

Stigma, Mental Health, and Dyadic Coping for Sexual Minority Persons in the United States

by

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Dedication

This work is dedicated to my partner Brian, my friends, my family and in particular my Uncle Richard, and to every mentor who guided me on this journey for their unwavering support and dedication to my success.

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Table of Contents

Dedication	ii
Acknowledgements	iii
List of Tables	v
List of Figures	vi
Abstract	vii
Introduction	1
Chapter 1: Literature Review: Stigma and LGBT Health	7
Chapter 2: Theoretical Approach: Minority Stress Theory	64
Chapter 3: Sexuality-Based Stigma and Depression among Sexual Minority Individuals in Rural United States	148
Chapter 4: Relationship Characteristics and Dyadic Approaches to HIV Health-Enhancing Behaviors among a Sample of Gay Male Couples from Three U.S. Cities	164
Chapter 5: Perceptions of Coping Strategies for Sexuality-Based Stigma among Male Couples in two U.S. Cities	180
Chapter 6: Conclusion	204
Appendix A: APIM Analysis Supplement	225
References	232

List of Tables

Table 1. Characteristics of Measures for Internalized, Anticipated, Enacted, and Structural Stigma	16
Table 2. Background Characteristics and Mean Self-Reported Stigma and CES-D Depression Scores of Rural Sexual Minority Individuals (N=771)	161
Table 3. Linear Regression Modeling of Self-Reported CES-D Depression Scores among Rural Sexual Minority Individuals (N=771)	162
Table 4. Logistic Regression Modeling of Self-Reported Clinical Depression on CES-D Depression Scale among Rural Sexual Minority Individuals (N=771)	163
Table 5. Factor Loadings: Rotated Factor Pattern (Standardized Regression Coefficients)	177
Table 6. Demographics of Actors and Partners (N=270 Couples)	178
Table 7. Results of APIM Multilevel Modeling	179
Table 8. Male Couples Sample: Age, Relationship Length, and Race/Ethnicity (N=30 Couples)	203
Table 9. Survey Scale Properties for Measures Included in Analysis	228
Table 10. Relationship Characteristics Included in Analysis	229

List of Figures

Figure 1. Survey Estimates of those who Identify as Lesbian, Gay, and Bisexual	9
Figure 2. Stigma Expressed as Hate Groups	12
Figure 3. Growing Proportions of Hate Group Targets	13
Figure 4. Enacted Stigma Based on Various Identities	17
Figure 5. Stigmatizing Policies Regarding Sexual Orientation	26
Figure 6. Stigmatizing Policies Regarding Gender Identity	27
Figure 7. CDC Estimates of New HIV Infections in the United States for the Most-Affected Subpopulations in 2010	49
Figure 8. Pictographic Representation of the Minority Stress Model	68
Figure 9. Social Ecological Theory	143
Figure 10. Lewis Interdependence Theory	184
Figure 11. Timeline of Heather and Maggie	187
Figure 12. Proposed Interdependence Theory for Same-Sex Male Couples	207
Figure 13. Social Ecological Theory	208
Figure 14. Lewis Interdependence Theory	226
Figure 15. APIM Example Model	230

Abstract

There is increasing evidence that sexual minority individuals experience high levels of stigma associated with their sexuality, and this stigma is detrimental to the health of sexual and gender minority persons. However, the majority of this research has involved individuals in urban settings. The overall aim of this work is to examine these knowledge gaps for these dyads and rural individuals, understudied subpopulations about whom there has been a paucity of research. This dissertation included three separate but highly related studies, each with its own specific aim. The first study examined the association between self-reported sexuality-based stigma and self-reported depression among a nationally representative online sample of 771 rural sexual minority persons. Using multiple and binary regression modeling, significant associations were demonstrated between three types of stigma (internalized, enacted, and anticipated) and clinically significant depression for this population. The second study used a multilevel modeling technique known as actor partner interdependence modeling (APIM) to examine aspects of dyadic functioning that contribute to the maintenance of health behaviors that prevent new HIV infection. Among a sample of 270 partnerships, hypothesized associations between stigma and adverse outcomes were not demonstrated. However, relationship satisfaction was significantly associated with three communal coping outcome scales (planning and decision-making, communication, and joint effort) as antecedents to the maintenance of health-enhancing behaviors. The third study also involved male couples, but utilized qualitative thematic analysis to explore how individuals in 30 same-sex male partnerships describe their experiences of coping with sexuality-based stigma, as well as the meaning they ascribe to those experiences. This was

accomplished by analyzing transcribed interviews of male couples discussing stigmatizing events during their relationships and coping strategies used to manage those events. Results from this study indicated same-sex male couples utilize a number of both adaptive and maladaptive coping mechanisms, though adaptive strategies were more commonly reported. Couples placed particular emphasis on the importance of social support, as well as specific stigma management strategies such as avoidance, concealment, anticipating stigma, and purposefully living as openly gay men. Results indicated the need to tailor existing theory to address this population.

Despite recent gains made in human rights and social justice for sexual minority persons, what has already been done is not enough. LGBT persons still endure an unfair distribution of decreased benefits and increased burdens in both healthcare and research. This dissertation work aims to establish equity for this disadvantaged population by increasing their representation in research. These results address gaps in knowledge and inform recommendations for future research, interventions, laws, policies, and clinical practice to address these health disparities and protect the health of this vulnerable population. Future research and interventions that are evidence-based, theoretically driven, and formed with the help of the community they serve will have the greatest capacity for improving the health of LGBT persons, both for individuals and for couples. National policy changes must be made to prohibit stigma and discrimination in all domains that might impact social determinants of health, including housing, employment, and healthcare to create comprehensive protections. With changes made informed by this research, the social benefit of this work lies in potential disparity reduction, establishing equity for this disadvantaged population.

Introduction

Summary & Need for Research

Stigma, or the socially constructed and assigned “undesired differentness” from society at large, is a known and common burden in the lives of those it affects (Goffman, 1963). While many different groups experience stigma based on their social identities, this dissertation focuses on the stigma sexual minority individuals experience based on their perceived sexual orientation. Despite recent advances in rights for sexual minority individuals, stigma continues to be a prevalent issue. Detrimental experiences related to sexuality-based stigma are widespread, with statistics indicating up to 58% of sexual minority individuals in the United States have had a recent stigmatizing experience as the target of a slur or joke (PEW Research Center, 2013). However, stigma has negative effects beyond the emotional impact of being labeled as “other”.

The assignment of stigma differentiates power levels between stigmatized and non-stigmatized groups, altering potential social influence and access to resources (Herek, 2015). This alteration of social determinants of health for sexual minority persons may negatively impact employment, income, health insurance access, social or governmental support programs, and access to appropriate healthcare (Lim, Brown Jr., & Kim, 2014; Hughto, Reisner, & Pachankis, 2015). Stigma can also directly and negatively impact physical and mental health outcomes. For example, sexual and gender minority persons suffer from poorer mental health and suicide ideation at higher rates than heterosexual persons (Diamant & Wold, 2003; Cochran, Mays, & Sullivan, 2003; Riggle, Rostosky, & Horne, 2010; Conron et al., 2010; Cochran, 2001).

Regarding physical health, sexual minority adults are more at risk for cardiovascular disease, asthma, certain cancers (Case et al., 2004; Hatzenbuehler, McLaughlin, & Slopen, 2013; Conron, Mimiaga, & Landers, 2010; Dilley et al., 2010) and even premature death (Hatzenbuehler et al., 2014) than heterosexual adults.

Despite clear evidence that stigma negatively affects the health of sexual minority persons, gaps in knowledge persist. Some knowledge gaps relate to the limitations of previous research, including sampling largely in urban venues and focusing on individuals as the unit of analysis. Associations remain unknown between stigma and health outcomes for unique sub-populations encompassed by LGBT identities. Much of the current existing literature recommends changes to increase protective laws and policies, provide education, and shift societal attitudes toward more inclusive viewpoints. However, a solid scientific knowledge base must exist before action can be taken. These recommendations cannot be fulfilled, therefore, until gaps in research are addressed.

Description of Studies

Purpose/Aims and Hypotheses

To fill gaps in knowledge, the overall objective of this dissertation was to examine unknown associations between multiple types of stigma and various health outcomes for sexual minority persons in the United States. Specifically, this work used novel analytic approaches to address overlooked subgroups from the literature, such as rural individuals and those in same-sex male partnerships. This methodology was intended to address gaps in knowledge regarding those most invisible in the research regarding this vulnerable population. This was accomplished through the achievement of three specific aims related to three separate, but highly related research projects. The following research aims guided this inquiry:

1. Examine the association between self-reported internal and external stigma and depression among an online sample of rural sexual minority persons.

Hypothesis: Increased internal or external stigma is associated with increased depression scores and clinically significant depression.

2. Examine factors associated with couple's coping outcomes (planning and decision-making, communication, and joint effort) as antecedents to the maintenance of health-enhancing behaviors.

Hypothesis: Increased internalized homonegativity will be associated with decreased couple's coping and health maintenance behaviors, based on tenants of Minority Stress Theory and Lewis Interdependence Theory.

3. Explore male couples' experiences of coping with stigma throughout their relationship, as well as the meaning they ascribe to those experiences.

Methods

To answer these questions, both quantitative and qualitative methods were utilized to provide a broader and deeper understanding. The first manuscript of this dissertation uses two regression models to examine associations between stigma and depression specific to rural sexual minority persons in the United States. In the second manuscript, novel statistical methods were utilized to examine LGBT persons not only as individuals, but also in a dyadic context. To this end, actor partner interdependence modeling (APIM) techniques were used to examine factors associated with dyadic coping outcomes (planning and decision-making, communication, and joint effort) as antecedents to the maintenance of health-enhancing behaviors among male

dyads in the United States. The use of the word dyad is distinctive because it does not presuppose the heteronormative assumption of a monogamous relationship. However, like a relationship, dyadic partners influence each other mutually, frequently, and in diverse ways (Karney et al., 2010).

Qualitative methods were also used to further explore the findings of these quantitative results, deepening our understanding of stigma-related outcomes. The third manuscript of this dissertation also involved male dyads, but utilized thematic analysis techniques to examine coping behaviors and experiences of self-reported male couples. While the work was separate, the whole of the dissertation work was guided by principles of minority stress theory. The use of theoretical principles to guide this work created a coherent flow through all analyses, at the heart of which is the interest in associations between stigma and outcomes proposed by the theory.

In addition to multiple methods, multiple terms were used to describe the participants for each of these aims based on the sampling methodologies for each manuscript's data. While all those sampled could be categorized as a "sexual minority" in some sense, this term is based on a complex interaction between sexual orientation, behaviors, attractions, or any combination of these factors (IOM, 2011). It would be inappropriate to assign one term to all participants and, in doing so, assume any one of these factors. The participants in the first manuscript are described as 'sexual minority individuals' because they were sampled based on their sexual orientation, and include diverse persons who self-identified their sexual orientation as gay, lesbian, or bisexual. Participants studied in the second manuscript were sampled based on their sexual behaviors rather than orientations, and are therefore referred to as 'men who have sex with men'. Participants studied in the third manuscript were specifically sampled as male couples, and are referred to as such. Individuals within these partnerships did not have to identify as gay to be

included in the study- rather, inclusion was based on whether they were part of a committed same-sex partnership. These terms, and the differences between them, are discussed at length in the following chapter.

Dissertation Outline

This dissertation work is separated into six subsequent chapters. The first two chapters are reviews of stigma and Minority Stress Theory, which respectively represent the key concept and guiding theory for this dissertation work. These two chapters thoroughly review known literature to provide context for the role of stigma in shaping health outcomes, as well as an examination of the concept “stigma” itself. Current literature, discussed in chapter one, demonstrates stigma is detrimental to the health of sexual and gender minority persons. This research uses a variety of methodological and theoretical approaches, and covers a range of health outcomes. Minority Stress Theory, discussed in chapter two, demonstrates a number of theoretical pathways through which the negative associations in chapter one can occur. In accordance with chosen theoretical constructs and current literature, the principal argument of this dissertation is that stigma is damaging to the health of sexual minority persons in the United States through various theoretical pathways. Alternative theories are also explored to provide additional context into this type of research and provide justification for the chosen theory. These sections summarize both what is known and unknown, identifying gaps in literature addressed by the following three chapters. Chapters three through five signify the three research manuscripts of this dissertation work, one for each of the guiding aims. Finally, the last chapter is the conclusion for the dissertation work. This chapter considers the whole of the dissertation work, summarizing new information learned by combining results from each manuscript and known literature to formulate recommendations for future research, policy, and practice endeavors.

Conclusion

These studies contribute knowledge to the scientific community through unique methodologies and sampling. APIM is a novel technique used to simultaneously examine individuals within a male-male dyad. This technique provides deeper insight than regression or other common individual analysis techniques, thus offering an unprecedented depth of understanding. Further, the second and third projects are interrelated. Though both examine couples experiences of stigma in relation to HIV and health maintenance behaviors, the second uses quantitative techniques while the third utilizes qualitative methodologies. Utilizing multiple methodologies to examine these associations provides a more robust depth of understanding than either technique alone. These studies also target populations that are often difficult to sample. Rural populations and gay male couples are understudied in current literature, as it is easier to sample individuals residing in urban settings. Thus, based on innovative techniques and unique target populations, this research is able to fill critical gaps in knowledge unaddressed by previous research.

Once this knowledge is produced, work can begin to address newly identified problems. This research also provides new associations, identifying previously unknown targets for intervention. In this way, this dissertation expands on what is already known by producing new knowledge regarding pathways through which stigma is associated with adverse health outcomes. Results from this dissertation work indicate that while stigma certainly impacts the lives of sexual minority individuals and dyads, there are potential avenues to capitalize upon to reduce its negative effects. The social benefit of this work lies in potential disparity reduction that comes from increased representation in research and utilization of these results, promoting equity for this disadvantaged population.

Chapter 1 Literature Review

Stigma and LGBT Health

Defining “LGBT”

“LGBT” is an acronym that stands for lesbian, gay, bisexual, and transgender. This acronym refers to an incredibly diverse community of people whose identities cross boundaries of gender, race/ethnicity, age, and socioeconomic status (IOM, 2011). While the acronym encompasses the entire population, each sub-population represented by the “L,” “G,” “B,” and “T” are distinct groups with distinct health-related concerns and needs (IOM, 2011, p. 11). For example, lesbian, gay, and bisexual individuals share the similarity of sexual orientations that are not exclusively heterosexual (IOM, 2011). However, even the notion of being “non-heterosexual” is nuanced.

Belonging to the LGBT community may result from sexual orientation, same-sex behaviors, same-sex attractions, gender identity, or any combination of these factors (IOM, 2011). Sexual orientation can be defined as “an inherent or immutable enduring emotional, romantic or sexual attraction to other people” (Human Rights Campaign, 2016). However, one can feel same-sex attractions or engage in same-sex sexual behaviors without identifying as a non-heterosexual orientation. Further, same-sex attraction can refer to sexual attraction or romantic attraction, though the two concepts are not mutually exclusive.

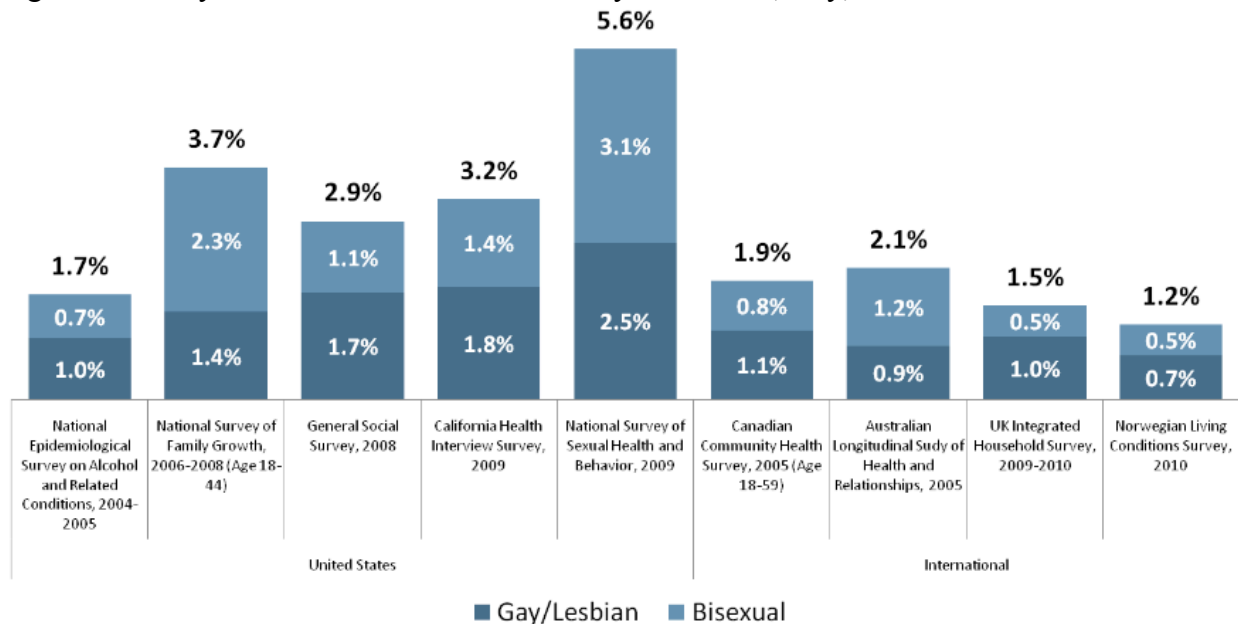
Gender identity is “One's innermost concept of self as male, female, a blend of both or neither – how individuals perceive themselves and what they call themselves” (Human Rights Campaign, 2016). Transgender identities, in contrast to lesbian, gay, or bisexual identities, do not

have do not belong to the LGBT community based solely on their sexual orientation. Rather, transgender identification results from an individual's gender identity and presentation (IOM, 2011). Transgender individuals identify with a sex different from what they were assigned at birth: for example, a person assigned "male" sex at birth but identifies and/or presents as a female. The "T" in the acronym often also represents "individuals who vary from or reject traditional cultural conceptualizations of gender in terms of the male–female dichotomy" (IOM, 2011, p. 12). This includes not only transgender persons, but also those who are gender non-conforming, gender queer, or non-binary, meaning they do not identify with either gender regardless of gender assigned at birth. Transgender persons are especially diverse as their identities span the spectrum of sexual orientations. Transgender persons may or may not desire or pursue surgical interventions to alter their bodies (IOM, 2011, p. 12).

Population statistics are difficult to identify for the LGBT population because census data does not inquire about sexual orientation and allows only male or female gender identification. While numerous studies have attempted to fill this knowledge gap, population estimates still vary. This variance is due to differences in survey methodology, a lack of consistent measurement over time, and differences in who qualifies as LGBT when surveying (The Williams Institute, 2011). For example, surveys may not account for those exhibiting same-sex attractions or sexual behaviors without non-heterosexual identification. These surveys also aim to capture population estimates for adults only, although the age of adulthood varies by country and by survey. Some surveys also fail to utilize the recommended two-step method for identifying transgender participants. The two-step method inquires about sex assigned at birth and current gender identity, as opposed to a single question requiring participants to identify as transgender.

A Williams Institute report estimated 3.5% of the US population, approximately eight million Americans, identify as LGB, and an additional estimated 700,000 identify as transgender (The Williams Institute, 2011). However, estimates vary by survey and by country, as seen in Figure 1. Estimates of LGB population sizes range from 1.2% in the Norwegian Living Conditions Survey to 5.6% in the National Survey of Sexual Health and Behavior. Estimates of LGBT populations are increased from these numbers, as Figure 1 does not address estimates of gender minority populations. Further, among those who did not identify as a sexual minority, approximately 19 million Americans (8.2%) reported ever engaging in same-sex sexual behavior, while over 25 million Americans (11%) reported some same-sex sexual attraction (The Williams Institute, 2011). Although only estimates, these numbers represent a significant proportion of the United States population identifying within the acronym “LGBT.”

Figure 1. Survey Estimates of those who Identify as Lesbian, Gay, and Bisexual



The Williams Institute, 2011

LGBT Health Disparities

LGBT health is a multidimensional concept that includes “mental health, physical health,

risk and protective factors, health services, and contextual influences” (IOM report, 2011, p. 23). Broadly stated, the health of LGBT individuals is poorer compared to heterosexual persons (Conron et al., 2010; Wallace et al., 2011; Fredriksen-Goldsen et al., 2014). Sexual and gender minority persons suffer from poorer mental health, depression, anxiety, and suicide ideation at higher rates than heterosexual persons (Diamant & Wold, 2003; Dilley, Simmons, Boysun, Pizacani, & Stark, 2010; Chae & Ayala, 2010; Cochran, Mays, & Sullivan, 2003; Riggle, Rostosky, & Horne, 2010; Wallace, Cochran, Durazo, & Ford, 2011; Conron et al., 2010; Cochran, 2001). Regarding physical health, LGB adults are more at risk for cardiovascular disease, asthma, and certain cancers than heterosexual adults (Case et al., 2004; Dibble, Roberts, & Nussey, 2004; Valanis et al., 2000; Hatzenbuehler, McLaughlin, & Slopen, 2013; Conron, Mimiaga, & Landers, 2010; Dilley et al., 2010).

LGBT health disparities can also be examined in the context of subgroups within the population. These disparities will be discussed at length in the next chapter in relation to theoretical concepts, but are presented here in brief to enhance understanding of the scope of health disparities faced by this population. Specific health concerns and needs vary considerably among lesbians, gay men, bisexuals, and transgender people. Lesbian women were more likely to be overweight and obese than any other sexual orientation (Boehmer, Bowen, & Bauer, 2007; Case et al., 2004; Dilley et al., 2010). Lesbian women are therefore at higher risk for secondary conditions resulting from obesity, such as type 2 diabetes, coronary heart disease, stroke, osteoarthritis, and breast and colon cancer (Lim, Brown Jr., & Sung Min Justin, 2014). Bisexual persons are more likely to report depression, suicide ideation, intimate partner violence, asthma, and eating disorders than people with other sexual orientations (VanKim & Padilla, 2010; Koh & Ross, 2006; Lim, Brown Jr., & Sung Min Justin, 2014). Men who have sex with men (MSM)

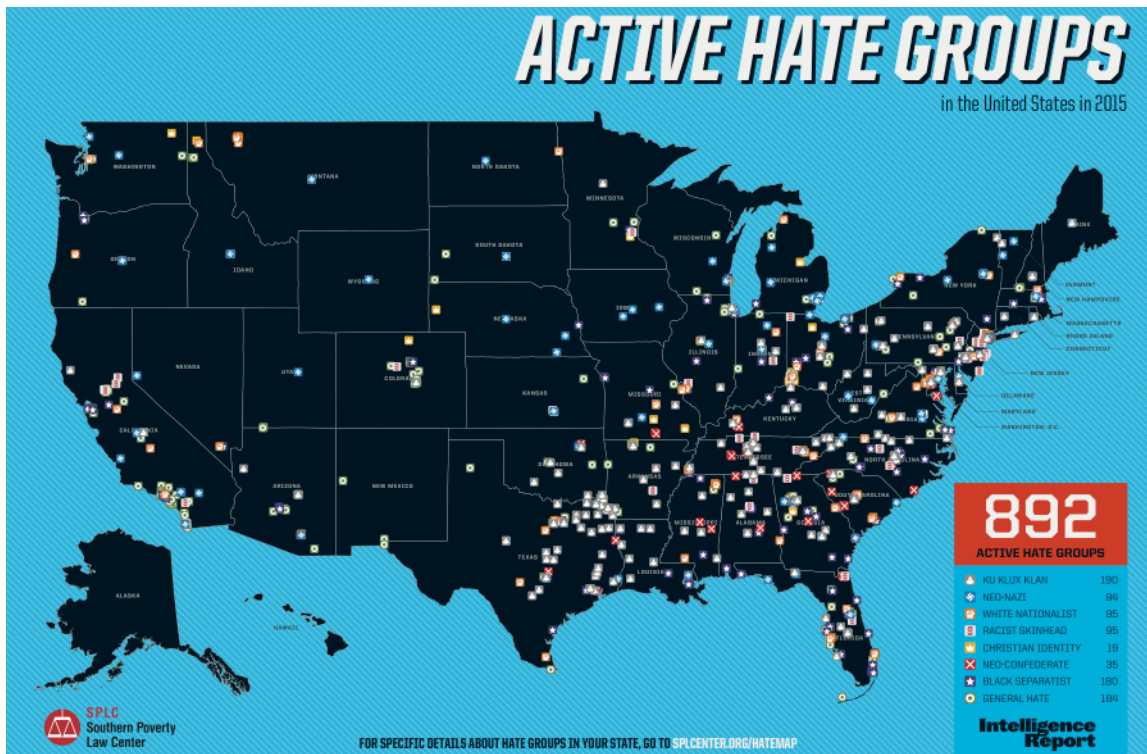
identity may confer increased risk for HPV and anal cancer (Daling et al., 2004). MSM with HIV/AIDS may be at further risk for hepatitis B, hepatitis C, and cardiovascular disease processes resulting from both the infection and long-term antiretroviral therapy use (Esser et al., 2013; Sanchez, Scheer, Shallow, Pipkin, & Huang, 2014). Disparities for transgender people are largely tied to the lack of insurance and avoidance of healthcare settings pervasive in this subpopulation (U.S. Department of Health and Human Services, 2013; Grant et al., 2010). Rates of psychological distress, suicide, sexual violence, and victimization are also particularly high for transgender individuals compared to non-transgender men and women (U.S. Department of Health and Human Services; Bockting, Miner, Swinburne Romine, Hamilton, & Coleman, 2013; Fredriksen-Goldsen et al., 2014; Fredriksen-Goldsen, 2011). One important way disparities in LGBT health are reinforced is through stigma. The concept of stigma, and what is known about its effects on health, will be the focus for the remainder of this chapter.

Stigma in General Populations

Stigma is defined as “a mark of shame or discredit” (Stigma, n.d.). In health research, stigma refers to “the inferior status, negative regard, and relative powerlessness that society collectively assigns to individuals and groups that are associated with various conditions, statuses, and attributes” (Herek, 2007, p. 906-907). In the social sciences, stigma is a socially constructed concept. Stigma is not an inherent trait in any population. Rather, the concept of stigma is assigned as “an undesired differentness” from society at large (Goffman, 1963). The assignment of stigma differentiates power levels between stigmatized and non-stigmatized groups, altering potential social influence and access to resources (Herek, 2015). Thus, stigma processes can be used as a form of “social control” through which certain populations are discredited while others are favored (Hughto, Reisner, & Pachankis, 2015). Figures 2 and 3

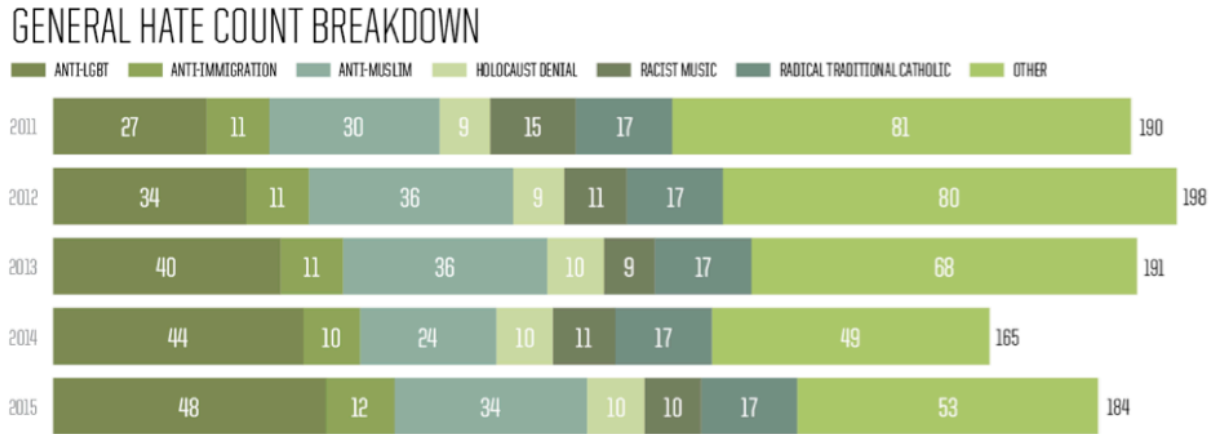
visually depict the prevalence of some stigmas in the United States (Southern Poverty Law Center, 2016). Figure 2 depicts stigmas as expressed through hate groups. Anti-LGBT hate groups are contained within the “General Hate” category, which constitutes 184 of the known active groups. Figure 3 identifies anti-LGBT hate groups as the category demonstrating the most consistent growth of all the categories in recent years.

Figure 2. Stigma Expressed as Hate Groups



Southern Poverty Law Center, 2016

Figure 3. Growing Proportions of Hate Group Targets



Southern Poverty Law Center, 2016

Discrimination is one term often used interchangeably with stigma. However, the words take on subtly different meanings. Stigma is a negative stereotype, usually based on unfair beliefs (U.S. Department of Health & Human Services, 2016). Discrimination is operationalized as treating a person or group unfairly (U.S. Department of Health & Human Services, 2016). This distinction, while subtle, is critical, and may be better understood through examples. For instance, stigma cannot be banned in legislation because it refers to viewpoints of individuals. Conversely, discrimination can be banned because it is stigma actualized in a tangible way. Discrimination, then, refers to unfair treatment that is the direct manifestation of stigma. While distinctly different, stigma and discrimination are directly related. The experience of stigma, especially during adolescence and key developmental periods, negatively affects the well-being of the stigmatized person. Minority youth experiencing stigma often become aware of and internalize the negative societal stigma toward their group, which can “heighten sensitivity to perceived bias and discrimination” in later years (Committee on Improving the Health, Safety, and Well-Being of Young Adults, 2015, p. 429).

Measurement of Stigma

There are many measurements for the various aspects of stigma, reflecting the complex nature of the concept. Comprehensive measures have been difficult to produce, as measures have focused on different types of stigma (enacted, anticipated, internalized, etc.) and objective versus subjective experiences (Hughto, Reisner, & Pachankis, 2015). Table 1 summarizes a number of measures related to stigma. While this is not a comprehensive list, it serves to demonstrate the range of possible measures. Internalized stigma has received the most attention in measurement studies. Structural stigma has received the least attention, and is often measured by examining the policies and laws of an area rather than using a specific scale (Hatzenbuehler, Bellatorre, Lee, Finch, Muennig, & Fiscella, 2014; Hatzenbuehler, Jun, Corliss, & Austin, 2015).

The three scales by Meyer (2006) were ultimately chosen for this dissertation. The Meyer scales address internalized, enacted, and anticipated stigmas, covering all aspects of stigma included in this dissertation work. The scales include neutral phrasing applicable to lesbian, gay, bisexual, and transgender participants, encompassing the entire population of interest for this dissertation. Each scale demonstrates adequate reliability demonstrated by Cronbach alpha scores. While validity measures are not available for the scales, validity was tested for the scales each was based upon. Construct validity was tested for the scales from which the Stigma and Everyday Discrimination scales were adapted (Link, 1987; Williams, Yu, Jackson, & Anderson, 1997; Essed, 1991). Content validity was tested for the Internalized Homophobia scale adapted from Martin & Dean (1987).

The internalized homophobia scale also incorporates a temporal reference of “in the past 12 months.” Historical context and timing are important when measuring internalized stigma for the LGBT population. It is likely that every LGBT persons has, at some point, felt internalized stigma. If research simply inquires about internalized homophobia without specifying a

timeframe, participants may answer regarding feelings from years ago. The inclusion of temporal reference, therefore, prevents confounding of study results. Importantly, these scales also have a strong relationship to the theoretical basis of this dissertation. Minority Stress Theory, discussed at length in chapter two, was also developed by Meyer (1995). The strong association between theory and measurement allows for accurate measurement of theoretical constructs in this dissertation work.

Table 1. Characteristics of Measures for Internalized, Anticipated, Enacted, and Structural Stigma

	Reliability (Cronbach Alpha)	Validity (various measures)	Country of Use	Temporal reference	Pros/Cons	Reference
Internalized						
Internalized Homophobia (internalized)	0.84	None	USA	Last 12 months	Strong ties to theory Temporal reference	Meyer, 2006
Internalized Homophobia Scale, AKA Ego-Dystonic Homosexuality Scale	0.71 for lesbians, 0.83 for gay men	Content validity	USA	None	Diagnosis of ego-dystonia no longer exists, and is rooted in the historical context of LGBT identity as a mental disease Focus on extreme symptoms of internalized stigma	Martin & Dean, 1987
Measure of Internalized Sexual Stigma for Lesbians and Gay Men	$\alpha = 0.90$ for the lesbian version; $\alpha = 0.89$ for the gay version	Convergent validity	Italy	None	Not applicable to all LGBT subgroups	Lingiardi, Baiocco, & Nardelli, 2012
Revised Homosexuality Attitude Inventory (internalized)	0.82 and 0.86 for subscales	Content validity Construct validity	USA	None	Assesses both subtle and extreme symptoms of internalized stigma	Shidlo, 1994
Nungesser Homosexuality Attitudes Inventory	Overall $\alpha = 0.94$ Subscales: attitudes towards one's	Paucity of validity research	USA	None	Potentially dated scale	Nungesser, 1983; Cohen, 2014

(internalized)	homosexuality ($\alpha = 0.89$), attitudes towards other homosexuals ($\alpha = 0.68$), and attitudes towards self-disclosure ($\alpha = 0.93$)					
Lesbian Internalized Homophobia Scale	Overall $\alpha = 0.94$. Subscale α 's range from .60 to .87.	Construct validity	USA, Italy	None	Not applicable to all LGBT subgroups	Szymanski, & Chung, 2001); Levitt, Puckett, Ippolito & Horne, 2012; Flebus & Montano, 2009
Internalized Homonegativity Inventory	Overall $\alpha = 0.91$ USA, 0.82 Turkey	Convergent validity Discriminant validity Construct validity	USA, Turkey	None	Includes gay affirmation	Mayfield, 2001; Gençöz & Yüksel, 2006
The Personalized Internalized Heterosexism Scale (PIHS)	Subscales: Negative Affect $\alpha = .87$, Positive Affect $\alpha = 0.98$, Acceptance $\alpha = .79$	Convergent validity	USA	None	Psychometric properties not tested for ethnic/racial minorities	LaFollette, 2013
Reactions to Homosexuality Scale (internalized)	0.85, 0.69, 0.64, and 0.62 for subscales	Concurrent validity	USA, Portugal, Uganda	None	Designed only for MSM Invariance among testing in English, Spanish, and Portuguese	Ross & Rosser, 1996; Currie, Cunningham, & Findlay, 2004; Pereira & Leal, 2005; Ross, Smolenski, Kajubi, Mandel, McFarland, & Raymond, 2010; Smolenski, Diamond, Ross, & Rosser, 2010
The Bisexual Identity Inventory (internalized and	Subscales: α ranging from .73 to .93 for four subscales	Confirmatory factor analysis of data from a separate subsample	USA	None	Wording specific to bisexual identity; not inclusive of trans identities	Paul, Smith, Mohr, & Ross, 2014

anticipated)		suggested the proposed factor structure offered a good fit to the observed data				
Lesbian, Gay, Bisexual Affiliate Stigma Measure (LGB-ASM). (Internalized and anticipated)	Subscales ranged 0.71 to 0.93	Convergent validity Discriminant validity	USA	None	Scale designed not for LGBT persons, but for their friends and family	Robinson, 2014
Anticipated						
Meyer: Stigma (anticipated)	0.88	None	USA	None; captures current feelings	Assessed expectations of both rejection and discrimination based on one's homosexuality Strong ties to theory	Meyer, 2006
China MSM Stigma Scale (anticipated and enacted)	Subscales: Perceived stigma ($\alpha = 0.45$), enacted stigma ($\alpha = 0.69$)	Predictive validity	China	None	Low reliability scores	Neilands, Steward, & Choi, 2008
The Daily heterosexist experiences	Overall $\alpha = 0.92$. Subscales: Gender expression ($\alpha = .86$), Vigilance ($\alpha = .86$),	Construct validity Concurrent validity	USA	Past 12 months	MANCOVA to test the effect of race/ethnicity not	Balsam, Beadnell, & Molina, 2013

Questionnaire (anticipated and enacted)	Parenting ($\alpha = .83$), Harassment and Discrimination ($\alpha = .85$), Vicarious trauma ($\alpha = .82$), Family of Origin ($\alpha = .79$), HIV/AIDS ($\alpha = .79$), Victimization ($\alpha = .87$), and Isolation ($\alpha = .76$)				significant, $F = 1.24(27, 1794)$, $p = .19$, $n = 612$.	
Enacted						
The LGBT People of Color Microaggressions Scale (enacted)	Overall $\alpha = 0.92$. Subscales: LGBT Racism 0.89, POC Heterosexism 0.81, LGBT Relationship Racism 0.83	Construct validity Discriminant validity	USA	None	Designed only for those of color; not applicable to Caucasian sexual or gender minorities	Balsam, Molina, Beadnell, Simoni, & Walters, 2011
The LGBQ Microaggressions on Campus Scale (enacted)	Overall $\alpha = 0.94$	Convergent construct validity Discriminant construct validity	USA	Past 12 months	Specific to college contexts	Woodford, Chonody, Kulick, Brennan, & Renn, 2015
Anti-Bisexual Experiences Scale (enacted)	For sexual minorities: Overall $\alpha = 0.96$. Subscales: Sexual Orientation Instability ($\alpha = 0.95$), Sexual Irresponsibility ($\alpha = 0.91$), and Interpersonal Hostility ($\alpha = 0.88$)	Convergent validity Discriminant validity	USA	Lifetime	Specific to bisexual identities	Brewster, 2008

	For heterosexuals: Overall $\alpha = 0.95$. Subscales: Sexual Orientation Instability ($\alpha = 0.94$), Sexual Irresponsibility ($\alpha = 0.90$), and Interpersonal Hostility ($\alpha = 0.88$).					
The Stigma Inventory (enacted)	Subscales: $\alpha = 0.82, 0.70, 0.66$ and 0.61	None presented	Germany	None	Specific to pedophiles	Jahnke, 2015
HIV and homosexuality related stigma scales	Subscales: public homosexual stigma ($\alpha = 0.85$), self homosexual stigma ($\alpha = 0.78$) and public HIV stigma ($\alpha = 0.79$)	Construct validity	China	None	Enacted stigma subscale not included	Liu, Feng, & Rhodes, 2009
Everyday Discrimination (enacted)	0.85		USA	Lifetime	Strong ties to theory	Meyer, 2006
Structural						
Community Climate (structural)	Overall $\alpha = 0.88$	Convergent Validity	USA	None	Combined municipal level variables and county-level variables	Oswald, Cuthbertson, Lazarevic, & Goldberg, 2010

Stigma in LGBT Populations

The word “stigma” takes on a particular meaning when applied to the LGBT population. Historically, the “undesirable differentness” of stigma has been applied to the LGBT population (IOM, 2011). The stigma related to LGBT identity stems from sexual behaviors, identities, or expressions that are not accepted as normal (IOM, 2011). Therefore, persons encompassing these behaviors and identities are stereotyped as ‘deviants’ and ‘others’ compared to the normative heterosexual population. The depth of a stigmatized identity should not be underestimated; stigma “engulfs the entire identity of the person who has it,” overpowering all other positive personality traits (Herek, 2015, p. 14).

