stress, and health. For example, Sellers, Caldwell, Schmeelk-Cone, and Zinnerman (2003) found that racial discrimination was significantly correlated with perceived stress ($r=.23$) and that stress mediated the relationship between discrimination and psychological distress. However, they use an abbreviated version of the Perceived Stress Scale (Cohen, Karmarck, & Mermelstein, 1983) to assess the frequency of feeling stressed over the past week and a 20-item racial hassles scale which assessed experiences of discrimination over the past year. Therefore, it is only possible to compare the amount of stress experienced overall and the frequency of discrimination. That overall stress and discrimination were correlated ($r=.23$) in their study gives us further proof that discrimination is stressful, and is additive to general stress. However, the differing assessment timeframes complicate interpretations of the discrimination-stress relationship.

In Paradies' (2006) review of the literature on racism and health, he points out that there is considerable debate in the literature as to the proper conceptualization of racism and stress. Most studies in his review conceptualized racism as a construct separate from stress. In his literature review, stress was found to both mediate and moderate the relationship between racism and health. Further, several studies in Paradies' review found stress and self-reported racism to be independently related to health. It should be noted that most of the studies included in the review assessed general stress and compared it to experiences of discriminatory events in order to assess difference in stressors.

Similarly to the findings of the present study and mentioned in the results for mediation above, Williams, Neighbors, and Jackson (2003) caution that weighting the subjective experience of stress related to discrimination confounds the relationship between

discriminatory experiences and stressful reactions. Given the findings presented in Paradies' review, that discrimination and stress independently predict health outcomes it seems the debate is not settled as to whether to conceptualize discrimination itself as "stress", whether or not to directly assess discrimination-related stress, and if so, how to do this without excessive confounding of the constructs. Perhaps future studies could examine general stress, discrimination-related stress, and health outcomes, and assess the independent predictive power of discrimination-related stress on health outcomes as some of the previously mentioned studies have done. It will be important to assess stress and experiences of discrimination over the same timeframe, and to use a measure of discrimination that allows for results to be compared across samples, as do the measures employed here.

Moderation Results

Of the 12 analyses investigating the moderating effects of LGB risk and resilience factors on perceived stress and health and well-being, only a trend for internalized heterosexism moderating the relationship between perceived stress related to discrimination and mental health was found. Similar to the findings here, Pascoe and Smart's (2006) meta-analysis of commonly studied moderators of the relationship between perceived discrimination and health showed "weak patterns" (p.545). They indicated that social support (here conceptualized as community connectedness) was most likely to buffer the effects of discrimination on health, but only for mental health. They also reported that results for social support were conditional. Type of support sought, specific outcome studied, and amount of discrimination stress all affected whether this relationship held. Perhaps a more specific and sensitive measure of LGB specific social support might be incorporated in future studies. The measure of community connectedness used here leans more heavily on involvement in

political activism and beliefs related to activism's effects than on social support in general. Support by similar others and support in general should be assessed in the LGB community to determine the effects of each on LGB health and well-being.

Group identification, conceptualized here as community connectedness was found to have weak effects in Pascoe and Smart's meta-analysis (2006) and no moderation effects here. Perhaps if we had a larger sample we might have more power to detect a weaker relationship. It might also be interesting to see if community connectedness has effects on different outcomes variables such as the subscales of the MOS-36. It could be that for all of the moderators examined here, the effects are subtle and conditional and need further investigation.

Future analysis of this data should examine interaction effects between community connectedness and disclosure of sexual orientation and levels of discrimination and perceived stress. In general, and consistent with stress theory, active coping processes were more effective than emotion-focused coping for attenuating the negative effects of discrimination on health. These should be tested in future analyses. Finally, analyses should be conducted to determine if personality factors (dispositional coping styles) affect LGB specific coping processes. For example, if someone is high in trait pessimism are they more likely to have high levels of IH? Do some LGB individuals use problem-focused coping for general stressors and emotion-focused or avoidant coping strategies for stress related to sexual orientation? In other words, is sexual orientation stress dealt with differently than general stress? Are there contextual factors such as the threat of being fired from a job, disowned by family or religious institutions, and ostracized by friends, that "force" LGB people to cope differently with minority stress than they would with everyday stressors? The answers to

these questions might assist clinicians in designing appropriate interventions for coping with discrimination related to sexual orientation.

A larger range of coping strategies specific to LGB people should also be identified and included in a more comprehensive model of coping with sexual orientation discrimination. It may also be helpful to examine the immediate effects of discrimination such as negative affect, and physiological reactivity in order to determine how short-term effects lead to a cascade of responses that potentially lead to more permanent negative mental and physical health outcomes. It is also possible that physical health outcomes are more easily detected for specific diseases rather than for self-rated health. For example, LGB people seem to be more susceptible to cancer in general, and lesbians are at increased risk for overweight and obesity. Relationships between the variables of interest and these specific disparities should be examined. Finally, relationships between moderators and IVs examined here should be investigated for their influence on health behaviors. For example, Landrine et al. (2006) found significant effects for the relationship between smoking and discrimination using the parent scale for the SHE. LGB people have the highest rates of smoking, and higher rates of substance use than other minority groups (GLMA, 2010). These relationships are important to investigate in order to decrease disparities and inform interventions.

Past models have examined the category of coping response but not the function of the response to experiences of discrimination. Possible functions of coping strategies may not be limited to the immediate negative effects of an incidence of discrimination. For example, a person might seek support from the LGB community to find another job after experiencing discrimination, especially asking where one might work that has a good track record of fairness to LGB individuals. In turn, this may result in less stigma consciousness, more

disclosure of sexual orientation, lower levels of internalized heterosexism, and increased community connectedness because of positive reinforcement available from interaction with similar others (e.g. comparison to similar others, role models for coping, emotional outlet for discussing incidences of discrimination, information about resources specific to the community). Other functions include the more obvious reduction of negative affect, and protection of self-esteem related to sexual orientation and self-identity. Qualitative studies might be employed to gather preliminary information or to provide answers to these questions.

Research should also investigate the timing of the coping strategy. More immediate short-term strategies like distraction or substance use may work for short term reduction of negative emotion, but might be less appropriate as a long-term strategy. The context in which a strategy is employed may also be important. Some strategies may be appropriate when among friends but may be deleterious when an individual is in a dangerous situation. For example disclosure of sexual orientation would not be recommended in a situation in which one's physical integrity might be at risk due to such a disclosure. Finally, the frequency of LGB people's use of particular coping strategies should be assessed in order to determine the appropriate variables of interest and to inform interventions. Finally, Aneshensel (2009) states that, "explicit causal models are essential to the development of programmatic interventions to alleviate mental health disparities" (p.377). It is hoped that the data presented here be useful in informing future models of the relationship between LGB discrimination and health.

Limitations

First and foremost the current sample was a convenience sample and results cannot be generalized. Data was collected entirely on the internet on LGB related sites, which further reduces generalizability, since most people on these sites tend to be more “out” about their sexual orientation. The sample may also have been biased towards having a connection to the community since the majority of this sample accessed the study through LGB-related online yahoo groups. The sample was fairly homogenous; mostly female, middle-aged, self-identified as lesbian, with high income and education. A larger, more heterogeneous population of LGB people should be sampled in order to control for the effects of race, age, gender, sexual orientation, and other demographic variables.

Measuring sexual orientation is always difficult. In his review of measures of sexual orientation, Sell (1997) states that there is no one measure that captures all of the components of sexual orientation. Researchers must use the scale that best relates to the research question being asked. Some members of the community do not identify as LG or B, but rather as “queer” questioning, men who have sex with men, or women who have sex with women to name a few, so these people may have chosen not to take the survey since these terms were not used in the demographic questions. However, the sample self-identified as LGB, and as such, gives us a clearer picture of the relationship between health and LGB identity. There are clearly differences between people who identify as LGB, and those who identify as men having sex with men for example. It is not merely sexuality which defines one who considers themselves a member of the LGB community. Therefore, while the measure used here is an incomplete comparison of all those who engage in same sex sexual behavior or sexual

attraction, this measure does make it clear that this population has an LGB identity and many parts of their lives are likely to involve this identity, not just sexual behavior.