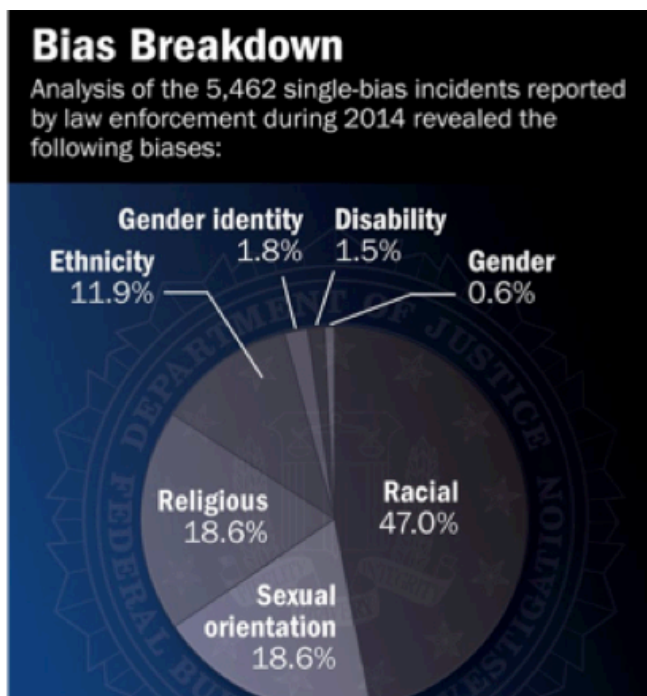
LGBT-specific stigma can be categorized by the population it affects, or by the type of stigma. Population categories include sexual stigma and transgender stigma. Sexual stigma refers to the shared belief that any non-heterosexual behavior or identity is constructed as invalid compared to heterosexuality (Lim, Brown Jr., & Kim, 2014; IOM, 2011). Transgender stigma refers to “the stigma attached to individuals who self-identify as transgender or transsexual or whose gender expression or comportment varies from societal gender norms” (IOM, 2011, p. 61). However, stigma is more often operationalized in four categories: enacted, anticipated, internalized, and structural.

Enacted

Enacted stigma refers to visible behaviors that express stigma toward a group (IOM, 2011). Enacted stigma can be seen in higher rates of physical violence, sexual violence, harassment, and/or discrimination toward the stigmatized person or group (Saewyc, Poon, Homma, & Skay, 2008). Behaviors reflecting enacted stigma can include verbal assaults, physical assaults, overt discrimination, and ostracizing (IOM, 2011). These behaviors can be

seen in the healthcare system when LGBT persons experience verbal harassment, physical harassment, and/or refusal of treatment on the basis of sexual orientation or gender identity (IOM, 2011). LGBT persons are often targets of enacted stigma because of their perceived non-conforming behaviors, while transgender individuals are “often targeted because they are assumed to be homosexual” (IOM, 2011). Figure 4 depicts the number of enacted stigma

Figure 4. Enacted Stigma Based on Various Identities



Federal Bureau of Investigation, 2015

incidents based on various identities (Federal Bureau of Investigation, 2015).

When combined, the number of bias incidents based on gender identity and sexual orientation comprises 20.4% of the 5,462 documented incidences. However, this figure represents data from all 50 states, some of which do not collect data on sexual orientation. Further, these results are only categorized under one identity. For example, a bias incident because the person was both African-American and homosexual is only

categorized under one or the other. These influences on reporting suggest the number of attacks based on LGBT identity may be even higher than depicted.

Anticipated

Anticipated stigma, sometimes referred to as felt or perceived stigma, refers to the expectation of stigma that has not yet occurred (Melby, 1991). A related term is “stigma consciousness,” which refers to the “belief that one will come to experience prejudice or

discrimination” (Schultz & Beals, 2010, p. 132). LGBT persons may have witnessed stigmatizing acts toward other LGBT persons or experienced stigma themselves, resulting in uncertainty about how others will react if their LGBT identity is revealed (Melby, 1991). These stigmatizing experiences affect how LGBT persons evaluate and approach social situations (Hughto, Reisner, & Pachankis, 2015). For example, because LGBT persons are aware of the negative stereotypes and stigma surrounding their identity, they may attempt to conceal their orientation or gender identity to avoid the stigma they anticipate will occur.

Internalized

Internalized stigma for LGBT persons, also referred to as internalized homophobia, describes a person’s self-loathing related to their sexual or gender identity (Szymanski, Kashubeck-West, & Meyer, 2008, IOM, 2011). Internalized stigma processes involve the individual accepting society’s negative and discriminatory attitudes toward LGBT persons as legitimate (IOM, 2011). Internalized stigma often results in stress for the individual, as internalized stigma creates tension between sexual or gender identity desires and negative beliefs about the self (Berg, Munthe-Kaas, & Ross, 2015). This process of internalizing negative social messages can occur consciously or unconsciously (Meyer, 1995, Berg, Munthe-Kaas, & Ross, 2015).

Structural

Structural stigma is the manifestation of stigma within societal, structural, and legal institutions (IOM, 2011). Structural stigma refers to laws, societal norms, and institutional policies/practices that promote discrimination and constrain equal access to resources (Hatzenbuehler, Jun, Corliss, & Austin, 2015; Hughto, Reisner, & Pachankis, 2015). Structural stigma can have particularly widespread effects, as it can operate independently of individual

stigma within an institution or lawmaking body (IOM, 2011; Link & Phelan, 2001). Structural stigma often perpetuates stigma-based differentials in status and power by reducing access to resources and opportunities relative to the access of cisgender heterosexual persons (IOM, 2011; Link and Phelan, 2001). For example, private hospitals that do not recognize same-sex spouses create a lower status for same-sex partners than heterosexual counterparts “regardless of whether individual staff members are personally prejudiced against sexual minorities” (IOM, 2011).

Laws and Policies

Laws and policies in the United States often support the stigmatization of sexual and gender minorities. Figures 6 and 7 depict the number of policies nationwide affecting LGBT persons (Movement Advancement Project, 2015). While the basis for statistics in each figure is the same, Figure 5 depicts policies affecting sexual minorities, while Figure 6 depicts policies affecting gender minorities. In Figures 5 and 6, each protective policy counts as a single point. Points are then tallied, and states are categorized into high, medium, or low policy states. Negative policies are those that harm or deliberately target LGBT persons. These policies are significant because they represent a widespread form of stigma. “Policies that favor one group over another represent another form of structural stigma which produce and reflect community beliefs that stigmatized groups (e.g., transgender people) are unworthy of equal protections under the law” (Hughto, Reisner, & Pachankis, 2015, p. 225). This is especially important considering laws and policies have potentially national influence.

Recent controversial policies affecting transgender individuals include the “bathroom policies.” These policies, instituted in certain states, prevent transgender people from using the bathroom that corresponds with their gender identity. It is often politicians exhibiting stigmatizing attitudes toward “T” identities produce these policies. Discriminatory policies of

this nature serve to further existing structural stigmas. Perhaps the most well publicized example of structural stigma in recent U.S. news is the debate regarding same-sex marriage. Lack of recognition for same-sex partners is not only stigmatizing itself, but also allows for further stigmatization. LGBT partners have been deterred from accessing the healthcare rights of heterosexual partners, including visitation and decision-making (IOM, 2011). Lower support for same-sex marriage among sexual minority persons, often seen in countries with laws prohibiting same-sex marriage, has been associated with greater internalized homophobia (Baiocco, Argalia, & Laghi, 2014). Conversely, laws recognizing same-sex marriage are associated with reduced incidence of internalized homophobia in the population (Berg, Ross, Weatherburn, & Schmidt, 2013). These results indicate the interplay between structural and interpersonal stigmas, highlighting the need to for policy reform to address the structural inequalities surrounding LGBT identities (Baiocco, Argalia, & Laghi, 2014).

Examples of stigmatizing policies unique to LGBT identity can be seen in numerous other structural agencies. “Don’t Ask, Don’t Tell” (DADT) is an exclusionary policy preventing LGBT military personnel from serving as openly LGBT. The implementation of DADT likely unintentionally increased incidents of stigmatization and victimization for LGBT soldiers by diverting attention away from their identities (Burks, 2011). DADT further augments victimization by reducing victims’ ability to report incidents and seek help, as their sexual orientation is not to be disclosed during the process (Burks, 2011). Specific government agencies, such as the FDA, continue to stigmatize MSM by instituting rules preventing their blood donation (Galarneau, 2010; Bennett, 2008).

The criminalization of homosexuality, although not present in the United States, is a form of structural stigma affecting sexual and gender minorities globally. Anti-gay laws in Nigeria have

been associated with increased incidence of stigma and discrimination, as the actions become socially and legally sanctioned (Melhado, 2015). A study of 144,177 men across 38 European countries concluded sexual minority persons internalize the structural stigma of their surroundings, again highlighting the importance of social equity and the consequences of a lack thereof (Berg, Ross, Weatherburn, & Schmidt, 2013). Being accepted as part of society has been identified by LGBT persons as a “critical element to their well-being” (Ash & Mackereth, 2013). Despite the recent adoption of same-sex marriage, legislation granting equality for sexual and gender minorities is still lacking and societal attitudes do not recognize these minority groups as equal and valuable (Ash & Mackereth, 2013). Until legislation and policies truly cease to stigmatize against LGBT persons, the well being of this population will be compromised.

Figure 5. Stigmatizing Policies Regarding Sexual Orientation

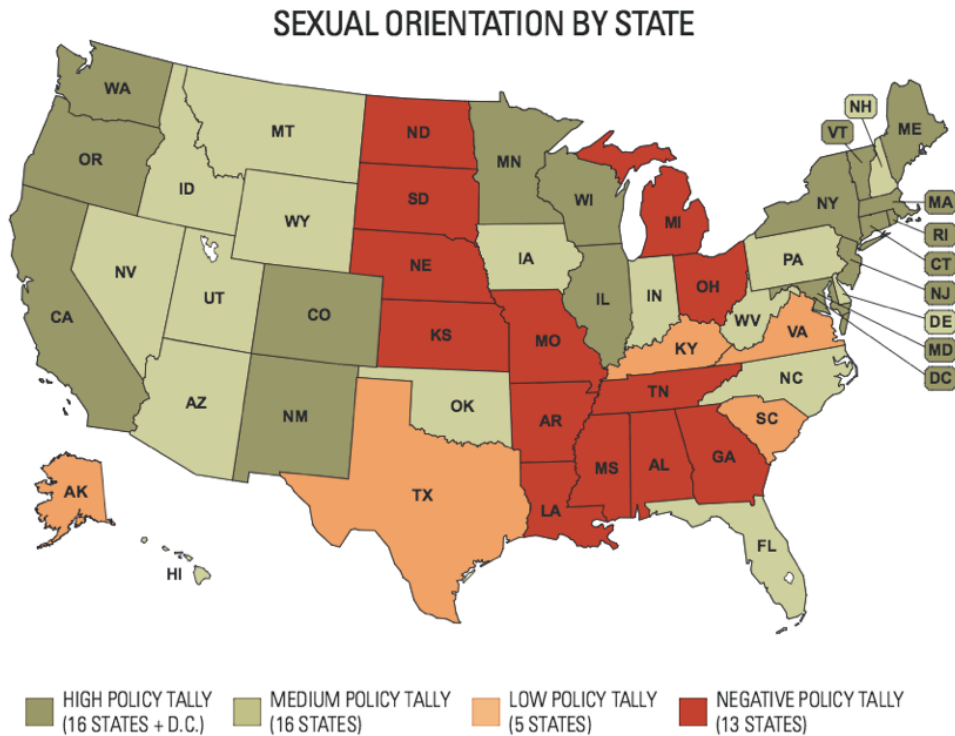
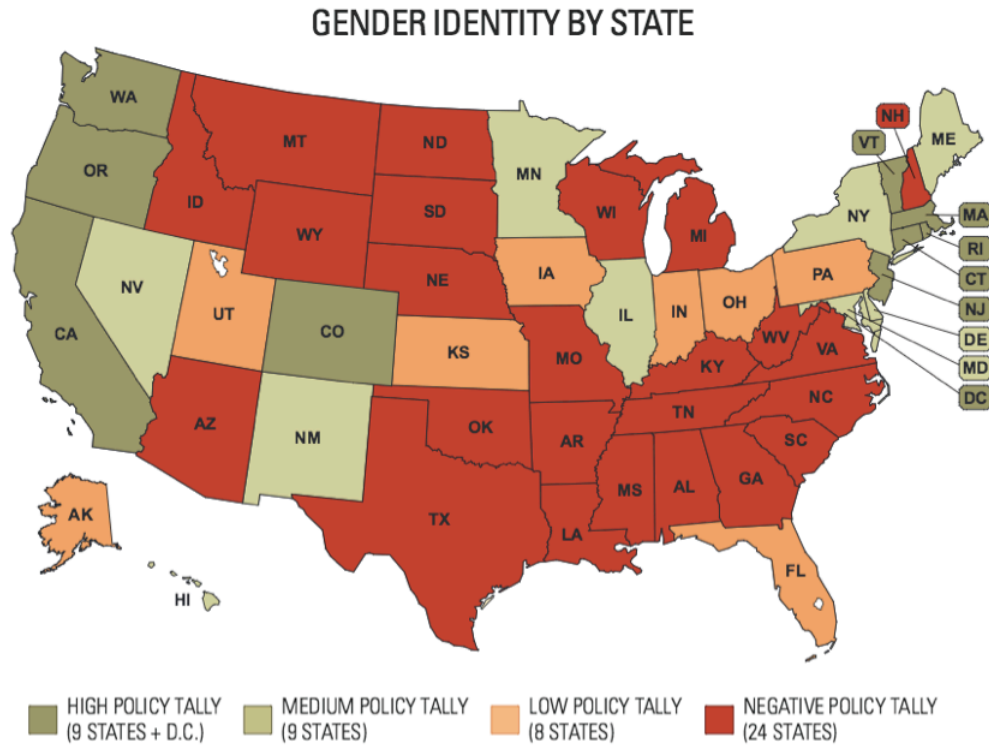


Figure 6. Stigmatizing Policies Regarding Gender Identity



Movement Advancement Project, 2015

Impact of Independent Variables on LGBT Stigma

There are independent variables known to impact the strength and frequency of the various forms of stigma for LGBT persons. Social constructs largely influence the effect of existing stigmas because stigma is a socially constructed concept. In other words, social norms have the power to influence stigma because they shape the views of individuals within that society. While there are numerous independent variables that might impact any association, three that are frequently studied are rurality, religion, and race/ethnicity.

Rurality

A person's place of residency has been shown to impact the type and frequency of stigma encountered (Hastings & Hoover-Thompson, 2011, Swank, Frost, & Fahs, 2012). For example,

an online survey of 285 sexual minority people determined rural participants experienced greater enacted stigma (Swank, Fahs, & Frost, 2013). Specifically, rural LGB persons reported more homophobic statements, property damage, employment discrimination, and housing discrimination than urban participants (Swank, Fahs, & Frost, 2013).

These high amounts of stigma are a product of the social environment in rural contexts. Rural contexts often present as more hostile social settings for sexual minorities than urban settings (Swank, Frost, & Fahs, 2012). Rural areas tend to encompass more conservative political views and fundamentalist religious beliefs (Hastings & Hoover-Thompson, 2011), values that naturally exclude LGBT persons. Additionally, heterosexuals in rural settings report more negative views toward homosexuality than their urban counterparts (Casazza, Ludwig, & Cohn, 2015). These conditions discourage LGBT persons from disclosing their identities, thus promoting the invisibility and closeting of this group (Hastings & Hoover-Thompson, 2011; Austin, 2013). Therefore, rural sexual minority persons tend to be less connected to LGBT communities, have less or no LGBT friends, and experience increased internalized and enacted stigma (Swank, Frost, & Fahs, 2012, Hastings & Hoover-Thompson, 2011, Lyons, Leonard, & Bariola, 2015; Gottschalk, 2007).

Because rurality impacts the type and frequency of stigma encountered, health outcomes for LGBT persons also differ by rural or urban residence. A sample of 414 rural MSM identified an increase in both low self-esteem and internalized homophobia for rural MSM, resulting in increased sexual risk behavior (Preston, D'augelli, Kassab, & Starks, 2007). Rural gay men generally experience poorer mental health resulting from stigma than their urban counterparts (Lyons, Hosking, & Rozbroj, 2015). The previously discussed lack of social support in rural communities further serves to exacerbate these health effects, as few support services exist and

are difficult to provide in naturally exclusionary rural social contexts (Gottschalk, 2007; Lyons, Hosking, & Rozbroj, 2015).

Religion

Stigma has historically been associated with religious contexts (Sowe, Brown, & Taylor, 2014). A study of 579 LGB participants demonstrated Christian respondents had more internalized homophobia than non-religious respondents, which predicted higher levels of psychological distress (Sowe, Brown, & Taylor, 2014). These effects stayed with participants even after breaking from the church, indicating the longevity of these associations (Sowe, Brown, & Taylor, 2014). This is likely because the tension between religious and sexual minority identities forces individuals to constantly negotiate their identities in religious spaces and contexts (Jaspal, 2012; Jaspal & Cinnirella, 2010). MSM in particular struggle with internal religious conflicts related to the immorality of homosexuality (Wagner et al., 2013). In response to this struggle, some develop separate identities for different aspects of their life (Dillon & Basu, 2014; Wagner et al., 2013). However, engaging in homosexual behaviors within these dual identities still produces psychological distress and guilt (Dillon & Basu, 2014). One participant in a qualitative study stated, “I constantly worry ... about what God thinks. I was raised with the idea that this was wrong” (Dillon & Basu, 2014, p. 186).

Enacted stigma also plays a role in the relationship between stigma and religion. Interviews with 31 MSM revealed concerns about perceived stigma from others and enacted stigma, including verbal harassment and being treated as “lesser than” in social settings (Wagner et al., 2013). Interviews with 20 LGBT students at a rural university where religion-related stigma and discrimination are common confirmed these findings. LGBT students were referred to as 'sinners', 'devils' and 'demon possessed' (Mavhandu-Mudzusi & Sandy, 2015). These

students were exposed to multiple enacted stigmas, including: denial of financial aid, denial of healthcare, sexual assault, and forced conversion attempts through prayer (Mavhandu-Mudzusi & Sandy, 2015). The link between religion and stigma may disproportionately affect African-American sexual minority persons, whose racial communities historically have strong ties with religion (Balaji et al., 2012; Lewis, 2015; Wilson, Wittlin, Muñoz-Laboy, & Parker, 2011).

It is important to understand the complex nature of the relationship between stigma and religion. Identification with a religious organization, even one that rejects same-sex behaviors and identities, does not necessitate that individual or organization's stigmatization of LGBT persons. Further, "simply holding a faith-based belief that same-sex sexual behavior is sinful need not in itself constitute sexual prejudice, any more than rejecting beliefs promulgated by faiths other than one's own is necessarily religious prejudice" (Herek & McLemore, 2013, p. 316). However, moral objection to LGBT identities is often a part of stigmatizing attitudes toward these minorities. The prevalence of these opinions within religious institutions allows for greater incidence of the association between attitudes and stigma.

Race/Ethnicity

When considering stigma and its effects on health, it is critical to account for all identities that may be stigmatized. This includes any identity that is considered a minority or "other" identity within society. Although thus far the focus of this chapter has been sexual and gender minority identities, another important part of a person's identity is their race and/or ethnicity. Historically, this aspect of personal identity been a source of stigma and discrimination for those not in the majority (Velez, Moradi, & DeBlaere, 2015).

Although health outcomes have been studied separately for those with sexual minority identities or racial/ethnic minority identities, recent intersectionality work has also begun to

consider the interaction between these minority identities, the stigma that may result from either or both, and the health outcomes associated with these multiple interactive stigmas. Overall, the body of intersectional research that exists indicates those with multiple minority identities often suffer worse outcomes than those with fewer or no minority identities (Velez, Moradi, & DeBlaere, 2015). These outcomes include increased alcohol use (Gilbert, Perreira, Eng, & Rhodes, 2014), depression and anxiety (Choi, Paul, Ayala, Boylan, & Gregorich, 2013), psychological distress (Bishop, 2014), and HIV acquisition, an association moderated by psychological distress (Lelutiu-Weinberger, Gamarel, Golub, & Parsons, 2015). This is purportedly because these multiple types of stigma contribute additively and interactively to worsened health outcomes (Velez, Moradi, & DeBlaere, 2015). However, the importance and complexity of these interactions necessitates further focus and discussion of existing literature.

Fortunately, validated theoretical frameworks exist through which we can examine these complex interactions. One such theoretical framework is Minority Stress Theory. This theory specifically accounts for the multiple types of stigmas an individual may encounter based on any number of minority identities, including sexuality, gender, and race/ethnicity (Meyer, 2003). Although this dissertation work focuses on those with sexual minority identities, racial and ethnic minority identities are also considered in the guiding theoretical framework for this dissertation. Associations between the intersection of minority identities and health outcomes are therefore discussed at length in the following chapter, which reviews the myriad of ways that Minority Stress Theory has been applied in research thus far.

Stigma and LGBT Health Outcomes

Although LGBT persons experience the health risks of the general population, they also face unique and poorly understood risks due largely to stigma (Hughto, Reisner, & Pachankis, 2015; Services and Advocacy for Gay, Lesbian, Bisexual & Transgender Elders, 2010; Committee on Improving the Health, Safety, and Well-Being of Young Adults, 2015) Stigma can negatively alter the social determinants of health for LGBT persons. This may manifest in employment, income, health insurance access, lack of social/governmental support programs, and lack of appropriate providers/healthcare (Lim, Brown Jr., & Kim, 2014; Jalali & Sauer, 2015; Hughto, Reisner, & Pachankis, 2015). However, stigma can also directly impact physical and mental health outcomes. These associations are discussed in detail below.

Care Seeking

Experiences within healthcare systems can positively or negatively affect future care seeking behaviors and how patients view their relationships with health care professionals (Aguilar & Fried, 2015; Poteat, German, & Kerrigan, 2013). Unfortunately, pervasive stigma encountered within the healthcare system prevents LGBT persons from engaging in these services (U.S. Department of Health & Human Services, 2016; Roche & Keith, 2014; Socías et al., 2014; Smith, 2015; Stover, Hare, & Johnson, 2014; Eaton et al., 2015; Boyce, Barrington, Bolaños, Galindo Arandi, & Paz-Bailey, 2012). Stigma by health professionals may manifest as gender insensitivity, ignorance of transgender health needs, displays of discomfort when providing services, denied services, substandard care, and open displays of verbal hostility (Kosenko, Rintamaki, Raney, & Maness, 2013; Xavier et al., 2013; IOM, 2011). One study determined this stigmatization in healthcare settings results from healthcare policies and practices that facilitate the continued exclusion of LGBT persons and needs (Araújo, Montagner, da Silva, Lopes, & de Freitas, 2009). While only preliminary qualitative evidence, a large

quantitative study of transgender and gender non-conforming individuals agreed that these policies and practices continue to contribute to the stigmatizing medical diagnoses and language used to describe LGBT persons (Cruz, 2014).

Interviews with 25 lesbian women demonstrated that because of stigma, they felt uncomfortable and “at risk of harm in some health care situations” (Stevens & Hall, 1988). Similarly, a qualitative study with 55 transgender people and 12 medical providers determined providers feel ambivalence and uncertainty when caring for transgender patients (Poteat, German, & Kerrigan, 2013). This alters the “normal balance of power in provider–patient relationships”, producing discomfort for transgender patients in healthcare settings (Poteat, German, & Kerrigan, 2013; Dewey, 2008). Internalized stigma may also play a role in shaping the care seeking behaviors of LGBT persons. Internalized stigma “may cause sexual and gender minorities to feel that they do not deserve respect from their health care provider or the same access to health care as heterosexuals. As a result, they may not disclose key information to their provider, may avoid seeking treatment, or may refrain from challenging discrimination and other forms of enacted stigma” (IOM, 2011, p. 64). While studies addressing this topic span a range of qualitative and quantitative methodologies, their shared conclusion speaks to the pervasive nature of stigma when seeking care.

Even if LGBT persons do continue to seek care, some fearing stigma or discrimination will not disclose their sexual orientation (IOM, 2011). Failure to disclose sexual orientation hampers the trust required for a valuable patient-provider relationship. This barrier is particularly pertinent for rural LGBT persons, who have access to less resources and medical centers than their urban counterparts (McCann & Sharek, 2014). A survey of 544 black MSM confirmed the negative relationship between stigma, medical mistrust, and engagement in care (Eaton et al.,

2015). Even for those too afraid to seek healthcare in person, stigma affects the information seeking ability of LGBT persons. Thus, stigma as a barrier to accessing care can create or increase existing disparities that will be described further in this chapter (Aguilar & Fried, 2015).

Risk Behavior

A wealth of research has established associations between stigma and risk behaviors (U.S. Department of Health & Human Services, 2016; Wilson, Pant, Comfort, & Ekstrand, 2011; Meininger et al., 2007; Nemoto, Operario, Keatley, Han, & Soma, 2004; Santos et al., 2014; Torres et al., 2013; Kooyman, 2008; Jerome & Halkitis, 2009; Ha, Risser, Ross, Huynh, & Nguyen, 2015; Tucker et al., 2014; Molina & Ramirez-Valles, 2013; Ramirez-Valles, 2002; Fletcher, Kisler, & Reback, 2014). While most studies on the subject are correlational or qualitative, a longitudinal study of 314 MSM lasting one year prospectively associated stigma with transmission risk behaviors (Hatzenbuehler, O’Cleirigh, Mayer, Mimiaga, & Safren, 2011).

There are many pathways in the relationship between stigma and risk behaviors. Increased structural stigma is common to many of these pathways. Structural stigma creates a “pattern of silence” for MSM, as men would rather engage in risky sexual behavior than expose themselves or their families to the shame of identities involving same-sex behaviors (Dillon & Basu, 2014; Berry et al., 2013; Lorway, 2006). Carrying condoms is one example of safe behaviors MSM do not engage in to avoid anticipated stigma, as condoms could be accidentally discovered by children or family members (Chakrapani, Boyce, Newman, & Row Kavi, 2013). Participants in qualitative interviews also stated stigma forces those engaging in same sex behaviors into covert settings and relationships where open discourse around safe sexual behavior is difficult (Longfield, Astatke, Smith, Mcpeak, & Ayers, 2007). However, it is worth noting these interviews were conducted in multiple languages native to Southeastern Europe.

While conducting interviews in native languages ensures participants are able to fully describe their experiences, this study acknowledged the difficulty of translating studies to English without losing some of the nuances and meaning in native languages.

Associations between stigma and risky sexual behavior have also been mediated by mental health factors such as loneliness, low self-esteem, and psychological distress (Hubach et al., 2015; Preston, D'augelli, Kassab, & Starks, 2007; Lelutiu-Weinberger, Gamarel, Golub, Sarit, & Parsons, 2015). Negative coping strategies also contribute to the risk-taking of LGB youth (Brakman, Ellsworth, & Gold, 2015). Exposure to enacted stigma has been associated with increased rates of teen pregnancy among LGB youth (Saewyc, Poon, Homma, & Skay, 2008; Brakman, Ellsworth, & Gold, 2015). This association is mediated by increased risk behavior as a means of “camouflaging” one’s sexual orientation and attempting to fit in to prescribed social norms (Brakman, Ellsworth, & Gold, 2015). One participant in a qualitative study further revealed how MSM might engage in risky sexual behavior in an attempt to eradicate the stigma of the behavior: “...most young gay men have a very unhealthy view of sex, solely because of the fact that they’re living a life that they grew up seeing as unnatural or wrong, you know?...And I think—sometimes I think they try to have as much sex as they possibly can, maybe subconsciously trying to convince themselves that what they’re doing is natural or right or okay—you know, like they’re trying to find some justification for what they’re doing” (Bruce & Harper, 2011, p. 7).

HPV and Other STIs

Stigma can also influence rates of sexually transmitted infections (STIs) (Poteat et al., 2015; Valderrama, Zacarías, & Mazin, 2004; Semple, Strathdee, Pitpitan, Chavarin, & Patterson, 2015). Health professionals may reflect the stigma surrounding STIs, proving detrimental to the

provider-patient relationship (Armishaw & Davis, 2002). Damaged patient-provider relationships often translate to decreased access to care and information regarding STIs, placing individuals at greater risk for infection (Armishaw & Davis, 2002). Similarly, a study of 600 MSM and transgender women established the stigma surrounding both STIs and sex work resulted in knowledge gaps, increasing risk for infection (Brown, Monsour, Klausner, & Galea, 2015). The relationships between stigma and STI infections are especially pertinent for male sex workers, who are especially unlikely to access preventative services (Baral et al., 2015). A cross-sectional street-intercept survey of 594 gay men further revealed mental health factors such as depression, often associated with stigma, can mediate relationships between stigma, stigma concealment, and STIs (Frost, Parsons, & Nanin, 2007).

Maladaptive Behaviors: Substance Use

Stigma has been associated with increased rates of substance abuse for sexual and gender minority persons, including **drug use** (U.S. Department of Health & Human Services, 2016; Brakman, Ellsworth, & Gold, 2015; Wolf & Dew, 2012; Secor et al., 2015; Smit et al., 2012; Semple, Strathdee, Zians, & Patterson, 2012; Semple, Patterson, & Grant, 2004; Taliaferro, Lutz, Moore, & Scipien, 2014; Miller & Grollman, 2015). Increased state-level structural stigma, adequately measured by assessing the proportion of Gay-Straight Alliances per public high school, policies related to sexual orientation discrimination, and public opinion toward homosexuality, has also been associated with increased marijuana and illicit drug use, even when controlling for individual and state level confounders (Hatzenbuehler, Jun, Corliss, & Austin, 2015).

The relationships between stigma and drug use are particularly salient for transgender sex workers, who report becoming dependent on drugs to cope with prostitution and the social

stigma against transgender persons (Nemoto, Operario, Keatley, Han, & Soma, 2004). However, this study was conducted in San Francisco, where “a large transgender community might contribute to a higher prevalence of substance use and sexual activity” than rates seen in other communities (Nemoto, Operario, Keatley, Han, & Soma, 2004, p. 1199). These relationships are also particularly important for black sexual minority persons. A qualitative study of 52 heterosexual, gay, and bisexual black men who have sex with men in New York City demonstrated stigma from the larger dominant white gay culture was associated with increased methamphetamine use (Jerome & Halkitis, 2009). Methamphetamine use was also increased due to its association with settings that sheltered users from both racism and homophobia while engaging in same-sex behaviors (Jerome & Halkitis, 2009). This article included the study’s qualitative codebook as well as a theoretical model for amphetamine use in this population, promoting desirable characteristics such as transparency of research and theoretical conceptualization. These findings highlight the multidimensional nature of stigma, and how its effects differ for ethnic sexual minorities.

Substance use treatment processes are also negatively affected by stigma. “The process of healing and recovery must take into consideration the critical role of culture and look at the individual within the context of an environment that is influenced by racism, sexism, and homophobia, as well as the stigma and shame associated with having a mental illness” (Ida, 2007, p. 49). For example, interviews with 34 transgender individuals with substance use problems revealed their treatment experiences varied by how well their gender identity was integrated into their treatment programs (Lyons et al., 2015). Participants perceiving greater felt and enacted stigmas were more likely to leave treatment prematurely, missing the full benefit of treatment modalities (Lyons et al., 2015).

Alcohol use similarly emerges from the literature as a negative coping strategy for dealing with stigma for sexual and gender minority persons (Baiocco, D'Alessio, & Laghi, 2010; Fan et al., 2015; Pachankis, Hatzenbuehler, & Starks, 2014). LGB youth may use alcohol to escape these stressors or attempt to fit in with their peers to ameliorate the amount of enacted stigma experienced (Brakman, Ellsworth, & Gold, 2015). In a sample of 670 MSM and transgender women, binge drinking was demonstrated as a “maladaptive coping and emotion regulation strategy” to deal with stigma (Peacock, Andrinopoulos, & Hembling, 2015, p. 701). Further, sexuality based stigma has also been identified as a barrier to seeking treatment (Green, 2011). Stigma presents as a factor that hinders the process of recovery, when patients who seek treatment must open themselves up to the possibility of stigmatizing experiences (Brewer, 2006).

Similar relationships are found between stigma and **smoking behaviors**. Interviews with 35 lesbian and 35 heterosexual women guided by grounded theory techniques found sexual stigma resulted in the negative emotions and stress associated with smoking and relapse (Gruskin, Byrne, Altschuler, & Dibble, 2009). Expanding these findings, a study of 119 sexual minority participants across 28 states determined increased exposure to the interaction between structural stigma and rejection sensitivity (termed “individual stigma” in this study) predicted tobacco use (Pachankis, Hatzenbuehler, & Starks, 2014). When considering negative health outcomes, therefore, it is important to consider not only the individual contributions of different forms of stigma, but also their synergistic effects (Pachankis, Hatzenbuehler, & Starks, 2014). However, the sample size of this study may not be sufficient when divided to examine the structural stigma within each state, which merits further investigation. Increased smoking behaviors may also occur as a coping mechanism to deal with not only the stigma attached to LGB identity, but also the stress of remaining “closeted” in order to avoid such stigma (Bennett,

Ricks, & Howell, 2014). Smoking may also be a way to “fit in” to local culture in the Appalachians to lessen experienced stigma by engaging in a popular and typically masculine behavior (Bennett, Ricks, & Howell, 2014). Smoking may also be used to fit in with LGBT cultural norms. Smoking encourages weight loss, making it easier for gay men to adhere to ideally “thin” or “fit” body types in sexual minority communities (Bennett, Ricks, & Howell, 2014). However, these results were found in a study of rural Appalachian dwelling LGB persons and may not be generalizable to broader urban contexts.

Psychological Outcomes

The stigma that exists regarding sexual and gender minority persons has a direct and overwhelmingly negative effect on **mental health** (Tinney et al., 2015; Colledge, Hickson, Reid, & Weatherburn, 2015; Li, Holroyd, Lau, & Li, 2015; David & Knight, 2008). These negative effects result not only from the interplay between LGBT related stigma, but also the stigma associated with having a mental illness (Kidd, Veltman, Gately, Chan, & Cohen, 2011). For some participants, simply having to deal with the stigma attached to their identities was detrimental to mental health. One participant in a qualitative study stated, “Rejection turns into anger, frustration, paranoia and depression. If your family accepts you it’s usually better all round...my dad didn’t accept me and it turned into a real mental health problem ... like you are constantly searching for something ... living a lie, always questioning who am I ... before we can even think of our happiness this “invisible wall” comes up and you can’t get through it...Homophobia leads to fear, that leads to mental health issues” (Ash & Mackereth, 2013, p. 25-26).

This stigma also led to perceived decreased access to mental health services (Ash & Mackereth, 2013). A participant in a qualitative study described how stigma rendered him

effectively “just one more...body”, “dehumanized” and “devalued” person in the eyes of healthcare providers and institutions (Haile, Padilla, & Parker, 2011, p. 429). Qualitative interviews with 57 sexual minority adults similarly revealed stigma creates social inequalities by depriving disadvantaged social groups of safety, acceptance, and access to opportunities (Meyer, Oullette, Haile, & McFarlane, 2011). Further, when institutions pose a threat to well being instead of a source of protection, social “safety nets” themselves become a source of stigmatization and distress (Haile, Padilla, & Parker, 2011). While little quantitative work has been done on this subject, these qualitative studies serve to present deeper insight into the experience of those accessing mental health care services in the face of dual stigmas.

Interestingly, a study of 233 Chinese LGB persons examined factors protective of mental health (Chong, Zhang, Mak, & Pang, 2015). This study concluded social media use may promote LGB group membership, specifically through community surveillance, identity expression, and emotional support. The study concluded these factors promote feelings of group membership, which reduces stigma. Fostering group membership through social media may be particularly useful for those residing in rural or conservative areas (Chong, Zhang, Mak, & Pang, 2015). This suggests that while loneliness and isolation in dealing with stigma contribute to decreased mental health, resilience found within communities and group-level coping may help combat stigma’s detrimental effects on mental health. However, this study was cross-sectional in design, and therefore cannot determine causal associations or directional pathways between social media and stigma reduction.

Psychological distress is one component of mental health negatively impacted by stigma (James et al., 2012; Bockting et al., 2013; Lenning & Buist, 2013). An online survey study of 301 LGBTQ youth in Ireland purported the oppressive social atmosphere resulting from sexual

and gender identity-related stigma results in psychological distress for this population (Kelleher, 2009). Similar conclusions were seen in a qualitative study of MSM in India, whose participants reported stigma led to psychological distress resulting from the necessity of keeping their sexual orientation a secret (Mimiaga, et al., 2015). Interviews with 31 Lebanese MSM further revealed how coping with stigma results in psychological distress (Wagner et al., 2013). While most participants struggled with the perceived stigma related to their sexual identities, findings suggested that ineffective coping strategies such as avoidance or withdrawal from relationships were further detrimental to the psychological well-being of participants (Wagner et al., 2013). Though these studies vary widely in terms of cultural context, similarity between conclusions indicates a theme of stigma's negative effect on psychological distress.

Stigma can also contribute directly to feelings of **anxiety** (Courtenay-Quirk, Wolitski, Parsons, & Gomez, 2006; Hatzenbuehler, O'Cleirigh, Mayer, Mimiaga, & Safren, 2011; Haile, Padilla, & Parker, 2011; Lee, Kochman, & Sikkema, 2002; Smit et al., 2012). Enacted stigma can produce immediate and long-term anxiety. One case study described an incident where a gay man was threatened with violence due to his sexual orientation. This incident produced immediate anxiety related to the imminent threat. However, the police did not investigate the incident (Haile, Padilla, & Parker, 2011). The combination of the incident itself and the failure to act by law enforcement resulted in long term and severe anxiety attacks, demonstrating the lasting impact of enacted stigma (Haile, Padilla, & Parker, 2011). However, the utilization of self-report, face-to-face, life history narratives may have altered the way stigmatizing events were remembered or reported to interviewers based on the principal of social desirability.

Unsurprisingly, stigma further affects not only loneliness and social support, but also **self-esteem** (Molina, & Ramirez-Valles, 2013; Ramirez-Valles, Fergus, Reisen, Poppen, & Zea,

2005; Dowshen, Binns, & Garofalo, 2009). A yearlong study of young MSM determined increased stigma was associated with lower self-esteem, and these associations did not change over the study period (Dowshen, Binns, & Garofalo, 2009). Relatedly, qualitative interviews with 20 lesbian women identified poor body image and self-esteem resulting from the combination of internalizing heterosexual beauty standards and contending with the stigma of having a lesbian identity (Kelly, 2007).

Stigma can also contribute to feelings of **loneliness and social isolation** through various mechanisms. In one qualitative study, participants reported losing friends when sexual minority status was disclosed, as friends did not want to experience the stigma resulting from friendship with sexual minority persons (Bruce & Harper, 2011). This loss of supportive friendships further marginalized participants in their communities and decreased perceived social support, contributing to feelings of loneliness (Bruce & Harper, 2011). The absent social support from family and friends as a result of stigma in these instances, and the resulting feelings of loneliness and social isolation, represent some of the “most powerful consequences of stigma and rejection” in the lives of sexual minority persons (Bruce & Harper, 2011; Teti et al., 2014, p. 57).

Stigma has been directly linked with **depression** (Poteat, German, & Kerrigan, 2013; McCann & Sharek, 2014; Tucker et al., 2014; Cahill & Valadéz, 2013; Haile, Padilla, & Parker, 2011; Dowshen, Binns, & Garofalo, 2009; Oldenburg et al., 2014; Hatzenbuehler, O’Cleirigh, Mayer, Mimiaga, & Safren, 2011; Courtenay-Quirk, Wolitski, Parsons, & Gomez, 2006). This relationship has been demonstrated for enacted (Hightow-Weidman et al., 2011; Stahlman et al., 2015; Li et al., 2015; Logie, Newman, Chakrapani, & Shunmugam, 2012), perceived (Stahlman et al., 2015; Logie, Newman, Chakrapani, & Shunmugam, 2012) and internalized stigmas (Lee, Kochman, & Sikkema, 2002; Peate, 2013). Negative affect, often considered a precursor of

depression, has also been directly associated with stigma (Starks, Rendina, Breslow, Parsons, & Golub, 2013; Mohr & Sarno, 2016).

Depression is also sometimes the result of interplay between stigma and other variables, such as trauma or abuse (Secor et al., 2015). A retrospective analysis of 85 GLB adults revealed in some cases, attempting to manage stigma through concealment in high school similarly resulted in depression (Frost & Bastone, 2008). However, community involvement has been shown to buffer the association between stigma and depression, though it may also heighten individual's perception of stigma (Ramirez-Valles, Fergus, Reisen, Poppen, & Zea, 2005). Furthermore, a literature review of factors pertinent to depression for transgender persons named eight interrelated factors. These included discrimination, disclosure, identity support, hormones and sex-reassignment surgeries, socio-demographics, socioeconomic factors, substance use, and access to health and social services (Khobzi Rotondi, 2012). While this review is was not systematic and published by a single author, the articles included were thoroughly reviewed and limitations of articles were assessed. Overall, understanding the complex and multifaceted nature of stigma's relation to depression is fundamental to understanding health disparities for this population (Khobzi Rotondi, 2012).

A relationship has also been determined between stigma and **suicide** ideation/attempts (U.S. Department of Health & Human Services, 2016; McCann & Sharek, 2014; Smit et al., 2012; Halady, 2013; Courtenay-Quirk, Wolitski, Parsons, & Gomez, 2006; Poteat, German, & Kerrigan, 2013; Miller & Grollman, 2015). These increased rates of suicide ideation and attempts are often also correlated with depression resulting from sexuality-based stigma, indicating interplay between uncontrolled depression, stigma, and suicide (Hightow-Weidman et al., 2011; Wu et al., 2015). Structural stigma may be particularly important in this relationship

for transgender individuals. In a national online sample of 1,229 transgender adults, positive correlations existed between structural stigma, internalized transphobia, and lifetime suicide attempts (Perez-Brumer, Hatzenbuehler, Oldenburg, & Bockting, 2015). Given the negative mental health effects discussed, it is unsurprising that stigma is associated with decreased **quality of life**. For many LGBT older adults, the combination of stigma and ageism negatively affect quality of life, though stigma in each case emerged as an independent predictor of decreased quality of life (Slater et al., 2015; Slater et al., 2013; Slater, 2011).

Relationships

Relationship quality may also suffer from the harmful effects of stigma, a challenge especially pertinent to sexual and gender minority relationships (Pepping & Halford, 2014). Internalized stigma may be especially pertinent for this outcome. An online study of 220 lesbian women determined internalized homophobia was positively and indirectly linked with psychological aggression in relationships via a pathway mediated by relationship satisfaction (Lewis, Milletich, Derlega, & Padilla, 2014). A study of 191 couples with one transgender partner further revealed relationship stigma was associated with depressive distress and lower relationship quality for both partners (Gamarel, Reisner, Laurenceau, Nemoto, & Operario, 2014). However, this study sampled only transgender women and their male partners and did not account for the effect of gender affirmation on participant responses.

Given the known and negative impact of stigma on dyadic outcomes, research has begun to explore the strength and resilience of same-sex couples as they attempt to cope with stigma (Bodenmann, 2005; Bodenmann & Cina, 2005; Frost, 2011; Rostosky & Riggle, 2017). Rostosky & Riggle (2017) used a positive psychology framework to determine specific strengths of same-sex relationships in relation to this framework. This work found individuals within

same-sex couples are able to work together to cope with and make meaning of stigmatizing experiences, though this does not necessarily negate the negative health outcomes associated with stigma (Rostosky & Riggle, 2017). Frost (2011) conducted parallel work examining the psychological strategies individuals used to ascribe meaning to stigmatizing experiences within their partnerships. Similar work with heterosexual dyads has begun to examine dyadic-level coping. This work indicated coping efforts impact not only the longevity or success of the relationship (Bodenmann, 2005), but also outcomes such as relationship quality, communication, and psychological well-being (Bodenmann & Cina, 2005). However, this research cannot account for the unique stigmas faced by same-sex couples.

LGBT persons are at greater risk for experiencing **violence**, particularly within their relationships (Saewyc, Skay, Pettingell, & Reis, 2006; Hequembourg, Bimbi, & Parsons, 2011). This is in large part due to the stigma directed toward their sexual or gender identities (Frost & Bastone, 2008; Hightow-Weidman et al., 2011; Herek, 2009; Logie, Alaggia, & Rwigema, 2014). Intimate partner violence (IPV) is one form of violence receiving greater attention within LGBT research. In a study of 391 LGBTQ college youth, both physical and sexual partner violence perpetration were associated with greater internalized homonegativity (Edwards & Sylaska, 2013). Further, a cyclical pattern of violence mirroring that found in the heterosexual population can be seen. A study of 581 gay men and lesbian women revealed greater expectations of stigma and discrimination were related to both IPV victimization and perpetration (Carvalho, Lewis, Derlega, Winstead, & Viggiano, 2011). It has also been suggested that sociocultural factors such as gender-role norms and heterosexism create and enforce stigmas that contribute to high levels of IPV for those not prescribing to these norms (Brown, 2008).

Stigma may also function as a barrier to reporting violence and seeking help (Brown,

2008). One study reported those with stigma were less likely to report violence against partners due to a perceived lack of safe and non-stigmatizing resources (Stephenson, Rentsch, Salazar, & Sullivan, 2011). Intersectional stigmas related to race, socioeconomic status, age, disability, and sexual orientation likely further beliefs that seeking help will not be beneficial, as each additional stigma further alters the power dynamics between victims and perceived resources for help (Brown, 2008). Qualitative interviews with 24 lesbian and bisexual mothers reporting IPV confirmed that systems meant to help often nullify their family relationships, resulting in mistrust of these organizations (Hardesty, Oswald, Khaw, & Fonseca, 2011). Open-ended interview questions nicely captured the scope of violence possible, including both physical and psychological. This perceived stigma at the intersection of IPV and sexual minority identity negatively influences decisions to seek formal help (Hardesty, Oswald, Khaw, & Fonseca, 2011).

Exposure to stress and violence may also have lasting biological effects. A study involving 113 MSM and 51 men who have sex with women (MSW) concluded MSM experience additional negative psychological outcomes when coping with traumatic events, including higher symptoms of dissociation than their heterosexual counterparts (Kamen et al., 2012). Further, a study of 74 LGB young adults revealed those raised in environments with high structural stigma demonstrated blunted cortisol responses to stress, as compared to those raised in environments with low structural stigma (Hatzenbuehler & McLaughlin, 2014). These responses are similar to responses seen in those with traumatic life experiences; the biological agent cortisol demonstrates similar responses for those experiencing both trauma and stigma. Methodology of this study was very thorough, accounting for several dimensions of structural stigma, biological measures, and self-report measures. Thus, the stress of being raised in environments with high

structural and interpersonal stigmas was demonstrated as comparable at the biological level to traumatic experiences for sexual and gender minorities (Hatzenbuehler & McLaughlin, 2014).

Physical Health

Stigma has also been directly examined in association with **physical health**. A serial mediation model tested on an online sample of 564 LGB adults revealed perceived discrimination was associated with both anticipated and internalized stigmas (Denton, Rostosky, & Danner, 2014). These stressors were further associated with lower coping self-efficacy, and the combination of these stress pathways was associated with higher levels of self-reported physical symptom severity (Denton, Rostosky, & Danner, 2014). This demonstrates the direct negative impact of stigma on physical health.

Stigma not only impacts health, but also may influence mortality. An investigation focused on structural stigma examined the influence of high community level anti-gay prejudice on mortality (Hatzenbuehler et al., 2014). Controlling for both individual and community covariates, sexual minorities living in communities with high structural stigma had a shorter life expectancy by approximately 12 years (Hatzenbuehler et al., 2014). Elevated rates of suicide, homicide/violence, and cardiovascular disease accounted for the majority of these premature deaths in high-prejudice communities (Hatzenbuehler et al., 2014). When examining only suicide, the life expectancy further decreased by 18 years for those residing in high-prejudice communities. These results highlight the impact of structural stigma as social determinants of health for sexual and gender minority populations (Hatzenbuehler et al., 2014).

Workplace and Education

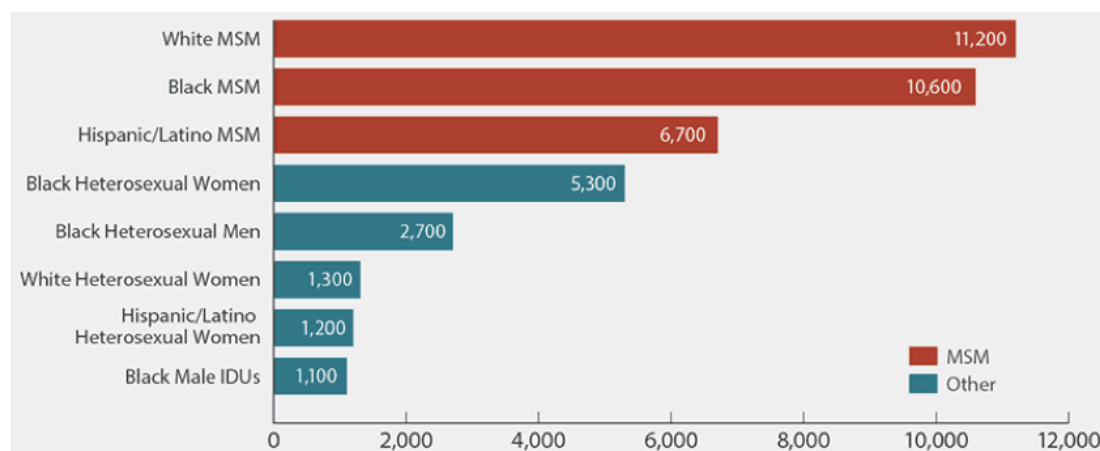
Stigma can also affect larger structural components influencing health. Non-stigmatizing work environments have been linked with increased psychological support in the workplace, as

well as job and career satisfaction (Trau, 2015). However, this type of environment does not always exist. Sexual and gender minority persons often face stigma in the workplace. This stigma prevents people from fully engaging in their work and hinders career advancement opportunities (Gates, 2014). Stigma in the workplace can also contribute to one's consciousness of stigma (i.e. consciously thinking about the stigmatizing environment around you), resulting in decreased outness and psychological distress (Gates, 2014). However, this study acknowledged the focus on only outness as a predictor of stigma consciousness in the workplace as a limitation, as the lack of diversity sampling did not allow for comparisons by race, ethnicity, or social class. Existing social stigmas can also contribute to workplace behaviors that perpetuate stigma. For example, stigma in the workplace may allow joking about LGBT identities to be a frequent and socially accepted behavior, which further contributes to the increasing severity and frequency of these stigmatizing actions (Luiggi-Hernández et al., 2015). Stigma's effects can also be seen in educational settings. A literature review determined cultural competence related to sexual minorities is inadequate in most schools of health care. This void contributes to the invisibility and social stigma affecting the LGBT population (Aguilar & Fried, 2015).

Stigma Related to HIV/AIDS

In addition to stigma related to sexual orientation or gender identity, a potential problem for sexual or gender minority individuals is stigma related to HIV and AIDS. While it is inappropriate to assume the majority of sexual or gender minority individuals has HIV or AIDS, they do represent one of the highest proportions of HIV positive individuals in the United States. Figure 7 represents statistics from the CDC indicating men who have sex with men (MSM) account for the top three categories of estimated HIV incidence, higher than any other group.

Figure 7. CDC Estimates of New HIV Infections in the United States for the Most-Affected Subpopulations in 2010



CDC, 2015

HIV/AIDS-related stigma can be seen as negative attitudes towards people with HIV, enacted discrimination toward those with HIV/AIDS, or as internalized stigma (Smit et al., 2012; Overstreet, Earnshaw, Kalichman, & Quinn, 2013). The Joint United Nations Programme on HIV/acquired immunodeficiency syndrome (UNAIDS) describes HIV-related stigma as “a process of devaluation of people either living with, or associated with, HIV and AIDS” (UNAIDS, 2003, p. 1). This may include those who do not have the disease, but are vulnerable to HIV, such as sex workers and men who have sex with men (Ha, Ross, Risser, & Nguyen, 2015). It is important to note that assumptions of or associations with HIV/AIDS may be enough to beget this stigma, regardless of HIV serostatus. Sexual orientation is particularly linked with HIV/AIDS stigma, as the public has continued to think of AIDS as a ‘gay disease’ despite the refuting of this ideation by medical professionals (IOM, 2011).

This combination of multiple stigmas, much the same as the interaction between sexuality-related stigma and racial/ethnic stigma, results in a synergistic effect on health outcomes related to the interaction between sexuality-based stigma and HIV/AIDS related stigma. Race may also impact the rate of HIV stigma experienced, as black men may be

perceived as more likely to be HIV positive compared to other ethnicities (Smit et al., 2012). HIV/AIDS stigma has been recognized since the epidemic first began, and has detrimental impacts on health for those at the receiving end (Smit et al., 2012; UNAIDS, 2003). For example, a study of 170 HIV positive Latino GBT persons revealed enacted HIV/AIDS stigma was correlated with increased drug use (Molina & Ramirez-Valles, 2013). A number of papers describe these health effects, which will be explored in detail below.

HIV-related outcomes

Much of the research done testing relationships with sexual minority stigma has focused on HIV-related stigma and outcomes. Literature demonstrates strong negative correlations between stigma and **HIV testing** (Flowers, Knussen, & Church, 2003; Lin et al, 2013; Li et al., 2014; Li et al., 2012; Liu et al., 2015; Stahlman et al., 2015; Zhao et al., 2015; Hu et al., 2014; Wong et al., 2012; Pyun et al., 2014; Andrinopoulos et al., 2015; Song et al., 2011; Golub & Gamarel, 2013; St. Lawrence et al., 2015; Dowson et al., 2012; Wei et al., 2014; Wirtz et al., 2014; Arnold, Rebchook, & Kegeles, 2014). Qualitative analysis has explored these correlations further, determining that sometimes the fear is of stigma related to the confidentiality of testing itself. However, sometimes fear or avoidance is related to the stigma and resulting social consequences that come with a positive test result (Smit et al., 2012; Aunon et al., 2015).

In a study of 268 HIV positive men and women, results indicated internalized stigma may result in anxiety when patients worry about being judged or looked down on for their HIV status, or worry about spreading their infection to others (Lee, Kochman, & Sikkema, 2002). The resulting social exclusion due to stigma is a related barrier to testing behaviors (Flowers, Duncan, & Frankis, 2000; Smit et al., 2012; Aunon et al., 2015). HIV positive gay men might refrain from disclosing their serostatus because they expect social rejection due to the stigma

surrounding their disease (Golub & Gamarel, 2013). Qualitative interviews with 32 LGBT young adults revealed concerns about the potential stigma of being seen research information regarding LGBT or HIV, demonstrating even in the relative anonymity of the internet stigma poses as a barrier to healthcare seeking behaviors (Magee, Bigelow, DeHaan, & Mustanski, 2012). Stigma at the structural and national levels may also be important to testing rates (Lorenz et al., 2011). A large survey thoroughly assessing structural stigma through legislation and cultural views determined structural stigma restricts the “public visibility” of MSM, thereby reducing their access HIV-preventive services such as testing facilities (Pachankis et al., 2015).

Similar negative correlations have been shown between stigma and HIV/AIDS **status disclosure** (Skinta, Brandrett, Schenk, Wells, & Dilley, 2014; Overstreet, Earnshaw, Kalichman, & Quinn, 2013; Przybyla et al., 2013; Jeffries et al., 2015; Coleman & Lohan, 2007; Hu et al., 2014; Ruan et al., 2011; Guo, Li, Liu, Jiang, & Tu, 2014). To fully understand this relationship, one must consider the individual in the context of their community (Körner, 2007). Status disclosure, because it is interpersonal in nature, is strongly related to external forms of stigma. This stigma may come from church or religious affiliations/institutions (Arnold, Rebchook, & Kegeles, 2014; Bird & Voisin, 2013; Masten, 2015), cultural/ethnic communities (Bird & Voison, 2010; Arnold, Rebchook, & Kegeles, 2014; Bird & Voisin, 2013), or residence in rural communities (Hubach et al., 2015). Considerable social risk can result from HIV status disclosure due to the stigma attached to HIV/AIDS (Körner, 2007). Variations in disclosure status are often related to the management or avoidance of this external stigma. Avoidance of disclosure can be an act of self-protection to avoid further stigma and distress associated with rejection from cultures or institutions that results from HIV related stigma when status is

disclosed (Flowers & Davis, 2012; Smit et al., 2012; Padilla et al., 2008; Oldenburg et al., 2014; Arnold, Rebchook, & Kegeles, 2014; Masten, 2015).

This distress resulting from status disclosure may include lost social support or even violence when status is discovered (Teti, Rolbiecki, Zhang, Hampton, & Binson, 2014, Masten, 2015; Anderson et al., 2008). Stigma results in increased mental and social stress, thereby impairing interpersonal relationships and creating a norm of low social support and silence (Bird & Voison, 2010). Based on these complex relationships, disclosure should be viewed as a “dynamic social process constrained by hierarchical systems of power and inequality” resulting from stigma, rather than a process reflecting only the individual (Padilla et al., 2008, p. 380). However, there is counter-evidence that disclosure can be part of an adaptive coping strategy against stigma, as it encourages social support to cope with resulting gossip and rumors (Smit et al., 2012). Qualitative analyses of 15 individual interviews and one focus group identified HIV status disclosure as a way to identify an affirming social support system, and ultimately as a way to resolve internalized stigma (Chenard, 2007). Sampling method must again be considered when interpreting these results. Participants in this study voluntarily referred themselves, disclosing in the process of volunteering. The most heavily stigmatized HIV-positive gay men, therefore, would not be likely to participate and voluntarily disclose their status, potentially skewing the results toward positive views of disclosure.

Stigma has also been linked with decreased **antiretroviral therapy (ART) adherence** (Arnold, Rebchook, & Kegeles, 2014; Halkitis et al., 2014; Smit et al., 2012; Brion & Menke, 2008; Chakrapani, Newman, Shunmugam, & Dubrow, 2011). This relationship may be mediated by disclosure to multiple persons (Smit et al., 2012), involuntary disclosure of HIV status (Smit et al., 2012), and depression (Mitzel et al., 2015). Life adjustments must occur in order to adhere

to ART regimens, but these adjustments are difficult to accomplish when facing stigma (Brion & Menke, 2008). Even when ART is free, interrelated stigmas at the individual, interpersonal, and healthcare system levels can preclude adherence (Chakrapani, Newman, Shunmugam, & Dubrow, 2011). Interpersonal and structural stigmas are particularly important, as maintaining an ART regimen allows the possibility of accidental HIV/AIDS status disclosure. Consequences of disclosure when facing structural stigma may include rejection by family and friends, income loss, and maltreatment within the health care system (Chakrapani, Newman, Shunmugam, & Dubrow, 2011). These psychosocial burdens undermine the acceptability of ART and decrease compliance with prescribed regimens (Halkitis et al., 2014). Thus, adherence can be a complex and dynamic social process rather than an inert behavior depending solely on the individual (Brion & Menke, 2008).

Similar negative relationships exist between stigma and **adherence to pre-exposure prophylaxis (PrEP)** (Galea et al., 2011; Jackson et al., 2012; Underhill et al., 2015; Oldenburg et al., 2015). Similar to ART adherence, fear of disclosure and the resultant stigma have been identified as a barrier to PrEP adherence (Tangmunkongvorakul et al., 2013; Chakrapani et al., 2015). Trepidation of being mistaken for an HIV positive person while taking PrEP, and the stigma that would result from this misidentification, was a frequently reported barrier (Chakrapani et al., 2015; Mimiaga, Closson, Kothary, & Mitty, 2014; Mutchler et al., 2015; Smit et al., 2012; Tangmunkongvorakul et al., 2013). Fear of the stigma resulting from being viewed as promiscuous has also been a reported barrier to PrEP adherence (Chakrapani et al., 2015). This finding may be specific to the Indian culture in which the study was conducted, though it provides avenues for future research in other cultural contexts.

Stigma also affects the **partners and caregivers** of those living with HIV/AIDS. Qualitative interviews with partners and caregivers have demonstrated those perceiving more stigma were less likely to disclose their partner's serostatus to healthcare or homecare workers (Christensen, 2013; Callery, 1999). Lack of disclosure has also been associated with less perceived social support resources for themselves and their partners (Callery, 1999). Through this pathway, stigma reduces the support available to the partners and caregivers of those with HIV/AIDS through non-disclosure, increasing caregiver burden and decreasing relationship quality (Christensen, 2013; Callery, 1999). These results are both drawn from locally sampled thesis and dissertation projects conducted in different geographical and cultural contexts, and warrant the consideration of historical context. The cultures of these two locations at the time of analysis (San Diego in 2013 and Chapel Hill in 1999) likely differ and merit consideration. Additional analysis has shown the bereavement processes of friends/partners of those who died from HIV/AIDS are similarly affected by stigma. A qualitative study of 16 gay men revealed increased perceived stigma negatively impacted the bereavement process and decreased the amount of social support perceived by the surviving person (Wright & Coyle, 1996). While qualitative analysis has begun to explore this topic, little quantitative evidence has addressed this phenomenon.

HIV Acquisition

Stigma likewise exerts direct effects on likelihood of HIV acquisition (De Santis, 2009; Chakrapani, Newman, Shunmugam, McLuckie, & Melwin, 2007; Thomas, et al., 2012; Anderson, Ross, Nyoni, & McCurdy, 2015). There are a number of reasons for this association. HIV stigma contributes to HIV vulnerability by limiting access to social support and health resources (Jeffries et al., 2015). Emotional state may also influence this interaction. Gay and

bisexual MSM with both distress over their HIV diagnosis and high internalized HIV stigma may engage in more HIV transmission risk behavior than their peers (Burnham et al., 2015).

Although convenience sampling was utilized, two studies additionally identified the desire to find love and acceptance in lives characterized by stigma and rejection may encourage sexual and gender minorities to engage in risky sexual behavior that increases likelihood of HIV acquisition (Niang et al., 2003; Melendez & Pinto, 2007). In this instance, it is important to note that LGBT persons engaging in risk behaviors may be facing LGBT-stigma, HIV/AIDS-stigma, or a combination of both (Radcliffe et al., 2010)

Cultural norms represent a particular influence on stigma's negative impact on likelihood of HIV acquisition. For example, the widespread denial and stigmatization of MSM behaviors in Senegal has severely limited their access to HIV/AIDS programming and services (Niang et al., 2003). Stigma and human rights abuses, both within and outside of health care, have been associated with increased risk of acquiring HIV (Poteat et al., 2015). The criminalization of HIV/AIDS or LGBT identities is another important example of structural stigma. Russian MSM (N=121) revealed stigma and violence related to homophobia in their homeland produced fear that relatives would learn of their behaviors (Wirtz et al., 2014). This fear resulted in internalized homophobia and avoidance of HIV testing, as Russian law bars entry from those testing positive (Wirtz et al., 2014). An online survey study across 38 European countries similarly concluded MSM in countries with high structural stigma are more vulnerable to HIV infection (Pachankis et al., 2015). Nation-wide stigma restricts MSM's public visibility, reducing their knowledge, safe-sex behaviors, and access to HIV-related services. Moreover, the absence of structural stigma may reduce HIV acquisition rates by allowing more low-risk men to become potential sexual partners (Maulsby et al., 2014).

Deaf gay men represent a subpopulation of the gay male community at particularly high risk for HIV/AIDS (Mallinson, 2004). Deaf gay men belong to two intersecting subcultures with “unique communication styles, cultural expectations, and a propensity to marginalize outsiders” (Mallinson, 2004, p. 27). Though only a very small exploratory pilot study (N=5) in a population that necessitates purposive sampling, participants described stigma as a major barrier to preventative HIV care. Printed materials alone, often given by unknowledgeable healthcare providers, were described as “culturally inappropriate, incomprehensible, and ineffective” (Mallinson, 2004, p. 27). The combined barriers of language, stigma, and lacking healthcare access unique to this population greatly increase their risk for HIV acquisition.

HIV acquisition among sex workers is a particularly prominent example of the interaction between social norms, stigma, and HIV acquisition risk (Baral et al., 2015; Mutchler, 2005; Semple, Strathdee, Pitpitan, Chavarin, & Patterson, 2015; Infante, Sosa-Rubi, & Cuadra, 2009). Sex workers are subject to the same stigmas as LGBT persons, but also the additional intersecting stigma of commercial sex practices (Baral et al., 2015). The multiple stigma faced by this population severely reduce their likelihood of accessing preventative services (Baral et al., 2015). One article, though only a summation of research presented at the XV International Aids Conference provided by a single author, provided a brief yet thorough overview of research being done in this field. For example, the work of male sex workers in Thailand is tolerated by society and most governmental structures, yet the practice is still stigmatized (Mutchler, 2005). This stigmatization continues a cycle of existing social inequalities. Sex workers are often at increased risk of HIV infection due to lack of education regarding same-sex practices and increased incidence of sexual behavior. However, intersectional stigmas of being youth, sexual minorities, and sex workers prevent the ambivalent Thai government from intervening or

educating this group (Mutchler, 2005). Lack of intervention promotes social isolation, continued lack of education, and increased incidence of risky sexual behavior (Mutchler, 2005). These findings are echoed in a study of male, transgender, and transvestite sex workers, whose vulnerability is influenced by the social context of stigma, decreased social standing, and inequitable access to HIV-related programs (Infante, Sosa-Rubi, & Cuadra, 2009)

HIV Prevention

Stigma has also been demonstrated as a consistent barrier to effective HIV prevention strategies (Hall & Applewhite, 2013; Grov, Restar, Gussmann, Schlemmer, & Rodríguez-Díaz, 2014; Okal et al., 2009; Andrinopoulos, Figueroa, Kerrigan, & Ellen, 2011). The success of HIV prevention programs is mediated by stigma and the social conditions in which the intervention occurs (Posada & Gómez-Arias, 2007). For example, a qualitative study over 15 years with more than 100 in depth interviews determined MSM create spaces for themselves away from structural stigma to engage in sexual activity (Posada & Gómez-Arias, 2007). While these spaces protect against stigma, they are difficult for prevention programs and education to access. This barrier can also be seen in prison settings, where stigma can be purposefully perpetuated to limit an effective response to HIV and AIDS (Andrinopoulos et al., 2010). Structural HIV-related stigma can also be seen as a barrier to prevention in central Asia, where the criminalization of homosexuality and HIV-related stigma limits research and HIV prevention efforts (Wirtz, Kirey, Peryskina, Houdart, & Beyrer, 2013). Structural stigma related to HIV/AIDS can be especially dangerous for those in Sub-Saharan African and Latin America, where police brutality and forced sterilization of HIV positive citizens can occur (El Feki et al., 2014).

Data from ten in-depth interviews and three focus group discussions (36 men) examined barriers to peer education programs the ability of health providers to address unmet HIV

prevention needs. Traditional family values, stereotypes of abnormality, gender norms, stigma, and religious influences were all identified as barriers (Okal et al., 2009). Interviews with 71 AIDS program directors, health department staff, and leaders of community-based organizations in nine states identified culturally competent and sensitive interventions as necessary to facilitate prevention responses (Wilson & Moore, 2009). Public mass media antidiscrimination campaigns, provider education, and decriminalization of same-sex behaviors have also been cited as necessary to combat stigma and promote effective HIV prevention (Chakrapani, Newman, Shunmugam, McLuckie, & Melwin, 2007). However, these recommendations are difficult to produce when facing stigma, and thus continue to decrease the effectiveness of HIV prevention programs. Additionally, ethnographic interviews with eleven black MSM revealed HIV stigma and mistrust of the medical community might prevent black MSM from participating in AIDS prevention vaccination trials (Moutsiakis & Chin, 2007). However, this study appears to be informally conducted, poorly written, and lacking a theoretical foundation.

HIV-related care seeking

Similar to general care seeking behaviors, a negative relationship exists between stigma and HIV-related care seeking (Hussen, Harper, Bauermeister, & Hightow-Weidman, 2015; Zigrovic, Voncina, Bozicevic, Munz, & Lazarus, 2009; Scorgie et al., 2013; Sevelius, Patouhas, Keatley, & Johnson, 2014; Zúñiga, Brennan, Scolari, & Strathdee, 2008; Baral et al., 2015; King, Maksymenko, Almodovar-Diaz, & Johnson, 2015; Levy et al., 2014; MacCarthy, Brignol, Reddy, Nunn, & Dourado, 2014; Travers & Paoletti, 1999). Stigma has not only been associated with decreased HIV-related care seeking, but also decreased retention in care (Magnus et al., 2013; Wohl et al., 2011). However, HIV-related care seeking poses additional concerns associated with stigma. Those pursuing this type of care must endure dual stigma: that related to

HIV status, and that related to LGBT identity. These stigmas manifest in different ways. A survey study of 262 predominantly gay men of Dutch origin “reported negative experiences with health professionals including awkward interactions, irrelevant questions, rude treatment, blame, pity, excessive or differential precautions, care refusal, unnecessary referrals, delayed treatment, poor support, and confidentiality breaches” (Stutterheim et al., 2014, p. 652). Perceived stigma may be particularly important in this context—even when practitioners do not mean to stigmatize their patients, the perception of stigma in healthcare interactions is enough to preclude further care seeking (O’Byrne & Watts, 2014). However, these conclusions are drawn from an analysis of eight gay male youth who frequented a gay-friendly clinic in Canada. Due to the nuanced convenience sampling of this study, these views may not be generalizable and should be viewed as a potential piece of a broader problem.

Care seeking related to HIV is particularly difficult because of increased concerns regarding disclosure and confidentiality. In sub-Saharan Africa, where same-sex behaviors are highly stigmatized, many men do not disclose their sexual orientations or behaviors to their health providers because they fear the social repercussions of being discovered as a MSM. In one study, 21% had ever been blackmailed because of their sexuality and 19% reported being afraid to seek healthcare (Fay et al., 2011). Due to survey methodology, it is difficult to tell how closely these associations are linked to stigma; while the study included seven questions related to human rights, these questions are not described and reportedly did not assess potential relationships to sexuality. However, associations have been demonstrated between stigma and fear of seeking health care services in social contexts (Stahlman et al., 2015). Similar results were found in a study of 934 lesbian women, where internalized homophobia and stigma from providers predicted disclosure (Austin, 2013). Fear of disclosure to healthcare providers emerged

as a barrier to care, accounting for sexual orientation disparities in health care utilization (Austin, 2013). Concerns related to confidentiality/disclosure are inextricably linked with structural forms of stigma, which have also been associated with decreased HIV-related care seeking behaviors (Arreola et al., 2015; Cange et al., 2015). In quantitative studies, criminalization of homosexuality and the social alienation resulting from structural stigma accounts for much of these associations (Arreola et al., 2015; Cange et al., 2015).

Mental Health-Related Outcomes

Similar to associations with sexuality-based stigma, HIV-related stigma has been linked to a number of negative mental health outcomes including anxiety, depression, and overall lowered quality of life. Both stigmas related to MSM or HIV status can result in depression (Wohl et al., 2013). A longitudinal study of 314 HIV-infected men with four time points over a year that determined HIV-related stigma was prospectively associated with anxiety (Hatzenbuehler, O’Cleirigh, Mayer, Mimiaga, & Safren, 2011). Furthermore, a study of HIV-positive MSM in New York and San Francisco revealed perceived “rifts” in the community based on HIV status resulted in increased anxiety and loneliness (Smit et al., 2012).

Stigma’s effects on quality of life may be particularly detrimental for HIV positive men, who must deal with the additional stressor of AIDS-related stigma (Slater, 2011; Johnston, Stall & Smith, 1995). During qualitative interviews with 81 gay men with AIDS, the social stigma surrounding AIDS was found to lead to social isolation, and through this mechanism decreased quality of life (Johnston, Stall & Smith, 1995). A study of 155 HIV positive men further determined that community involvement buffers associations between stigma and self-esteem, similar to findings regarding stigma and loneliness (Ramirez-Valles et al., 2005). Participants in a study of HIV-positive MSM described similar feelings of loneliness when family members

avoided them due to HIV-related stigma (Teti, Rolbiecki, Zhang, Hampton, & Binson, 2014). In a cross-sectional analysis of 904 people with HIV (32.6% non-heterosexual), multiple minority status related to race and sexual orientation, combined with HIV-related stigma, resulted in depression, loneliness, and psychological distress (Storholm et al., 2013). Specifically, the pathway between minority stressors and adverse psychological outcomes was mediated by HIV-related stigma (Storholm et al., 2013). The authors reported a need to address "structural inequities" faced by those who experience stigma from multiple minority statuses (Storholm et al., 2013).

Mental health outcomes are also sometimes inextricably linked with the physical health conditions that can arise in those with HIV. Stigma contributing to loneliness may be particularly pertinent for HIV-positive sexual/gender minority persons with lipodystrophy (Smit et al., 2012). Lipodystrophy is a syndrome involving the redistribution of fat, often seen as lumps of fatty tissue on the face, back, or abdomen (Masten, 2015). Lipodystrophy is sometimes referred to as "the look of AIDS" or "the scarlet A" (Masten, 2015, p. 329). Cultural norms within the LGBT community may play a part in this association, as symptoms of lipodystrophy do not adhere to reported LGBT cultural values of youth and beauty (Masten, 2015). HIV-positive men with lipodystrophy may avoid social settings because they fear the syndrome will reveal their HIV serostatus, exposing them to the expected and associated social stigma (Smit et al., 2012; Masten, 2015). This avoiding behavior protects the privacy of HIV-positive sexual minority persons, but shrinks opportunities for social support and engagement. Stated another way, the lipodystrophy can cause individuals to feel self-conscious and fear rejection, leading to avoidance of social situations and loss of intimacy (Smit et al., 2012). Thus, HIV-positive MSM

may feel apart from the community and subsequently lonely (Smit et al., 2012). Lipodystrophy may also contribute to low self-esteem, which in turn risk-taking behavior (Smit et al., 2012).

Conclusion

There is clear evidence that stigma negatively affects the health of LGBT persons. However, stigma's mechanism of action for certain populations and outcomes remains unknown. My dissertation work proposes to further enhance our understanding of existing research. Novel statistical methods will be utilized to examine LGBT persons not only as individuals, but also in a dyadic context. Qualitative methods will be used to further explore the findings of these quantitative results, deepening our understanding of outcomes resulting from stigma. Overlooked subgroups within the LGBT population will be examined, including gay male couples and those living in rural areas. These innovative approaches used in this dissertation will address gaps for those most invisible in the research regarding this vulnerable population.

Despite recent advances in LGBT rights, stigma continues to be a prevalent issue for LGBT persons. Many authors have made recommendations regarding protective laws and policies, changes in education, and shifting societal attitudes. However, a solid scientific knowledge base must exist before action can be taken. These recommendations cannot be followed, therefore, until gaps in research are addressed. This dissertation work addresses some of these known gaps, paving the way for improvements in education, policy, and ultimately LGBT health. Research regarding stigma and LGBT health can be incorporated into medical, nursing, social work, and other curriculums, thereby increasing the knowledge and confidence of healthcare workers regarding LGBT health issues (Aguilar & Fred, 2015). Evidence-based practice guidelines based on research can be incorporated to further the education of healthcare workers at all levels to

protect LGBT persons engaging in healthcare systems (Lim, Brown Jr, & Kim, 2014). Evidence can be presented to politicians and lobbyist to form policies protective and inclusive of LGBT persons. These actions, all taken on the basis of scientific evidence, will address the rampant stigma faced by LGBT persons in this country. This dissertation can provide the necessary scientific evidence base currently missing from nursing research. Therefore, this dissertation works to establish equity for this disadvantaged population by increasing their representation in research. True equality and social justice for this population can only be achieved when stigma is eliminated, and this research is a step toward that goal.

Chapter 2 Theoretical Approach: Minority Stress Theory

Definition of Minority Stress

Most use of the Minority Stress Model refers to the expanded model developed by Dr. Ilan Meyer (Meyer, 1995; 2003). The basis of Minority Stress Theory is that social stressors “mediate the relationship between social status and mental health (Meyer, 2003; Calabrese et al., 2015; Dentato, 2012). These social stressors include discrimination against and stigmatization of LGBT persons as a population (Meyer, 2003; Calabrese et al., 2015). According to the theory, “discrimination is one of the social stressors through which marginalized social status negatively impacts mental health” (Calabrese et al., 2015; Meyer, 2003). These stressors are specific to the individual’s belonging to a minority group: in this case, the LGBT population.

Meyer (1995) proposed that sexual minority persons experience chronic stress similar to members of other racial or ethnic minority groups; however, the stress experienced by sexual minorities is related to the stigmatization of their sexuality. As discussed in chapter one, Meyer (1995) conceptualized three types of stressors to which sexual minorities could be exposed: acts of discrimination, stigma, and internalized homophobia. To quantify these concepts, Meyer (1995) developed and tested measures to assess their correlation with psychiatric outcomes (Aggarwal & Gerrets, 2014). Minority stress theory has demonstrated applicability not only for lesbians, as the original model intended, but also gay men and bisexual persons (Brooks, 1981; Meyer, 2003; IOM, 2011). More recent research has also applied this research to transgender

individuals and demonstrated validity for this group (Nemoto, Iwamoto, & Operario, 2003; Nemoto, Sausa, Operario, & Keatley, 2006; IOM, 2011).

Theoretical assumptions

Two major theoretical assumptions underlie this model. First, “both psychological and social dimensions of well-being” must be accounted for when considering populations in the context of minority stress theory (Calabrese et al., 2015). Utilizing this model does not allow researchers to consider only personal or social factors. Rather, the model posits that the individual exists within the social environment, and therefore both must be considered in the context of their interactions. Second, utilizing this model presupposes that sexual minority persons experience chronic stress arising from their stigmatization “similar to other minority groups (IOM, 2011). In accordance with what has been suggested by the Institute of Medicine and is discussed later in this chapter, researchers utilizing Minority Stress Theory must accept not only that stigma is a common experience for LGBT persons, but also that the experience of stigma negatively affects health (IOM, 2011). Third, stigmatization, prejudice, discrimination, and experiences of heterosexism can all contribute to minority stress and have adverse effects on a person’s well-being (McCann & Sharek 2014; Aggarwal & Gerrets, 2014; Meyer, 1995, 2010; Pascoe & Richman, 2009; Hatzenbuehler, Phelan, & Link, 2013).