Implications for Intervention

Results of the current study indicated that frequency of discrimination and perceived stress were rated higher for this sample of LGB people than an African-American sample. Given that Landrine and Klonoff (1996) reported that the most common problem presented by African-Americans in psychotherapy is depression, tension, and rage related to racism, it seems logical that these problems exist for LGB people as well. One clinical implication of the present study is that experiences of discrimination should be assessed and addressed in psychotherapy with LGB individuals. Since the measure used here to assess discrimination is LGB specific, was written at a fifth grade reading level, and takes only a few minutes to complete, it might be useful as an assessment tool in a clinical context. Questions relating to incidences of discrimination by family, religious institutions, and political groups could be employed in another measure in order to assess these events that are specific to the LGB community, and not reduce the comparability of results to other studies that use Landrine and Klonoff's (1996) measure or a variation thereof.

The current study found relationships between experiences of discrimination, risk and resilience factors, and health and well-being. These results indicate that interventions that facilitate coping with discrimination by decreasing IH, helping LGB people disclose sexual orientation appropriately and safely, encouraging community connection, and fostering more accurate appraisal of expectations of discrimination would benefit LGB people.

Even though epidemiological and psychological research on the health of LGB people is relatively recent, results clearly indicate that health disparities exist for this

population, and that discrimination plays a role in these disparities. Future research based on sound theoretical models, such as the transactional model of stress and coping and the minority stress model, is sorely needed in order to reduce LGB health disparities, inform healthcare providers, direct efforts toward prevention and treatment of LGB physical and mental health problems, guide public policy, illuminate processes amenable to intervention, and, hopefully, improve the lives of LGB people.

Figures

B

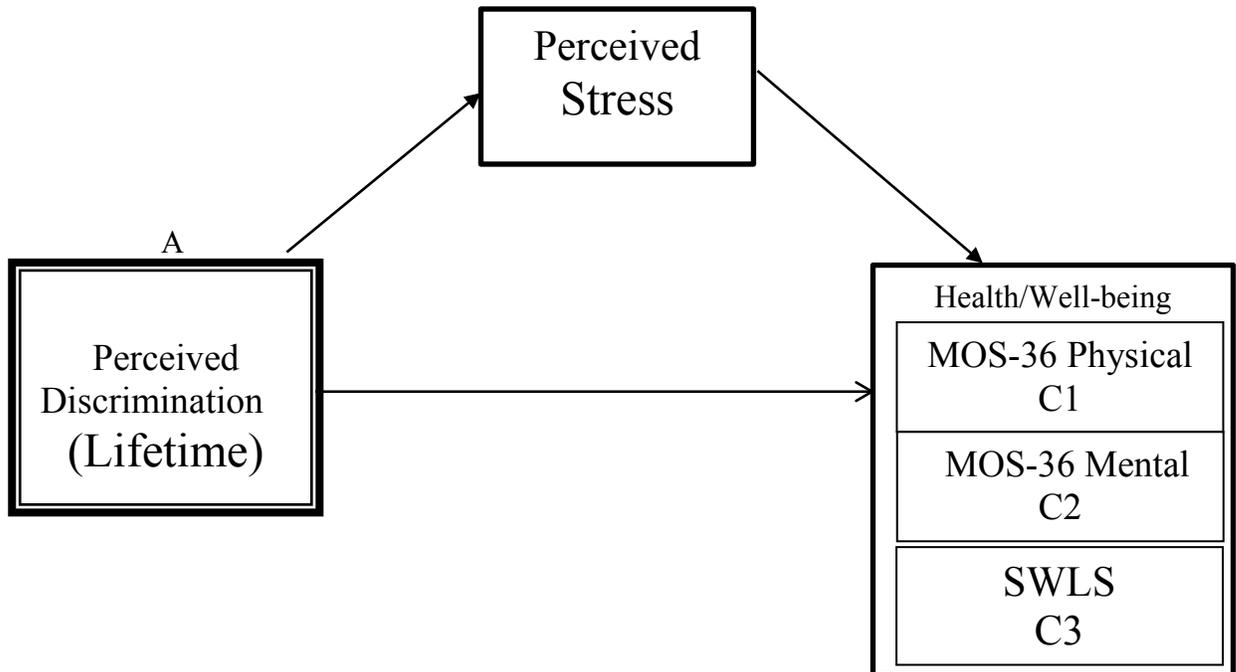


Figure 1. Mediation Path Analyses

Note. Path analysis of Hypothesis 1. Perceived stress due to chronic experiences of discrimination mediates the relationship between perceived discrimination and health and satisfaction with life.

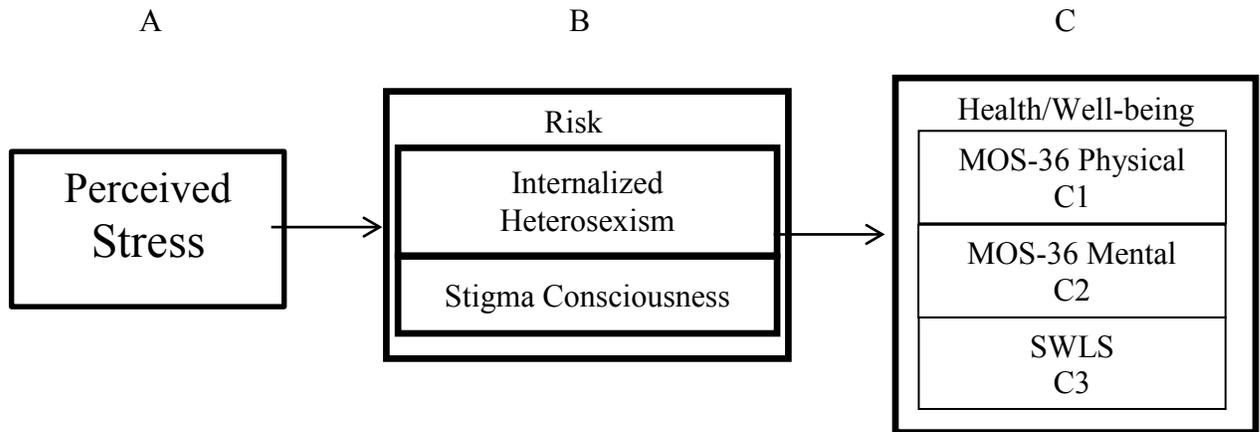


Figure 2. Path Analyses Examining Moderation by Risk Factors

Note. Diagram of Hypothesis 2. LGB specific risk factors moderate the relationship between perceived stress related to discrimination and health and well-being.

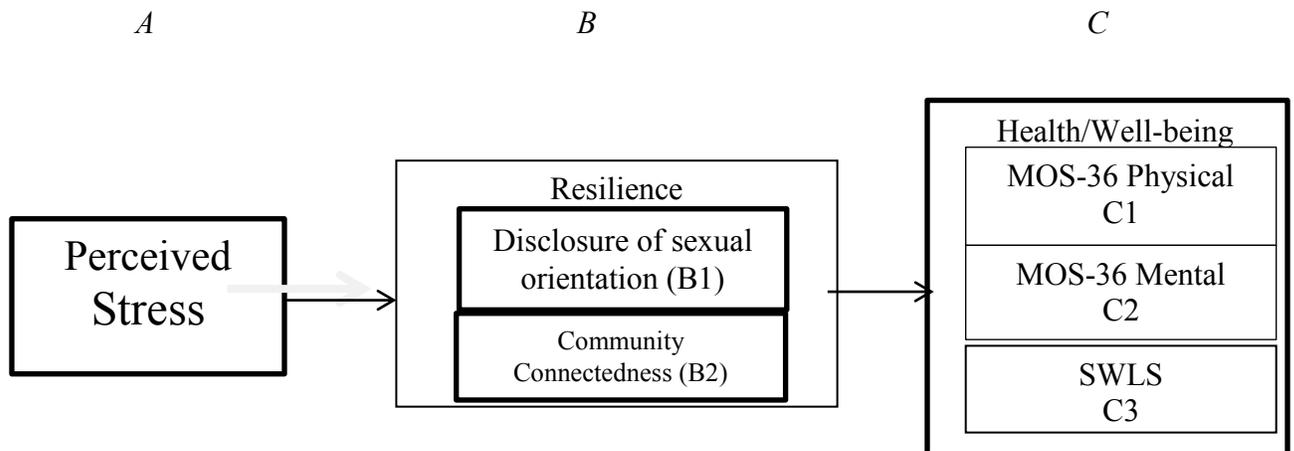


Figure 3. Path Analyses Examining Moderation by Resilience Factors

Note. Disclosure of sexual orientation and community connectedness moderate the relationship between perceived stress related to discrimination and health and satisfaction with life.