Components and Symbolic Interactions of Minority Stress Theory

The Minority Stress Model conceptualizes both distal and proximal stressors within an individual’s environment (IOM, 2011). The 2011 Institute of Medicine report defined a **distal process** as “an objective stressor that does not depend on an individual’s perspective”. Distal stress processes are external to the minority individual, and include experiences with prejudice, discrimination, and violence (see box d in Figure 8). These distal stress processes are sometimes

referred to as “enacted stigma”, as discussed in chapter one (IOM, 2011). In contrast, a **proximal process** is subjective and depends on an individual’s perception (IOM, 2011). Proximal stress processes are internal, and focused on anxiety, prejudice, and feelings about one’s own identity as part of a minority group. Proximal stressors are sometimes referred to as internalized homophobia, perceived stigma, or felt stigma. Internalized homophobia refers to an individual’s self-directed stigma, reflecting the adoption of negative societal attitudes about homosexuality and applying them to oneself. Perceived and felt stigmas refer to the expectation of rejection and discrimination, which results in a stress-inducing state of continuous vigilance (IOM, 2011).

The combination of distal and proximal stressors over time produces chronically high levels of stress, which in turn contributes to poor health outcomes. Thus, minority stress theory has three primary tenets: 1) minority status (in this case, identifying as LGBT) leads to increased exposure to distal stressors, 2) In this theoretical context, distal stressors are antecedents to proximal stressors, as a byproduct of increased exposure to distal stressors, and 3) minority individuals suffer adverse health outcomes as a result of exposure to these stressors.

Definitions

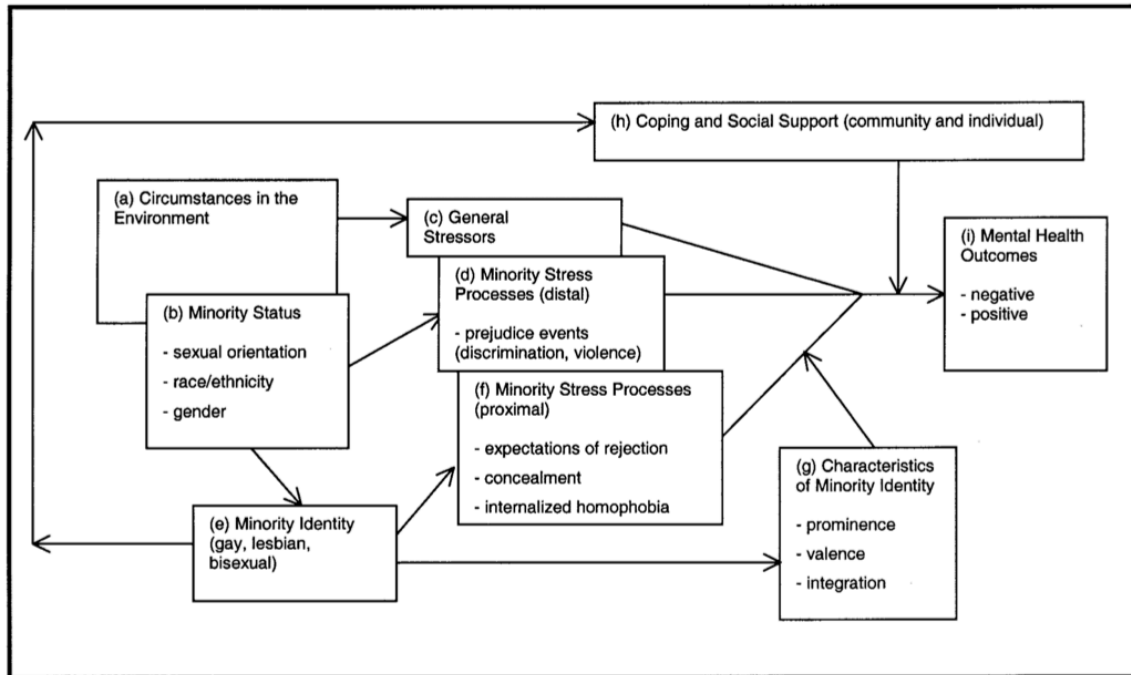
Terms in box (g) merit definitions. Prominence refers to how much someone “identifies with, is committed to, or has highly developed self-schemas in a particular life domain” (Meyer, 2003). Greater prominence is directly proportional to the emotional impact of stressors that occur (Meyer, 2003). Valence refers to “the evaluative features of identity and is tied to self-validation” (Meyer, 2003). Negative valence is generally correlated with mental health problems. Integration refers to the level of integration of a person’s sexual identity or orientation with their other identities: for example, racial or ethnic identity (Meyer, 2003).

Case Study Example

A concrete example will be presented to operationalize how an individual might experience the different concepts and constructs of Minority Stress Theory and will refer to Figure 8. It is important to note that minority stress theory can result in positive health outcomes, but a negative case study will be presented for ease of understanding.

Conner identifies as an African-American gay male (b + e). Conner lives in a small rural town in Kansas, where the population predominantly votes against gay marriage, vocalizes anti-gay sentiments, and displays racist attitudes (a). Living in this environment results in Conner hiding his sexual identity due to the stress and fear of being discovered by his community, which he believes will not accept him (c). Conner's first experience with a direct prejudice event is when his father beats him when he discovers his sexual orientation (d). In response to this event, Conner's beliefs that he will be rejected and/or in danger due to his orientation are reinforced. Conner further internalizes his community's homophobic attitudes (f), and works harder than ever to conceal his orientation. Conner's prominence is high- he strongly identifies with and commits to his homosexuality (g). However, he has not been able to find support within the African-American community, and has thus failed to integrate (g). Conner seeks social support, but there are no LGBT organizations or support groups in his small rural community, so he turns to alcohol as a maladaptive coping mechanism to deal with the stress of hiding his orientation without any support (h). The confluence of all these factors results in alcoholism and depression for Conner (i).

Figure 8. Pictographic Representation of the Minority Stress Model



Meyer, 2003

Minority Stress Theory in the Literature

Minority Stress Theory has inspired a host of studies that consider the relation of concepts within the theory to various mental and physical health outcomes. These outcomes have been examined both within the LGBT population and in the context of non-LGBT minorities, such as the African American population. Categories for the plethora of studies utilizing minority stress theory include physical health, mental health, psychological distress, substance use, violence, risk behavior, experiences in educational settings, experiences in work settings, and legal implications. Descriptions of the causal pathways between minority stress concepts and these outcomes specific to ethnic minorities will be discussed in this section.

Non-LGBT Studies

The tenants of minority stress have been applied most frequently (outside of the LGBT population) to the **African-American population**. Youth within this population have been

examined most frequently. Grollman (2012) investigated the relationship between perceived discrimination, mental health, and physical health outcomes in a nationally representative, racially diverse sample of 1,052 adolescents and young adults. Results indicated that minority groups, particularly those with multiple disadvantages, reported more discrimination. This resulted in worse mental and physical health outcomes than their less-disadvantaged peers (Grollman, 2012). This demonstrates a continuum of negative impact from discriminatory stress resulting from anticipated/enacted stigma based on minority status.

A longitudinal study of 222 African-American adolescents and young adults over four years established a link between minority stress and depression. (Kogan, Yu, Allen, & Brody, 2015). While the longitudinal design was strong, sampling is a potential flaw of this study. Initial contact and enrollment of study participants was done by “African American community liaisons” (Kogan, Yu, Allen, & Brody, 2015, p. 901). Neither these liaisons nor their sampling methodology are described in further details. Despite sampling concerns, results indicated that experiences of racial discrimination predicted depression regardless of control variables (Kogan, Yu, Allen, & Brody, 2015). Racial discrimination was assessed in terms of experienced micro-stressors, such as being treated disrespectfully because of race, which represents the concept of enacted stigma. Researchers determined that the cumulative effect of these everyday discriminatory events over time has negative impacts on this population's well-being. The researchers also examined racial self-concept, a term that refers to one’s sense of positivity about one’s race, or internalized stigma. Results determined that racial self-concept mediated the association between discrimination and depression, particularly for those with low self-control (Kogan, Yu, Allen, & Brody, 2015). These results indicate interplay of both proximal and distal stressors effecting health status.

Comparably, a study of 405 African-American adults examined if micro-aggressions (i.e. micro-stressors) predicted suicide risk (O'Keefe et al., 2014). Microaggressions are a form of discrimination that is subtle and occurs in everyday interactions (O'Keefe et al., 2014). Results demonstrated a relationship between micro-aggressions and suicide risk. Additionally, depressive symptoms emerged as a mediator in the causal pathway between micro-stressors and suicide (O'Keefe et al., 2014). These results supported the authors' hypothesis that minority stressors obstruct a person's sense of belonging and acceptance (O'Keefe et al., 2014). This increases susceptibility to depression and renders a person more vulnerable to suicidal ideation, demonstrating a path from minority stressors to suicide.

A national study of 773 female African-American college students who sought services at university counseling centers examined the impact of minority stress on anxiety and over-eating. African-American women may experience minority stress based on multiple forms of stigma, including racism, sexism, and classism (Lee, 2013). These experiences of stigma commonly result in increased anxiety (Lee, 2013). In this sample, African-American women reported overeating as a negative coping mechanism to deal with the stress resulting from these frequent and compounding stigmatic experiences (Lee, 2013).

Another study examined the relationship between enacted and internalized racism and psychological distress, as well as “the potential moderating and mediating roles of positive and negative religious coping styles” in an online sample of 269 African Americans (Szymanski & Obiri, 2010). Sampling methods were described in detail for this study, and the use of online sampling is appropriate given the potentially sensitive nature of the measured concepts. Positive religious coping involves using religion as a source of support and connection to redefine stressors, through religion, as beneficial or a way to “strengthen oneself”. Conversely, negative

religious coping involves dissatisfaction or confusion with God and “redefining stressors through religion as the act of the Devil and/or as a punishment from God” (Szymanski & Obiri, 2010, p. 3). Statistical analysis revealed only negative religious coping as a significant mediator, and only for the relationship between internalized racism and psychological distress (Szymanski & Obiri, 2010). Analysis also exposed a pattern wherein internalized racism and negative religious coping increased proportionally together. This may reflect those who experience more internalized racism feeling “inferior and believe[ing] that they deserve what they get” (Szymanski & Obiri, 2010, p. 17). Thus, the authors proposed that the pathway between internalized racism and psychological distress was moderated through individual coping styles in accordance with the individual’s self-schema (Szymanski & Obiri, 2010).

Similarly, a mixed methods study of 150 **Latino** men assessed the unique stressors of Latino day laborers work and life conditions: specifically, the relationship between discrimination and social isolation (Negi, 2013). Though purposive sampling was utilized, the hidden nature of this population justifies this limitation. Quantitative analysis indicated higher levels of reported discrimination and social isolation were significantly and positively associated with psychological distress (Negi, 2013). In qualitative follow-up of these results, participants described purposefully isolating themselves to avoid and cope with the stress of being discriminated against. In turn, this isolation “served to intensify their feelings of psychological distress” (Negi, 2013). Again, the use of coping to deal with stress is not always adaptive, and can serve as a link in the causal pathway between stressors and adverse psychological outcomes.

Gypsies (also known as travelers) have also reported harmful effects from cultural stigma. While this research was overseen by national organizations in Scotland, the research appeared to be informally conducted with minimal use of minority stress principles. However,

results seen did strongly reflect tenants of minority stress theory. Gypsies at a Scottish health fair reported that their mental health was most affected by "how others see us" (Lloyd, 2011). Stigma, prejudice, and discrimination create a hostile and stressful social environment that causes expectations of rejection, hiding and concealing for this population. Interviewees at the fair reported that racism and fear of being treated differently based on their minority status led them to hide their identity. These participants then taught their children to hide their identities as gypsies, further internalizing identity-based shame. Expectations of rejection based on their minority status also leads to frustration in this population, who face the tension between pride in their identity and hiding it from others. Additionally, interviewees reported avoiding situations that might expose them to risk. Researchers discussed that on a larger social scale, isolation as a community apart from the larger community resulted in avoidance of healthcare services as a cultural norm (Lloyd, 2011). For example, anticipation of rejection led to avoidant coping, wherein participants reported travelling "hundreds of miles" to see a known and accepting practitioner rather than open themselves up to possibilities of rejection (Lloyd, 2011).

Likewise, a qualitative study of **Native Hawaiian Elders** aimed to elucidate the social and health disparities they faced (Browne et al., 2014). A predominant theme that emerged was the tension between core cultural values of Hawaiian elders and social stressors, and how this tension influenced needs and preferences (Browne et al., 2014). Both elders and family caregivers reported being negatively impacted by stressors associated with stigma and discrimination (Browne et al., 2014). Elders spoke of being "on the bottom" at food banks because of their Native Hawaiian status, as well as healthcare providers being insensitive and disrespectful (Browne et al., 2014). These experiences of systematic discrimination by larger societal constructs led these elders to anticipate discrimination and avoid these necessary services to avoid discriminatory experiences.

Tenants of Minority Stress Theory have also been applied to discrimination on a religious basis, specifically those practicing **Paganism**. A qualitative (N=24) and quantitative (N=139) study of their experiences in the workplace examined lived experiences and their relation to job satisfaction compared to Abrahamic faiths (Tejeda, 2014). Every participant reported a process of Religious disclosure. The author stated this process was similar to “coming out”, during which stigma is experienced when actual identity is revealed and conflicts with cultural norms. Pagans reported significantly higher rates of direct victimization, higher indirect victimization, increased work tension, and lower job satisfaction related to this identity disclosure. Additionally, these relationships were greater for Pagans who involuntarily disclosed (Tejeda, 2014). The authors suggested that stigma around anticipated rejection and discrimination from this religious dissimilarity result in increased stress and vigilance in the workplace, impeding workplace satisfaction (Tejeda, 2014).

Muslim Australians have been reported as experiencing the most discrimination in Australia, second only to Indigenous Australians (Every & Perry, 2014). A study of 49 Australian Muslims examined the link between religious discrimination and self-esteem. The authors demonstrated perceived interpersonal discrimination was negatively related to self-esteem, while systemic discrimination was positively related (Every & Perry, 2014). The authors hypothesized that the internalization of negative discriminatory experiences led to the response of lowered self-esteem. However, they also discussed the possibility of a cyclical relationship between discrimination and self-esteem, wherein "experiencing discrimination leads to diminished feelings of self-esteem and thus makes perceiving discrimination in the future more likely" (Every & Perry, 2014, p. 246). The cross-sectional nature of this analysis precludes the possibility of determining directionality in this relationship.

Minority stress theory has been applied to **multiple minorities in educational contexts**. Dutch researchers have explored the impact of victimization on ethnic minority students' perceptions of belonging in school. A strong sampling methodology was used to produce a sample of 1160 ethnic minority students from 54 schools (D'hondt, Van Houtte, & Stevens, 2015). Minority students in this sample included those of Moroccan, Turkish, Eastern European, and Southern European descent. The study examined both ethnic-related and general victimization not related to ethnicity. Results consistent with theory showed that victimization negatively influenced school belonging, whether perpetrated by peers or teachers (D'hondt, Van Houtte, & Stevens, 2015). Consistent with minority stress theory, ethnic victimization was more detrimental for sense of school belonging than general victimization not related to ethnicity (D'hondt, Van Houtte, & Stevens, 2015). This implies that victimization based on ethnic stigma has specific deleterious impacts on its victims above and beyond general victimization. For example, ethnic minority students may feel obligated to achieve high test scores to prevent reinforcing the stigmatizing idea that ethnic minority students are less intelligent. (D'hondt, Van Houtte, & Stevens, 2015).

A study of college students produced similar results by examining whether belonging to majority or minority status within the college population mediated the association between poor mental health outcomes and minority status (Smith, Chesin, & Jeglic, 2014). Results determined that minority status predicted negative mental health regardless of belonging to the majority or minority status on campus (Smith, Chesin, & Jeglic, 2014). The investigators hypothesized these results were related to internalizing symptoms associated with minority status. These findings support theoretical tenants of minority stress theory. According to Meyer (2003), individuals faced with consistent stigmatizing experiences develop enduring “maladaptive coping and

cognitive processes”, such as anticipating stigma in everyday situations. “Stated simply, in the face of repeated exposure to sociocultural stress, maladaptive habits are formed, and over time, these habits no longer change simply because the initial stressor is removed” (Smith, Chesin, & Jeglic, 2014).

Though not necessarily a cultural group, a small amount of research has been done on the effect of stigma on **pedophiles**. An online survey of 104 pedophiles assessed how stigma-related stress might "negatively affect emotional and social areas of functioning, cognitive distortions, and the motivation to pursue therapy” (Jahnke, Schmidt, Geradt, & Hoyer, 2015). Fear of discovery, a stigma-related stressor, predicted reduced social and emotional functioning. In their discussion, the authors reported that pedophiles tend to overestimate the level of discrimination toward their population, and therefore fear discovery by others (Jahnke, Schmidt, Geradt, & Hoyer, 2015). This fear results in avoidant coping and precludes their ability to seek appropriate mental health care. This avoidant behavior results in harmful mental health outcomes. A literature review outlined multiple predictors and negative outcomes from eleven articles (Jahnke & Hoyer, 2013). Pedophiles have negative mental health outcomes such as increased suicidality and depression resulting from the stigma associated with pedophilic identity. Importantly, participants reported wanting mental health care related to their pedophilia, but did not pursue it. The researchers purported that these pedophiles were not receiving necessary mental health support due to fear of discrimination from health care providers. Specifically, participants believed that the stigma around their identity was so great that mental health professionals would not be able to treat them ethically, respectfully, non-judgmentally, and/or confidentially (Jahnke & Hoyer, 2013).

The authors of this literature should be taken into account. In order to sample this population, Jahnke, Schmidt, Geradt, & Hoyer (2015) collaborated with a pedophile as the last author. This persons served to “build confidence and reduce inadvertent stigmatization” during recruitment processes in online forums. The possibility of bias through this sampling methodology was not addressed in the publication, and should be accounted for when considering results. This study also failed to assess enacted stigma experienced by participants, which may be a large component of stigma-related stress for this population (Jahnke, Schmidt, Geradt, & Hoyer, 2015).

Any minority person may be subject to **acculturation stress**. Acculturation stress has been associated with increased depression, suicide attempts, and hopelessness among multiple minority immigrants (Committee on Improving the Health, Safety, and Well-Being of Young Adults, 2015). These associations are the result of discrimination on the basis of racial or ethnic minority status: specifically immigrant status, skin color, and phenotypic characteristics. Immigrant specifically experience tension between their native culture and assimilating to the dominant culture of their new home. Stress results when immigrants must determine the “degree to which they should or can assimilate” (Committee on Improving the Health, Safety, and Well-Being of Young Adults, 2015, Appendix B). Additionally, stress results from family conflict around assimilation beliefs and techniques. This family conflict weakens beneficial cultural support systems shown to buffer the effects of stress (Committee on Improving the Health, Safety, and Well-Being of Young Adults, 2015).

LGBT Studies

Much of the literature utilizing minority stress theory has examined the LGBT

population. Similar to ethnic minorities, the identity of sexual minority persons confers risk factors for physical and mental health. Descriptions of the causal pathways between minority stress concepts and these outcomes specific to sexual minorities will be discussed in this section.

Substance Use

Two strong reviews have been conducted regarding the tenants of minority stress theory and **substance use** among LGB adolescents. One meta-analytic review of 15 articles conceptualized eight broad minority stress categories: gay-related disclosures, gender/sexual identity, stress, victimization, supportive environment, demographics, and other individual characteristics (Goldbach, Tanner-Smith, Bagwell, & Dunlap, 2014). Neither sexual identity distress nor internalized homophobia were statistically significant predictors of substance use (Goldbach, Tanner-Smith, Bagwell, & Dunlap, 2014). However, one study indicated that delayed acceptance of sexual identity had a significant positive correlation with substance use (Goldbach, Tanner-Smith, Bagwell, & Dunlap, 2014). This result indicates that increased homophobia, manifested as time to accept one's identity, may impact substance use. This increased substance use was a maladaptive coping mechanism to deal with the internalized homophobia. There was a significant mean correlation between gay-related victimization (e.g., homophobic teasing) and substance use across five studies (Goldbach, Tanner-Smith, Bagwell, & Dunlap, 2014). Two risk constructs, sexual identity distress and social activities, had negative mean effect sizes, counter-intuitively indicating lower levels of risk were associated with higher substance use. However, neither of those mean effects was significant (Goldbach, Tanner-Smith, Bagwell, & Dunlap, 2014). Another review of 24 articles indicated minority stress experiences have been inconsistently related to drug use among LGB adolescents (Goldbach, Fisher, & Dunlap, 2015). Specific to minority stress theory, internalized homophobia, distress around coming out,

and “gay-specific” distress were all associated with increased drug use among young LGB persons (Goldbach, Fisher, & Dunlap, 2015).

Individual studies have also assessed correlates of substance abuse specific to minority stress for LGBT persons. In a sample of 5,542 adolescents aged 13-18, researchers tested a gender minority social stress hypothesis by comparing differences in bullying and substance use between cisgender and gender minority youth (Reisner, Greytak, Parsons, & Ybarra, 2015). Consistent with hypotheses, gender-minority youth had higher odds of substance use and bullying/harassment in the past 12 months (Reisner, Greytak, Parsons, & Ybarra, 2015). Supporting the use of gender minority stress perspectives, bullying based on gender identity mediated the elevated odds of substance use for gender minority youth compared to cisgender adolescents (Reisner, Greytak, Parsons, & Ybarra, 2015).

Risk factors specific to transgender persons have also been examined. Researchers utilized a gender minority stress model of substance use to examine the relation of enacted and anticipated stigma with substance use in a sample of 2,578 female-to-male (FTM) transgendered persons (Reisner et al., 2015). While the database for this sample was collected using purposive convenience sampling, the sample is uncharacteristically large and collected by known organizations (the National Center for Transgender Equality and the National Gay and Lesbian Task Force). It should be noted that for analysis, the sample included not only those who identified as transgender men, but also those living part-time as one gender, gender non-binary individuals, and those identifying as “gender not listed here” (Reisner et al., 2015). Enacted stigma was conceptualized through the lens of minority stress theory as having been refused care, and anticipated stigma was conceptualized as delaying medical care when sick or injured. Enacted stigma was significantly associated with further anticipated stigma and avoidance of

health care (Reisner et al., 2015). Again, participants identified substance use as a mechanism to cope with mistreatment. Delays in medical care resulting from anticipated stigma were also highly associated with substance use, mitigating the effect of enacted stigma (Reisner et al., 2015).

Researchers examined the effects of gender abuse (enacted stigma), depressive symptoms, and demographic, economic, and lifestyle factors on substance use in a prospective study of 230 adult transgender women (Nuttbrock et al., 2014). Generalized estimating equations with logistic and linear regression confirmed enacted stigma was significantly associated with multiple outcomes, including alcohol and substance use in the past six months, the use of multiple substances, and the number of times the substances were used (Nuttbrock et al., 2014). This was shown further by modeling that decreased enacted stigma correlated with decreases in substance use at multiple time points (Nuttbrock et al., 2014). This finding demonstrates a consistency of stigma's influence on substance use over time.

A similar study of 191 YMSM who reported prescription drug misuse in the past six months determined high levels of perceived stress was positively associated with both opioid and tranquilizer abuse (Kecojevic, Wong, Corliss, & Lankenau, 2015). Additionally, those with more experiences of social homophobia/racism and higher levels of depression and somatization reported higher stimulant misuse (Kecojevic, Wong, Corliss, & Lankenau, 2015). These findings indicate an effect of both distal stressors (abuse, perceived stress) and proximal stressors (homophobia, racism) on substance abuse.

Drug use has also been examined with a focus on **marijuana** use. Two studies have used structural equation modeling to apply constructs from minority stress theory to understand marijuana use. The first determined that community connectedness (a distal process) and

internalized homophobia (a proximal process) were significantly associated with marijuana use in a sample of 1,911 LGB youth (Goldbach, Schrage, Dunlap, & Holloway, 2015). The second determined that sexual minority based victimization and related psychological stress were important factors related to substance use in a sample of 1,232 LG adolescents (Goldbach, 2012). Both authors reached similar conclusions regarding the above results. Individually, drug use is a coping mechanism used to deal with stress and internalized homophobia related to sexual identity. Related to the larger community, the authors proposed a circular relationship. Marijuana use is prevalent in the LGBT community, which experiences chronic minority stress. Therefore, identifying with this community resulted in increased marijuana use as a socially acceptable coping behavior to deal with this chronic stress (Goldbach, Schrage, Dunlap, & Holloway, 2015; Goldbach, 2012). One paper further purported this relationship would be stronger for those with greater connection to LGBT community. Strong affiliation with the LGBT community results in greater disconnect with the larger heterosexual community that does not support marijuana use (Goldbach, 2012).

A third study examined whether minority related stressors were associated with marijuana use specific to 191 transgender women and their male partners (Reisner, Gamarel, Nemoto, & Operario, 2014). Discrimination related to transgender status was significantly associated with marijuana use for transgender women, but not for their male partners (Reisner, Gamarel, Nemoto, & Operario, 2014). This finding supported previous conclusions that marijuana is a coping mechanism to deal with distress. However, the lack of association with male partners' substance use was contrary to the study's hypothesis of dyadic responses to discrimination. The authors suggested that transgender women experience unique stressors apart

from their partners, and therefore use marijuana to cope independently in response to these stressors (Reisner, Gamarel, Nemoto, & Operario, 2014).

One article examined relationships between sexual orientation, experiencing and witnessing incivility and hostility, **alcohol** use, and drug use in a sample of 424 sexual minority college students (Woodford, Krentzman, & Gattis, 2012). Sexual minority participants were more likely to both witness and personally experience incivility and hostility, which mediated the relationship between minority status and problematic drinking (Woodford, Krentzman, & Gattis, 2012). Similarly, an online survey of 92 gay male students determined perceived discrimination was significantly associated with binge drinking behaviors. The authors proposed substance use as coping mechanisms to deal with increased stressors. Specifically, experiencing discrimination, personal incivility, and environmental hostility increased stress, thus increasing likelihood of negative outcomes such as problematic drinking (Woodford, Krentzman, & Gattis, 2012; Flood, McLaughlin, & Prentice, 2013).

Individual studies have also examined minority stress-related correlates of alcohol abuse in LGBT persons. In a sample of 5,542 adolescents aged 13-18, researchers examined the differences in bullying and substance use by gender identity (Reisner, Greytak, Parsons, & Ybarra, 2015). Consistent with the hypotheses, gender-minority youth had higher odds of alcohol use and bullying/harassment in the past 12 months (Reisner, Greytak, Parsons, & Ybarra, 2015). Bullying and harassment based on gender identity mediated the elevated odds of alcohol use, providing support for the hypothesis that alcohol is used as a coping mechanism to deal with victimization (Reisner, Greytak, Parsons, & Ybarra, 2015). However, the authors also reported the possibility of gender-role socialization as a cause for increased substance use. Sexual minority adolescents may belong to peer or social networks that support and/or reinforce risky

health behaviors as part of in-group norms (Reisner, Greytak, Parsons, & Ybarra, 2015). Because sexual minority youth are often bullied for “not fitting in”, they may partake in substance use to be affiliated with and assimilate with these peer groups (Reisner, Greytak, Parsons, & Ybarra, 2015).

Two longitudinal studies have examined alcohol use in relation to minority stress theory. A two and a half year longitudinal study of 246 ethnically diverse LGBT youth examined both demographic differences and psychosocial predictors of alcohol use to investigate changes in alcohol use across development (Newcomb, Heinz, & Mustanski, 2012). Related to minority stress theory, the authors examined relationships between psychological distress, sexual orientation–based victimization, and perceived family support on alcohol use (Newcomb, Heinz, & Mustanski, 2012). Both psychological distress and sexual orientation–based victimization were associated with increased alcohol use for female LGBT youth. In another longitudinal study of 12,379 youth and young adult participants, sexual minority adolescents reported higher levels of hazardous drinking than heterosexual peers (Dermody et al., 2014). This finding was especially salient for female sexual minority participants. Disparities in hazardous drinking increased as study participants approached adulthood, particularly for sexual minority men. These findings viewed through the lens of minority stress theory suggests youth with multiple intersection minority roles, such as being born female and being a sexual minority, are especially vulnerable to developing negative health outcomes such as alcohol use (Newcomb, Heinz, & Mustanski, 2012). These findings are consistent with minority stress theory, which posits sexual minority persons would more likely engage in hazardous drinking to cope with discrimination and victimization experiences due to their sexual minority status (Dermody et al., 2014).

A similar cross-sectional study examined the relationship between stigma-related stress and binge drinking in a sample of 670 MSM and transgender women (Peacock, Andrinopoulos, & Hembling, 2015). Increased self-stigma was associated with binge drinking at least weekly only for MSM. Among both MSM and transgender women, increased outness was associated with binge drinking less than weekly. These findings support multiple pathways linking stigma-related stress to alcohol use. First, alcohol may be used as a maladaptive coping strategy to deal with stigma-related stress. Alternatively, those who are more “out” may be more engaged with the sexual minority community, which often gathers in bars and other alcohol-permissive venues, thus increasing likelihood of alcohol use (Peacock, Andrinopoulos, & Hembling, 2015; Condit, Kitaji, Drabble, & Trocki, 2011).

Only one study failed to support the use of minority stress theory for alcohol use. An online survey of 866 gay and bisexual males examined associations between sexual identity, internalized homonegativity and multiple measures of alcohol use (Cabral, 2007). Findings demonstrated a small but consistent relationship between internalized homonegativity, quantity and frequency of alcohol use and drinking related consequences. However, all sexual identity variables explained less than 10% of the variance in alcohol use (Cabral, 2007). The author hypothesized that this lack of expected correlation was a result of sampling bias. It is likely that only people comfortable answering questions about their sexual identity and drinking habits completed the survey. People who view their alcohol use as problematic are less likely to be comfortable answering these questions, biasing the sample toward those with less alcohol use and related consequences (Cabral, 2007). Additionally, the sample was comprised mostly of people in the later stages of gay identity formation with low levels of internalized

homonegativity. This sample likely resulted from a similar self-selection bias, and could explain the lack of relationship between the gay identity and alcohol use (Cabral, 2007).

Both qualitative and quantitative methods have been used to understand the relationship between **tobacco use** and the LGBT population in the context of minority stress theory. One qualitative study used grounded theory to explore processes and conditions contributing to smoking and relapse in a sample of 35 lesbian and 35 heterosexual women (Gruskin, Byrne, Altschuler, & Dibble, 2009). Results indicated minority stressors/sexual stigma uniquely contributed to stress and negativity, in turn leading to smoking and relapse (Gruskin, Byrne, Altschuler, & Dibble, 2009). Tobacco use was reported by lesbian women as a coping mechanism to deal with these unique minority stressors (Gruskin, Byrne, Altschuler, & Dibble, 2009). Another study examined the relationship between sexual orientation/identity, rurality, and tobacco use in semi-structured interviews with nineteen LGB Appalachian residents (Bennett, Ricks, & Howell, 2014). These participants similarly connected stress and culture to tobacco use, but “seem less aware that partial concealment of their identity might be a source of the stress that could influence their smoking” (Bennett, Ricks, & Howell, 2014). However, the nuanced cultural context surrounding this sample likely limits the generalizability of results.

A quantitative study examined connections between transgender-based discrimination (i.e. minority stressors), smoking patterns, and barriers to smoking cessation in a sample of 241 transgender women. Discrimination was positively associated with currently smoking, unsuccessful cessation, and never attempting to quit (Gamarel et al., 2015). The researchers also determined age 14 was their sample’s average age of smoking initiation, 2-4 years earlier than average national heterosexual samples. Based on these findings, the authors purported that the stress of having a non-normative gender during this developmental period, along with feeling

pressure to “conform to familial, peer, and gender norms to avoid discrimination”, may prompt transgendered women to smoke earlier than national samples (Gamarel et al., 2015, p. 13). This smoking behavior continues as a mechanism to cope with the continual stress resulting from their sexual identity (Gamarel et al., 2015).

A longitudinal study sought to investigate the effects of psychosocial variables (psychological distress, victimization, and social support) on smoking status and rate over time (Newcomb, Heinz, Birkett, & Mustanski, 2014). An ethnically diverse sample of 248 LGBT youth ages 16-20 were followed in six "waves" or data collection periods over three and a half years. Hierarchical linear modeling determined psychological distress was associated with increased smoking and smoking rate for the current wave, but only smoking rate in subsequent waves (Newcomb, Heinz, Birkett, & Mustanski, 2014). LGBT victimization was associated with higher odds of smoking at the same wave and predicted smoking rate at the subsequent wave, thus demonstrating the relationship between minority stressors and smoking via maladaptive coping over time (Newcomb, Heinz, Birkett, & Mustanski, 2014). Though the sample was small, nationally representative data was not utilized because they generally “do not assess constructs that are nuanced to the experience of LGBT youth” (Newcomb, Heinz, Birkett, & Mustanski, 2014, p. 563). The study utilized strong longitudinal methodology, and provides good evidence to support the conclusions of smaller cross-sectional studies.

Mental Health

The majority of studies utilizing minority stress theory within the LGBT population have assessed outcomes related to mental health. A meta-analysis of thirty-one studies combined their effect sizes of "dimensional measures of internalizing **mental health problems** (i.e., depression and anxiety)" using hierarchical linear modeling (Newcomb & Mustanski, 2010, p. 1019).

Increased internalized homonegativity was associated with higher scores on dimensional measures of internalizing mental health problems, including depression and anxiety. This relationship was stronger for depression than anxiety (Newcomb & Mustanski, 2010). The relationship between internalized homonegativity and internalizing mental health problems was also stronger for those with a higher age, indicating the possible effect of compounded minority stressors and internalization over time.

A literature review produced similar conclusions specific to bisexual women (Dyar, Lytle, London, & Levy, 2015). The review confirmed that binegativity (the stigmatization of bisexuality) has deleterious impacts on the mental health of bisexual persons. Specifically, binegativity is correlated with poorer mental health and higher sexual identity uncertainty, resulting in increased depression, anxiety, and internalized negativity (Dyar, Lytle, London, & Levy, 2015). The authors proposed that bisexual persons experience more deleterious impacts than their gay/lesbian counterparts due to unique experiences of minority stress. Bisexual persons' identities are uniquely stigmatized as being unstable, illegitimate, or assumed heterosexual in a way that lesbian and gay identities are not (Dyar, Lytle, London, & Levy, 2015). This stigma from both heterosexual and LG populations both challenges the "legitimacy and validity of an individual's bisexual identity" and results in less social support to buffer this stress from both the heterosexual and LG community (Dyar, Lytle, London, & Levy, 2015, p 354). However, this review did not provide the literature search strategy, nor did it appear to follow and reporting guidelines such as PRISMA.

Individual studies have also examined the relationship between minority stressors and worsening mental health. An online study of 742 LGB Israeli participants concluded that high levels of minority stressors and low levels of coping resources predicted lower levels of mental

health. This in turn predicted lower levels of physical health (Shilo & Mor, 2014). Another examined the relationship between proximal minority stress (stigma, identity concealment, and internalized transphobia) and mental health functioning specifically for 342 transgender individuals (Wilson, 2013). Results supported the hypothesis that both distal and proximal minority stressors (such as verbal and physical violence) negatively impacted transgender persons' mental health functioning (Wilson, 2013). Identity concealment and perceived stigma were not significant predictors of mental health. Consistent with previous research, the authors suggested that both identity concealment and perceived stigma were not significant predictors; they impact mental health indirectly through correlations with identity internalization negativity. Supporting this theory, internalized homophobia was the only minority stress variable significantly associated with mental health functioning (Wilson, 2013).

An online study of 305 LGB persons sought to determine mediating and moderating factors related to discrimination. Path analysis was used to examine discrimination-related stress as a mediator between discrimination and three outcomes: physical health, mental health, and satisfaction with life (Christopher, 2012). Analysis confirmed hypotheses between predictors and outcomes; however, the mediation of discrimination-related stress was not significant (Christopher, 2012). The author interpreted these findings as a result of measurement, purporting that discriminatory events and the assessment of these events as stressful both essentially measure the same construct, perceived discrimination (Christopher, 2012). Plainly stated, though meant to measure separate concepts, discrimination and stress measures in this sample were actually both measuring the same concepts related to discriminatory and stressful experiences. Thus, a mediation pathway within minority stress theory could not be found because pathway variables were not adequately measured. The author tested internalized heterosexism, stigma

consciousness, disclosure of sexual orientation, and community connectedness as moderators on the relationship between stress and the dependent variables (Christopher, 2012). Only internalized heterosexism was a significant moderator, indicating that proximal stressors may be more important in moderating roles than distal stressors, such as community connectedness. The author also proposed that the other three variables were not significant due to lack of specificity in the measures, which may have skewed study results.

Stress has been suggested as a pathway between perceived discrimination and decreased well-being in a qualitative study (Valentine, 2015). However, Juster et al. (2015) is one of the only articles utilizing objective physiologic laboratory measures to test tenants of minority stress theory. Ten cortisol levels were obtained and compared between a samples of 20 lesbian/bisexual women, 21 heterosexual women, 26 gay/bisexual men, and 20 heterosexual men to determine if cortisol changes after exposure to psychosocial stressors differ based on sexual orientation (Juster et al., 2015). Results showed lesbian/bisexual women had higher cortisol stress reactivity after exposure to social stressors than heterosexual women; however, the men in the sample displayed the opposite pattern. The authors concluded it was unclear whether sexual orientation modulates stress reactivity, but provided support for biological links in the pathway between stressors and decreased health for sexual minority women.

Self-esteem has also been shown as a detrimental outcome resulting from minority stress experiences. A study of 56 gay men revealed a significant and negative association between internalized heterosexism and self-esteem (Roll, 2014). Providing support for minority stress theory, this paper concluded gay men internalize the heterosexist beliefs encountered in modern society, and it is through the internalization of these beliefs that low self-esteem is developed (Roll, 2014). Self-esteem and anxiety have also been examined concurrently. A study of 187

LGBQ young adults concluded both distal and proximal environmental micro-aggressions are risk factors for anxiety and perceived stress (Woodford, Pacey, Kulick, & Hong, 2015). This study used strong methodologies, including the use of both subjective and objective measures of social climate and micro-aggressions. Social, cultural, and environmental micro-aggressions target sexual minorities, which creates and sustains social structures that perpetuate heterosexism. Distal stressors may include anti-LGBQ messages in the media, while proximal stressors may include witnessing an anti-LGBQ demonstration. Exposure to these negative messages can be a “powerful reminder of one's marginalized status in society” (Woodford, Pacey, Kulick, & Hong, 2015, p. 130-131). The authors proposed the high prevalence of these micro-aggressions may have a cumulative impact that contributes to psychological distress (Woodford, Pacey, Kulick, & Hong, 2015).

Two longitudinal studies have demonstrated the association between minority stressors and **anxiety** in sexual minority persons. A qualitative study used 30-day diaries and multilevel analyses to examine associations between minority stressors and affect. Analysis was conducted using both a cross-sectional and time-lagged analyses to allow for causal conclusions (Eldahan et al., 2016). Daily minority stress significantly predicted lower positive affect, higher negative affect, and higher anxious affect for both current day and subsequent days. The authors proposed a causal pathway between minority stressors and anxiety symptoms of gay and bisexual men, substantiating the tenants of minority stress theory (Eldahan et al., 2016). However, the qualitative methodology combined with possible social desirability response biases related to mental health may have skewed these results. A quantitative study tested the same tenant within minority stress, but instead focused on the effect of homophobic victimization over seven months for 572 heterosexual high school students (Poteat, Scheer, DiGiovanni, & Mereish,

2014). Controlling for initial anxiety and general victimization, homophobic victimization at the beginning of the school year predicted higher levels of current anxiety and anxiety at the end of the school year for males. The same effect on the beginning of the school year was found for females as well, but the longitudinal effect was not demonstrated. This article provided two important additions to the pathways within minority stress between victimization and anxiety. First, the association between homophobic victimization and anxiety was stronger for males than females across time points, indicating a potential mediating effect of gender. Second, the longitudinal nature of this study allowed researchers to conclude the mental health effects of homophobic victimization are not temporary; rather, they create a negative lasting impact (Poteat, Scheer, DiGiovanni, & Mereish, 2014).