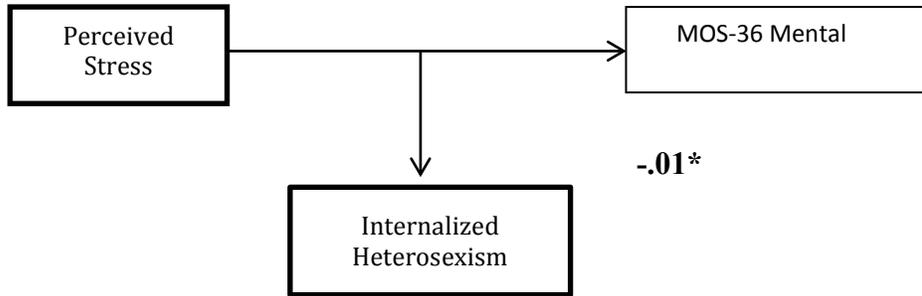


Figure 4. Results for Moderation Analysis

Note. Internalized heterosexism moderates the relationship between perceived stress and MOS-36 mental health composite scores.

Unstandardized path coefficient is shown (* reflects $p = .05$).

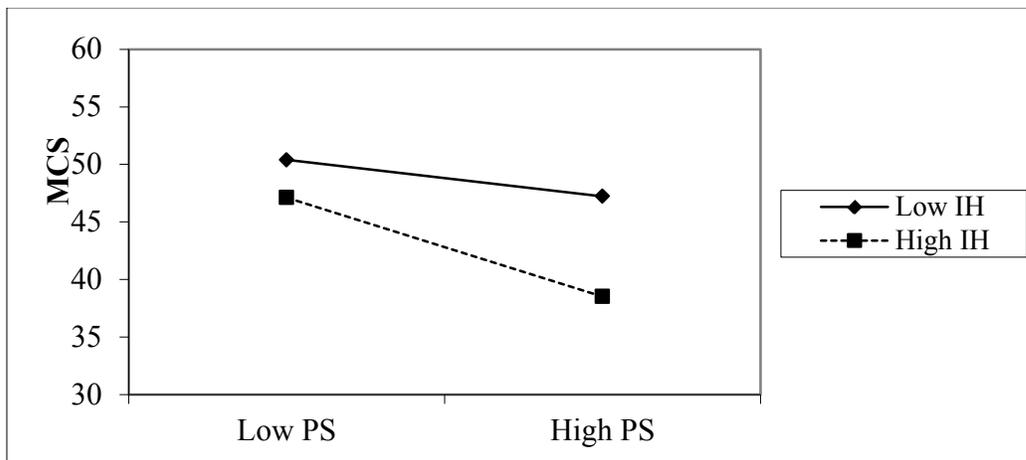


Figure 5. Interaction Effects of IH on Perceived Stress and Mental Health Scores

Note. A stronger negative relationship was found between perceived stress and MOS-36 mental health composite scores for individuals high in IH.

Tables

Table 1.

Bivariate Correlations between Study Variables

	1	2	3	4	5	6	7	8	9	10
1. MOS-36 Physical	1.00									
2. MOS-36 Mental	-0.10	1.00								
3. PD Lifetime	-0.09	-0.25*	1.00							
4. Perc. Stress	-0.05	-0.23*	0.86*	1.00						
5. IH	0.03	-0.22*	-0.08	-0.06	1.00					
6. Stigma	-0.01	-0.09	0.09	0.10	0.18*	1.00				
7. Community	0.00	-0.17*	-0.08	-0.07	0.43*	-0.09	1.00			
8. Disclosure of SO	0.05	0.20*	0.13*	0.14*	-0.26*	-0.23*	-0.27*	1.00		
9. SWLS	0.17*	0.52*	-0.16*	-0.13*	-0.33*	-0.03	-0.23*	0.36*	1.00	
10. PD (Past Year)	0.01	-0.25*	0.69*	0.58*	0.02	0.23*	-0.09	0.01	0.18*	1.00

Note. *=p<.05

Table 2.***Results for the Schedule of Heterosexual Events-II***

<u>SHE Past YR</u>	<u>Mean</u>	<u>SD</u>	<u>SHE Lifetime</u>	<u>Mean</u>	<u>SD</u>	<u>SHE Stress</u>	<u>Mean</u>	<u>SD</u>
1.Teachers	2.19	0.58	1.Teachers	2.81	1.02	1.Teachers	2.87	1.94
2.Employers	2.32	0.84	2.Employers	2.79	1.10	2.Employers	2.94	2.04
3.Coworkers	2.48	0.81	3.Coworkers	3.17	1.06	3.Coworkers	3.58	1.94
4.Service	2.47	0.76	4.Service	2.89	0.98	4.Service	2.92	1.75
5.Strangers	2.69	0.84	5.Strangers	3.20	0.99	5.Strangers	3.39	1.72
6.Helping	2.29	0.63	6.Helping	2.66	0.86	6.Helping	2.79	1.88
7.Neighbor	2.38	0.78	7.Neighbor	2.71	0.89	7.Neighbor	2.86	1.91
8.Institutions	2.32	0.73	8.Institutions	2.63	0.94	8.Institutions	2.63	1.90
9.Friends	2.46	0.81	9.Friends	3.14	1.04	9.Friends	3.72	2.00
10.Suspected	2.10	0.39	10.Suspected	2.22	0.57	10.Suspected	1.85	1.47
11.Intentions	2.65	0.88	11.Intentions	3.15	0.99	11.Intentions	3.44	1.82
12.Telloff	3.50	1.27	12.Telloff	4.04	1.16	12.Telloff	4.26	1.53
13.Angry	2.71	0.98	13.Angry	3.21	1.07	13.Angry	3.71	1.95
14.Drastic Steps	2.14	0.51	14.Drastic Steps	2.37	0.73	14.Drastic Steps	2.34	1.92
15.Name	2.44	0.81	15.Name	3.35	1.05	15.Name	3.65	1.81
16.Fight	2.42	0.78	16.Fight	2.89	0.93	16.Fight	3.2	1.89
17.Madefun	2.20	0.5	17.Madefun	2.95	1.04	17.Madefun	3.4	2.08
18.Different	3.11	1.24	18.Different	3.99	1.36			
Mean Total	44.87	8.56	Mean Total	54.08	11.8	Mean Total	53.56	21.56

Table 3.***Results for the Schedule of Racists Events***

<u>SRE Past YR</u>	<u>Mean</u>	<u>SD</u>	<u>SRE Lifetime</u>	<u>Mean</u>	<u>SD</u>	<u>SRE STRESS</u>	<u>Mean</u>	<u>SD</u>
1.Teachers	2.04	1.21	1.Teachers	2.50	1.41	1.Teachers	2.81	1.69
2.Employers	2.20	1.39	2.Employers	2.67	1.50	2.Employers	2.83	1.73
3.Coworkers	2.04	1.25	3.Coworkers	2.46	1.46	3.Coworkers	2.51	1.59
4.Service	2.40	1.37	4.Service	2.91	1.54	4.Service	2.88	1.65
5.Strangers	2.32	1.33	5.Strangers	2.68	1.52	5.Strangers	2.63	1.60
6.Helping	2.03	1.19	6.Helping	2.43	1.39	6.Helping	2.58	1.63
7.Neighbor	1.89	1.20	7.Neighbor	2.20	1.36	7.Neighbor	2.27	1.51
8.Institutions	2.31	1.48	8.Institutions	2.70	1.55	8.Institutions	2.79	1.74
9.Friends	1.88	1.17	9.Friends	2.12	1.37	9.Friends	2.19	1.55
10.Suspected	2.14	1.45	10.Suspected	2.47	1.56	10.Suspected	2.60	1.78
11.Intentions	2.19	1.30	11.Intentions	2.48	1.40	11.Intentions	2.56	1.52
12.Telloff	2.38	1.49	12.Telloff	2.77	1.58	12.Telloff	2.81	1.69
13.Angry	2.34	1.45	13.Angry	2.72	1.54	13.Angry	2.86	1.72
14.Drastic Steps	1.82	1.24	14.Drastic Steps	2.14	1.35	14.Drastic Steps	2.33	1.63
15.Name	2.04	1.38	15.Name	2.49	1.49	15.Name	2.68	1.79
16.Fight	1.98	1.27	16.Fight	2.34	1.35	16.Fight	2.62	1.67
17.Madefun	1.76	1.19	17.Madefun	2.08	1.37	17.Madefun	2.27	1.65
18.Different	2.79	1.45	18.Different	3.05	1.58			
Mean Total	38.77		Mean Total	45.86		Mean Total	44.13	

Note. Data is from Klonoff & Landrine (1999).

Appendix A: Measures

Demographics

1. Do you identify yourself as any of the following?
gay male
lesbian
bisexual male
bisexual female
heterosexual
I do not identify as any of the above

2. What is your age? _____

3. What is the highest level of education you have reached?
No high school
Some high school
High School Diploma
Technical/Vocational Certificate
Associates Degree
Bachelor's Degree
Master's Degree
Doctorate Degree

4. What is your annual household income?

Under \$5,000	\$30,000-39,999	\$70,000-79,999
\$5,000-9,999	\$40,000-49,999	\$80,000-89,999
\$10,000-19,999	\$50,000-59,999	\$90,000-99,999
\$20,000-29,999	\$60,000-69,999	Over \$100,000

5. What is your employment status?

Employed fulltime	Full time student
Employed part time	Part time student
Not employed	
Retired	

6. What ethnic and racial groups do you identify with? (Select all that apply)

Hispanic	Asian or Pacific Islander
White, not of Hispanic Origin	Don't know/Not sure
Black, not of Hispanic Origin	Native American/Alaska Native
Other or Mixed, please specify _____	

7. What is your relationship status? (choose only one)
Single

Married to someone of the same sex
Married to someone of the opposite sex
In a committed relationship not living together
In a committed relationship living together

8. Are you HIV positive? _____ yes _____ no

Medical Outcomes Study 36 Item Short Form (SF-36)

1. In general would you say your health is:

- a) Excellent
- b) Very good
- c) Good
- d) Fair
- e) Poor

2. Compared to one year ago how would you rate your health in general now?

- a) Much better than one year ago
- b) Somewhat better than one year ago
- c) About the same
- d) Somewhat worse than one year ago
- e) Much worse than one year ago

The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

3. Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports

4. Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf

5. Lifting or carrying groceries

6. Climbing several flights of stairs

7. Climbing one flight of stairs

8. Bending, kneeling, or stooping

9. Walking more than a mile

10. Walking several blocks

11. Walking one block

12. Bathing or dressing yourself

- a) Yes, limited a lot
- b) Yes, limited a little
- c) No, not limited at all

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

13. Cut down the amount of time you spent on work or other activities

14. Accomplished less than you would like

15. Were limited in the kind of work or other activities

16. Had difficulty performing the work or other activities (for example, it took extra effort)

- a) Yes
- b) No

During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

17. Cut down the amount of time you spent on work or other activities

18. Accomplished less than you would like

19. Didn't do work or other activities as carefully as usual

- a) Yes
- b) No

20. During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?

- a) Not at all
- b) Slightly
- c) Moderately
- d) Quite a bit
- e) Extremely

21. How much bodily pain have you had during the past 4 weeks?

22. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?

- a) Not at all
- b) A little bit
- c) Moderately
- d) Quite a bit
- e) Extremely

These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling.

How much of the time during the past 4 weeks.

23. Did you feel full of pep?

24. Have you been a very nervous person?

25. Have you felt so down in the dumps that nothing could cheer you up?

26. Have you felt calm and peaceful?

27. Did you have a lot of energy?

28. Have you felt downhearted and blue?

29. Did you feel worn out?

30. Have you been a happy person?

31. Did you feel tired?

- a) All of the time
- b) Most of the time
- c) A good bit of the time
- d) Some of the time
- e) A little of the time
- f) None of the time

32. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?

- a) All of the time
- b) Most of the time

- c) Some of the time
- d) A little of the time
- e) None of the time

How TRUE or FALSE is each of the following statements for you.

33. I seem to get sick a little easier than other people

34. I am as healthy as anybody I know

35. I expect my health to get worse

36. My health is excellent

- a) Definitely true
- b) Mostly true
- c) Don't know
- d) Mostly false
- e) Definitely false

Schedule of Heterosexist Events –II

As you answer the questions below, please think about your life from the time you were first aware of your sexual orientation to the present. For each question, please circle the number that best captures the things that have happened to you. There are three parts to each question.

(Part one involves past year experiences of discrimination, part two involves lifetime experiences and part three involves ratings of stressfulness. Rating scales are the same for each question.)

1. How often have you been treated unfairly by **teachers and professors** because of your sexual orientation?

How often in the past year?

How often in your entire life?

Never	Once in a while	Sometimes	A lot	Most of the time	Almost all the time
1	2	3	4	5	6

How stressful was this for you?

Not at all stressful

1	2	3	4	5	Extremely stressful
					6

2. How often have you been treated unfairly (harassed, denied a raise, promotion, tenure, a good assignment, a job, or something else) by your **employers, bosses and/or supervisors** because of your sexual orientation?
3. How often have you been treated unfairly by **your co-workers, fellow students and colleagues** because of your sexual orientation?
4. How often have you been treated unfairly by **people in service jobs** (by **store clerks, waiters, bartenders, waitresses, bank tellers, and others**) because of your sexual orientation?
5. How often have you been treated unfairly by **strangers** because of your sexual orientation?
6. How often have you been treated unfairly by **people in helping jobs** (by **doctors, nurses, psychiatrists, case workers, dentists, school counselors, therapists, social workers, and others**) because of your sexual orientation?
7. How often have you been treated unfairly by **neighbors** because of your sexual orientation?
8. How often have you been treated unfairly by **institutions** (**schools, universities, law firms, the police, the courts, the Department of Social Services, the Unemployment Office and others**) because of your sexual orientation?
9. How often have you been treated unfairly by **people that you thought were your friends** because of your sexual orientation?
11. How often have you been **accused or suspected of doing something wrong** (such as **stealing, cheating, not doing your share of the work, or breaking the law**) because of your sexual orientation?
12. How often have people **misunderstood your intentions and motives** because of your sexual orientation (didn't let you babysit their children, assumed you would make a pass at them, didn't trust you, or other things)?
13. How often did you **want to tell someone off for being anti-homosexual or anti-bisexual but didn't say anything?**
14. How often have you been **really angry about something discriminatory that was done to you because of your sexual orientation?**

15. How often have you been **forced to take drastic steps** (such as **filing a grievance, filing a lawsuit, quitting your job, moving away, and other actions**) to deal with some discriminatory thing that was done to you because of your sexual orientation?

16. How often have you been **called a derogatory name such as dyke, lezzy, fag, sissy, homo or another term** because of your sexual orientation?

17. How often have you **gotten into an argument or a fight about something that was done to you or someone else** because of issues related to sexual orientation?

18. How often have you been **made fun of, picked on, pushed, shoved, hit or threatened with harm** because of your sexual orientation?

23. How *different* would your life be now if you **HAD NOT BEEN** treated in a prejudiced and unfair way because of your sexual orientation?

The same as it is now	A little different	Different in a few ways	Different in a lot of ways	Different in most ways	Totally different
--------------------------	-----------------------	----------------------------	-------------------------------	---------------------------	----------------------

Internalized Homonegativity Inventory

(1 (strongly disagree) to 6 (strongly agree).)