Only one study specific to 405 bisexual persons, though demonstrating a very small effect, failed to establish a statistically significant association between biphobia and anxiety (MacLeod et al., 2015). Biphobia refers to the unique discrimination from both heterosexual and sexual minority communities felt by bisexual persons. Two potential explanations for this result were offered. First, the measure of biphobia used focused on individual experiences of biphobia, not experiences as a community. Because of this focus on individual experiences, the authors hypothesized this measure failed to capture all pertinent aspects of biphobia. Additionally, the authors stated bisexual people are more likely to report group discrimination than individual discrimination, which would skew the results (MacLeod et al., 2015). Second, the authors did not fully test the minority stress model, and concluded that failing to account for general stressors not related to sexual minority status may have confounded results (MacLeod et al., 2015).

Multiple studies have examined **anxiety and depression** concurrently. An online survey of 467 LG persons investigated potential pathways by which discrimination influences

depression and social anxiety (Feinstein, Goldfried, & Davila, 2012). Results demonstrated a significant impact of discrimination on depression and anxiety. These associations were mediated by internalized homonegativity and rejection sensitivity, tenants of minority stress theory. Results also determined childhood gender nonconformity as a precursor to experiencing the discrimination involved in this pathway (Feinstein, Goldfried, & Davila, 2012). A study by Woodford et al. (2014) similarly indicated discriminatory experiences, such as experiencing hostility, incivility, and heterosexist harassment, mediated the relationship between sexual minority status and anxiety. Experiencing incivility and heterosexist harassment similarly influenced depression. An inquiry involving 135 LGBQ youth ages 13-22 used two assessments over a six-week span to examine relationships between general stressors, LGBQ specific stressors, cognitive vulnerabilities, anxiety, and depression (Simonson, 2013). Cross-sectional analysis evidenced associations between LGBQ-specific stress, increased rumination, and anxiety. Additionally, LGBQ stressors were positively correlated with anxiety, but not depression (Simonson, 2013). Based on these findings, the authors concluded the pathway between stigma and mental health for this population is not direct, but rather moderated by the internalization of homophobic messages. The common conclusion of these studies, in accordance with IOM statements, was that “the minority stress model attributes the higher prevalence of anxiety and depression found among LGB as compared with heterosexual populations to the additive stress resulting from nonconformity with prevailing sexual orientation and gender norms” (IOM, 2011, p. 39; Feinstein, Goldfried, & Davila, 2012; Woodford et al., 2014; Simonson, 2013).

Only one study failed to demonstrate the impact of stigma experiences on depression and anxiety (Grigoriou, 2014). A study of 142 same-sex attracted Mormons determined that

difficulty in seeking religious social support regarding sexual orientation was the best predictor for symptoms of anxiety and depression in this analysis. While sexual minority identity was positively associated with perceptions of stigmatization, it was not found to be predictive of mental health outcomes. The authors concluded instead that those lacking identity salience (i.e. those who did not identify strongly as either a sexual minority or Mormon) were more at risk for anxiety and depression than those who identified strongly with either their sexual minority or religious identity (Grigoriou, 2014). However, application of the theory in the study may have been flawed. Minority stressors were defined as sexual identity and stigma consciousness, which likely failed to capture the intended concept.

Multiple studies of varying methodologies have examined **depression** in the context of minority stress theory and reached similar conclusions: minority stressors, whether proximal (Lewis, Derlega, Griffin, & Krowinski, 2003; Wight, LeBlanc, de Vries, & Detels, 2012; Szymanski & Ikizler, 2013; Feinstein, Wadsworth, Davila, & Goldfried, 2014; Valentine, 2015; Roll, 2014; Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008) or distal (Lewis, Derlega, Griffin, & Krowinski, 2003; Rostosky, Riggle, Horne, & Miller, 2009; Szymanski, 2009; Szymanski & Ikizler, 2013; Szymanski & Owens, 2009; Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008), result in increased levels of depression for LGBT persons. This increase in depressive symptoms is a result of experiencing sexuality-based stigma, generally in the absence of adequate protective coping mechanisms. Coping mechanisms, such as family support or self-esteem, may buffer the negative affects within the minority stress framework. This relationship was confirmed in a longitudinal study of 312 gay men, which determined both acute and chronic sexual minority stress through the life course are positively associated with depressive symptoms (Wight, Harig, Aneshensel, & Detels, 2015).

Using a minority stress framework, a study of 355 LGBs examined the relationship between minority stressors and depression in the context of non-affirming religious settings (Barnes & Meyer, 2012). A non-affirming religious setting was operationalized as a religious social context that does not support LGBT identity. Affiliation with a non-affirming religion was associated with higher internalized homophobia, but not with mental health (Barnes & Meyer, 2012). The authors concluded non-affirming religious settings create hostile social environments for LGB persons. The hostility and lack of support from these settings results in increased internalized homophobia (Barnes & Meyer, 2012). This supported the authors' hypothesis that "internalized homophobia is not an individual trait as much as it is a reflection of an interaction between the person and her or his environment" (Barnes & Meyer, 2012, p. 512). The authors pointed out that the interaction between LGBT persons and authoritative, non-affirming religious environments likely begins in youth, when individuals are particularly susceptible to internalizing the religion's homophobic views. This socialization is likely continued throughout the lifetime, during which time the effects are compounded. The confluence of these factors results in acquired internalized homophobic beliefs that are particularly difficult to overcome (Barnes & Meyer, 2012).

Only one study failed to support minority stress theory concepts for depression in LGBT persons. In an online survey of 82 lesbian female participants, internalized homophobia and perceived social support were correlated with depression (Heffernan, 2012). However, neither factor uniquely predicted depression once personality and stress were controlled for in the regression model (Heffernan, 2012). The author proposed two rationales for these findings. First, it was difficult to show significant effects of internalized homophobia as an independent variable because the sample reported low internalized homophobia overall (Heffernan, 2012). Second, the

author proposed that internalized homophobia interacts with stress, personality, and social support to predict depression. Therefore, because internalized homophobia was not significant, neither was perceived social support (Heffernan, 2012).

A study of 200 young gay men similarly focused on structural inequalities between heterosexual and LGBT persons. This study tested a pathway within minority stress theory wherein internalized homophobia would result in substance abuse after eviction from their residence due to sexual orientation (Bruce, Stall, Fata & Campbell, 2014). Empirical testing supported this pathway, demonstrating the applicability of minority stress theory to depressive outcomes.

Multiple studies examining **psychological distress** in the context of minority stress theory determined minority stressors, whether proximal (Shilo & Savaya, 2011; Carter, Mollen, & Smith, 2014; Brewster, Moradi, DeBlaere, & Velez, 2013; Woodford, Kulick, Sinco, & Hong, 2014; Sánchez & Vilain, 2009; Breslow et al., 2015; Szymanski, Dunn, & Ikizler, 2014; Fredrick, 2015; King & Richardson, 2015; Cornish, 2012; Lyons, Leonard, & Bariola, 2015) or distal (Shilo & Savaya, 2012; Szymanski, Dunn, & Ikizler, 2014; Levitt et al., 2009; Lyons, Leonard, & Bariola, 2015), result in increased levels of psychological distress for LGBT persons. Notably, one article used an intersectional approach in a sample of 7,091 eleventh grade students to examine how student's social status was associated with exposure to peer victimization (McGee, 2013). However, only a subsection of the total sample identified as a sexual or gender minority, and this number does not reflect a nationally representative sample. Social status was operationalized as disability, sex, race, and sexual orientation statuses. Multiple logistic regressions determined those with intersectional identities experienced more victimization (McGee, 2013). Consensus among the articles was that the pathway between experiences of

minority stressors and psychological distress was largely mediated by the individual's coping mechanisms, which will be discussed later in this chapter.

One article critically analyzed these factors, presenting a cyclical association of underlying mechanisms in the relationship between sexual minority stressors and psychological distress for lesbian women (Lewis, Milletich, Mason, & Derlega, 2014). Structural equation modeling demonstrated a pathway between stigma consciousness/concealment of one's sexual orientation and psychological distress. Brooding and difficulty talking with others about sexual orientation mediated this pathway. The authors reported both factors likely result from expectations of discrimination and rejection. Discrimination leads to difficulty in talking with others, in turn resulting in more solitary coping such as brooding, eventually resulting in more psychological distress (Lewis, Milletich, Mason, & Derlega, 2014).

Psychological distress has also been explored in combination with other key variables. An intersectional study of 189 sexual minority adults over age 50 examined the intersections of ageism and heterosexism and their relationships with **psychological distress and quality of life** (Detwiler, 2015). Hierarchical regression analyses determined ageism, heterosexism, and internalized homophobia were all significantly related to psychological distress, while only ageism and heterosexism were related to quality of life (Detwiler, 2015). The presence of social support networks moderated these negative relationships, but only for lower levels of distress. Meyer's minority stress model includes both social support and individual coping strategies as stress-ameliorating mediators. In relation to this framework, these results suggest that as minority stress increases, sexual minority older adults' social networks may not be large or effective enough to ameliorate stress. These results may also reflect that people prefer not to rely on the support of others when the problem of discrimination is a socially derived issue (Detwiler, 2015).

Similarly, structural equation modeling in a sample of 673 bisexual persons indicated that both internalized biphobia and external anti-bisexual discrimination were related to greater **psychological distress and lower self-esteem** (Bertsch, 2014). In accordance with previous studies about psychological distress, both active and avoidant coping partially mediated the links between anti-bisexual experiences and mental health outcomes, discussed in more detail later in this chapter (Bertsch, 2014). This again demonstrates the pathway of coping mechanisms between minority stress experiences and psychological distress in accordance with Meyer's minority stress framework. An analysis of 54 LGB college students similarly indicated the relationship between victimization and psychological distress is not direct, but rather mediated through the effects of self-esteem (Waldo, Hesson-McInnis, & D'Augelli, 1998). Victimization results in lowered self-esteem, which in turn exacerbates psychological distress. The authors stated this proposed pathway to psychological distress adheres to Meyer's theory (Waldo, Hesson-McInnis, & D'Augelli, 1998).

Psychological distress has also been examined in conjunction with suicidality and substance abuse. An online survey of 572 LG persons demonstrated that internalized homophobia, perceived stigma, and enacted stigma (both proximal and distal stressors) were associated with higher levels of psychological distress and self-reported suicidal thoughts in the previous month (Lea, de Wit, & Reynolds, 2014). Furthermore, perceived and enacted stigmas were positively associated with suicide attempts (Lea, de Wit, & Reynolds, 2014). However, these results became less consistent when accounting for substance abuse. Club drugs were operationalized as cocaine, crystal methamphetamine, ecstasy, gamma-hydroxybutyrate (GHB), ketamine, or speed (Lea, de Wit & Reynolds, 2014). As hypothesized, higher levels of perceived stigma were associated with club drug dependence, supportive of minority stress tenants.

However, internalized homophobia was inversely associated with club drug use, and perceived stigma was inversely associated with alcohol (Lea, de Wit & Reynolds, 2014). The authors proposed an explanation in relation to activities commonly associated with the sexual minority social scene, which is traditionally situated in bars and nightclubs. Those with lower levels of perceived and internalized stigma may be more active in lesbian and gay social networks, resulting in increased exposure to alcohol and drugs (Wright & Perry, 2006). This conclusion is contrary to previous research suggesting alcohol and drugs are used to cope with minority stressors. However, studies endorsing this coping hypothesis generally involve younger, school-aged sexual minority persons (Lea, de Wit, & Reynolds, 2014). In contrast, the current study involves older participants with greater social resources, financial resources, and stability to distance themselves from these discriminatory social settings (Lea, de Wit, & Reynolds, 2014). Further, the use of a single-item suicidality measure may have skewed results, although the authors purported their measures were likely as reliable as more in-depth measures.

Research has determined LGBT persons have a higher likelihood of meeting criteria for **PTSD** than their heterosexual counterparts (Alessi, Meyer, & Martin, 2013; Lehavot & Simpson, 2014; Alessi, Martin, Gyamerah, & Meyer, 2013). Research has linked sources of this inequality to concepts from minority stress theory. The underlying assumption verified by this research was that LGBT persons experience more traumas as a result of their stigmatized sexual orientation and gender identity (Alessi, Meyer, & Martin, 2013; Lehavot & Simpson, 2014; Alessi, Martin, Gyamerah, & Meyer, 2013; Bandermann & Szymanski, 2014; Skinta, 2007). Maladaptive coping or failure to cope with this trauma results in PTSD. Only one study failed to support the use of minority stress theory to explain PTSD symptomology. While the study found a large difference in prevalence between bisexual and heterosexual individuals (17% and 8%, respectively), the

difference was not statistically significant due to insufficient sample size (Alessi, Meyer, & Martin, 2013). Thus, the authors concluded that minority stress theory hypotheses were only marginally supported by this data.

Expanding this knowledge, Bandermann & Szymanski (2014) examined heterosexual oppression experiences as predictors of PTSD symptoms through an online survey of 423 LGB persons. Results demonstrated direct effects between both sexual orientation-based hate crime victimization and heterosexual discrimination on PTSD symptoms. In addition, mediational analysis suggested internalization, detachment, drug use, and alcohol use as mediators in the link between heterosexual discrimination and PTSD symptoms (Bandermann & Szymanski, 2014). Skinta (2007) also considered mediating factors by hypothesizing that internalized homophobia would mediate the relationship between bullying and PTSD symptoms. While the results did provide further evidence for the link between stigma-driven experiences and PTSD, the mediating effect of internalized homophobia was not supported. However, internalized homophobia did have a direct effect on PTSD symptoms when controlling for bullying (Skinta, 2007). The author proposed this supported minority stress theory by hypothesizing the "context of anti-gay bullying would increase a view that it is dangerous and undesirable to be a gay male, increasing or contributing to self-stigma" (Skinta, 2007, p. 56).

Having discussed the large inequalities in mental health symptomology between heterosexual and sexual minority persons, it is important to also consider inequalities related to mental health treatment. A literature review of 75 articles revealed that sexual minority persons experience minority stressors in psychiatric treatment (Seeman, 2015). Women experiencing stigma from both gender identity and sexual minority identity experienced especially high levels of minority stress (Seeman, 2015). Of particular salience is the fact that sexual minorities often

do not disclose their orientation. There are a number of proposed reasons: fear of stigma, providers who are uncomfortable asking about sexual orientation, and the fear that providers will view their orientation as "part of a delusional process" (Seeman, 2015, p. 306). The last barrier to disclosure may be particularly relevant for older sexual minority persons who were alive when the Diagnostic and Statistical Manual of Mental Disorders (DSM) categorized homosexuality as a mental illness. Regardless of the reasons for non-disclosure, minority stressors negatively impact the quality of the therapeutic relationship between patient and provider (Seeman, 2015). However, final article selection was based on issues that this single author "considered of *a priori* importance" (Seeman, 2015, p. 305). This represents potentially serious sampling bias in the absence of a second author.

Self-Harm and Suicide

Research has examined **self-harm behavior** in the LGBT population as an important predictor of suicidal behavior. A qualitative study explored the relationship between LGBT identities, social environment, and non-suicidal self-injury (NSSI) behavior among 44 LGBT persons, ages 15-22 (Nickels, 2013). Several factors regarding NSSI emerged from these interviews, including: lack of support, invisibility, lack of voice, communication and help-seeking, managing oppression, stigma and shame, and sense of belonging (Nickels, 2013). The authors concluded being raised in a homophobic environment that supports and normalizes the negative treatment of sexual minority persons contributes to minority stress experience (Nickels, 2013). These experiences in turn adversely impact mental health and subsequent behavior, including NSSI. For some, NSSI is a maladaptive coping mechanism to deal with that social context (Nickels, 2013).

A quantitative study tested two mediation models in an online sample of 137 sexual minority college students; first, that the positive relationship between sexual minority stress and NSSI would be mediated by both perceived burdensomeness and decreased sense of belonging, and second, that the positive relationship between NSSI and suicide would be mediated by acquired capability (Muehlenkamp, Hilt, Ehlinger, & McMillan, 2015). Linear regression with bootstrapping analyses supported both hypotheses. The authors concluded that stressors specific to sexual minority status negatively influenced these mediating cognitive and emotional processes, thus increasing risk for self-harm (Muehlenkamp, Hilt, Ehlinger, & McMillan, 2015).

A traditional survey study of 1,004 white, southern, lesbian women used hierarchical logistic regression to test predictors of **suicide ideation** drawn from minority stress theory. Depressive symptoms, discrimination, social support, self-esteem, and stigma were all statistically significant predictors of both suicide ideation and attempts (Irwin & Austin, 2013). "These findings lend support to the minority stress hypothesis, which states that marginalized individuals experience greater stress and are thus likely to suffer from greater mental health problems as compared to individuals in the social majority" (Irwin & Austin, 2013, p.16). The authors further suggested that suicide ideation and attempts occur in the absence of adequate coping mechanisms, such as social support networks (Irwin & Austin, 2013). However, the specificity of the sample severely limits its generalizability. A predominantly Caucasian sample was not purposively sampled in this study. Further, preliminary analyses indicated significant differences in suicide ideation and attempts, but lack the statistical power to investigate further.

A similar study of 167 gay men examined the relationship between suicide ideation and four predictor variables: harassment/discrimination, internalized homophobia, outness, and depressive symptoms (Michaels, Parent, & Torrey, 2015). Structural equation modeling revealed

direct links from harassment/discrimination to depression/internalized homophobia, and direct links from depressive symptoms to suicide ideation, but failed to make a direct link between harassment/discrimination or internalized homophobia to suicide attempts (Michaels, Parent, & Torrey, 2015). The authors concluded their results provided partial support for the use of minority stress theory. This study failed to account for community-level variables within minority stress theory, a latent variable potentially altering study results.

A secondary analysis of survey data from 1,907 youth (13% of whom identified as a sexual minority) examined the relationships between different types of victimization and suicide (Bouris et al., 2015). Four school-specific victimizations (harassment due to sexual orientation or gender identity, bullying, being threatened or injured with a weapon, and skipping school due to safety concerns), and three general victimizations (electronic bullying, intimate partner violence, and sexual abuse) were assessed (Bouris et al., 2015). Sexual orientation itself did not predict suicide ideation or behaviors. However, being threatened or injured with a weapon and experiencing minority-specific harassment were both significantly associated with increased suicide risk. Results also determined that sexual minority youth who often skipped school to avoid these stressors had a reduced suicide risk (Bouris et al., 2015). Researchers concluded that suicide risk is directly linked to experiences of victimization. Furthermore, this study increased knowledge of "the differential pathways through which sexual orientation is related to suicidal ideation and behaviors" for sexual minority youth by considering the variegated types of victimization and violence they encounter (Bouris et al., 2015, p. 6).

A study of 6,456 transgender and gender non-conforming persons used the largest known dataset (the National Transgender Discrimination Survey) to examine factors associated with lifetime suicide attempts and how attempts vary between transgender and gender non-

conforming people (Haas, Herman, & Rodgers, 2014). Analysis revealed that several minority stressors contribute to increased prevalence of suicide attempts for transgender people. Specifically, the stressors included harassment (often at school or work), rejection by family and friends, discrimination (in health care settings specifically and in general), homelessness, victimization, and physical or sexual violence at work, school, or by law enforcement officers (Haas, Rodgers, & Herman, 2014). Additionally, suicide attempts were slightly higher among only transgender respondents than for the sample as a whole. The authors also determined mental health conditions and anti-transgender stressors, while closely related, individually increased the prevalence of lifetime suicide attempts among respondents (Haas, Rodgers, & Herman, 2014). The authors purported that, in accordance with minority stress theory, the interaction of mental health factors and minority stressors increases vulnerability to suicidal behavior in transgender and gender non-conforming individuals (Haas, Rodgers, & Herman, 2014).

Other studies have also examined **suicide attempts in the context of mental health problems**. A meta-analysis of 28 studies determined “sexual minorities—as a likely consequence of place-contingent minority stress—experience mental health outcomes such as depression, anxiety, and suicide ideation much more frequently than their heterosexual counterparts” (Lewis, 2009, p. 1029). The study further asserted that adverse mental health outcomes were a result of not only personal minority stressors, but also of larger distal stressors and contextual factors. Examples included policies, health programming, and the ways in which communities construct the concept of sexual minorities (Lewis, 2009). Similarly, a study of 986 gay and bisexual men found that personal discrimination predicted depressive symptoms and suicidal ideation. Group stigma, a term for perceived stigma against one’s group as a whole, was also associated with depressive symptoms (McGarrity, Huebner, & McKinnon, 2013). However,

this association was only demonstrated in the context of low perceived personal discrimination. This finding suggests that while multiple types of stigma lead to depression and suicide ideation, personal discrimination may be more harmful than stigma aimed at the population as a whole (McGarrity, Huebner, & McKinnon, 2013).

RELATIONSHIPS & VIOLENCE

Minority stress has been used to examine LGBT person's functioning within concepts of **relationships** and violence. An online survey of 232 gay men determined both vicarious shame and internalized homophobia significantly and negatively predicted relationship commitment (Greene & Britton, 2015). Importantly, analysis revealed internalized homophobia was a suppressor variable in the relationship between vicarious shame and commitment (Greene & Britton, 2015). The authors uncovered an underlining pattern wherein shame regarding sexual orientation was related to commitment level when internalized homophobia was added to the analysis (Greene & Britton, 2015). The authors concluded they had provided support for the minority stress model by demonstrating the role of minority stress, operationalized here as both vicarious shame and internalized homophobia, on gay male couple's commitment and relationship dynamics. While fully accounting for the impact of internalized homophobia, this analysis failed to capture data related to other minority stressors, such as external or structural stigmas.

Attachment style has also been discussed in relation to minority stress as a factor impacting relationships. A study of 166 Australian gay men demonstrated a robust impact of shame and internalized homophobia on both anxious and avoidant attachment styles (Brown, & Trevethan, 2010). Similarly, an online study of 225 gay men also revealed internalized homophobia was associated with both fearful attachment and decreased likelihood of seeking

psychological help (Quartly, 2013). The authors concluded that the anticipation and/or experience of minority stressors results in maladaptive coping styles, whereby healthy attachment is not achieved due to fear that discrimination will occur. Further, secure attachment style has been positively correlated with ability to seek mental health services (Quartly, 2013). Accordingly, disturbance in attachment style would likely impede the ability to navigate negative feelings and/or seek psychological services (Quartly, 2013). Therefore, the authors concluded attachment style may be the causal link in the pathway between minority stressors (internalized homophobia) and decreased mental health/healthcare seeking, and should be further studied with analyses that allow for causal conclusions.

Intimacy is one factor important to relationship quality that demonstrates inequity for sexual minority persons. A study of 431 LGB and heterosexual persons determined intimacy was equally meaningful for both groups, but more difficult to achieve for LGB persons (Frost, 2011). Reported minority stress barriers to intimacy included interpersonal barriers (i.e. negative perceived attitudes toward the relationship) and macrosocial barriers, such as discriminatory laws and policies (Frost, 2011). These proximal and distal stressors interact within the minority stress framework to produce a less desirable result for sexual minority persons, "privileging heterosexuals' abilities to achieve intimacy while impeding the intimacy-related pursuits of lesbian, gay, and bisexual individuals" (Frost, 2011, p. 282; Taylor, 2012). Another study of 88 men in same-sex relationships similarly determined fear of intimacy partially mediated the causal pathway between internalized heterosexism and relationship quality (Szymanski & Hilton, 2013). This causal pathway contains a cyclical relationship with internalized heterosexism, wherein internalized heterosexism generates fear of intimacy, which in turn decreases

relationship quality (Szymanski & Hilton, 2013). However it is unclear which control measures, if any, were utilized in this analysis, potentially skewing study results.

Decreased relationship quality as a function of minority stressors also has deleterious effects on well-being beyond the immediate inequity of less relationship quality. Bivariate analysis of 272 lesbian and bisexual women determined minority stressors (internalized homophobia and discrimination) were related to not only lower relationship quality, but also to domestic violence (Balsam & Szymanski, 2005). Path analysis revealed relationship quality as a mediator between internalized homophobia and recent domestic violence. Two possible pathways for these findings within a minority stress framework were discussed. Maltreatment by a lesbian or bisexual partner may directly lead to internalizing negative beliefs about these women in general. Additionally, those with greater internalized homophobia “may be more likely to remain in abusive relationships because they may harbor beliefs that they deserve the abuse” (Balsam & Szymanski, 2005, p. 266). A study of 107 gay men similarly determined increased alcohol consumption, increased internalized homophobia, and decreased outness predicted the perpetration of **intimate partner violence**, demonstrating again the importance of proximal stressors in the pathway to violence (Kelley et al., 2014). Although not statistically significant, another analysis of cross-sectional survey data similarly noted IPV was more likely for LGB individuals who experienced discrimination than LGB individuals who did not (Barrett & St. Pierre, 2013). This article proposed two explanations for this finding rooted in minority stress theory. First, a direct relationship may exist between a history of discrimination and increased minority-specific stress, which confers risk for relationship violence. Second, and inversely, “minority stressors may be increased indirectly by IPV when LGB persons experience

discrimination when trying to access services or support post-IPV (Barrett & St. Pierre, 2013, p. 19).

Confirming these findings, a multi-national online study determined both homophobic experiences and internalized homophobia increased odds of reporting IPV in all six countries studied (Finneran, Chard, Sineath, Sullivan, & Stephenson, 2012). The authors examined these results using minority stress theory, proposing two possible explanations. First, homophobia indirectly increases risk for IPV through macro processes of social stigmatization: for example, lacking safeguards against IPV afforded to married couples because national policy does not allow for same-sex marriage (Finneran et al., 2012). Alternatively, homophobia may directly increase risk for IPV due to effects of heterosexist social pressure sexual minority persons. For example, heterosexist social pressure may increase internalized homophobia, resulting increased IPV when an individual does not accept their homosexual thoughts and behaviors (Finneran et al., 2012).

A link between **intimate partner violence and disclosure** was also demonstrated in a study of 77 LGBTQ college students reporting physical intimate partner violence in their current relationship (Sylaska & Edwards, 2015). This analysis accounted for both internal and external minority stressors, although community level stressors were not analyzed. The majority of non-disclosers stated intimate partner violence was "not a big deal" (Sylaska & Edwards, 2015). Analysis also indicated that non-disclosers experienced greater minority stress. Specifically, reports of internalized minority stressors, such as identity concealment and internalized homonegativity, were higher among non-disclosers than disclosers (Sylaska & Edwards, 2015). The authors concluded the internalization of minority stress was directly related to disclosure, whereas external stressors only indirectly influence disclosure because they reinforce

internalized minority stressors. Thus, "experiencing stigma may not influence disclosure independent of the shame or behavioral consequences (manifested in internalized markers of minority stress) which may result on an individual basis" (Sylaska & Edwards, 2015, p. 333).

Minority stressors also impact **violence and victimization** outside of interpersonal relationships. For example, greater psychological distress and decreased mental health has been demonstrated as a result of victimization and homophobic interactions in both adolescence and college aged gender non-conforming and transgender students (Effring, Bleschke, & Locke, 2011; van Beusekom, Baams, Bos, & Sandfort, 2015; Reisner, Greytak, Parsons, & Ybarra, 2015). Minority stress theory provides context for these findings. The distal stressors experienced by transgender and gender non-conforming persons, such as victimization and homophobic interactions, leads directly to increased psychological distress when these persons are unable to cope successfully (Effrig, Bieschke, & Locke, 2011). These associations were true for participants in multiple colleges and geographic areas, which was a strength of this analysis.

WORKPLACE & EDUCATION

Multiple quantitative studies have demonstrated the link between minority stressors in the workplace, **psychological distress, and job satisfaction** for LGBT persons (Velez, Moradi, & Brewster, 2013; Smith & Ingram, 2004; Frost & LeBlanc, 2014; Dispenza, 2015; Boronina, 2012; Rabelo & Cortina, 2014; Waldo, 1997; Waldo, 1999; Herres, 2013). Minority stressors included non-events (anticipated discrimination), perceived discrimination, and actual discrimination. The authors of all these articles agreed that the critical pathway leading from sexual minority status to adverse mental health effects and decreased job satisfaction occurs via stress experienced because of structural and interpersonal stigma. The stress of identity management in heterosexist work environments was also identified as an important factor in

producing negative mental health outcomes. This relates well to minority stress theory, which posits that increased stress is experienced when LGBT persons experience minority stressors that reinforce minority status (Waldo, 1997). Some studies also addressed antecedents of heterosexism in the workplace, which contributes to minority stress. An organizational climate that does not view heterosexism as problematic best predicts heterosexist work environments (Waldo, 1997, 1999). Conversely, an online study demonstrated climates with greater diversity and diversity inclusivity predicted fewer experiences of heterosexist harassment (Herres, 2013). Workplace environments have a direct impact on the number of distal and proximal minority stressors an employee is likely to encounter.

A qualitative study investigated workplace minority stressors specific to 17 transgender persons (Levitt & Ippolito, 2014). This study appropriately sampled in accordance with grounded theory principles, centered on recruiting participants with a range of gender identities and experiences (Levitt & Ippolito, 2014). Transgender persons, similar to any other sexual orientation, want to be respected as themselves for their contributions and abilities. However, disclosing gender identity can work counter to this goal. Revealing gender identity could “overshadow their competence” in the workplace. Additionally, seeking social support in this context is difficult for a variety of reasons. The process of transitioning makes it more difficult to construct “safe spaces”, necessary because transgender identity is often met with violence and/or increased prejudice. Additionally, the authors noted disclosure could become public beyond the individual’s control due to the prevalence of social media (Levitt & Ippolito, 2014). This tension between desire to be respected as themselves and the need for safety from minority stressors results in distress and decreased job satisfaction.

Academia, similar to other workplaces, is an epicenter of minority stress resulting in adverse outcomes. Multiple studies have demonstrated sexual minority students are at risk for **decreased mental health and academic performance** (Woodford & Kulick, 2015; Silverschanz, Cortina, Konik, & Magley, 2007; Trenshaw et al., 2013; Mollborn, & Everett, 2015; Graham, 2012; Poteat, Scheer, & Mereish, 2014). Results from these analyses conform to minority stress theory. Experience of minority stressors in institutionally heterosexist academic settings, such as internalized homophobia or discriminatory/heterosexist acts, results in concurrent adverse effects on mental health and academic performance. There are multiple pathways through which this relationship functions. Discrimination adversely affects individual learning processes, such as motivation, concentration, and self-efficacy (Poteat, Scheer, & Mereish, 2014). Discrimination also adversely affects interpersonal and social processes, such as school avoidance and exclusionary discipline, which in turn lessen academic performance (Poteat, Scheer, & Mereish, 2014). The relationship between discrimination and decreased academic performance is antagonized in institutions that lack adequate protective factors to "help sexual minority students navigate their environment safely" (Graham, 2012, p. 2; Poteat, Scheer, & Mereish, 2014). This suggests the adverse effects occur in the absence of personal and structural protective coping mechanisms to deal with minority stressors. However, this article was not an independent study, but an opinion piece supported by current research. Research would have to be conducted to confirm the potential pathways detailed within the article.

The relationship between minority stressors and adverse outcomes was also demonstrated for **LGBT faculty** in a qualitative analysis of eighteen lesbian and gay faculty members (Dozier, 2015). Participants stated they experienced minority stressors, such as expectations of rejection and institutional heterosexism. LGBT faculty members described continually monitoring and

assessing their environments to cope with these stressors (Dozier, 2015). In the context of these prejudicial events, and while utilizing these coping mechanisms, LGBT faculty are unable to fully focus on their work and therefore underperform as a result of minority stress.

DISCLOSURE

Disclosure of sexual orientation, more commonly known as “**coming out**”, is a highly stressful time for LGBT persons. Research has examined the experiences and consequences of coming out in accordance with a minority stress framework. An overarching theme throughout articles related to coming out within minority stress theory was the combined impact of multiple factors. “It is not just direct experiences of negative events that impact on mental health and wellbeing, but also ‘the incongruence between the minority person’s culture, needs and experience, and societal structures’ that impacts the coming out experience (McCormack, Anderson, & Adams, 2014, p. 13). This discordance and experience of being different significantly impact disclosure processes (McCormack, Anderson, & Adams, 2014).

These ideas were confirmed but also expanded by an article encouraging effective support for lesbian patients in psychological settings (Hastings & Hoover-Thompson, 2011). While the article was not a research study with its own sample, the recommendations made reflect current cited literature. The article focused on the differences between rural and urban settings, concluding lesbians in rural areas were at greater risk for encountering minority stressors when coming out. This is largely due to the nature of rural communities, which often encompass conservative attitudes, fundamentalist religious beliefs, and lack LGBT specific services/resources. The contrast of lesbian identity with these values typically seen in rural settings increases risk of isolation and heightened experience of stigma due to such strong hetero-normist pressures during the coming out process. Therefore, “lesbians who decide to

come out to their rural communities often face justifiable fears surrounding possible discrimination from employers, religious organizations, schools, and even their friends and family members” (Hastings & Hoover-Thompson, 2011). This fear of real or perceived discrimination is a key principle within minority stress.

Results of seventeen interviews with self-identified gay men highlighted concerns of stigma and bias. Adaptation to perceptions of local gay communities strongly influenced participant’s identity development. Many reported strict adherence to stereotypes of gay men in order to be accepted in the community (Belous, Wampler, & Warmels-Herring, 2015). This process of adaptation fits well within the framework of minority stress theory, which presupposes that LGBT persons feel stress, often daily, as a result of their sexual orientation. “LGB people are seen as subject to a “constant coming-out” process, in which each day they must choose the level of disclosure that they feel comfortable with in their interactions with others” (Belous, Wampler, & Warmels-Herring, 2015, p. 56). In accordance with Minority Stress Theory, stress related to being accepted by peers directly impacts the approach to identity development discussed above. The stress related to this process influenced the rate at which an individual moved through the coming-out process, as well as how an individual adapted to his new identity (Belous, Wampler, & Warmels-Herring, 2015). This research further expands the conceptualization of minority stress theory related to the gay community and the ability to be accepted by peers.

Qualitative analysis with children revealed both similar and unique challenges related to the coming-out process. Researchers conducted 30 interviews with LGBT persons aged 14-17 to examine the consequences of disclosure specific to youth (Goldbach, 2015). Over 90 unique minority stressors emerged from analysis, more than half of which were related to school and

family environments (Goldbach, 2015). The authors concluded the minority stress framework accounts for much of the variation in the coming out experience for both LGBT youth and adults, demonstrating the theory's utility as a framework for understanding both population's experiences (Goldbach, 2015). However, the consequences of coming out appear much more severe for LGBT youth due in large part to their lack of both knowledge and resources. Youth are more likely to experience stress due to lack of knowledge regarding sexual identities, as well as limited access to an LGBT community that could provide education and support.

Additionally, youth face homelessness post-disclosure because they lack the financial and supportive resources necessary to "change their social context" (Goldbach, 2015, p. 1).

Coming out experiences have also been examined in specific contexts, such as in the workplace and to healthcare providers, with similar conclusions regarding disclosure within the framework of minority stress theory. Analysis of 43 same-gender couples revealed significant associations between internalized homophobia, workplace non-discrimination policies and **sexual identity disclosure at work** (Bouzianis, Malcolm, & Hallab, 2008). Internalized homophobia had the strongest association among these variables. The authors stated internalized homophobia influences self-acceptance, which in turn influences disclosure. Evidencing this conclusion, lower levels of internalized homophobia are associated with greater disclosure (Bouzianis, Malcolm, & Hallab, 2008). However, this article used snowball convenience sampling, and failed to account for the potential intersectional effects of race on study outcomes. This finding has been replicated in dyads, wherein an individual's disclosure status in the workplace has been associated with their partner having lower internalized homophobia (Bouzianis, Malcolm, & Hallab, 2008).

Disclosure experiences to healthcare providers show similar patterns. Factors associated with non-disclosure include: assumption of heterosexuality, level of internalized homophobia, sexual identity, degree of connectedness to the LGBT community, discrimination history and experience, expectations of stigma, and the intersections of multiple minority identities such as sexual orientation, gender, race, and age (Durso & Meyer, 2013; Davis & Soka, 2016; Keary, 2015; St. Pierre, 2013). Older LGBT adults in particular may avoid or delay necessary healthcare experiences due to fear of inadequate treatment based on sexual orientation or gender identity (Keary, 2015). These proximal and distal minority stressors prevent disclosure and care seeking, thus precluding adequate physical and mental health maintenance. Therefore, experiencing minority stressors creates a pathway between the stressors themselves and decreased health through non-disclosure.

LARGER SOCIAL CONSTRUCTS

Exposure to minority stressors has been proposed as a key component in the causal pathway between social policies and adverse mental health outcomes based on a review of existing literature (Hatzenbuehler, 2010). Research has established that endorsement of **anti-LGBT policies** results in increased exposure to sexual minority-specific stressors (Hatzenbuehler, 2010). For example, in 1992, Colorado passed an amendment outlawing government protection of LGBT persons based on their minority status (Hatzenbuehler, 2010). After this amendment was passed, LGBT persons reported more homophobic experiences, including anti-gay media stories, graffiti, comments, and jokes (Hatzenbuehler, 2010). These anti-LGBT stressors resulted in a lost sense of safety (Hatzenbuehler, 2010). This correlation between anti-LGBT policy and stigmatizing experiences reflects the relationship between distal stressors (i.e. discriminatory

laws) and stress related to discriminatory experiences identified in Meyer's minority stress theory.

Confirming the interaction of minority stressors and laws, a study of 373 Italian LG adults examined the relationship between stigma and **views on marriage** (Baiocco, Argalia, & Laghi, 2014). The majority of participants expressed support for legalizing same-sex marriages. However, regression analysis demonstrated an inverse relationship between internalized stigma and support for same-sex marital laws (Baiocco, Argalia, & Laghi, 2014). An identical inverse relationship was found between internalized stigma and desire to marry. These interactions suggest internalized homophobia decreases confidence in one's own ability and desire to be married. This decreased confidence negatively impacts views on the utility of marriage for LGBT persons. Specifically, personal feelings of not being worthy or capable of marriage resulting from internalized homophobia may negatively impact support of marriage equality. This finding can also be situated in the context of Italian culture wherein marriage is largely a religious-based construct, and therefore naturally exclusive regarding LGBT persons (Baiocco, Argalia, & Laghi, 2014).

Policies also have an impact on other large social structures, such as **military experiences**. In a qualitative study of 18 individuals (9 couples), the policies and culture of the military exacerbated pre-existing minority stress, which in turn exacerbated general deployment-related stressors (Curtis, 2014). Participants described the military declaring, "you can't be this way and you should hide" (Curtis, 2014, p. 60). This discrimination resulted from interactions with individual superiors, as well as military-wide policies such as "Don't Ask, Don't Tell" (DADT). Specifically, both military members and their partners reported increased fear and isolation. The tension between these proximal minority stressors, distal minority stressors, and sense of pride in

military service resulted in considerable distress for this population. However, the intersectionality of race and sexual orientation on outcomes was not accounted for, a flaw in the analysis of this relatively ethnically diverse sample.

LGBT persons have also had issues with **law enforcement** related to minority stress theory tenants. Analysis comparing 869 heterosexual youth and 869 LGBQ youth in high school examined relationships between sexual orientation, disparities in school suspension and juvenile justice system involvement, victimization, punishable infractions, and disciplinary actions (Poteat, Scheer, & Chong, 2015). Punishable infractions included substance use, truancy, weapon carriage on school property LGBQ youth were more likely to experience punitive discipline than heterosexual youth for similar rates of infractions. Additionally, a weak effect was found for the mediating effect of victimization between sexuality and disciplinary action (Poteat, Scheer, & Chong, 2015). These results indicate the impact of victimization on a structural level. On a more proximal level, analysis of 989 gay and bisexual men examined the impact of minority stressors on LGBT views of police officers. Experiences of past discrimination from officers led participants to anticipate rejection and stigma from police. As a result of these experiences and viewpoints, most participants perceived the police as less helpful for a gay or bisexual male intimate partner violence victim than for a heterosexual female victim (Finneran & Stephenson, 2013). This perception is the result of minority stress processes. Previous experiences of homophobia from law enforcement resulted in anticipated rejection and stigma from law enforcement (Finneran & Stephenson, 2013). This anticipation of rejection fueled beliefs that law enforcement officials would not be helpful for sexual minority victims.

An online study of 202 sexual minority men explored the influence of minority stress on different **life roles** (Dispenza, 2011). Using path analysis, the results revealed relationships

between different minority stressors and outcomes specific to four life roles: partner, occupational, homemaker, and parent (Dispenza, 2011). Dyadic adjustment within these roles was influenced by both internalized homophobia and stigma sensitivity. Dyadic adjustment, in turn, mediated the relationship between internalized homophobia and partner role saliency, between internalized homophobia and parent role saliency, and between stigma sensitivity and partner role saliency. Relationships were inverse; as internalized homophobia increased, partner role saliency decreased (Dispenza, 2011). Specifically, increased internalized homophobia negatively impacted the way couples argued, sought satisfaction in the relationship, and expressed affection. These are all factors that affect saliency. None of the minority stress variables were significantly related to career satisfaction. However, the Life Role Saliency Scales utilized in this analysis had not been previously used for sexual minorities, and neither reliability nor validity were tested before its use.

Expanding on partner roles, some research has examined associations between stigma and outcomes for dyads. This is important because being in a same-sex partnership can beget unique minority stressors not accounted for solely at the individual level (Frost et al., 2017). Specific to sexual minority dyads, LeBlanc, Frost, and White (2015) outline a combination theoretical framework for this conceptualization of stigma's impacts on health, based on principles of both stress-proliferation approaches and Minority Stress Theory. Applying this framework, further research including a meta-analysis has confirmed the existence of unique dyadic stressors experienced within same-sex partnerships (Doyle & Molix, 2015; Frost et al., 2017; Rostosky & Riggle, 2017). This meta-analysis of 35 studies identified a small but significant association between stigma and relationship functioning (Doyle & Molix, 2015). This

association was moderated by the type of stigma experienced, relationship functioning, and race, though moderation results for the latter were mixed.

Parenting is an especially salient issue for LGBT persons, involving personal, interpersonal, and structural/societal experiences of minority stressors. A meta-analysis revealed the only significant distinction between heterosexual families and sexual minority families is "the stigmatization attached to their sexual orientation" (Young, 2014, p. 3). For some, the inability to become parents due to legal constraints resulting from their sexual minority status increased experiences of stress (Goldberg, Moyer, Weber, & Shapiro, 2013). The authors also described children being worried that guardianship provided by same-sex foster parents could be revoked at any time. This led to confusion and anxiety about their parents' inability to legally adopt them (Goldberg, Moyer, Weber, & Shapiro, 2013). The authors concluded minority stress related to legal discrimination based on sexual minority status can result in distress for both parents and children. This legal discrimination serves as both "a symbolic affirmation of societal heteronormativity, and a practical barrier to achieving legal recognition as a parent" (Goldberg, Moyer, Weber, & Shapiro, 2013, p. 56). These symbolic and practical barriers perpetuate institutionalized discrimination against sexual minority adopters, ultimately both creating and exacerbating minority stress (Goldberg, Weber, Moyer, & Shapiro, 2014).

Even those able to legally become parents are not exempt from the effects of minority stressors. An online study of 94 adoptive gay fathers determined minority stressors were significantly negatively associated with perceived parental competency. This competency, being the confidence in and satisfaction with their parenting role, had an association which coping strategies failed to mediate (Finkbeiner, 2013). Similarly, a study of lesbian mothers demonstrated several findings related to minority stress (Young, 2014). First, an increased

expectation of discrimination (I.e. anticipated homophobia) was associated with increased parenting stress. Second, increased overall scores on the Minority Stress Scale were significantly associated with increased parenting stress. Third, as positive and negative stressful life events increased, so did minority stress. The author concluded that sexual minority-specific stressors produce a stressful environment, negatively impacting overall parenting distress (Young, 2014). Wycisk (2015) similarly concluded minority stress was a risk factor for parenting stress. In a slightly different conclusion, the authors determined the stress of being a sexual minority parent results from the tension between sexual minority identities and normalized heterosexual parental social roles (Wycisk, 2015). These stressors, and the resulting tension, undermine the status and quality of parent-child bond.

Within parenting, the issue of **school engagement** was specifically addressed. A cross-sectional study of 68 same-sex adoptive couples reported associations between stigma and school engagement. Parents in more homophobic communities reported increased school engagement, potentially indicating an attempt to ameliorate this homophobia by becoming more involved. However, parents reported higher satisfaction, more engagement, and better relationships with teachers in school environments exhibiting less homophobia and stigma. (Goldberg & Smith, 2014). These associations can be examined through the lens of minority stress theory. While public opinion regarding same-sex parenting is becoming more positive, same-sex parents are still viewed as inherently "different" (Perey, 2015). In this social context, schools are still largely heteronormative institutions (Perey, 2015). The combination of these stressors related to sexual minority status results in same-sex parents concealing their identity or reporting fewer interactions within these institutions to avoid discriminatory experiences, thus demonstrating the pathway between minority stress and school engagement (Perey, 2015). However, this

dissertation work had a small sample (five parents and five school counselors) which should be taken into account when considering study findings.

Children of gay and lesbian parents have also been examined in terms of their social experiences and subsequent psychological outcomes, revealing conflicting results. A study of 67 Dutch adolescents with lesbian parents examined the relationship between same-sex parenting and internalizing and externalizing delinquent behaviors, such as breaking rules or physically fighting (van Rijn-van Gelderen, Bos, & Gartrell, 2015). While results revealed family type had no impact on either problem behavior, children who experienced more homophobic stigmatization demonstrated increased levels of both internalizing and externalizing problem behavior (van Rijn-van Gelderen, Bos, & Gartrell, 2015). These behaviors may be the result of two diverging pathways. In the first, adolescents refrain from disclosing stigmatizing experiences to parents. This causes increased internalizing behaviors as the adolescents attempt to deal with the stigma alone. In the second, adolescents refrain from disclosing not only the stigmatizing experiences, but also resulting psychological distress. This results in not only psychological distress itself, which may be manifested as anxiety or nightmares, but also external problem behavior as a reaction to these stressors (van Rijn-van Gelderen, Bos, & Gartrell, 2015). This finding aligns with minority stress theory, which would posit these behaviors as a maladaptive coping mechanism to deal with the stress of having sexual minority parents.

However, a study of 91 adults reared by gay and lesbian parents revealed no significant differences in long-term psychological adjustment (Lick, Patterson, & Schmidt, 2013). The authors proposed that while children of sexual minority parents do face stigma, these experiences teach them coping skills to deal with "difficult social experiences". It can be hypothesized that learning these skills resulting from stigmatizing experiences mitigates the negative effect of

minority stressors on mental health, resulting in overall positive adjustment. Confirming this hypothesis, participants perceived a positive trend in their social experiences over the life course (Lick, Patterson, & Schmidt, 2013). However, it is important to note this study retrospectively analyzed adults, who are more emotionally mature than children and have had additional time to develop adaptive coping strategies.

PHYSICAL HEALTH

Disparities in the **utilization of health care**, whether outpatient or homecare services, have been demonstrated as a result of stress related to sexual minority status. LGBT adults of all ages are much more likely than heterosexual adults to delay or completely avoid medical care (De Vries & Herdt, 2012). Institutionalized heterosexism, feelings of shame or guilt, and internalized homophobia all contribute to decreased service utilization by LGBT persons (De Vries & Herdt, 2012). These factors are especially salient for older LGBT persons, who have personally faced the history of discrimination and harassment within healthcare setting. Similar patterns are seen for those requiring homecare. Qualitative analysis of interviews with 16 sexual minority women utilizing government homecare services revealed discriminatory experiences resulting in social isolation and chronic anxiety (Grigorovich, 2015). Both articles demonstrated the use of avoidant coping as a factor in the pathway between these minority stressors and health care service utilization. This pathway, and the resulting avoidance of care, negatively impacts the health of LGBT persons.

Disparities in **physical health** itself between heterosexual persons and sexual minorities has been demonstrated using a number of measures and methodologies. A literature review of 21 articles concluded these disparities are directly related to experiences of minority stress (Lick, Durso & Johnson, 2013). Individual studies have confirmed this conclusion. Using the physical

symptom severity scale, an online survey study of 564 LGB persons indicated perceived experiences of discrimination were associated with higher levels of physical symptom severity (Denton, Rostosky, & Danner, 2014). Additionally, this pathway was mediated by individual coping styles. These results supported author hypotheses (rooted in minority stress theory) that a conceptual pathway exists between proximal minority stressors and physical health. An analysis of 474 LGB adults provided support for this same pathway by using structural equation modeling to reveal a direct pathway between discrimination and physical health (Walch, Ngamake, Bovornusvakool, & Walker, 2015). In this study, physical health was operationalized as a self-rated overall health item, items assessing the number of sick days and physician visits in the past year and the frequency of use for seven types of nonprescription medication (Walch, Ngamake, Bovornusvakool, & Walker, 2015).

A large sample of 1,187 LGB persons taken from a nationwide population based health survey in Sweden examined the relationship between minority stressors and physical health. Physical health was operationalized as both physical health symptoms, such as pain or intestinal problems, and conditions, such as diabetes or asthma. Perceived discrimination, victimization, and threats of violence were all positively correlated with disparities in sexual minority persons' physical health (Bränström, Hatzenbuehler, & Pachankis, 2015). The authors concluded these results pointed to potential minority stress mechanisms underlying disparities in physical health, thus supporting a pathway in the minority stress model between minority-specific stressors and physical health for LGB persons (Bränström, Hatzenbuehler, & Pachankis, 2015). This negative impact of minority stress on physical health is likely compounded over time (Muraco, 2014).

A longitudinal study attempted to confirm the relationship between minority stressors and decreased physical health over time for 396 participants (Frost, Lehavot, & Meyer, 2013).

Participants completed interviews at baseline and one year later. Examples of physical health in this study included hypertension, HIV and cancer (Frost, Lehavot, & Meyer, 2013). Results demonstrated an association between minority stress exposures at baseline when controlling for general life stressors, in concordance with previously discussed articles. This again demonstrates the immediate deleterious impact of minority stressors on physical health above and beyond the effect of stressful life events unrelated to prejudice" (Frost, Lehavot, & Meyer, 2013). However, the results failed to support the relationship between minority stressors and decreased physical health at follow-up, thus failing to support this pathway when controlling for time (Frost, Lehavot, & Meyer, 2013).

Exclusion from sport is another factor to be considered in the relationship between minority stressors and decreased physical health. Qualitative analysis of interviews with ten transgender persons examined distal and proximal stressors specific to transgender identity, and how these stressors may impact exclusion from sport within the framework of minority stress theory (Hargie, Mitchell, & Somerville, 2015). Participants discussed how public spaces, specifically locker room environments, could be intimidating. The anxiety of using the 'other' gender's locker room often prevented participants from sport. This anxiety involved not only how others would perceive them, but also how their presence might offend others. Additionally, participants described alienating sport experiences in school, wherein participants were not allowed to participate in sports that better suited their gender identity (Hargie, Mitchell, & Somerville, 2015). For example, one participant recalled asking if she could play volleyball with the girls instead of football with the boys. This request was met with immediate refusal, producing and perpetuating internalized homophobia through the context that these preferences were inherently wrong. However, this methodology requires participants to recall events

occurring years or decades prior, which alters the reliability of recall. Exercise is a well-known factor in maintaining physical health, and these results indicate transgender persons are excluded from participating in these events due to minority stressors occurring on the basis of their gender identity (Hargie, Mitchell, & Somerville, 2015). Thus, minority stressors in athletic environments deny transgender persons "the social, health and wellbeing aspects of sport" (Hargie, Mitchell, & Somerville, 2015, p. 10).

Limited research has been conducted demonstrating a link between minority stressors and **unhealthy eating patterns**, including anorexia, laxative use, binge eating, and purging. Importantly, none of the research conducted on this topic included transgender persons in their sample. What research has been done has all demonstrated significant associations between these stressors and eating disorders among LGB persons. Katz-Wise et al., (2015) concluded associations between minority stressors and eating disorders were partially explained by internalizing behaviors, a key tenant of minority stress theory. Similar results from Mason (2015) concluded both sexism and heterosexism were associated with negative affect, which in turn was associated with binge eating using hierarchical linear modeling in an online sample of thirty lesbian women who reported binge eating in the past week. However, this article also considered the potential moderating effects of identity affirmation and social factors. While identity affirmation moderated the relationship between heterosexism and daily binge eating by strengthening it, this relationship was not demonstrated for social support or social isolation (-Mason, 2015).

A sample of 13,795 youths compared those who identified as completely heterosexual with sexual minority persons on eating disorder outcomes. Among women, lesbians were more likely to report binge eating, while females identifying as mostly heterosexual and bisexual were

more likely to report both binge eating and purging (Austin et al., 2009). Among males, all sexual minorities were more likely than heterosexual males to report both binge eating and purging (Austin et al., 2009). Similarly, Katz-Wise et al., (2015) demonstrated significant positive and inverse associations between stressors and eating behaviors for both genders, but found more significant associations among females. These behaviors were proposed as a maladaptive coping mechanism to deal with abuse, bullying victimization, psychological distress, and disapproval from parents, all of which create stress negative affect that must be addressed.

CONCLUSION

The literature discussed above demonstrates the validity of using minority stress theory to examine health outcomes for LGBT persons. Regardless of the various predictors and outcomes discussed, results were able to support the existence of causal pathways between predictors and outcomes within the minority stress framework. Overall, the results indicate that an increase in minority stressors, particularly internalized homophobia, results in adverse outcomes for LGBT persons. The multitude of articles utilizing minority stress theory demonstrates its utility for studying health outcomes in the LGBT population.

Sexual and Ethnic Minorities

A multidimensional minority stress context must be considered for those encompassing both a sexual or gender minority identity and a racial or ethnic minority identity (Calabrese et al., 2015). Identification with either identity exposes an individual to a certain amount of resulting stigma and discrimination. Thus, the intersection of these identities poses unique risks and pathways through minority stress theory, as the adoption of multiple minority identities allows for additive and/or intersectional effects (Whitfield, Walls, Langenderfer-Magruder, & Clark,

2014). Poor health or social outcomes can result from the combination of minority stress pathways derived from the intersection of multiple minority identities.

Regardless of specific minority identity, ethnic minorities often have worse health and social outcomes than Caucasian persons. Results from a study of 116 adolescents indicated racial/ethnic sexual minority youth are at increased risk for substance abuse, poor mental health, sexual abuse, and poor academic performance than white peers (Craig, 2015). A study incorporating 403 African American, 393 Asian and Pacific Islander (API), and 400 Latino MSM revealed discrimination based on both race and sexual orientation are particularly important predictors of depression and anxiety (Kyung-Hee, Paul, Ayala, Boylan, & Gregorich, 2013). These associations did not vary across racial/ethnic identities A study of 172 Asian and Latino MSM further concluded the internalization of both racism and heterosexism may result in discomfort expressing affection with other men, a pathway that results in psychological distress (Bishop, 2014).

Results regarding substance use outcomes for multiple ethnic/racial and sexual/gender minorities are complicated. In a study examining substance use by African American, Asian/Pacific Islander and Latino MSM, experienced racism was associated with higher levels of drug use (Paul, Boylan, Gregorich, Ayala, & Choi, 2014). However, sexual minority discrimination was not associated with drug use (Paul et al., 2014). Youth with intersectional minority identities are at particularly high risk for poor outcomes. Analysis of data from the 2005-2007 Youth Risk Behavior Surveys in 14 jurisdictions indicated all sexual minority youth were more likely to experience depression, self-harm, and suicidal ideation (Bostwick et al., 2014). However, among the sexual minorities, Asian and AA participants had lower odds of harmful outcomes, whereas American Native/Pacific Islander, Latino, and Multiracial youths

had higher odds compared to White youth (Bostwick et al., 2014). Ethnic sexual and minority youth also have poorer school performance outcomes than white sexual minority peers (Craig & Smith, 2014). Only one study failed to identify ethnicity as an additional minority stressor associated with negative outcomes (Hayes, Chun-Kennedy, Edens, & Locke, 2011). However, this study pooled racial minority identities and sexual/gender minority identities into one group for analysis, potentially skewing results (Hayes, Chun-Kennedy, Edens, & Locke, 2011).

Minority stress disparities have been studied most extensively for **African American (AA)** LGBT persons in a variety of contexts. Discrimination experienced by AA adolescent men may contribute to increased incidence of risky sexual behavior (Pocock, 2012). Concerning mental health, the combined effects of racism and homophobia, especially when internalized, contribute to psychological distress and depression for even young AA-MSM (Wong et al., 2014; Gattis & Larson, 2015). Importantly, community/social support such as that seen in House and Ball Communities can help ameliorate this distress, though stigma can continue to negatively affect mental health even in protective settings (Wong et al., 2014).

AA women, who are triply marginalized according to their race, gender, and sexual orientation, experience particular difficulty with minority stressors (Calabrese et al., 2015). A study testing the effects of combined minority stress sampled 64 AA sexual minority women, 67 Caucasian sexual minority women, and 67 AA sexual minority men (Calabrese et al., 2015). The AA sexual minority women fared worse than comparison groups, reporting greater discrimination and poorer social and psychological well-being (Calabrese et al., 2015). This multidimensional minority stress contributes to a number of negative health outcomes for AA sexual minority women, including increased substance abuse and decreased mental health (Semino, 2009).

Literature has also demonstrated negative health outcomes resulting from the intersection of **Latino/a** and sexual/gender minority identities. A study of latino/a gay, bisexual, and transgender persons found both internalized and enacted stigmas were associated with wanting to change one's sexuality, shame, and social rejection (Booth, 2015). Multiple minority stressors were also associated with increased alcohol use in a study of 190 immigrant sexual and gender minority Latino/a's (Gilbert, Perreira, Eng, & Rhodes, 2014). Internalized racism, internalized homophobia, and the combination of these stigmas were all shown to negatively impact self-esteem in a sample of 173 sexual minority Latino/a adults (Velez, Moradi, & DeBlaere, 2015). All these results demonstrate how "multiple forms of oppression contribute additively and interactively to mental health in this population" (Velez, Moradi, & DeBlaere, 2015).

While similar pathways have been studied for **Asian** sexual and gender minority outcomes, the focus has been largely on mental health (Sung, 2014). In a study of 139 Asian American gay men, sexual minority stress predicted low self-esteem, and both of these factors predicted psychological distress (Chen & Tryon, 2012). Racial minority stress was not a significant predictor of psychological distress (Chen & Tryon, 2012). However, two studies with over 140 Asian American LGBTQ persons concluded both heterosexism and racism significantly predicted psychological distress (Szymanski & Sung, 2010; Sandil, Robinson, Brewster, Wong, & Geiger, 2015).

HIV & MINORITY STRESS THEORY

Similar to associations seen in the literature review, some work has approached HIV-related outcomes from a theoretical perspective of minority stress. **HIV risk behavior** has been associated with minority stressors in a multitude of studies. An online study of 1,369 MSM determined HIV acquisition risk was positively associated with neighborhood-wide sexual

orientation-based discrimination. This association was not found for race-based discrimination, indicating a specificity of risk according to discrimination type (Frye et al., 2015). A longitudinal study over the course of 18 months likewise concluded internalized homophobia, discrimination and anticipated stigma were associated with HIV risk behavior, operationalized as unprotected anal intercourse (Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008). Likewise, the associations between internalized heterosexism and unprotected anal intercourse have been shown for both urban (Kashubeck-West & Szymanski, 2008) and rural men (Preston, D'augelli, Kassab, & Starks, 2007). A study of 374 gay and bisexual men determined distal minority stressors were positively correlated with proximal minority stressors and emotion dysregulation. Analysis involved multiple steps, increasing confidence in study results. These dependents were then correlated with sexual compulsivity, both directly and indirectly through anxiety and depression (Pachankis et al., 2015).

Specific to transgender women, participants in semi-structured interviews reported experiencing minority stress from society in the forms of violence, harassment, and ridicule (Kaplan et al., 2015). The authors concluded that in the absence of social support, these stressors increase transgender women's vulnerability and negatively impact self-esteem as a result of internalizing this societal stigma. "In turn, these factors can lead to, cause an increase in, and fuel the circumstances that are most conducive to engaging in risky sexual behaviors" (Kaplan et al., 2015, p. 932). Analysis of 433 transgender persons similarly provided limited support for an interaction between transphobic minority stress experiences, racism stressors, and increased HIV risk behaviors (Longman Marcellin, 2012).

The consensus of all these articles is the hypothesized causal relationship between minority stressors and risky sexual behavior. Increased minority stressors require LGBT persons

to utilize coping mechanisms. Some LGBT persons may turn to maladaptive avoidant coping mechanisms to deal with minority stressors. These coping mechanisms may include risky sexual behavior, or may indirectly promote risky sexual behavior through alcohol or substance use (Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008; Kaplan et al., 2015).

The relationship between **minority stressors, risk behavior and substance use** remains unclear. A multivariate logistic regression analysis of reports from 450 gay and bisexual respondents found no significant associations between three minority stress factors, substance use, and risky sexual behavior (Dentato, Halkitis, & Orwat, 2013). Expectation of rejection was expected to be a risk factor, but was found to be associated with lower odds of unprotected anal intercourse with primary and non-primary partners. However, this finding was likely due to measurement concerns, as this variable had a Cronbach α of just 0.40. The authors concluded these results were questionable and likely did not reach significance (Dentato, Halkitis, & Orwat, 2013). Similarly, another study examined the impact of three minority stress variables, external prejudice, expectations of rejection, and internalized homophobia on unprotected anal intercourse (Dentato, 2011). Results revealed no significant associations related to external prejudice or internalized homophobia. However, contrary to hypothesis, expectation of rejection was again found to be associated with lower odds of unprotected anal intercourse with primary and non-primary partners (Dentato, 2011). Both studies concluded further research was needed to fully elucidate the causal pathways involving minority stressors, substance use, and risky sexual behavior.

Minority stressors also have a direct effect on **HIV testing** behaviors. Results from a study of 506 MSM indicated internalized homonegativity was adversely associated with HIV testing in both bivariate and multivariate regression models. Additionally, discrimination from

providers strengthened this relationship (Andrinopoulos et al., 2014). Based on this relationship between risk factors, the authors focused on "the importance of context on the internalization of shame related to sexual orientation and subsequent health seeking behavior" (Andrinopoulos et al., 2014, p. 69). The strength of these results lies in their ability to demonstrate a link between proximal, distal, and structural minority stress concepts within the minority stress framework. The significance of internalized homophobia as a risk factor indicates this may be the most important minority stressor related to this behavior. Because this factor resides within the individual, it may exert more direct effects on the behavior, though still influenced by external stressors (Andrinopoulos et al., 2014).

HIV, MST, & Multiple Minority Identities

Again, it would be imprudent to ignore the importance of multiple minority identities in shaping HIV-related outcomes. A study of 206 MSM indicated psychological distress and MSM-related stigma placed all participants at most risk for HIV acquisition (Lelutiu-Weinberger, Gamarel, Golub, & Parsons, 2014). Psychological distress moderated this relationship. However, African American MSM reported more risk behavior and a weaker moderating effect of psychological distress compared with Caucasian participants (Lelutiu-Weinberger, Gamarel, Golub, & Parsons, 2014). It was hypothesized that African American MSM had prolonged exposure to discrimination, resulting in coping skills to manage this adversity (Lelutiu-Weinberger, Gamarel, Golub, & Parsons, 2014). AA men experience high rates of social homonegativity and internalized homophobia (Quinn et al., 2015). When combined with psychosocial factors key to AA identities, such as religiosity, resilience, and acculturation, these factors are important to understanding disparities in HIV risk, HIV testing, and social/psychological well-being for AA-MSM (Quinn et al., 2015).

A national study of 221 **American Indian and Alaska Native** MSM with two-spirit identities examined relationships between discrimination, depression, HIV risk behavior, and social/community factors (Town, 2014). Heterosexist discrimination was associated with increased HIV risk behaviors, while racial discrimination was associated with depression (Town, 2014). Depression had no association with risk behavior, but community participation was protective against HIV risk behaviors for all minority identities (Town, 2014). These results indicate the mechanisms of association in these pathways vary by different types of discrimination.

Mediating and Moderating Factors Within Minority Stress Theory

Various mediators and moderators within the minority stress framework were discussed in the literature. These variables can be broadly categorized as related to stigma, related to the individual, or related to social support. Relationships between mediators, moderators, and minority stressors will be discussed.

Stigma

Internalized homophobia was the most commonly discussed minority stressor as a mediator or moderator. Internalized homophobia has been demonstrated as a mediator between concealment and mental health (Schrimshaw, Siegel, Downing Jr, & Parsons, 2013), heterosexism and psychological distress link (Szymanski, Dunn, & Izikler, 2014; Breslow et al., 2015; Brewster, Moradi, DeBlaere, & Velez, 2013), and between religious identity conflict and suicidality (Gibbs & Goldbach, 2015). Similarly, internal **stigma awareness** mediated the relationship between of anti-transgender discrimination and increased psychological distress (Breslow et al., 2015). Expected or anticipated stigma was also discussed in mediating and

moderating roles. Expectation of stigma can be a mediator between prejudice events, psychological distress, and well-being (Brewster, Moradi, DeBlaere, & Velez, 2013). A linear pathway was proposed within minority stress, wherein perceived discrimination influenced expectations of rejection, which in turn was associated with increased rumination and less self-compassion. This ultimately resulted in greater psychological distress (Liao, Kashubeck-West, Weng, & Deitz, 2015).

Stigmatizing experiences similarly influence health outcomes for LGBT persons.

Harassment due to gender nonconformity has been demonstrated as a mediator between sexual minority identity and depressive symptoms (Martin-Storey & August, 2015). Both witnessing and experiencing incivility due to sexual minority status have been shown to mediate the relationship between minority status and problematic drinking (Woodford, Krentzman, & Gattis, 2012). These mediation paths were significant at $P < 0.001$ and $P < 0.01$, respectively (Woodford, Krentzman, & Gattis, 2012). Additional mediation analysis revealed both the type and frequency of minority stressor are important to understanding stressor effects. Discrimination frequency and type mediated the association between race and mental health, as well as gender and mental health, in a study of Black sexual minorities persons (Calabrese et al., 2015)

Mediation: Individual constructs

Much of the discussion around mediation factors within the minority stress framework focused on individual-level mediators with emphasis on maladaptive coping. Maladaptive coping often involves behaviors such as avoidance or detachment, which prevent an individual from addressing the stressors they are faced with. Thus, utilization of these strategies cannot ameliorate the effects of the stress that is being ignored. Multiple articles have examined this association in different contexts. Avoidance has been shown to mediate the association between

discrimination, internalized heterosexism, and psychological distress, (Velez, Moradi, & Brewster, 2013; Szymanski & Owens, 2008) anti-bisexual experiences and mental health, (Bertsch, 2014) internalized biphobia and mental health (Bertsch, 2014), and the effect of anticipated stigma on depression and anxiety (Choi et al., 2015). Detachment has been shown to mediate relationships between internalized stigma and psychological distress, experienced stigma and psychological distress (Szymanski, Dunn, & Ikizler, 2014), and the link between heterosexist discrimination and PTSD symptoms (Bandermann, & Szymanski, 2014). Rumination can mediate the association between internalized stigma and psychological distress as well (Szymanski, Dunn, & Ikizler, 2014). Further, the use of internalization and drug and alcohol use mediated the link between heterosexist discrimination and PTSD symptoms (Bandermann, & Szymanski, 2014). One article cited maladaptive coping (operationalized as behavioral disengagement, denial, self-blame, substance use and venting) as having the strongest effect in the pathway between minority stressors and psychological distress (Cornish, 2012). Similarly, diminished sense of agency, loneliness, and shame have been demonstrated as mediators in the impact of proximal minority stressors on mental and physical health (Mereish, 2014).

Adaptive coping measures have also been examined as mediators between various forms of stigma and outcomes. The antithesis of maladaptive coping, these strategies recognize the presence of minority stressors, which allows LGBT persons to ameliorate the effects of these stressors. Disclosure-focused coping strategies (for example, integrating one's self) have mediated relationships between anticipated stigma, internalized stigma, and job satisfaction (Velez, Moradi, & Brewster, 2013). Active coping mediated the link between internalized biphobia and self-esteem (Bertsch, 2014). Sense of mastery partially mediated the associations between sexual minority stressors and mental health (Wight, LeBlanc, de Vries, & Detels, 2012).

Coping self-efficacy has been demonstrated as a mediator on physical symptom severity from the effects of both proximal and distal minority stressors (Denton, Rostosky, & Danner, 2014).

Individual-level factors not related to coping strategies have also been demonstrated as mediators within the minority stress framework. Depression has been shown as a mediator between harassment/rejection and suicidal ideation for sexual minority persons (Trujillo, 2015). Sense of positivity about one's race (racial self-concept) has been shown as a mediator between racial discrimination and depressive symptoms for African-American youth (Kogan, Yu, Allen, & Brody, 2015). Though used as a control variable in many studies, outness has also been examined as a mediator. Outness in one study accounted for 17.6% of the variance in internalized homonegativity, and mediated the relationship between attachment avoidance and internalized homonegativity (Patishnock, 2012).

Mediation: Social Support Constructs

Less research has examined social support constructs as mediators within the minority stress framework. Multiple mediation analysis revealed general emotional support significantly mediated the association between concealment of sexual orientation and mental health (Schrimshaw, Siegel, Downing Jr, & Parsons, 2013). Relationship quality has been demonstrated as a mediating factor between internalized homophobia and recent domestic violence (Balsam & Szymanski, 2005). However, two studies examining general social support as a mediating variable between attachment anxiety, attachment avoidance, and internalized homonegativity (Patishnock, 2012) and between internalized stigma, anticipated stigma, and depression/anxiety (Choi et al., 2015) both failed to demonstrate social support as a significant mediating variable.

Moderation: Individual constructs

Multiple individual characteristics have been demonstrated as moderators between minority stressors and various outcomes. In a study of 11,404 adolescents, psychosocial maturity was demonstrated as a buffer between sexual minority status and risk behaviors. Results indicated **psychosocial maturity** was significantly associated with reduced odds of substance abuse, criminality, and suicidality (Grix, 2015). These results are “consistent with previous work on minority stress and adult identity and suggest successful adult psychosocial development has a pronounced protective effect against risk behavior for sexual minority young adults” (Grix, 2015). **Cognitive flexibility** has also been shown to directly moderate the unique direct relation of antibisexual prejudice with psychological well-being, expectations of stigma, as well as indirectly moderate “relations of antibisexual prejudice with distress and well-being through the mediating role of expectations of stigma” (Brewster, Moradi, DeBlaere, & Velez, 2013). “These moderations were consistent with the expected buffering role of cognitive flexibility, but they also revealed that some of this buffering effect is exhausted in the context of high prejudice” (Brewster, Moradi, DeBlaere, & Velez, 2013). Adaptive coping mechanisms such as **“letting go” and forgiveness** were also noted as significant moderators in the relation between aspects of minority stress and adjustment (McCarthy, 2008).

Self-esteem has been demonstrated as a moderator between perceived stress and microinvalidations and hostility (Woodford, 2014), as well as between depression and environmental microaggressions, microinsults, and hostility (Woodford, 2014). Self-esteem can also moderate the impact of heterosexist harassment/events on both alcohol abuse (Woodford, Kulick, & Atteberry, 2014) and psychological distress (Szymanski, 2009). Similarly, a **sense of coherence** ("a global view of life as predictable and meaningful") was demonstrated in a prospective cohort study as a buffer between minority stressors and psychological distress

(Lyons, Pitts, & Grierson, 2014). The authors proposed that "a strong SOC may enable men to more accurately assess the likelihood of encountering discrimination in particular circumstances, and to therefore take appropriate action to help in protecting themselves from psychological harm" (Lyons, Pitts, & Grierson, 2014). Additionally, **exercise** was shown as a moderator of heterosexual harassment on depression and anxiety (Woodford, Kulick, & Atteberry, 2014).

Moderation: Social Support Constructs

Larger social constructs, as opposed to individual level concepts, have also been examined as moderators within the minority stress framework. **Religious affiliation** has been found to moderate the discrimination–depression relationship among sexual minorities. In one study, belonging to a denomination that supported same-sex marriage moderated the relationship between discrimination and depression (Gattis, Woodford, & Han, 2014). In another study, positive religious coping moderated and weakened the link between internalized heterosexism and psychological well-being. Negative religious coping did not moderate any relationships (Brewster et al., 2015).

The majority of research focused on interpersonal support. One study demonstrated **family** networks (or “chosen” families) as a buffer against multiple minority stressors in that family networks provide connections with similar others (Levitt et al., 2015). These connections can provide financial support, emotional support, and teaching regarding skills to deal with stigmatizing experiences (Levitt et al., 2015). Moreover, a study regarding biological families demonstrated their ability to moderate in either positive or negative ways by examining whether the interaction of identity, outness, and family rejection predicted community connectedness and/or collective self-esteem. Rejection from family moderated a relationship wherein those who came out to rejecting families increased community connectedness and esteem. This increase in

connection was a coping mechanism to deal with increased family rejection; therefore, this relationship was not demonstrated for those coming out to non-rejecting families (Zimmerman et al., 2015). However, this relationship was not found when controlling for increased stigma, concealment motivations, and identity risk factors.

Social support, in accordance with the minority stress framework, can be a protective factor for LGBT persons. Family support, friends' support, and friends' acceptance of sexual orientation have been shown as resilience factors that buffer the relationship between minority stressors and deleterious mental health effects (Shilo & Savaya, 2011). Social support via social media has also proven to be a protective moderator between stigma and mental health (Chong, Zhang, Mak, & Pang, 2015). The authors concluded that social media provides a means for community surveillance, identity expression, and emotional support. Through these means, these factors moderate the relationship between stigma and mental health by instilling a sense of group membership. Social media is important because of its ability to instill this sense of group membership in sexual minority individuals in difficult to reach rural or conservative areas (Chong, Zhang, Mak, & Pang, 2015). Similarly, relationships with instructors have been shown to moderate the relationship between heterosexist harassment and negative physical health symptoms for sexual minority students (Woodford, Kulick, & Atteberry, 2014).

Social support can also be examined through the lens of **group-level coping**. One study examined the moderating effects of social constraints in talking about sexual orientation as well as collective self-esteem as moderators between self-reported lifetime external heterosexism and internalized heterosexism (Mason, Lewis, Winstead, & Derlega, 2015). Both fewer social constraints regarding talking about sexual orientation and greater collective self-esteem buffered the negative effects of external heterosexism and internalized heterosexism (Mason, Lewis,

Winstead, & Derlega, 2015). Additionally, feminist group-level coping has been demonstrated as a moderator between number of sexist events and psychological distress (Szymanski & Owens, 2009). However, this moderating effect was only demonstrated in the context of lower levels of sexism, suggesting that feminist group coping may only provide a buffer against the negative effects of sexism when sexist events are relatively low in number (Szymanski & Owens, 2009).

Coping Mechanisms with Minority Stress Theory

Coping mechanisms have also been demonstrated in the minority stress literature. Coping mechanisms were considered apart from mediating or moderating factors due to their etiology. Mediators and moderators are often unconscious influencers. These factors are often tied to existing social structures that make things "the way they are", over which individuals have no influence. In contrast, coping mechanisms are often more related to choice, or a conscious action/strategy utilized to deal with the effects of stigma.

Social support was the coping strategy most often addressed in the literature. Romantic, family, and community relationships were all sources of resilience against minority stressors related to sexual identity development, coming out, bullying, and physical, emotional, and sexual abuse for young sexual minority men (Bouris, 2014). Similarly, another study operationalized the protective coping mechanism of social support as a supportive friend or family member, other LGBTQ family member, accepting and diverse LGBTQ community, supportive adult at school, a parent supportive relative to bullying at school, and using online resources to connect with others (Goldbach & Gibbs, 2015). Gaining support from self-created gay families is one response to sexual prejudice noted in interviews with fourteen black lesbian women (Reed & Valenti, 2012). The formation of social relationships appears to serve as a protective resource against depression and low self-esteem during emerging adulthood (Spencer & Patrick, 2009).

Social support has also been demonstrated as a coping mechanism at the dyad level (Rostosky, Riggle, Gray, & Hatton, 2007). Along with social support, **collective self-esteem** (positive identification with one's social group) was demonstrated as a coping mechanism in a sample of 53 self-identified male-to-female transsexuals (Sánchez & Vilain, 2009).

Interviews with 40 couples indicated **affirming self and partnership** was a strategy available to ameliorate the negative effects of experiencing minority stressors (Rostosky, Riggle, Gray, & Hatton, 2007). **Spirituality** was specifically discussed as one way LGBT persons affirmed themselves. A study of 48 racially and ethnically diverse sexual minority persons reported using religious beliefs to accept LGBTQ people and self, participating in an accepting religious community, and using religious values or beliefs to build confidence as specific ways religion can be used to cope with minority stress (Goldbach & Gibbs, 2015). Another study of 113 Israeli gay and bisexual Jewish males with high levels of religiosity, showed that both positive and negative religious coping strategies can be used to cope with poorer mental health resulting from minority stress, but only negative religious coping was associated with poorer mental health (Shilo, Yossef, & Savaya, 2015). However, positive religious coping in this sample only significantly ameliorated stressors when coupled with the presence of social support (Shilo, Yossef, & Savaya, 2015). A third study examined the process of religious coping in relation to negative messages from religious institutions received during youth (Kubicek et al., 2009). Through positive religious coping, participants reported being able to reframe or reject negative messages. This ability to deal with homophobic messages through religion enabled participants to incorporate a positive sense of spirituality in their lives (Kubicek et al., 2009).