Factor 1: Personal homonegativity (11 items)

5 I feel ashamed of my homosexuality. .78

3 When I think of my homosexuality, I feel depressed. .75

17 Sometimes I feel that I might be better off dead than gay. .72

20 I sometimes feel that my homosexuality is embarrassing. .70

13 I am disturbed when people can tell I'm gay. .69

18 I sometimes resent my sexual orientation. .60

10 When people around me talk about homosexuality, I get nervous. .60

7 When I think about my attraction towards men, I feel unhappy. .58

15 Sometimes I get upset when I think about being attracted to men. .44

23 I believe it is unfair that I am attracted to men instead of women. .43

11 I wish I could control my feelings of attraction toward other men. .41

Factor 2: Gay affirmation (7 items)

6a I am thankful for my sexual orientation. .72

9a I see my homosexuality as a gift. .70

21a I am proud to be gay. .64

1a I believe being gay is an important part of me. .58

22a I believe that public schools should teach that homosexuality is normal. .51

12a In general, I believe that homosexuality is as fulfilling as heterosexuality. .50

8a I believe that more gay men should be shown in TV shows, movies, and commercials. .46

Factor 3: Morality of homosexuality (5 items)

19 I believe it is morally wrong for men to be attracted to each other. .84

16 In my opinion, homosexuality is harmful to the order of society. .57

4 I believe that it is morally wrong for men to have sex with other men. .48

14 In general, I believe that gay men are more immoral than straight men. .45

2 I believe it is OK for men to be attracted to other men in an emotional way, but it's not OK for them to have sex with each other. .34

Note. The item numbers represent the placement of the items in the final version of the IHNI. "a" items indicate recoding of scores. Items will be tailored to be lesbian and bisexual specific.

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 indicate 0 if the question does 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

1. Mother
2. Father
3. Siblings
4. Extended family/relatives
5. My new straight friends
6. My work peers
7. My work supervisors
8. Members of my religious community
9. Leaders of my religious community
10. Strangers, new acquaintances
- 11.
12. My old heterosexual friends

Stigma Consciousness Questionnaire for Gay Men and Lesbians:

0=strongly disagree 6=strongly agree (midpoint=neither agree or disagree)

1. Stereotypes about homosexuals have not affected me personally. R
2. I never worry that my behaviors will be viewed as stereotypical of homosexuals. R
3. When interacting with heterosexuals who know of my sexual orientation, I feel like they interpret all my behaviors in terms of the fact that I am a homosexual.
4. Most heterosexuals do not judge homosexuals on the basis of their sexual orientation. R
5. My being homosexual does not influence how homosexuals act with me. R
6. I almost never think about the fact that I am homosexual when I interact with heterosexuals. R
7. My being homosexual does not influence how people act with me. R
8. Most heterosexuals have a lot more homophobic thoughts than they actually express.
9. I often think heterosexuals are unfairly accused of being homophobic. R
10. Most heterosexuals have a problem viewing homosexuals as equals.

Community Connectedness

These are questions about the LGB community in the area in which you live. By LGB community, we don't mean any particular neighborhood or social group, but in general groups of gay men, bisexual men and women, and lesbians.

1. You feel you're a part of the LGB community.
- 2.
3. Participating in the LGB community is a positive thing for you.
4. You feel a bond with the LB community.
5. You are proud of the LGB community.
6. It is important for you to be politically active in the LGB community.
7. If we work together, gay, bisexual, and lesbian people can solve problems in the LGB community.
8. You really feel that any problems faced by the LGB community are also your own problems.
9. You feel a bond with other gay men, lesbians, and bisexuals.

1-Agree Strongly

2-Agree

3-Disagree

4-Disagree Strongly

Satisfaction with Life Scale

____ In most ways my life is close to ideal

____ The conditions of my life are excellent

____ I am satisfied with my life

____ So far I have gotten the important things I want in life

____ If I could live my life over, I would change almost nothing

7-Strongly agree

6-Agree

5-Slightly agree

4-Neither agree or disagree

3-Slightly disagree

2-Disagree

1-Strongly disagree

References

- Ader, R. & Cohen, N. (1993). Psychoneuroimmunology: Conditioning and stress. *Annual Review of Psychology, 44*, 53-85.
- Allport, G.W. (1954). *The nature of prejudice*. Oxford, England: Addison-Wesley.
- Almeida, J., Johnson, R.M., Corliss, H.L, Molnar, B.E., & Azreal, D. (2009). Emotional distress among LGBT youth: The influence of perceived discrimination based on sexual orientation. *Journal of Youth and Adolescence, 38*, 1001-1014.
- Amadio, D.M. & Chung, Y.B (2004). Internalized homophobia and substance use among lesbian, gay, and bisexual persons. *Journal of Gay & Lesbian Social Service, 17(1)*, 83-101.
- Aneshensel, C.S. (2009). Toward explaining mental health disparities. *Journal of Health and Social Behavior, 50*, 377-394.
- Anshensel, C.S. (1992). Social stress: Theory and research. *Annual Review of Sociology, 18*, 15-38.
- Balsam, .F. & Mohr, J.J. (2007). Adaptation to sexual orientation stigma: A comparison of bisexual and lesbian/gay adults. *Journal of Counseling Psychology, 54(3)*, 306-319.
- Barbara, A.M. (2002). Substance abuse treatment with lesbian, gay, and bisexual people: A qualitative study of service providers. *Journal of Gay and Lesbian Social Services, 14(4)*, 1-17.
- Barnes, P.W., & Lightsey, O.R. Jr.(2005). Perceived racist discrimination, coping, and life satisfaction. *Journal of Multicultural Counseling and Development, 33*, 48-61.
- Brennan Ramirez, L.K., Baker, E.A., Metzler, M. (2008). *Promoting health equity: A resource to help communities address social determinants of health*. Atlanta: U.S.

Department of Health and Human Services, Centers for Disease Control and Prevention.

- Brondolo, E., Brady, N., Thompson, S., Tobin, J.N., Cassells, A., Sweeney, M., McFarlane, D., Contrada, R.J. (2008). Perceived racism and negative affect. Analyses of trait and state measures in a community sample. *Journal of Social and Clinical Psychology, 27*(2), 150-173.
- Brondolo, E., Rieppi, R., Kelly, K.P. Gerin, W. (2003). Perceived racism and blood pressure: A review of the literature and conceptual and methodological critique. *Annals of Behavioral Medicine, 25*(1), 55-65.
- Brondolo, E., Brady ver Halen, N., Pencille, M., Beatty, D., & Contrada, R.J. (2009). Coping with racism: A selective review of the literature and a theoretical and methodological critique. *Journal of Behavioral Medicine, 32*, 64-88.
- Bynum, M. S., Burton, E. T., & Best, C. (2007). Racism experiences and psychological functioning in African American college freshmen: Is racial socialization a buffer? *Cultural Diversity and Ethnic Minority Psychology, 13*(1), 64–71.
- Byrne, B.M., Baron, P., & Balev, J. (1998). The Beck Depression Inventory: A cross-validated test of second-order factorial structure for Bulgarian adolescents. *Educational and Psychological Measurement, 58*, 241-251.
- Cabaj, R.P. (2008). Gay men and lesbians. In M. Galanter, & H.D. Kleber (Eds.), *The American Psychiatric Publishing textbook of substance abuse treatment* (4th ed.). (pp. 623-638). Arlington, VA, US: American Psychiatric Publishing.

- Clark, R., & Adams, J.H., (2004). Moderating effects of perceived racism on John-Henryism and blood pressure reactivity in Black female college students. *Annals of Behavioral Medicine, 28*(2), 126-131.
- Cochran, S.D. & Mays, V.M. (2007). Physical health complaints among lesbians, gay men, and bisexually and homosexually experienced heterosexual individuals: Results from the California Quality of Life Survey. *American Journal of Public Health, 97*(11), 2048-2055.
- Cohen, S., Janicki-Deverts, D., & Miller, G.E. (2007). Psychological stress and disease. *Journal of the American Medical Association, 298*(14), 1685-1687.
- Cohen, S., Kessler, R.C., Gordon, U.L. (1995). Strategies for measuring stress in studies of psychiatric and physical disorder. In S. Cohen, R.C. Kessler, & U.L. Gordon, (Eds.), *Measuring stress: A guide for health and social scientists (pp.3-26)*. New York, NY: Oxford University Press.
- Cole, S.W., Kemeny, M.E., Taylor, S.E. Visscher, B.R., (1996a). Elevated physical health risk among gay men who conceal their homosexual identity. *Health Psychology, 15*(4), 243-251.
- Cole, S.W., Kemeny, M.E., Taylor, S.E. Visscher, B.R., (1996b). Accelerated course of human immunodeficiency virus infection in gay men who conceal their homosexual identity. *Psychosomatic Medicine, 58*(3), 219-231
- Crocker, J. & Major, B. (1989). Social stigma and self-esteem. The self-protective properties of stigma. *Psychological Review, 96*(4), 608-630.

- D'Augelli, A.R., & Grossman, A.H. (2001). Disclosure of sexual orientation, victimization, and mental health among lesbian, gay, and bisexual older adults. *Journal of Interpersonal Violence, 16* (10), 1008-1027.
- D'Augelli, A.R., Grossman, A.H., Hershberger, S.L., & O'Connell, T.S. (2001). Aspects of mental health among older lesbian, gay, and bisexual adults. *Aging and Mental Health, 5*(2), 149-158.
- Diener, E., Emmons, R.A., Larsen, R.J., Griffen, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*(1), 71-75.
- DiPlacido, J. (1998). Minority stress among lesbians, gay men, and bisexuals. In G.M. Herek (Ed.), *Stigma and sexual orientation: Understanding prejudice against lesbians, gay men, and bisexuals* (pp.138-159). Thousand Oaks, CA, US: Sage.
- Dohrenwend, B.P. (2000). The role of adversity and stress in psychopathology: Some evidence and implications for theory and research. *Journal of Health and Social Behavior, 41*, 1-19.
- Dressler, W.W., Oths, K.S., & Gravlee, C.C. (2005). Race and ethnicity in public health research: Models to explain health disparities. *Annual Review of Anthropology, 34*, 231-252.
- Durkheim, E. (1951). *Suicide*. New York, NY, US: Free Press.
- Finch, B.K., Hummer, R.A., Kolody, B., Vega, W.A. (2001). The role of discrimination and acculturative stress in the physical health of Mexican-origin adults. *Hispanic Journal of the Behavioral Sciences, 23*, 399-429.
- Frost, D.M., & Meyer, I. H. (2009). Internalized homophobia and relationship quality among lesbians, gay men, and bisexuals. *Journal of Counseling Psychology, 56*(1), 97-109.

- Garratt, A.M., Schmidt, L., Mackintosh, A., & Fitzpatrick, R. (2002). Quality of life measurement: Bibliographic study of patient assessed health outcome measures. *British Medical Journal*, 324, 1417-1421.
- Gay and Lesbian Medical Association, (2010). *Healthy People 2010: Companion Document for Lesbian, Gay, Bisexual, and Transgender (LGBT) Health*. Retrieved from http://www.glma.org/_data/n_0001/resources/live/HealthyCompanionDoc3.pdf
- Goffman E. (1963). *Stigma: Notes on the Management of Spoiled Identity*. London, England: Penguin Group.
- Hatzenbuehler, M.L. (2009). How does sexual minority stigma “get under the skin”? A psychological mediation framework. *Psychological Bulletin*, 135(5), 707-730.
- Hatzenbuehler, M.L., Nolen-Hoeksema, S. & Erickson, S.J. (2008). Minority stress predictors of HIV risk behavior, substance abuse and depressive symptoms: Results from a prospective study of bereaved gay men. *Health Psychology*, 27(4), 455-462.
- Herbert, T.B., & Cohen, S. (1993). Stress and immunity in humans: A meta-analytic review. *Psychosomatic Medicine*, 55(4), 364-379.
- Herek, G.M. (2000). The psychology of sexual prejudice. *Current Directions in Psychological Science*, 9(1), 19-22.
- Herek, G.M., Cogan, J.C., Gillis, J.R., & Glunt, E.K. (1998). Hate crime victimization among lesbian, gay, and bisexual adults: Prevalence, psychological correlates, and methodological issues. *Journal of Interpersonal Violence*, 12(2), 195-215.
- Herek, G.M., & Garnets, L.D. (2007). Sexual orientation and mental health. *Annual Review of Clinical Psychology*, 3, 353-375.

- Herek G.M., Gillis, J.R., & Cogan, J.C. (1999). Psychological sequelae of hate crime victimization among lesbian, gay, and bisexual adults. *Journal of Consulting and Clinical Psychology, 67*(6), 945-951.
- Herek, G.M.; Glunt, E.K. Identity and community among gay and bisexual men in the AIDS era: Preliminary findings from the Sacramento's men's health study. In G.M. Herek, & B. Greene (Eds.) *AIDS, identity, and community: Psychological perspectives on the HIV epidemic and lesbians and gay men* (pp.55-84). Newbury Park, CA: Sage Publications.
- Heubner, D.M., & Davis, M.C. (2007). Perceived antigay discrimination and physical health outcomes. *Health Psychology, 26*(5), 627-634.
- Holmes T.H., & Rahe, R.H. (1967). The social readjustment rating scale. *Journal of Psychosomatic Research, 11* (2), 213–218.
- Horne, S., & Noffsinger-Frazier, N., (2003). Reconciling religion/spirituality with sexual identity. In J. Whitman (Ed.), *The therapist's notebook for lesbian, gay, and bisexual clients*. New York: Haworth Press.
- Hoyt D'Anna, L., Ponce, N.A., & Siegel, J.M. (2010). Racial and ethnic health disparities: Evidence of discrimination's effects across the SEP spectrum. *Ethnicity and Health 15*(2), 121-143.
- Hughes, T.L. & Wilsnack, S.C. (1997). Use of alcohol among lesbians: Research and clinical implications. *American Journal of Orthopsychiatry, 67*(1), 20-36.
- Institute of Medicine, Committee on Lesbian, Gay, Bisexual, and Transgender Health Issues, (2010). *The health of lesbian, gay, bisexual, and transgender people: Building a*

foundation for better understanding. Retrieved from

https://download.nap.edu/catalog.php?reader_id=13128.

- Johnson, M.O., Carrico, A.W., Chesney, M.A., & Morin, S.F. (2008). Internalized heterosexism among HIV positive gay-identified men: Implications for HIV prevention and care. *Journal of Consulting and Clinical Psychology, 76*(5), 829-839.
- Kahn, M.J. (1991). Factors affecting the coming out process for lesbians. *Journal of Homosexuality, 21*(3), 47-70.
- Kessler, R.C., Mickelson, K.D., & Williams, D.R. (1999). The prevalence, distribution, and mental health correlates of perceived discrimination in the United States. *Journal of Health and Social Behavior, 40*, 208-230.
- Kimmel, S.B. & Mahalik, J.R. (2005). Body images concerns of gay men: The roles of minority stress and conformity to gay norms. *Journal of Consulting and Clinical Psychology, 73*, 1185-1190.
- Kleck & Sprenta (1980). Perceptions of the impact of negatively valued physical characteristics on social interaction. *Journal of Personality and Social Psychology, 39*(5), 861-873.
- Klonoff, E.A., & Landrine, H. (1999). Cross-validation of the schedule of racist events. *Journal of Black Psychology, 25*(2), 231-254.
- Klonoff, E.A., & Landrine, H. (1995). The schedule of sexist events: A measure of lifetime and recent sexist discrimination in women's lives. *Psychology of Women Quarterly, 19*, 439-472.

- Klonoff, E.A., Landrine, H., & Ullman, J.B. (1999). Racist discrimination and psychiatric symptoms among blacks. *Cultural Diversity and Ethnic Minority Psychology, 5*(4), 329-339.
- Krehely, J. (2009). *How to close the LGBT health disparities gap*. Retrieved from Center for American Progress website:
http://www.americanprogress.org/issues/2009/12/pdf/lgbt_health_disparities.pdf
- Krieger, N., & Sidney, S. (1998). Racial discrimination and blood pressure: The CARDIA study of young Black and White adults. *American Journal of Public Health, 86*(10), 1370-1378.
- Landrine, H., & Klonoff, E.A. (1996). The Schedule of Racist Events: A measure of racial discrimination and a study of its negative physical and mental health consequences. *Journal of Black Psychology, 22*, 144-168.
- Landrine, H., Klonoff, E.A., Corral, I., Fernandez, S., & Roesch, S. (2006). Conceptualizing and measuring ethnic discrimination in health research. *Journal of Behavioral Medicine, 29*(1), 79-94.
- Lazarus, R.S., & Folkman, S. (1984). *Stress, appraisal, and coping*. NY: Springer Publishing
- Lewis, R.J., Derlega, V.J., Clarke, E.G., & Kuang, J.C. (2006). Stigma consciousness, social constraints, and lesbian well-being. *Journal of Counseling Psychology, 53*(1), 48-56.
- Lewis, R.J., Derlega, V.J., Clarke, E.G., & Kuang, J.C., Jacobs, A.M., & McElligot, M.D. (2005). An expressive writing intervention to cope with lesbian-related stress: the moderating effects of openness about sexual orientation. *Psychology of Women Quarterly, 29*, 149-157.