Mental coping skills specific to the individual for dealing with minority stressors were also discussed. **Discernment** was a skill operationalized as cognitive appraisal, or the ability of

sexual minority persons to “navigate heterosexist interactions and environments with the least amount of conflict and/or frustration” (Couch, 2009, p. 103). Similarly, **internal ability to cope** with and recover from discriminatory experiences was cited as having a significant effect on minority stress effects and the development of resiliency (Bouris, 2014). **Resilience processes** were also mentioned in specific relation to Asian-American sexual minorities as a coping strategy for dealing with heterosexism (Sung, 2014). **Reframing negative experiences** was a coping strategy address by three studies, all involving semi-structured interviews. A dyadic-level analysis of 40 couples' conversations about their committed partnerships indicated couples reframe negative experiences to ameliorate the stress felt from being part of a same-sex couple (Rostosky, Riggle, Gray, & Hatton, 2007). Semi-structured interviews with fourteen adolescent black lesbians between the ages of 16 and 24 indicated that cognitive reframing of heterosexist messages helped to mitigate the resulting stress (Reed & Valenti, 2012). A study specific to sexual minority adolescents resulted in over forty unique coping strategies, including the use of reframing in the form of cognitive self-talk (for example, “it will get better”) (Goldbach & Gibbs, 2015). **Personal mastery** (Spencer & Patrick, 2009) and **personal empowerment** (Sung, 2014, Couch, 2009) have also been cited as coping strategies to deal with stigmatic experiences.

Engagement was cited as a coping mechanism for minority stress, and can be operationalized as spending time with LGBTQ community, learning new knowledge about sexual orientation, participating in gay-straight alliance, going to LGBTQ pride events, and watching LGBTQ films/television (Goldbach & Gibbs, 2015). Some coping mechanisms that emerged from the literature appear more maladaptive. The antithesis of engagement, **disengagement** was cited in a study of sexual minority youth as a coping mechanism utilized (Goldbach & Gibbs, 2015). Unique coping strategies related to disengagement included not

coming out to family, leaving a religion of origin because of negative LGBTQ messages, changing one's social environment to avoid stressful situations, denying same-sex attraction to self, trying not to think about same-sex attraction, engaging in avoidance activities (e.g., writing, reading, listening to music), and numbing or convincing self to be apathetic (Goldbach & Gibbs, 2015). **Concealment** is a specific form of disengagement addressed by multiple articles (Rostosky, Riggle, Gray, & Hatton, 2007; Couch, 2009; Goldbach & Gibbs, 2015). Specific examples of concealment include isolating oneself, not talking to people at school, and not disclosing sexual orientation or gender identity (Goldbach & Gibbs, 2015). Additionally, **fighting back** either physically or verbally was utilized by some participants to deal with minority stressors (Reed & Valenti, 2012; Goldbach & Gibbs, 2015).

Limitations of Minority Stress Theory

Although minority stress theory is useful for understanding the experiences of many sexual minorities, there are limitations to its use. Meyer (2003) acknowledged the theory does not fully account for the intersection of multiple identities or the varied experiences of different generations. However, the central argument against minority stress theory is based in its historical context. Minority Stress Theory was largely developed during the 1980's. Given this time frame, the AIDS crisis and the popular psychology of the time were highly influential in the model development. The convergence of these two influences, combined with the fact the homosexuality has recently been removed as a mental disorder from the DSM, led to model development focused on the difficulties and disparities associated with being a sexual minority (Stanley, 2009). The main critique of this model, therefore, is the absent direct focus on positive psychology principles, such as resilience and positive coping. While the model does include 'coping and social support', some have argued that one section of a nine-box model is not

sufficient to explain the depth and breadth of sexual minority resiliency (Stanley, 2009; Vaughan & Rodriguez, 2014). Authors have argued that instead of a deficit-focused model, sexual minority research should be conducted through a positive psychology lens to offer a more fully representative understanding of LGBT health (Stanley, 2009; Vaughan & Rodriguez, 2014). Similarly, theorists have argued that research should focus on within-group research rather than explaining differences between sexual minorities and heterosexual persons (Fine & Fincham, 2013).

COMPETING THEORIES

Social Ecological Theory

Bronfenbrenner (1994) developed the social ecology model derived from the fields of psychology and ecology. This model posits that a person's health is affected not only by internal processes, but also by the immediate environment. Levels within the model include the person, families, relationships, communities, and social circumstances (IOM, 2011). These levels of influence are depicted as nested spheres around the individual. These spheres are visually represented in Figure 9. The ecological model is a framework for viewing complex health issues in the context of multiple influences (Eliason & Fogel, 2015), and is thus well suited for understanding health disparities resulting from the confluence of multi-level factors. The Institute of Medicine has used an ecological approach to examine multi-level determinants of LGBT health (IOM, 2011).

Figure 9. Social Ecological Theory



(CDC, 2015)

While the social ecological theory has been successfully applied to research involving the LGBT population, it does present with limitations specific to this dissertation. First, much of the research conducted utilizing social ecological theory has been focused on heterosexual child development. This fact poses two potential problems: first, the model is not LGBT specific, and second, this dissertation does not focus on adolescents or identity development. Social ecological theory also fails to specifically account for stigma, which is a central component of this dissertation. Additionally, while the spheres depicting different levels of influence are useful, the model does not allow for any interaction between the levels depicted in the spheres. In contrast, minority stress theory contains arrows that allow/account for the interaction between personal, interpersonal, and societal stigma that has been demonstrated in the literature. For these reasons, minority stress theory was chosen over social ecological theory for its specificity to stigma and the interactions between different spheres of influence.

Syndemic Theory

The term “syndemic” was developed in the mid 1990’s by anthropologist Merrill Singer. Minority Stress Theory and Syndemic Theory similarly posit the marginalization experienced by sexual minorities negatively impacts psychosocial, behavioral, and health outcomes (Herrick et

al., 2011). However, syndemic theory focuses on how multiple health problems tend to co-occur, overlap and fuel each other to create a cluster of negative outcomes (Ferlatte et al., 2015; Tulloch et al., 2015; Pimentel, 2015; Storholm et al., 2013; CDC, 2009). Syndemic theory asserts outcomes should be viewed holistically, wherein the combined impact of personal and societal-level variables is more deleterious to minority person's health outcomes than any of the variables alone (Pimentel, 2015; Ferlatte et al., 2015; Li et al., 2015).

While the overall approach of minority stress theory and syndemic theory are similar, the particulars of each theory merit further investigation. Similar to social ecological theory, syndemic theory does not specifically account for stigma, which is a central concept to this dissertation. Additionally, syndemic production focuses on how experiences early in life and their compounded effects over time contribute to negative outcomes throughout the life course (Herrick et al., 2011). Childhood events, while relevant, do not encompass the full scope of stigmatizing experiences. Stigmatizing experiences in adulthood, which syndemic theory does not focus on, are equally important to this research. In contrast, minority stress theory accounts for stigmatizing experiences throughout the lifetime, providing a broader theoretical scope for analysis.

Finally, although the study of syndemic processes may contribute to understanding health disparities of LGBT persons, it is important to note that not all sexual minorities who experience stigma or adversity develop syndemic conditions. For example, an investigation of syndemic production among gay men found that 77% of participants had avoided engaging in high-risk sexual behaviors despite the presence of a syndemic of psychosocial health problems (Herrick et al., 2011). This indicates syndemic theory alone cannot sufficiently explain health disparities for this population. Thus, while syndemic theory may be appropriate as a general approach or lens

through which to view this dissertation work, it does not suffice as a theoretical framework for this dissertation.

Resilience Theory

Resilience Theory, in direct contrast to the limitations of Minority Stress Theory, emphasizes the role of protective factors and their impacts on the health of sexual minority persons. Sexual minority persons have faced extreme homophobia and stigmatization, but through strength and resilience are able to thrive in the face of these adversities (Herrick et al., 2011). The ability of some individuals to flourish in these circumstances and avoid often seen consequences of stigmatizing experiences demonstrates the presence of remarkable resilience within this population (Herrick et al., 2011). However, resilience has received little focus in the literature and therefore this mechanism is not well understood (Herrick et al., 2011). Resilience theory has been proposed as a framework to understand this strength and increase the impact of health promotion efforts among sexual minorities (Herrick et al., 2011). However, this theory is still in early stages of development and therefore has not undergone adequate testing and revision. As recently as 2012, authors have called for further development of a theory of resilience specific to sexual minority persons (Herrick et al., 2011; Herrick, Friedman, & Stall, 2012). Additionally, this theory would fail to address the effect of stigma on health, a key concept of this dissertation. Consequently, because the theory has not been thoroughly tested, a framework is not available, and the theory does not address stigma, resilience theory has been deemed inappropriate for the purposes of this dissertation.

Gender-Affirming Theories

It is worth noting that while minority stress theory has been utilized in studying those of transgender or transsexual identities, the theory may not be adequately specified to this

population. Gender affirmation refers to “an interpersonal, interactive process whereby a person receives social recognition and support for their gender identity and expression” (Sevelius, 2013, p. 2). In practice, it may refer to others using the correct name or pronoun of the trans individual and/or being accepted in society as the gender one expresses (Sevelius, 2013). Because the proposed research does include transgender participants, gender-affirming theories were considered. However, the relationship between gender affirmation and risk has rarely been studied (Sevelius, 2013). Additionally, similar to resilience theory, gender affirming theories also fail to fully account for stigma’s effect on health outcomes for both sexual and gender minority persons. Therefore, gender-affirming theories were not utilized in this research. However, when considering the research presented in this dissertation, it is important to note that transgender identity may incur unique risks within societal contexts different than those with lesbian, gay, or bisexual identities.

Conclusion

Minority Stress Theory has been chosen as the theoretical basis for this dissertation based on the aforementioned factors. Minority stress theory has been recognized as appropriate for LGBT research by the Institute of Medicine, evidenced in its use as a framework for the 2011 IOM report on conducting research in the LGBT community. Minority stress theory has been utilized for studying lesbian, gay, bisexual, and transgender persons, encompassing the full scope of my population of interest. Minority stress theory has also been extensively utilized to study stigma, a key concept of this dissertation work. In contrast to social ecological theory and syndemic theory, minority stress theory specifically accounts for stigmatizing experiences throughout the lifetime, providing a more focused theoretical scope for analysis. Based on its utility for use with both the population and concepts of interest, minority stress theory is an

appropriate theoretical approach and framework through which to answer the research questions. The proposed dissertation will not only utilize this theory, but add to the knowledge of existing theoretical pathways. Using this theoretical approach to guide measurement selection and interpretation of study results will provide a strong foundation for conducting methodologically sound research. The combination of theory and methods described in this dissertation will therefore add significantly to the literature in this field of research.

Chapter 3: Sexuality-Based Stigma and Depression among Sexual Minority Individuals in Rural United States

Abstract: Sexuality-based stigma is associated with increased rates of depression for urban sexual minority persons. However, this relationship has not been explored specifically for rural sexual minority populations. This study examined the association between self-reported external and internal sexuality-based stigma and depression among an online sample of 771 rural sexual minority persons. Two regression outcomes were modeled, representing continuous depression scores and clinically significant depression. Anticipated, enacted, and internalized sexuality-based stigma were all significantly associated with increased depression scores and clinically significant depression. Interventions sensitive to the unique stigmas experienced by sexual minority populations in rural areas are needed.

Introduction: The National Research Council (2011) has reported that health disparities exist between heterosexual and lesbian, gay, bisexual, and transgender persons in the United States (National Research Council, 2011). These inequalities have been shown to affect a range of health outcomes. For example, lesbians are less likely to seek and receive preventive services for cancer and are more likely to be overweight (Buchmueller & Carpenter, 2010; Dilley, Simmons, Boysun, Pizacani, & Stark, 2010; Hardin, & Burcin, 2010; Struble, Lindley, Montgomery). Gay men and transgender persons, particularly gay men and transgender persons of color, have disproportionately high rates of HIV and other sexually transmitted infections (Centers for Disease Control and Prevention [CDC], 2012; Herbst et al., 2008). Transgender individuals are more likely to encounter experiences of victimization, and are at increased risk of mental health issues and suicide (Díaz, Ayala, Bein, Henne, & Marin, 2001; Kenagy, 2005; Whitbeck, Chen, Hoyt, Tyler, & Johnson, 2004). Those who identify as a sexual minority are more likely to use tobacco, alcohol, and drugs than their heterosexual counterparts (Bradford, Reisner, Honnold, & Xavier, 2013; Hughes, 2005; Lee, Griffin, & Melvin, 2009; Lyons, Chandra, & Goldstein, 2006; Mansergh et al., 2001). A survey of 11,114 adults (including 571 sexual minority persons) examined health inequalities specific to sexual minority persons (Operario et al., 2015). Disparities for sexual minority men included increased risk of mental health problems, HIV, herpes simplex virus type 2, gonorrhea and chlamydia, while sexual minority women had increased of mental health problems, hepatitis C, smoking, and alcohol and illicit drug use (Operario et al., 2015).

In addition to the range of health disparities described above, there is a wealth of evidence that sexual minorities in the US experience increased incidence of depression. Multiple studies have examined depression and reached the same conclusion: minority stressors result in

increased levels of depression for sexual minority persons (Feinstein, Wadsworth, Davila, & Goldfried, 2014; Lewis, Derlega, Griffin, & Krowinski, 2003; Rostosky, Riggle, Horne, & Miller, 2009; Szymanski, 2009; Szymanski & Ikizler, 2013; Szymanski & Owens, 2009; Wight, LeBlanc, de Vries, & Detels, 2012). Meyer (1995) developed a theory that proposed sexual minority persons experience minority stressors similar to members of other racial or ethnic minority groups; however, the stress experienced by sexual minorities is related to the stigmatization of their sexuality. This theory further purports that stigmatization, prejudice, discrimination, and experiences of heterosexism can all contribute to minority stress and have adverse effects on a person's well-being (Meyer, 1995). The relationship between minority stress and depression was confirmed in a longitudinal study of 312 gay men, which determined sexual minority stress was positively associated with depressive symptoms, net of symptom trajectories (Wight, Harig, Aneshensel, & Detels, 2015). A meta-analysis of 28 studies determined that sexual minorities are at increased risk for depression and suicidal ideation compared to heterosexual persons, likely due to place-contingent minority stress (Lewis, 2009). The concept of place-contingent minority stress suggests that the confluence of location-specific factors, including local policies, local cultural norms, and access to friendly and appropriate health services, impacts mental health outcomes for sexual minority persons (Lewis, 2009, Willging et al., 2016). This relationship has been shown to be shaped by interpersonal isolation, social exclusion (Mao et al., 2009), lack of social support (Boza & Nicholson Perry, 2014; Chard, Finneran, Sullivan, & Stephenson, 2015; Mao et al., 2009), and victimization related to sexual orientation (Boza & Nicholson Perry, 2014).

While the previously cited evidence clearly identifies minority stress and depression as significant threats to the health of sexual minority persons, the majority of these studies have

focused on urban populations (Fisher, Irwin, Coleman, McCarthy, & Chavez, 2013). Sexual minority individuals in urban areas have greater access to social groups, social networks and health care services aimed specifically at sexual minority groups (Fisher et al., 2013). Therefore, researchers historically utilized metropolitan settings to recruit sexual minority study participants, resulting in very few large samples of rural sexual minority persons (Fisher et al., 2013). Indeed, The Institute of Medicine has acknowledged that little is known about groups with specific metrics of diversity (such as rural residence), and proposed more research should be done for this population (National Research Council, 2011). The stigma attached to sexual minority identity is more prevalent in rural areas due to lack of anonymity, the homogenous nature of rural communities, fear of disclosing sexuality to healthcare providers, and scarcer community support in rural areas (Edwards, 2005; Preston, D'augelli, Kassab, & Starks, 2007; Willging, Salvador, & Kano, 2006).

Depression has been shown to be a clinically significant mental health problem for urban sexual minority persons, with stigma reported as a key predictor of increased depression; however, very little is known about the mental health behaviors and risk factors specific to rural sexual minority groups. To address this knowledge gap, the aim of this study was to examine the association between self-reported sexuality-based stigma and self-reported depression among an online sample of rural sexual minority persons. The authors hypothesize that rurality, as a major contributor to place-contingent minority stress, will be associated with depression for rural sexual minority persons.

Method: Survey participants were recruited for an online survey via banner advertisements on Facebook between August-September 2014. Advertisements targeted users who self-reported three factors: age 18 or older, self-identification as either “interested in” same-sex relationships

and/or who have listed their gender as “custom”, and residence in rural zip codes (Whitehead et al., 2015). Banner advertisements linked to an informed consent page describing the study purpose, the voluntary and anonymous nature of the study, and HIPAA privacy rules. Neither personal information nor Internet Protocol Address was recorded. Participants provided electronic informed consent. No incentive was offered for participating in the survey. The Institutional Review Board approved all study processes. Study eligibility criteria were: aged 18 or over; current residence in a rural zip code (defined using the US Census Bureau definition of rurality), and self-identification as gay, bisexual, lesbian, or transgender (Whitehead et al., 2015). A total of 220,053 banner advertisements were shown on Facebook, resulting in 5,317 clicks to the survey. Eight hundred and ninety-one clicks were disqualified for not completing the survey (N=531/891) and for not meeting inclusion criteria (N=378/891). From these 5,317 clicks, 1,018 completed surveys were collected. Four responses from intersex participants were dropped due to inadequate sample size to allow comparisons to other groups, resulting in 1,104 surveys available for analysis. Additionally, after removing responses from transgender and gender queer participants from the analysis due to inadequate sample size to allow comparisons to other groups, and removing responses due to missing data in the key variables of interest, a final total of 771 responses were included in the final analysis.

The outcome of interest was self-reported depression, measured by the Center for Epidemiological Studies Depression Scale (CES-D 11-Item Iowa Form). Scores from 0-22 are possible for this tool, with higher scores indicating more depressive symptoms. A score of 9 or higher on the CES-D indicates clinically relevant depression (Torres, 2012). The CES-D 11-item Iowa form has demonstrated internal consistency and has a Cronbach alpha (α) of 0.88 (Carpenter, Andrykowski, and Wilson, 1998; Kohout et al. 1993; Zhang et al. 2012).

The key covariate of interest is the participant's self-reported experience of sexuality-based stigma. Sexuality-based stigma refers to the belief that any non-heterosexual behavior or identity is constructed as invalid compared to heterosexuality (National Research Council, 2011). This stigma can be internal (internalized homonegativity) or external (anticipated or enacted). Thus, stigma was measured in three domains (internalized, enacted, and anticipated) using scales modified from Meyer (2006). The Cronbach alpha (α) for the internalized, anticipated, and enacted stigma scales are 0.84, 0.88, and 0.88, respectively (Meyer, Frost, Narvaez, & Dietrich, 2006). Participants were instructed to consider experiences within the last 12 months. Internalized stigma was measured using seven Likert scale items (e.g., "*I have felt that being queer is a personal shortcoming: Often, Sometimes, Rarely, or Never*") (Meyer, 2006). Enacted stigma was measured by asking participants how many times they had experienced 14 items, four of which were specific to experiences in healthcare setting (e.g., "*I have been rejected by family members; Never, Once, 2-3 Times, or 4+ times*") (Meyer, 2006). Anticipated stigma was measured using six items related to participant perceptions of their living area (e.g., "*Most people think less of a gay person; Strongly Agree, Agree, Neutral, Disagree, Strongly Disagree*") (Meyer, 2006).

The analysis also considered the role of disclosure of sexual or gender identity, and was measured using the Outness Inventory scale, which asked how "out" the participant was to different family members and social groups (Mohr & Fassinger 2000). Answers range from 1 (Definitely does not know I am LGBT) to 7 (Definitely knows I am LGBT and we talk about it openly). The variable "average outness" was created by dividing the total score on the Outness Inventory by the number of items answered, since items may not apply to all individuals. The analysis also controlled for the participant's physical health, given the known links between

physical health and depression (Berkman et al., 1986). Physical health score included questions about healthcare utilization (e.g., “*How many nights have you spent as a hospital inpatient in the last 12 months?: 0, 1-2, 3-7, 8-14, 15-21, over 21 nights*”.) and vaccinations (e.g., “*Have you received a vaccine to prevent Hepatitis A? Hepatitis A is a virus that is usually transmitted through contaminated food and causes symptoms such as fever, yellowing of skin, abdominal pain, and liver damage: Yes, No, I don’t know*”) (Whitehead, 2016). A health score was calculated from responses on multiple questions regarding recommended health tasks for each participant’s gender and age, and the health score represents the proportion of recommended health services and interventions that an individual has received (Whitehead, 2016). For example, a gay man with a higher health score is more likely to have had routine health checkups, HIV testing, and Hepatitis A and B vaccines. Analysis also considered the role of alcohol consumption as a potential correlate of depression (Grant et al., 2015). Participants were first asked, “During the last 12 months, how often did you have any drink containing alcohol” to assess frequency of use. If participants endorsed alcohol use on at least one occasion, amount of alcohol use was assessed. Binge drinking was categorized as both self-reporting having drinks on more than one occasion per month and 5 or more drinks per occasion (e.g., “*During the last 12 months, how many alcoholic drinks did you have on a typical day when you drank alcohol*” with answers ranging from one to 25 drinks) (National Institute on Alcohol Abuse and Alcoholism, 2014). Other covariates controlled for included sexual identity, age, ethnicity, insurance status, relationship status, employment status, and education level.

Two regression models were fitted during analysis. A linear regression model was fitted for the continuous measure of the CES-D. A logistic regression model was fitted for the binary variable measuring self-reported clinically relevant depression. The key covariates in each model

were the three measures of stigma: internal and enacted and anticipated external stigma. Tests for multi-collinearity were conducted, but none was identified. Analysis was conducted in STATA 13.1.

Results: The final sample was comprised of 771 sexual minority individuals. Half of the sample endorsed depression, operationalized as a score of 9 or higher on the CES-D. The mean age of the sample was 32.42 years (SD 0.42, range 18-76). The sample was majority White (89%) with some college education (52% had some college education, while 27% had college education or higher), and a high level of employment (61%). The majority of the sample (83%) self-identified as gay or lesbian. Almost half the sample reported being single (49%) with the remaining participants either cohabitating (29%) or and married/divorced/widowed (22%). Eight percent of the sample endorsed recent binge drinking. The mean scores and ranges of the measures of sexuality-based stigma were: internalized homonegativity (M= 3.58, range 0-20), enacted (M= 7.92, range 0-38), and anticipated (M= 10.50, range 0-24). As seen in Table 2, mean scores for all three stigma scales and depression were higher among those reporting a sexual identity other than gay or bisexual. The youngest age category (18-20) had the highest mean self-reported stigma and depression scores.

In the linear regression modeling visualized in Table 3, all three sexuality-based stigma scales were significantly associated with the depression score (Internalized stigma: $\beta= 0.111$; $p < 0.001$, Enacted stigma: $\beta= 0.127$; $p < 0.001$, Anticipated stigma: $\beta= 0.075$; $p= 0.001$). Further, the logistic regression modeling visualized in Table 4 demonstrates all three sexuality-based stigma scales were significantly associated with clinically relevant depression (Internalized stigma: OR 1.12; $p < 0.001$, Enacted stigma: OR 1.06; $p < 0.001$, Anticipated stigma: OR 1.03; $p 0.044$). These findings are in line with study hypotheses.

Relative to females, males were less likely to report depression ($p= 0.006$ for depression scores and $p= 0.011$; OR 1.53 for clinically relevant depression). Unemployment and disability were associated with significantly higher depression scores ($p= 0.005$) and higher likelihood of clinically significant depression (OR 1.58, $p= 0.007$). Outness was associated with higher depression scores ($p= 0.04$), while race was associated with clinically significant depression ($p= 0.017$). Age, insurance status, education, relationship status, binge drinking, and health score were not significantly associated with either higher depression scores or clinically significant depression.

Discussion: Previous research has demonstrated that sexuality-based stigma is an important factor in shaping poor mental health among sexual minority populations (Budge, Rossman, & Howard, 2014; Fredriksen-Goldsen et al., 2012; Lea, de Wit, & Reynolds, 2014; Mao et al., 2009; Marshall et al, 2011; Morrison, 2011). Several previous studies have posited that stigma is especially prevalent in rural populations, largely due to factors such as lack of access to social support (Edwards, 2005; Preston, 2007). In this analysis of an online sample of rural sexual minority individuals, three scales measuring differing aspects of sexuality-based stigma were significantly associated with two measures of self-reported depression, and these relationships were significant after controlling for known correlates of depression. While enacted stigma had the highest possible score, anticipated stigma had the highest reported mean score, suggestive of higher levels of anticipated rather than enacted stigma among rural sexual minority populations. The significant association between both anticipated and enacted stigma and self-reported depression highlights that adverse mental health effects (operationalized here as depression) occur whether or not the stigma is experienced or perceived.

Rural residency has been shown to increase the types and frequency of stigma encountered by sexual minority individuals (Hastings & Hoover-Thompson, 2011; Swank, Frost, & Fahs, 2012). A survey of 285 rural lesbian, gay and bisexual persons reported more enacted stigma, including homophobic statements, property damage, employment discrimination, and housing discrimination than urban participants (Swank, Fahs, & Frost, 2013). There is some evidence that heterosexuals in rural settings also often report more negative views toward homosexuality than their urban counterparts (Casazza, Ludwig, & Cohn, 2015). Rural contexts are often exclusive of sexual minorities (Swank, Fahs, & Frost, 2013), possibly attributed to conservative political and religious beliefs often found in rural settings (Hastings & Hoover-Thompson, 2011), values that are often exclusive of sexual minority persons.

Depressive symptoms as a result of experiencing sexuality-based stigma likely occur when coping mechanisms are inadequate. Social support is one coping mechanism that may be especially relevant in rural contexts. A dearth of a social support for sexual minority persons is often seen in rural settings, often with a lack of venues for sexual minority individuals to seek out support in social settings. Hostile rural settings discourage sexual minority persons from disclosing their sexual orientation, promoting the invisibility and closeting of this group (Hastings & Hoover-Thompson, 2011). Consequently, rural sexual minority persons tend to be less connected to lesbian, gay, bisexual and transgender communities, have fewer or no sexual or gender minority friends, and experience increased internalized and enacted stigma in this social context (Hastings & Hoover-Thompson, 2011; Lyons, Leonard, & Bariola, 2015; Swank, Frost, & Fahs, 2012).

The current study also produced some unexpected findings. Individuals who reported their sexual orientation as bisexual or queer had higher mean stigma and depression scores than

their gay/lesbian counterparts. However, sexual orientation was not significantly associated with higher depression scores or clinically significant depression when controlling for the stigma scales, suggesting stigma plays an important role in the associations between sexual identity and depression variables. Outness was also marginally associated with higher depression scores ($p=0.04$). It may be that those participants who were more “out” were exposed to greater incidences of enacted stigma compared to more “closeted” sexual minorities in rural contexts. The complex relationship between enacted stigma and internalized stigma may also play a role in depression formation, wherein those who experience stigmatizing events internalize that stigma, resulting in greater depression scores.

Race was significantly associated with clinically significant depression. However, due to the homogenous nature of this sample, race was dichotomized as either Caucasian or African American/other. Associations based on race from this analysis should therefore be viewed with a critical lens, and future research with more representative rural samples should examine race-based differences in depression.

This study had several limitations, largely related to the self-report nature of online surveying. Social desirability in responses regarding health behaviors and indicators may have skewed results. Additionally, while sexual identity can be based on attraction, behavior, gender expression, and/or self-identification, minority identity in this study was assessed using only participants’ self-reported sexual orientation and gender identity. This measurement may not fully capture the intricate nature of minority status because it excludes those with same-sex sexual behaviors or attractions who do not identify as a sexual minority. Relatedly, all sexual minority persons were combined into one sample for analysis due to sample size constraints.

While there are commonalities in lived experiences for all sexual minority persons, this diverse group encompasses unique subpopulations that merit further investigation.

Sampling strategies from this study may have oversampled more “out” participants whose sexual orientations were displayed on social networking sites. However, a recent study assessing sampling methods for men who have sex with men found few differences between populations recruited using venue-based sampling and online sampling (Hernandez-Romieu et al., 2014). This indicates online sampling through social media can effectively sample this population without producing comparatively skewed results. Additionally, this sample contained a small proportion of ethnic and racial minority persons. While this may be representative of the population characteristics that exist in rural settings, it challenges the generalizability of these results. It is also important to note cross-sectional research of this nature reveals relationships between variables, but does not assert causation.

Conclusion: Despite possible limitations, this study is one of few to examine the effects of stigma on depression for rural sexual minority persons in the U.S. The results from the current study indicate stigma is an important risk factor correlated with depression for rural sexual minority persons. Since this analysis has identified depression as a prevalent issue, future interventions are warranted that target stigma as a mechanism to improve mental health care for rural sexual minority persons. The consistency of stigma as a risk factor, despite controlling for sexual orientation and other known correlates of depression, suggests that interventions and policy for these risk factors can and should target the sexual minority population as a whole. The Institute of Medicine has posited that stigma and discrimination are barriers to optimal mental health for sexual minority persons. This analysis, in accordance with the IOM recommendations,

provides supportive evidence for protective policy changes and formation and points to the need to recognize the unique needs of rural sexual minorities.

Table 2: Background Characteristics and Mean Self-Reported Stigma and CES-D Depression Scores of Rural Sexual Minority Individuals (N=771)

	% (N)	CES-D Score	Internalized Stigma	Experienced Stigma	Anticipated Stigma
Sexual Orientation					
Gay/Lesbian	82.62 (637)	9.63	3.32	7.44	10.06
Other	17.38 (134)	10.69	4.80	10.16	12.62
Gender Identity					
Female	40.86 (315)	10.15	3.46	7.88	10.56
Male	59.14 (456)	9.58	3.67	7.94	10.46
Race					
White	89.11 (687)	9.74	3.54	7.79	10.45
African American/ Other	10.89 (84)	10.43	3.88	8.92	10.96
Education					
High school or less					
Some College	21.53 (166)	10.02	3.99	8.57	10.84
College or higher	51.75 (399)	10.07	3.60	8.58	10.76
	26.72 (206)	9.15	3.22	6.10	9.72
Insured					
No					
Yes	15.95 (123)	10.22	3.98	11.40	12.15
	84.05 (648)	9.73	3.51	7.25	10.19
Employment					
Employed	60.57 (467)	9.42	3.52	7.63	10.06
Unemployed/Disabled	39.43 (304)	10.40	3.68	8.36	11.18
Age					
18-20	19.07 (147)	10.14	4.14	8.52	11.14
21-24	21.40 (165)	9.40	3.35	7.88	10.41
25-29	13.10 (101)	9.99	3.20	7.77	10.14
30-34	11.93 (92)	10.09	3.50	8.99	10.88
35-39	6.74 (52)	9.75	3.71	7.15	9.37
40+	27.76 (214)	9.71	3.56	7.31	10.43
Relationship					
Single	48.77 (376)	10.07	3.99	7.74	10.41
Cohabiting	29.31 (226)	9.64	3.33	8.55	10.47
Married/Divorced/Widowed	21.92 (169)	9.46	3.01	7.46	10.76
Binge Drinking					
No	92.48 (713)	9.78	3.63	7.88	10.61
Yes	7.52 (58)	10.14	2.95	8.34	9.19

Table 3: Linear Regression Modeling of Self-Reported CES-D Depression Scores among Rural Sexual Minority Individuals (N=771)

Variable (Reference)	β	SE	<i>p</i>
Internalized Homonegativity	0.111	0.029	<0.001***
Enacted Homophobia	0.127	0.016	<0.001***
Anticipated Homophobia	0.075	0.022	0.001**
Binge Drinking	0.561	0.421	0.183
Self-Reported Health Score	0.142	0.453	0.754
Outness	-0.175	0.085	0.040*
Sexual Orientation (Gay/Lesbian)			
Other	0.074	0.306	0.809
Gender Identity (Female)			
Male	0.613	0.223	0.006**
Race (White)			
African American/Other	0.451	0.350	0.198
Education (High school or less)			
Some College	0.034	0.282	0.904
College or higher	-0.448	0.329	0.174
Insured (No)			
Yes	0.279	0.312	0.371
Employment (Employed)			
Unemployed/Disabled	0.644	0.229	0.005**
Age (18-20)			
21-24	-0.501	0.343	0.145
25-29	0.197	0.393	0.617
30-34	-0.101	0.402	0.801
35-39	0.437	0.488	0.929
40+	-0.092	0.324	0.776
Relationship Status (Single)			
Cohabiting	-0.361	0.258	0.163
Married/Divorced/Widowed	-0.451	0.293	0.124

Note. **p* <0.05, ***p* <0.01, ****p* <0.001. $R^2 = 0.2630$, $\Delta R^2 = 0.2433$.

Table 4: Logistic Regression Modeling of Self-Reported Clinical Depression on CES-D Depression Scale among Rural Sexual Minority Individuals (N=771)

Variable (Reference)	OR	95% CI	<i>p</i>
Internalized Homonegativity	1.12	[1.07-1.18]	<0.001***
Enacted Homophobia	1.06	[1.04-1.09]	<0.001***
Anticipated Homophobia	1.03	[1.00-1.06]	0.044*
Binge Drinking	1.40	[0.76-2.55]	0.278
Self-Reported Health Score	1.11	[0.57-2.15]	0.755
Outness	0.93	[0.82-1.05]	0.218
Sexual Orientation (Gay/Lesbian)			
Other	0.91	[0.58-1.43]	0.679
Gender Identity (Female)			
Male	1.53	[1.10-2.12]	0.011*
Race (White)			
African American/Other	1.90	[1.12-3.22]	0.017*
Education (High school or less)			
Some College	1.24	[0.83-1.86]	0.298
College or higher	0.78	[0.48-1.25]	0.306
Insured (No)			
Yes	1.09	[0.69-1.73]	0.696
Employment (Employed)			
Unemployed/Disabled	1.58	[1.14-2.20]	0.007**
Age (18-20)			
21-24	0.074	[0.45-1.22]	0.242
25-29	1.20	[0.68-2.12]	0.531
30-34	1.07	[0.59-1.93]	0.830
35-39	0.62	[0.31-1.27]	0.193
40+	1.09	[0.68-1.75]	0.710
Relationship Status (Single)			
Cohabiting	0.74	[0.51-1.08]	0.122
Married/Divorced/Widowed	0.80	[0.52-1.22]	0.293

Note. *p <0.05, **p<0.01, ***p<0.001

Chapter 4: Relationship Characteristics and Dyadic Approaches to HIV Health-Enhancing Behaviors among a Sample of Gay Male Couples from Three U.S. Cities

Abstract: Recent modeling estimates up to two-thirds of new HIV infections among men who have sex with men occur within partnerships, indicating the importance of dyadic HIV prevention efforts. Although new interventions are available to promote dyadic health-enhancing behaviors, minimal research has examined what factors influence partners' mutual engagement in these behaviors, a critical component to intervention success. Actor-partner interdependence modeling was used to examine associations between relationship characteristics and several dyadic outcomes theorized as antecedents to health-enhancing behaviors (planning and decision-making, communication, and joint effort). Among 270 male-male partnerships, relationship satisfaction was significantly associated with all three outcomes for actors ($p=0.02$, 0.02 , 0.06). Latino men reported poorer planning and decision-making (actor $p=0.032$) and communication (partner $p=0.044$) than non-Latino men. Alcohol use was significantly and negatively associated with all outcomes except actors' planning and decision-making (actors: $p=0.11$, 0.038 , 0.004 , partners: $p=0.03$, 0.056 , 0.02). Having a sexual agreement was significantly associated with actor's planning and decision-making ($p=0.007$) and communication ($p=0.008$). Focusing on interactions between partners produces a more comprehensive understanding of male couples' ability to engage in health-enhancing behaviors. This knowledge further identifies new and important foci for the tailoring of dyadic HIV prevention and care interventions.

Background: Men who have sex with men (MSM) demonstrate an increased incidence of HIV infection, higher than any other group in the United States (Centers for Disease Control and Prevention, 2015; Hall et al., 2017). The risk of HIV acquisition has traditionally been viewed in terms of risk stemming from casual sexual encounters. Recent modeling work suggests approximately 33-66% of new HIV infections among MSM occur from primary male partners (Goodreau et al., 2012; Sullivan, Salazar, Buchbinder, & Sanchez, 2009). There are several reasons MSM in partnerships may be at greater risk for new HIV diagnosis compared to unpartnered MSM. For example, sexual behaviors in MSM often differ between casual and main partnerships. One model estimated MSM have approximately 10% more sex with main partners than casual partners, resulting in increased sexual contacts and potential exposures to HIV risk if the sex is unprotected (Sullivan et al., 2009). Additionally, MSM in relationships are more likely to engage in unprotected anal intercourse (Goodreau et al., 2012) and receptive anal intercourse (Sullivan et al., 2009) than with casual partners (Centers for Disease Control and Prevention, 2017; Sullivan et al., 2009).

In addition to these sexual behavioral factors, factors indicative of relationship quality are associated with risk for HIV infection. Couples with more constructive communication styles and higher levels of relationship satisfaction express higher levels of investment in their sexual agreements, thereby reducing sexual risk behaviors outside of the relationship and decreasing the potential for HIV infection (Mitchell, 2014a). Additionally, positive relationship characteristics such as increased constructive communication, commitment, and trust may promote equity within the relationship in regards to both forming sexual agreements and communicating dissatisfaction (Gomez et al., 2012). This, in turn, minimizes the occurrence of broken agreements, encourages disclosure when agreements are broken, and could ultimately reduce

HIV risk (Gomez et al., 2012). Additionally, social support from primary partners has been associated with self-reported HIV medication adherence and self-efficacy (Darbes, Chakravarty, Beougher, Neilands, & Hoff, 2012). This increased HIV-specific support from main partners is hypothesized to decrease risky sexual behaviors by providing a mechanism for stigma management and increased discussion about HIV (Darbes et al., 2012; Darbes, Chakravarty, Neilands, Beougher, & Hoff, 2014).

In recognizing the importance of dyadic interactions to HIV risk and following recommendations from the World Health Organization, dyadic interventions addressing HIV testing, counseling, and prevention have become a new focus of HIV research (World Health Organization, 2012). However, central to the success of dyadic interventions is a couples' ability to engage in them together successfully, a concept Lewis Interdependence Theory refers to as the practice of "health-enhancing behaviors" (Lewis et al., 2006). Although current literature explores outcomes and effects of interventions, largely absent is exploration of the ability of couples to engage in health-enhancing behaviors together as a precursor to an intervention's success.

Before dyadic interventions can successfully target male couples, research must first "identify conditions under which couples interventions might be effective by exploring the optimum mix of individual psychosocial and relationship factors to address for different types of couples" (Karney et al., 2010). This includes how couples approach health-enhancing behaviors together to prevent HIV, as well as what factors might exert positive or negative influences on these approaches. Therefore, the aim of this study was to examine partner and relationship characteristics that contribute to the maintenance of dyadic health behaviors to prevent new HIV infection.

Methods:

Procedure and Participants: This analysis utilized baseline survey data from Stronger Together, a large, randomized control trial of a dyadic intervention to improve HIV prevention and care among sero-discordant male couples. Centers in three United States cities were involved in data collection: Emory University in Atlanta, the Fenway Institute in Boston, and Lurie Children's/Northwestern University in Chicago. For baseline data collection, potential study participants were recruited using each site's active website, Facebook, Twitter, and Social Marketing campaigns. Additionally, flyers and posters were displayed in the clinics and at MSM-targeted venues and publications, and information on the study was displayed prominently at HIV testing sites in each city. Advertising directed potential participants to an online screener for eligibility. Eligibility criteria included: (1) two cisgender men in a relationship for at least 6 months (to reduce relationship dissolution during follow-up); (2) each 18 years or older; (3) current residents of metro Atlanta, Boston, or Chicago for at least three months to improve retention; (4) both individuals not having been tested for HIV in the last 6 months, and (5) no reported history of intimate partner violence (IPV) or coercion. Couples were either sero-concordant negative or sero-discordant at baseline, with the intention of identifying sero-discordant couples to participate in the intervention. A partnership in this study was defined as "a relationship with a male partner who you feel committed to above all others". Study staff at each site contacted eligible couples who had completed online screening. Once couples were contacted, informed consent was provided in person. Consented couples simultaneously completed the self-administered the baseline survey in separate rooms.