- Lewis, R.J., Derlega, V.J., Griffin, J.L., & Krowinski, A.C. (2003). Stressors for gay men and lesbians: Life stress, gay-related stress, stigma consciousness, and depressive symptoms. *Journal of Social and Clinical Psychology, 22*(6), 716-729.
- Link, B.G. & Phelan, J. (2001). Conceptualizing stigma. *Annual Review of Sociology, 27*, 363-385.
- Link, B.G., & Phelan, J. (1995). Social conditions as fundamental causes of disease. *Journal of Health and Social Behavior, 35*, 80-94.
- MacKinnon, D.P., Fritz, M.S., Williams, J., Lockwood, C.M. (2007). Distribution of the product confidence limits for the indirect effect: Program PRODCLIN. *Behavior Research Methods, 39*(3), 384-389.
- MacKinnon, D.P., Lockwood, C.M., Hoffman, J.M., West, S.G., & Sheets, V.A. (2002). A comparison of methods to test mediation and other intervening variable effects. *Psychological Methods, 7*, 83-104.
- MacKinnon, D.P., Lockwood, C.M., & Williams, J. (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. *Multivariate Behavioral Research, 39*, 99-128.
- Major, B., Carrington, P.I., & Carnevale, P.J. (1984). Physical attractiveness and self-esteem: Attributions due praise from an other-sex evaluator. *Personality and Social Psychology Bulletin, 10*(1), 43-50.
- Markus, H.R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98*, 224-253.
- Mayfield, W. (2001). The development of an internalized homonegativity inventory for gay men. *Journal of Homosexuality, 41*(2), 53-76.

- Mays, V.M., & Cochran, S.D. (2001). Mental health correlates of perceived discrimination among lesbian, gay, and bisexual adults in the United States. *American Journal of Public Health, 91*, 1869-1876
- McEwen, B.S. (1998). Protective and damaging effects of stress mediators. *New England Journal of Medicine, 338*(3), 171-179.
- McHorney, C.A., Ware, J.E., Jr., & Raczek, A.E. (1993). The MOS-36 item short form health survey (SF36): Psychometric and clinical tests of validity measuring physical and mental health constructs. *Medical Care, 31*, 247-263.
- Meyer, I.H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin, 129*(5), 674-697.
- Meyer, I. H. (1995). Minority stress and mental health in gay men. *Journal of Health and Social Behavior, 36*, 38–56.
- Meyer, I. H., & Dean, L. (1998). Internalized homophobia, intimacy, and sexual behavior among gay and bisexual men. In G. M. Herek (Ed.), *Stigma and sexual orientation: Understanding prejudice against lesbians, gay men, and bisexuals* (pp. 160–186). Thousand Oaks, CA: Sage.
- Miller, G.E., Cohen, S. & Ritchey, A.K.(2002). Chronic psychological stress and the regulation of pro-inflammatory cytokines: a glucocorticoid-resistance model. *Health Psychology, 21*(6), 531-541.
- Mills, T.C., Stall, R., Pollack,L., Paul, J.P., Binson, D., Canchola, J., & Catania, J.A. (2001). Health-related characteristics of men who have sex with men: A comparison of those

- who live in “gay ghettos” with those who live elsewhere. *American Journal of Public Health, 91*, 980-983.
- Mohr, J.J., & Daly, C.A. (2008). Sexual minority stress and changes in relationship quality in same-sex couples. *Journal of Social and Personal Relationships, 25*(6), 989-1007.
- Mohr, J. J., & Fassinger, R. E. (2006). Sexual orientation identity and romantic relationship quality in same-sex couples. *Personality and Social Psychology Bulletin, 32*, 1085-1099.
- Mohr, J. J., & Fassinger, R. E. (2000). Measuring dimensions of lesbian and gay male experience. *Measurement and Evaluation in Counseling and Development, 33*, 66-90.
- Mossakowski, K.N.(2003). Coping with perceived discrimination: Does ethnic identity protect mental health? *Journal of Health and Social Behavior, 44*, 318-331.
- Muthén, L.K., & Muthén, B.O. (1998-2010). *Mplus User's Guide*. Sixth edition. Los Angeles, CA: Muthén & Muthén.
- Nungesser, L.G. (1983). *Homosexual acts, actors, and identities*. New York: Praeger.
- Pachankis, J. E. (2007). The psychological implications of concealing a stigma: A cognitive-affective-behavioral model. *Psychological Bulletin, 133*(2), 328-345
- Pachankis, J.E., & Goldfried, M.R. (2010). Expressive writing for gay-related stress: Psychosocial benefits and mechanisms underlying improvement. *Journal of Consulting and Clinical Psychology, 78*(1), 98-110.
- Paradies, Y .C. (2006). Defining, conceptualizing, and characterizing racism in health research. *Critical Public Health, 16*(2), 143–157.
- Pascoe, E.A., & Smart Richman, L. (2009). Perceived discrimination and health: A meta-analytic review. *Psychological Bulletin, 135*(4), 531-554.

- Payton, A.R. (2009). Mental health, mental illness, and Psychological Distress: Same continuum or distinct phenomena? *Journal of Health and Social Behavior* 50, 213–27.
- Pearlin, L.I. (1999). The stress process revisited: Reflections on concepts and their interrelationships. In C. S. Aneshensel, & J. C. Phelan (Eds.) *Handbook of the sociology of mental health* (pp.395-415). New York: Kluwer Academic/Plenum.
- Pearlin, L.I. (1999b). Stress and mental health: A conceptual overview. In A.V. Horwitz & T. L. Scheid (Eds.), *A handbook for the study of mental health* (pp. 161–175). New York: Cambridge University Press.
- Pearlin, L.I., (1999). The stress process revisited: Reflections on concepts and their interrelationships. In C.S. Aneshensel, & J. Phelan, (Eds.), *Handbook on the sociology of mental health* (pp. 395-415).New York: Plenum Press.
- Pearlin, L.I., Lieberman, M.A., Menaghan, E.G., & Mullen, J.T. (1981). The stress process. *Journal of Health and Social Behavior*, 22, 337–56.
- Pennebaker, J.W. (1997). Writing about emotional experiences as a therapeutic process. *Psychological Science*, 8(3), 163-166.
- Pennebaker, J.W., & Keough, K.A.(1999). Revealing, organizing, and reorganizing the self in response to stress and emotion. In R.J. Contrada, & R. D. Ashmore, (Eds.), *Self, social identity and physical health: Interdisciplinary explorations*. (pp. 101-121). NY: Oxford University Press.
- Perez-Benitez, C.I., O'Brien, W.H., Carels, R.A., Gordon, A.K., & Chiros, C.E. (2007). Cardiovascular correlates of disclosing homosexual orientation. *Stress and Health: Journal of the International Society for the Investigation of Stress*, 23(3), (141-152).

- Pinel, E.C. (1999). Stigma consciousness: The psychological legacy of social stereotypes. *Journal of Personality and Social Psychology, 76(1)*, 114-128.
- Pyke, K.D. (2010). What is internalized racial oppression and why don't we study it? Acknowledging racism's hidden injuries. *Sociological Perspectives, 53(4)*, 551-572.
- Ratti, R., Bakeman, R., & Peterson, J.L. (2000). Correlates of high-risk sexual behavior among Canadian of South Asian and European origin who have sex with men. *AIDS Care, 12(2)*, 193-202.
- Rosario, M., Schrimshaw, E.W., & Hunter, J.(2004). Ethnic/racial differences in the coming out process of lesbian, gay, and bisexual youth: A comparison of sexual identity development over time. *Cultural Diversity and Ethnic Minority Psychology, 10(3)*, 215-228.
- Rowen, C.J. & Malcolm, J.P. (2002). Correlates of internalized homophobia and homosexual identity formation in a sample of gay men. *Journal of Homosexuality, 43(2)*, 77-92.
- Ruggiero, K.M. & Taylor, D.M. (1997). Why minority group members perceive or do not perceive the discrimination that confronts them: The role of self-esteem and perceived control. *Journal of Personality and Social Psychology, 72(2)*, 373-389.
- Russell, G. M. & Richards, J. A. (2003). Stressors and resilience factors for lesbians, gay men, and bisexuals confronting antigay politics. *American Journal of Community Psychology, 31*, 313–328.
- Sanders Thompson, V.L. (2006). Coping responses and the experience of discrimination. *Journal of Applied Social Psychology, 36(5)*, 1198-1214.

- Sandfort, T.G.M., Bakker, F., Schellevis, F.G. & Vanesenbeeck, I. (2006). Sexual orientation and mental and physical health status: Findings from a Dutch population survey. *American Journal of Public Health, 96*(6), 1119-1125.
- Santuzzi, A.M. & Ruscher, J.B. (2002). Stigma salience and paranoid social cognition: Understanding variability in metaperceptions among individuals with recently-acquired stigma. *Social Cognition, 20*(3), 171-197.
- Schnittker, J. & McLeod, J.D. (2005). The social psychology of health disparities. *Annual Review of Sociology, 31*, 75-103.
- Seeman, T.E., Singer, B.H., Rowe, J.W., Horwitz, R.I. & McEwen, B.S. (1997). Price of adaptation—allostatic load and its health consequences. *Archives of Internal Medicine, 157*(19), 2259-2268.
- Sell, R.L. (1997). Defining and measuring sexual orientation: A review. *Archives of Sexual Behavior, 26*(6), 643-658.
- Sellers, R., Caldwell, C.H., Schmeelk-Cone, K.H., Zimmerman, M.A. (2003). Racial identity, racial discrimination, perceived stress, and psychological distress among African American young adults. *Journal of Health and Social Behavior, 44*, 302–17.
- Selvidge, M.D., & Bridges, S.K. (2008). The relationship of minority stress and flexible coping to psychological well-being in lesbian and bisexual women. *Journal of Homosexuality, 55*(3), 450-470.
- Selye, Hans. (1956). *The Stress of Life*. New York: McGraw-Hill.
- Skinner, B.F. (1953). *Science and Human Behavior*, New York: Macmillan.

- Smith, N.G. & Ingram, K.M. (2004). Workplace heterosexism and adjustment among lesbian, gay, and bisexual individuals: The role of unsupportive social interactions. *Journal of Counseling Psychology, 51(1)*, 57-67.
- Smyth, J.M. (1998). Written emotional expression: Effect sizes, outcome types, and moderating variables. *Journal of Consulting and Clinical Psychology, 66(1)*, 174-184.
- Stiles, W.B. (1995). Disclosure as a speech act: Is it psychotherapeutic to disclose? In J.W. Pennebaker (Ed.), *Emotion, disclosure, and health* (pp. 71-91). Washington, D.C.: American Psychological Association.
- Szymanski, D.M. (2005). Heterosexism and sexism correlates of psychological distress in lesbians. *Journal of Counseling and Development, 83*, 355-360.
- Szymanski, D.M., & Chung, Y.B. (2003). Feminist attitudes and coping resources as correlates of lesbian internalized heterosexism. *Feminism and Psychology, 13*, 369-389.
- Szymanski, D.M., Chung, Y.B., & Balsam, K. (2001). Psychosocial correlates of internalized heterosexism in lesbians. *Measurement and Evaluation in Counseling and Development, 34*, 27-38.
- Szymanski, D.M., Kashubeck-West, S. & Meyer, J. (2008). Internalized heterosexism: A historical and theoretical overview. *The Counseling Psychologist, 36(4)*, 510-524.
- Szymanski, D.M. & Owens, G.P. (2008). Do coping styles moderate or mediate the relationship between internalized heterosexism and sexual minority women's psychological distress? *Psychology of Women Quarterly, 32(1)*, 95-104.

- Selvidge, M.D., Matthews, D.R. & Bridges, S.K. (2008). The relationship of minority stress and flexible coping to psychological well-being in lesbian and bisexual women. *Journal of Homosexuality, 55*(3), 450-470.
- Selye, 1956. *The Stress of life*. New York: McGraw-Hill.
- Smart, L. & Wegner, D.M. (1999). Covering up what can't be seen: Concealable stigma and mental control. *Journal of Personality and Social Psychology, 77*(3), 474-486.
- Taylor, J. & Turner, R.J. (2002). Perceived discrimination, social stress, and depression in the transition to adulthood: Racial contrasts. *Social Psychology Quarterly, 65*, 213–25.
- Thoits, P.A. (2010). Stress and Health: Major findings and policy implications. *Journal of Health and Social Behavior, 5*, 41-53.
- Tonfighi, D., & MacKinnon, D.P., (in press). RMediation: An R package for mediation analysis. *Behavior Research Methods*.
- Tsai C., Bayliss M.S., Ware J.E. (1997). *SF-36® Health Survey Annotated Bibliography: Second Edition*. Boston, MA: Health Assessment Lab, New England Medical Center.
- Tull, E.S., Sheu, Y.T., Butler, C. & Cornelious, K. (2005). Relationships between perceived stress, coping behavior, and cortisol secretion in women with high and low levels of internalized racism. *Journal of the National Medical Association, 97*(2), 206-212.
- Turner, R.J. & Avison, W.R. (2003). Status Variations in Stress Exposure: Implications for the Interpretation of Research on Race, Socioeconomic Status, and Gender. *Journal of Health and Social Behavior, 44*(4), 488-505.

- Uchino, B.N. (2006). Social support and health: A review of physiological processes potentially underlying links to disease outcomes. *Journal of Behavioral Medicine*, 29(4), 377-387.
- United States Department of Health and Human Services. (2000). *Healthy People 2010: Understanding and Improving Health*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=25>
- United States Department of Health and Human Services. (2011) *Healthy people 2020 topics and objectives: LGBT health*. Retrieved from <http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=25>
- Utsey,S.O. (1998). Assessing the stressful effects of racism: A review of instrumentation. *Journal of Black Psychology*, 24(3), 269-288.
- Utsey, S.O., Ponterotto, J.G., Reynolds, A.L. & Cancelli, A.A. (2000). Racial discrimination, coping, life satisfaction, and self-esteem among African-Americans. *Journal of Counseling and Development*, 78, 72-80.
- Waldo, C.R. (1999). Working in a majority context: A structural model of heterosexism as minority stress in the workplace. *Journal of Counseling Psychology*, 46(2), 218-232.
- Ware, J.E. & Gandek, B. (1994). The IQOLA Project Group. The SF-36® Health Survey: Development and use in mental health research and the IQOLA Project. *International Journal of Mental Health*, 23(2), 49-73.
- Weber, G.N. (2008). Using to numb the pain: Substance use and abuse among lesbian, gay, and bisexual individuals. *Journal of Mental Health Counseling*, 30, 31-48.
- Williams, D.R. & Mohammed, S.A. (2009). Discrimination and racial disparities in health: Evidence and needed research. *Journal of Behavioral Medicine*, 32, 20-47.

Williams, D.R., Neighbors, H.W. & Jackson, J.S. (2003). Racial/ethnic discrimination and health: Findings from community studies. *American Journal of Public Health, 93*, 200-208.

Williams, D.R., Yu, Y., Jackson, J.S. & Anderson, N.B. (1997). Racial differences in physical and mental health: Socioeconomic status, stress, and discrimination. *Journal of Health Psychology, 2*, 335–351.

Wilsnack, S.C., Hughes, T.L., Johnson, T.P., Bostwick, W.B., Szalacha, L.A., Benson, P., Aranda, F., Kinnison, K.E. (2008). Drinking and drinking-related problems among heterosexual and sexual minority women. *Journal of Studies on Alcohol and Drugs, 69*(1), 129-139.

Zamboni, B.D. & Crawford, I. (2007). Minority stress and sexual problems among African-American gay and bisexual men. *Archives of Sexual Behavior, 36*, 569–578.