Dependent Measures: In the current study of dyadic approaches to health-enhancing behaviors, three outcome variables were considered in the analysis: planning and decision-making,

communication, and joint effort. These outcomes were measured as sum scores for three subscales of a couple-specific communal coping measure (Salazar, Stephenson, Sullivan, & Tarver, 2013). The construct ‘communal coping’ refers to “the utilization of strategies, which are characterized as communal in nature such as couple communication about behavior change, joint decision-making and planning regarding the behavior or working together to engage in the behavior” (Lewis et al., 2006, p. 1374). The Cronbach alphas for the scales were 0.87, 0.86, and 0.68, respectively. Both face and construct validity have been demonstrated for these measures (Salazar et al., 2013). Each outcome was assessed using seven questions specific to what extent couples interacted regarding HIV-related behaviors. Each of the three scales had the same response options, and participants answered on a five-point Likert scale ranging from “not at any extent at all” to “to a great extent”. The base for each of the seven questions was specific to the subscale, and therefore included three options: 1) To what extent do you and [partner] make decisions together about... 2) To what extent do you and [partner] communicate about... and 3) To what extent do you and [partner] work together to...[engage in the outcome]. The seven questions attached to each base were identical, and included: 1) using condoms when we have sex with each other, 2) limiting the number of other sex partners, 3) deciding about either of us having sex “outside” our relationship, 4) using condoms when either of us has sex outside our relationship, 5) getting tested regularly for sexually transmitted infections (STIs) and/or HIV, 6) being the top or bottom when we have sex with each other, and 7) being sexually faithful to each other.

Independent Measures: To understand factors associated with health-enhancing behaviors, the analysis considered predisposing factors of couples hypothesized to influence these behaviors, including demographic data and relationship characteristics. Demographics included race, sexual

orientation, HIV status, education, employment status, and yearly income. Alcohol use was also assessed as the number of drinks within the last year. Relationship characteristics were assessed multi-dimensionally, with questions about relationship length, marital status, relationship type (*What term best describes your relationship with [partner name]*: boyfriend, lover, husband, spouse, partner, “fuck buddy”, hook-up, friends with benefits, we don’t use labels, other), the presence of a sexual agreement (Mitchell, 2014b), cohabitation status, length of cohabitation, and time spent together (*Out of the last 30 days, how many nights have you spent with your partner*). Relationship characteristics also included measures for IPV (Stephenson & Finneran, 2013), conflict style (Levinger & Pietromonaco, 1989; Salazar et al., 2013), love (Lemieux & Hale, 1999, 2000), and dyadic trust (Larzelere & Huston, 1980). A Cronbach alpha greater than 0.78 has been demonstrated for each of these measures. Face and construct validity have been demonstrated for the conflict style inventory, and discriminant and convergent validity have been demonstrated for the trust measure (Larzelere & Huston, 1980; Levinger & Pietromonaco, 1989; Salazar et al., 2013). This analysis also controlled for stigma, operationalized as the internalized homonegativity scale, which has a demonstrated Cronbach alpha of 0.84 (Meyer, Frost, Narvaez, & Dietrich, 2006). Although each of these measures produced an actor and a partner variable because both individuals answered all questions separately, some composite variables were derived by combining data from both partners. These variables were HIV concordance between partners based on both individuals’ serostatus, as well as sexual risk concordance based on each individual’s self-reported sexual behaviors.

Analysis:

Factor Analysis: Given the large number of variables that could be included in analysis (N=59 including scores for actors and partners and composite variables), exploratory factor analysis was

performed for the independent variables using squared multiple correlations as prior communality estimates (O'Rourke & Hatcher, 2013). Exploratory factor analysis was used because the intent was to ascertain latent factors contributing to covariation in the dataset (O'Rourke & Hatcher, 2013). The principal factor method was used to extract factors, followed by a promax rotation to account for correlation between factors (O'Rourke & Hatcher, 2013). A scree test followed by a test for the proportion of common variance indicated that three meaningful factors be retained for rotation. In interpreting the rotated factor pattern, an item was said to load on a given factor if the factor loading was 0.35 or greater for that factor and less than 0.35 for the other factor. As seen in Table 1, these factor loadings can also be assessed as standardized regression coefficients. Factors for actor and partner were loaded separately. Applying these criteria, nine items were loaded on the first factor, which was subsequently labeled "relationship satisfaction", six items were found to load on the second factor, which was subsequently labeled "time together," and four items were loaded on the third factor, labeled "sexual risk". However, only eight items were loaded onto the first factor for actors, as conflict style did not load for actor, but did load for partner. The optimally weighted linear composites for each factor were used as standardized estimates of factor scores for subsequent analysis.

Actor-Partner Interdependence Modeling: Actor-partner interdependence modeling (APIM) techniques were used to examine associations between relationship characteristics and each of the three outcomes of interest (planning and decision-making, communication, and joint effort). Separate models were run for each of these outcomes in the present analysis. APIM accounts for the nesting of individuals within dyads, and therefore can examine two effects simultaneously: an individual's data affects both their own dependent variable score (known as the actor effect) and their partner's dependent variable score (known as the partner effect) (Kenny, 2006; Zvara,

Mills-Koonce, Heilbron, Clincy, & Cox, 2015). Although multilevel modeling and structural equation modeling are both appropriate for APIM, multilevel regression models were used because it is recommended for indistinguishable partners, which were present in this dataset (i.e. designation between actor and partner in the dataset is arbitrary and the researcher cannot differentiate members from one another) (Kenny, 2006). The use of multilevel modeling also allowed this analysis to control for mixed independent variables that vary between and within dyads, on average from dyad to dyad, and from person to person within each dyad (Kenny, 2006). This use of mixed independent variables allows investigation of mutual influence (Kenny, 2006).

Results: The complete sample included 398 individuals (199 partnerships). After excluding partners with missing data in key covariates and individuals whose partners had been excluded due to missing responses, the final sample was comprised of 270 individuals that constituted 135 partnerships. Ages of participants ranged from 19 to 69 years. Age differences between the couples ranged from zero to 38 years apart, but partners were generally close in age with a median difference of 5.4 years. The majority of the sample was white (N=215, 80%), though the sample included participants who identified as black/African American (N=28, 10%), multiracial, Asian, Pacific Islander, and Native American or Alaskan Native. A small proportion of the sample also identified as Latino (N=25, 10%). Most respondents were educated with college completion or higher (N=185, 69%), and the majority of the sample made at least \$50,000 annually (N=154, 57%). Most partnerships had two sero-negative partners (N=194, 72%): all other partnerships were sero-discordant. Most couples lived together (N=213, 79%), but had not pursued a commitment ceremony or legal marriage (N=179, 66%). Relationship length varied from less than one year (N=60, 22%) to more than 6 years (N=76, 28%).

In the APIM modeling (Table 3), the key covariate factor variable relationship satisfaction was significantly associated with all three outcomes for actors ($p=0.02, 0.02, 0.06$). Relative to white males, Latino males in this sample reported lower planning and decision-making and communication scores ($p=0.032$ for actors' planning and decision making, $p=0.044$ for partners' communication). Alcohol use in the past year was negatively associated with planning and decision making, communication, and joint effort for both actors and partners except for actors' planning and decision making (actors: $p=0.11, 0.038, 0.004$ respectively, partners: $p=0.03, 0.056, 0.02$ respectively). The presence of a sexual agreement was also significantly associated with planning and decision-making and communication for actors ($p=0.007$ and 0.008 , respectively), but not for joint effort and not for partners. Internalized homophobia was not significantly associated with planning and decision making, communication, or joint effort for actors ($p=0.51, 0.38, 0.88$, respectively) or partners ($p=0.43, 0.25, 0.63$).

Discussion: Based on these results, dyadic interventions can capitalize upon and improve relationship satisfaction to refine interventions for male partnerships, whereby increasing relationship satisfaction holds promise to improve the effects of dyadic interventions. This finding coincides with previous research that suggested other relationship characteristics, such as length, communication, and the presence of sexual agreements, are associated with HIV risk (Darbes et al., 2012; Darbes et al., 2014; Gomez et al., 2012; Hoff, Chakravarty, Beougher, Neilands, & Darbes, 2012; Mitchell, 2014a; Mitchell & Petroll, 2013; Mustanski, Newcomb, & Clerkin, 2011). It may be that relationship characteristics and satisfaction impact couples' ability to engage in health-enhancing behaviors most, either positively or negatively. Accordingly,

relationship satisfaction is likely an appropriate target for dyadic interventions to promote joint effort as the antecedent to HIV health-enhancing behaviors within partnerships.

An unanticipated result of this analysis was the lack of association between internalized stigma and couples' outcomes. This lack of association may be a reflection of resilience from this population, whereby constructive relationship characteristics such as love, trust, and lack of IPV are protective and lessen the impact of stigma on relationship effort outcomes. This indicates increased social support found within relationships may be a positive moderating factor resulting in increased joint effort outcomes for this population. It is also possible that externalized or structural stigma may be significantly associated with these outcomes, but were not accounted for in analysis. Future analyses should examine multiple types of stigma to explore these possibilities.

In addition to the key finding related to relationship characteristics, there were also findings related to alcohol use, race, and sexual agreements. Alcohol use by the actor was significantly and negatively associated with communication and joint effort, and alcohol use by the partner was negatively associated with all three outcomes. This outcome may be due to the hypothesized causal relationship between minority stressors and risky sexual behavior wherein substance use acts as a mediating factor (Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008; Kaplan et al., 2015). Increased minority stressors require sexual and gender minorities to utilize coping mechanisms. Minority individuals may turn to maladaptive avoidant coping mechanisms to deal with minority stressors (Baiocco, D'Alessio, & Laghi, 2010; Fan et al., 2016; Pachankis, Hatzenbuehler, & Starks, 2014; Peacock, Andrinopoulos, & Hembling, 2015). These coping mechanisms may include risky sexual behavior, or may indirectly promote risky sexual behavior through alcohol or substance use (Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008; Kaplan et

al., 2015). Alcohol is also a known barrier to effective communication, one of the joint effort measures (Denes & Afifi, 2014; Hatcher, Colvin, Ndlovu, & Dworkin, 2014). Therefore, alcohol use may be a barrier to joint effort itself, or may point to the existence of latent factors such as externalized stigma and the impact of these latent factors on joint effort.

Similarly, the presence of a sexual agreement was significantly associated with communication and planning and decision making for partners only. It may be that couples who naturally exhibit better communication or planning and decision-making without intervention have an easier time discussing and creating sexual agreements. Conversely, making an agreement together bolsters these skills among couples. Therefore, it may not be the agreement itself that impacts coping, but rather the underlying skills inherent to making these agreements. Future research could also examine whether the presence of the agreement or factors associated with the agreement produce these effects. For example, satisfaction with the agreement of concordance between partners about what the agreement is may have stronger associations with health-enhancing behaviors than simply the presence of an agreement.

Additionally, a small but statistically significant effect was found for each of the outcomes for Latino MSM specifically, but not for overall race/ethnicity. Research regarding individuals with both racial/ethnic and sexual minority identities indicates that stigma or discrimination resulting from intersectional minority identities results in worse health outcomes. These negative outcomes include alcohol use (Gilbert, Perreira, Eng, & Rhodes, 2014), depression and anxiety (Choi, Paul, Ayala, Boylan, & Gregorich, 2013), discomfort expressing affection with other men and psychological distress (Bishop, 2014), and HIV acquisition, an association moderated by psychological distress (Lelutiu-Weinberger, Gamarel, Golub, & Parsons, 2015). These results demonstrate how “multiple forms of oppression contribute

additively and interactively to mental health in this population” (Velez, Moradi, & DeBlaere, 2015). However, this research has largely focused on individuals rather than dyads. These associations may also exist for dynamics within ethnic/racial minority relationships, negatively impacting these individuals’ ability to cope and participate in HIV preventative behaviors. Although the racial and ethnic minority sample of this study was too small to draw definitive conclusions, future research should examine differences in outcomes between racial and ethnic minority relationships.

Strengths and Limitations: This research should be interpreted in light of several limitations. This study may have limited generalizability due to the largely white and highly educated sample. Additionally, this analysis was unable to examine social support variables due to high rates of missing responses, which would have allowed more robust analysis of theoretical principles. These limitations must be considered relative to the constraints of the data set, which utilized measures chosen before this analysis was considered. However, steps were taken to ensure the reliability and validity of measures. When reliability and validity measures were not available, survey measures were assessed for specificity to the population of interest (Salazar, Stephenson, Sullivan, & Tarver, 2013). To further minimize this limitation, the same theoretical foundation was utilized for the data collection project and this analysis, and measures were assessed for their relation to theoretical principles. Lewis Interdependence Theory is a framework appropriate for gay male dyads, and measurements used are an excellent fit with theoretical concepts.

Conclusion: This analysis fills an important gap in the literature through the use of innovative and complex statistical techniques. The use of APIM allows for simultaneous analysis of both partners within a dyad, providing a more nuanced and robust understanding of how the

communal nature of dyadic coping truly impacts outcomes. Specifically, this analysis has identified partner effects for relationship satisfaction that validate the previously assumed interaction with a partner score in affecting couple's outcomes regarding approaches to health-enhancing behaviors. By establishing the importance and utility of dyadic level analysis, this study provides further evidence base to support dyadic level interventions. This analysis identifies specific factors that may inform intervention delivery models targeting male couples.

Table 5. Factor Loadings: Rotated Factor Pattern (Standardized Regression Coefficients)

Variable	Actor			Partner		
	RS	TT	SR	RS	TT	SR
Happiness	47	3	3	59	1	-3
Future Together	45	32	2	50	32	0
Love	53	11	-5	54	8	-5
Trust	67	0	-2	63	-3	-6
Problem Solving	61	-8	-2	64	-9	-2
Conflict Style	11	11	1	57	-6	11
Depression	-42	0	7	-41	-1	7
Intimate Partner Violence Experienced	-50	-5	-4	-44	0	0
Intimate Partner Violence Perpetrated	-42	1	-13	-37	5	-5
Relationship Duration	8	50	0	7	53	1
Living Together	-5	76	-2	-4	78	-1
Nights Together	-5	88	-3	-3	92	-2
Meals Together	5	78	8	3	82	6
Days Seeing Main Partner (MP)	-1	86	-2	-1	86	0
Days with Contact without Seeing MP	10	-82	0	10	-66	9
Condom Use with MP & Other Partners	0	1	91	2	3	91
Condom Use, HIV Status, Top UAI, Bottom UAI	-6	-6	91	-5	-2	92
Risky Behavior Concordance	5	11	57	-	-	-
HIV Concordance	0	1	-94	-	-	-

Note. Risky behavior concordance and HIV concordance are composite variables utilizing data from both partners, and were therefore only included in the actor composite to avoid redundancy. RS is relationship satisfaction or factor one, TT is time together or factor two, and SR is sexual risk or factor three.

Table 6. Demographics of Actors and Partners (N=270 Couples)

	Actor N (N=135)	Actor %	Partner N (N=135)	Partner %	Total N (N=270)	Total %
Age						
18-24	19	14	19	14	38	14
25-34	54	40	52	39	106	39
35-44	30	22	31	23	61	23
45+	32	24	33	24	65	24
Age Difference (in years)						
0-5					172	64
6-10	-	-	-	-	64	24
11-15					16	6
16+					18	6
Race						
White	105	78	110	81	215	80
Black/African American	16	12	12	9	28	10
Multiracial/other	14	10	13	10	27	10
Latino						
No	121	90	124	92	244	90
Yes	14	10	11	8	25	10
Highest Education						
High School or Less	8	6	11	8	19	7
Some college	39	29	27	20	66	24
College or Higher	88	65	97	72	185	69
Income						
<\$15,000	12	9	10	7	22	8
\$15,001-\$30,000	21	16	18	13	39	14
\$30,001 - \$50,000	28	21	27	20	55	20
\$50,001- \$80,000	21	16	29	21	50	19
\$80,000 - \$100,000	16	12	15	11	31	11
\$100,000+	37	27	36	27	73	27
HIV Status Concordance						
Both Partners Negative	-	-	-	-	194	72
Serodiscordant					76	28
Marital Status						
No Marriage/Ceremony	88	65	91	67	179	66
Legally Married	23	17	21	16	44	16
Commitment Ceremony	6	4	5	4	11	4
Domestic Partnership	6	4	6	4	12	4
Don't Know	12	9	12	9	24	9
Relationship Length						
Less than 1 year	30	22	30	22	60	22
1-2 years	41	30	42	31	83	31
3-5 years	25	19	26	19	51	19
6+ years	39	29	37	27	76	28
Cohabitation						
No/I don't know	28	21	28	21	57	21
Yes	107	79	107	79	213	79

Table 7. Results of APIM Multilevel Modeling

Effect	Planning & Decision Making	Communication	Joint Effort
	P-value (CI)	P-value (CI)	P-value (CI)
Internalized Homophobia	0.51 (-0.06, 0.13)	0.39 (-0.06, 0.16)	0.88 (-0.12, 0.11)
P Internalized Homophobia	0.43 (-0.13, 0.06)	0.25 (-0.18, 0.05)	0.63 (-0.08, 0.14)
Age	0.81 (-0.12, 0.10)	0.51 (-0.17, 0.08)	0.43 (-0.08, 0.19)
P Age	0.32 (-0.16, 0.05)	0.26 (-0.19, 0.05)	0.48 (-0.18, 0.09)
Age Difference	0.91 (-0.15, 0.17)	0.32 (-0.09, 0.29)	0.18 (-0.31, 0.06)
Latino	0.03* (-6.29, -0.29)	0.06 (-6.95, 0.18)	0.16 (-6.07, 1.04)
P Latino	0.21 (-5.14, 1.14)	0.04* (-7.54, -0.10)	0.34 (-5.53, 1.93)
Race	0.44 (-0.33, 0.75)	0.30 (-0.30, 0.97)	0.71(-0.53, 0.78)
P Race	0.19 (-0.96, 0.20)	0.55 (-0.87, 0.47)	0.06 (-1.36, 0.03)
Education	0.10 (-0.63, 0.64)	0.45 (-1.04, 0.46)	0.70 (-0.61, 0.91)
P Education	0.73 (-0.53-0.75)	0.96 (-0.7, 0.73)	0.44 (-1.06, 0.46)
Income	0.10 (-0.64,0.68)	0.49 (-0.49, 1.02)	0.97 (-0.82, 0.80)
P Income	0.81 (-0.72, 0.56)	0.57 (-0.95, 0.52)	0.33 (-1.19, 0.40)
Marital Status	0.59 (-1.25, 0.72)	0.94 (-1.16, 1.07)	0.53 (-1.61, 0.83)
P Marital Status	0.40 (-1.38, 0.56)	0.06 (-2.16, 0.05)	0.66 (-1.47, 0.94)
Alcohol Use	0.11 (-1.10, 0.12)	0.04* (-1.44, -0.04)	0.004** (-1.84, -0.36)
P Alcohol Use	0.03* (0.07, 1.26)	0.06 (-0.02, 1.35)	0.02* (0.14, 1.60)
Drug Use	0.51 (-2.98, 1.50)	0.40 (-3.75, 1.50)	0.70 (-3.23, 2.17)
P Drug Use	0.23 (-3.68, 0.87)	0.09 (-4.99, 0.34)	0.11 (-4.96, 0.53)
Conflict Style	0.91 (-0.07, 0.08)	0.82 (-0.10, 0.08)	0.90 (-0.10, 0.09)
Sexual Agreement	0.007** (0.99, 6.20)	0.008** (1.12, 7.16)	0.09 (-0.46, 5.87)
P Sexual Agreement	0.58 (-3.10, 1.73)	0.31 (-4.27, 1.35)	0.67 (-3.57, 2.31)
Time Together [†]	0.46 (-2.35, 5.15)	0.37 (-2.32, 6.13)	0.47 (-2.93, 6.35)
P Time Together [†]	0.51 (-5.03, 2.50)	0.45 (-5.89, 2.65)	0.40 (-6.61, 2.67)
Sexual Risk [†]	0.58 (-1.61, 0.91)	0.90 (-1.53, 1.35)	0.38 (-2.26, 0.87)
P Sexual Risk [†]	0.38 (-0.58, 1.52)	0.71 (-0.99, 1.44)	0.31 (-0.62, 1.94)
Relationship Satisfaction [†]	0.02* (0.21, 2.42)	0.02* (0.20, 2.76)	0.06 (-0.06, 2.63)
P Relationship Satisfaction [†]	0.78 (-1.44, 1.09)	0.54 (-1.85, 0.97)	0.85 (-1.44, 1.75)

Notes. *p <0.05, **p<0.01, ***p<0.001. Bold text without * approaches significance. “P” before the variable name differentiates partner scores from actor scores. CI stands for confidence interval. † Indicates factor variables.

Chapter 5: Perceptions of Coping Strategies for Sexuality-Based Stigma among Male Couples in two U.S. Cities

Background: High levels of stigma associated with sexual minority status are prevalent across socio-cultural settings and contexts, with 20- 55% of sexual minority individuals in the U.S reporting a recent stigmatizing experience (Herek, 2009; Stahlman et al., 2016). Stigma can further be understood in the context of Minority Stress Theory, in which stigma is a critical source of stress that results in adverse health outcomes for minority individuals (Meyer, 2003). The assignment of stigma differentiates power levels between stigmatized and non-stigmatized groups, altering potential social influence, access to resources, and ultimately health outcomes for individuals (Courtenay–Quirk, Wolitski, Parsons, Gomez, & Team, 2006; Oldenburg et al., 2014, Institute of Medicine, 2011; Herek, 2015).

Stigma as a stressor should also be considered in terms of dyadic outcomes. Recent research has begun to acknowledge the importance of dyadic interactions in both the experience of and ability to cope with stressors. This is critical because being in a same-sex partnership can beget unique minority stressors not accounted for solely at the individual level (Frost et al., 2017). Specific to sexual minority dyads, LeBlanc, Frost, and White (2015) outline a combination theoretical framework for this conceptualization of stigma’s impacts on health, based on principles of both stress-proliferation approaches and Minority Stress Theory. Applying this framework, further research including a meta-analysis has confirmed the existence of unique dyadic stressors experienced within same-sex partnerships (Doyle & Molix, 2015; Frost et al.,

2017; Rostosky & Riggle, 2017). A meta-analysis of 35 studies identified a small but significant association between stigma and relationship functioning (Doyle & Molix, 2015). This association was moderated by the type of stigma experienced, relationship functioning, and race, though moderation results for the latter were mixed. Research has also begun to examine specific outcomes related to dyadic stress, including relationship quality (Pepping & Halford, 2014), dyadic adjustment (Dispenza, 2011), partner role saliency (Dispenza, 2011), and psychological aggression in relationships, an association mediated by relationship satisfaction (Lewis, Milletich, Derlega, & Padilla, 2014).

The extent to which stigma shapes health can be mitigated by an individual's- or couple's- ability to cope with stigma. Coping is a multifaceted concept that can broadly be defined as “responses to adversity and to the distress that results” (Carver & Connor-Smith, 2010). Multiple hierarchies of coping exist, including: appraisal focused (adaptive cognitive), problem focused (adaptive behavioral), emotion focused, and occupation focused (Weiten & Lloyd, 2008). Another popular conceptualization of coping categories is adaptive versus maladaptive (Zeidner & Endler, 1996). Adaptive coping, sometimes referred to as active, positive or constructive coping, are those techniques that address the problem and deliver stable, lasting outcomes (Zeidner & Endler, 1996). Maladaptive strategies, also known as passive or negative coping, are those that may reduce symptoms of distress, but ultimately maintain and strengthen the disorder or stressful process (Zeidner & Endler, 1996).

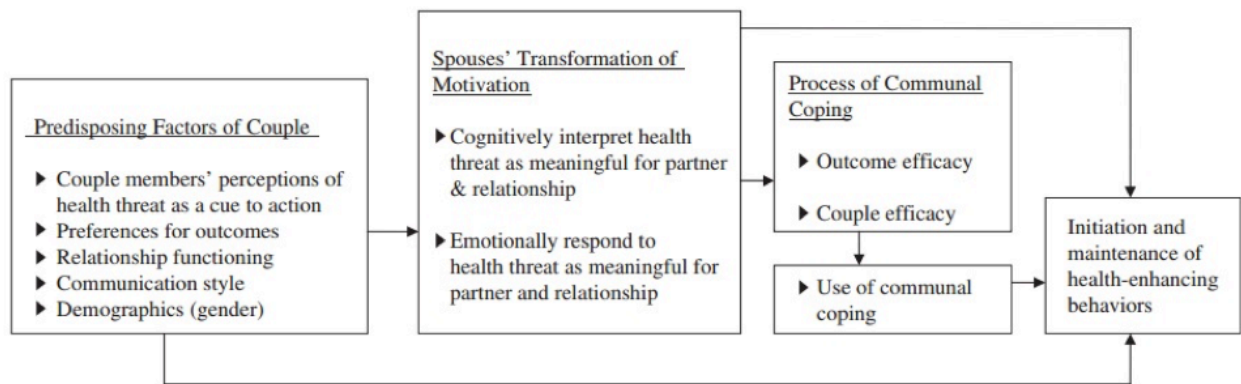
Given the known and negative impact of stigma on dyadic outcomes, research has begun to explore the strength and resilience of same-sex couples as they attempt to cope with stigma (Bodenmann, 2005; Bodenmann & Cina, 2005; Frost, 2011; Rostosky & Riggle, 2017). Rostosky & Riggle (2017) used a positive psychology framework to determine specific strengths

of same-sex relationships in relation to this framework. This work found individuals within same-sex couples are able to work together to cope with and make meaning of stigmatizing experiences, though this does not necessarily negate the negative health outcomes associated with stigma (Rostosky & Riggle, 2017). Frost (2011) conducted parallel work examining the psychological strategies individuals used to ascribe meaning to stigmatizing experiences within their partnerships. This work was not limited to positive psychology, instead examining dyadic narratives that revealed numerous ways partners framed stigma in the context of their relationships. Similar work with heterosexual dyads has indicated coping efforts impact not only the longevity or success of the relationship (Bodenmann, 2005), but also outcomes such as relationship quality, communication, and psychological well-being (Bodenmann & Cina, 2005). However, this research cannot account for the unique stigmas faced by same-sex couples.

Despite the knowledge that stigma can negatively impact health and is an important determinant of an individual's ability to maintain health behaviors, a broader, theoretically specific examination of how sexual minority men utilize coping skills to deal with sexuality-based stigma within their partnerships is needed. This includes not only how those within partnerships cope with the stigma related to their own identities, but also the stigma directed at their relationships. Additionally, both individual coping strategies and dyad-centered processes should be examined jointly to result in a more comprehensive understanding of theoretical pathways regarding coping behaviors within same-sex male partnerships. Therefore, the aim of this study was to explore how same-sex male partners describe their experiences of coping with sexuality-based stigma, as well as the meaning they ascribe to these experiences. An additional aim of this analysis was to examine differences between two study sites.

Theoretical Basis: Lewis Interdependence Theory was the framework used to guide data analysis in this study as it accounts for the simultaneous influence of partners on stigma management and, ultimately, health-enhancing behaviors (Lewis et al., 2006). Predisposing factors of couples may directly or indirectly influence the initiation and maintenance of health behaviors. Among the factors that may predispose transformation of motivation are: (1) perceptions of how dangerous the threat is; (2) preferences for corresponding outcomes; (3) the commitment and affection level within the relationship; (4) communication style; and (5) demographic factors (Lewis et al., 2006). Preferences for outcomes are either fully cooperative (preferences concordant, partners in agreement about what outcomes they want) or non-correspondent (preferences discordant, partners opinions about what they want conflict). Similarly, communication style can either be considered constructive (direct, positive, bidirectional) or non-constructive (argumentative, selfish, negative). Predisposing factors either positively or negatively impact couples' transformation of motivation. Transformation of motivation is conceptualized as two concepts: cognitively interpreting a threat as meaningful for the partner, and emotionally responding to that threat. An individual's motivation to change becomes 'pro-relationship' or 'partner-centered' once they "cognitively and emotionally ascribe the health threat as meaningful for the relationship or partner", which enhances the likelihood of collaborative work to address the threat (Lewis et al., 2006). Communal coping is then activated by this transformation of motivation (Lewis et al., 2006). Once partners are motivated to engage in communal efforts, processes and use of communal coping mediate the relationship between motivation to engage in health-enhancing behaviors and the initiation and maintenance of those behaviors. Thus, "the initiation and maintenance of health-enhancing behavior is a function of the mutual joint effect of communal coping in couples" (Lewis et al., 2006, p. 1374).

Figure 10. Lewis Interdependence Theory



Lewis et al., 2006.

Methods

Data: This analysis utilized qualitative data that was gathered as part of a larger study of minority stress and mental health (LeBlanc et al. 2015; de Vries et al. 2017; Frost et al. 2017). Recruitment was conducted in the Atlanta Metropolitan and San Francisco Bay areas. These two sites were selected because both attract large and diverse populations of sexual minority individuals from surrounding areas, and collectively they represent two regions of the country that differ significantly in social, historical, and cultural contexts. Participants were recruited from a variety of venues (e.g., grocery stores, parks, bars, and websites), and the team ensured that the sample represented at least three unique venues per recruitment cell. Eligibility criteria for participation were: (1) both partners spoke English, (2) both partners were at least 21 years of age, (3) both individuals perceived of one another as their partner (of themselves as a same-sex "couple"), and (4) at some point in their shared history, the two individuals engaged in a sexual relationship.

In addition to these criteria, quota-based sampling was used in each study site to enroll partnerships including equal numbers of male and female couples, equal numbers of couples

representing three categories of relationship duration, and at least 40% of partners representing a racial or ethnic minority. This was done to increase the sample's representativeness regarding diversity in the length of the relationships as well as the ages of the individual partners. For this analysis, random sampling was used within stratified data. One hundred and twenty same-sex couples, 60 in each of the two study sites evenly disbursed by gender, participated in the qualitative study. Only male couples were of interest for this secondary analysis for consistency with the quantitative work regarding couples in this dissertation. For this secondary analysis, 30 of the 60 male couples were randomly selected, representing a variety of ages, races, ethnicities, and relationship lengths (Table 1). Participants were randomly selected from both Atlanta and San Francisco to facilitate analysis of differences between the two cultural contexts.

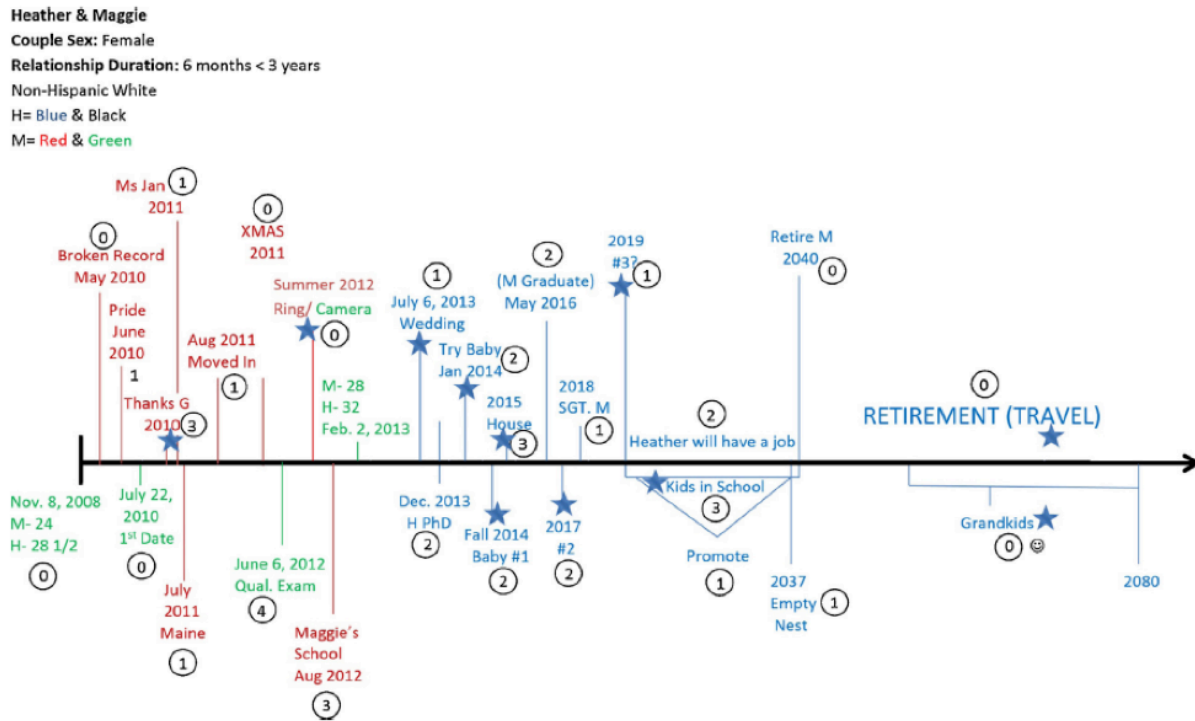
Measures: Partners were screened online separately for eligibility. IRB approval was obtained from each study site for the larger study, and written consent forms detailing the full aims and objectives of the project were obtained from each participant. Following screening, each couple met together with a trained interviewer for one audiotaped discussion. Interviews lasted 1.72 hours on average. These interviews were structured around the couples' joint creation of a "relationship lifeline," depicted in Figure One (de Vries et al., 2016). Interviews during the creation of this timeline focused explicitly on the stressors that stemmed from those events and turning points. Couples began this interview by jointly creating a lifeline that was anchored with "Date we met" on the left and "Today" toward the right, leaving space for their envisioned future wherein anticipated stressors may also reside. In the timeline depicted in Figure 1, past events are depicted in red and future events are depicted in blue for clarity. Both partners then jointly defined and labeled the key events that occurred during their relationship and anticipated events in their future, rating the stress for each event on a scale from 0-4. This process led to the

identification of important events that contributed to the couples' current understandings of their partnership, and provoked memories of the challenges associated with pivotal events and relationship transitions. Lastly, given the research was focused on the particular experience of minority stressors, couples were then instructed to place a star sticker to identify events or periods of time that involved the experience of stress related to the stigmatization of their relationship. This was done to differentiate different types of stress. For instance, the most stressful event on the timeline in Figure 1 is the June 6th event "qual. exam", but this event did not involve any stress related to sexuality-based stigma.

Narrative data related to stigma and coping was stimulated through a pre-ordained set of additional prompts and questions. Interviewers asked a series of narrative prompts concerning each of four events/periods to elicit more detailed accounts regarding stressful experience. The four events/periods chosen for discussion were selected as follows (1) the highest rated stress experience closest to the "DATE THEY MET;" (2) the highest rated stress experience closest to "TODAY;" (3) the highest rated anticipated stress experience in their futures; and (4) one stress experience (from the past or in the anticipated future) of their choosing. Narrative prompts for these event or period elaborations included brief descriptions (i.e., "Please describe this event or period of time; please tell me about what happened") followed by more subjective appraisals such as: "Can you describe how you were thinking and feeling when this happened/at that time?" and "How do you think this event or period of time has affected you as a couple?" and "Did this event or period of time have a lasting impact on your day-to-day lives?" These probes were asked generally and then for each partner, as needed and/or appropriate. Prompts regarding minority stress events/experiences additionally inquired whether "this event or period of time

involves or involved stigma, prejudice, discrimination and/or negative feeling related to your being in a same-sex couple?”

Figure 11. Timeline of Heather and Maggie



de Vries et al., 2016

Analysis Plan: Critical ethnography was the philosophical lens chosen for this analysis because it allows for the investigation of injustice to illustrate how cultural meanings constrain existence and social processes, such as coping (Thomas, 1993). Within this lens, the analytic strategy utilized was thematic analysis. The first author coded these qualitative data. Interviews were read several times, and patterns and themes were identified and linked together using a guide specific to ethnography (Schensul & LeCompte, 1999). Deductive coding was based on codes extracted a priori from Lewis Interdependence Theory (Lewis et al., 2006), while inductive codes were based on initial reads of the interviews and were compiled during the iterative coding process. Both deductive and inductive coding were conducted simultaneously to give equal

credence to each form during the coding process. Due to availability of the data, interviews from Atlanta were read first. The inductive portions of the codebook were derived from these interviews.

Coding of the concept “coping” was purposefully broad. People often use multiple types of coping throughout their lifetime depending on personality traits and the given situation (Folkman, 2013). Consequently, this analysis did not limit the use of the word “coping” to refer to only one categorization of the concept. Instead, coping in this study referred to any action a participant described that was used to manage a stressful or stigmatizing occurrence within the relationship. Audit trails were utilized in the form of personal, theoretical, and analytical memos to track progress throughout the coding and analysis process. Personal memos were used to mitigate the potentially negative impact of preconceptions regarding codes or data by providing a space for recognizing and suspending a priori knowledge and assumptions. This bracketing and memo use fostered reflexivity and accuracy throughout the analysis by promoting researchers’ engagement in this self-reflective process, which allows themes to emerge untainted by preconceptions. Atlas.ti version 7.5.16 was utilized to facilitate data analysis.

Results: Overall, participants described numerous coping mechanisms, though the majority of participants spent more time describing adaptive measures. These coping strategies included both individual and dyad-centered efforts, in which the participation of both partners was a necessity. Results from this analysis are presented in headings that correspond to theoretical language, allowing for mapping of results onto various aspects of Lewis Interdependence Theory. However, the headers “social factors” and “stigma management” contain results not specifically addressed in the language of Lewis Interdependence Theory that emerged as important themes for coping within these partnerships.

Predisposing Factors

Age discrepancy between partners was a predisposing factor presented as both a positive and negative influence on coping. Couples discussed that older partners were better suited to guide coping in the relationship. Older partners were perceived to have more experience and knowledge regarding how to handle stigma experienced together. Couples also discussed maintaining equality despite age discrepancies and the resulting improvement in coping processes:

“P1: ...he's kind of protective over me, and I understand, and I like that. But...because of our age difference...I'm just cognizant about not having our relationship be a parent/child relationship...”

P2: I don't want that...I always try to make it so that, regardless of our age difference...we are still equals in this relationship. No one is higher than the next, let's make sure that we're walking hand in hand, side by side.”

Two frequently discussed demographics were relationship length and marital status. It is important to note that at the time of data collection, same-sex marriage was legalized in California, but not in Georgia. While many couples discussed the pros and cons of potential marriage, only two couples from Atlanta had pursued marriage in another state. Both couples discussed their marriage in a positive light, viewing it as a tool for celebrating their success in the face of the stigma they faced as a couple:

“...what I realized was that we had been together for nine years and kind of longer than everyone we had known in the gay community...and what I started to realize is that we were already married in everyone else's eyes, so you know, what we did was like to legitimize something...you coming out was very fulfilling...Like that you came to terms with what it meant to be gay and you know, you didn't see it as a source of shame or feared it or whatever it was.”

Participants also discussed relationship length as a positive coping factor, particularly among participants who considered long relationships in the gay community to be uncommon. Partners perceived that time spent together fostered growth together as a couple and gave them

confidence in their relationships. However, relationship length did not necessarily deter or mitigate the amount of stigma felt from family members or society at large.

A minority of the sample who attended gay-friendly, inclusive churches viewed religion as a source of social support. However, religion was a factor that the majority of couples felt they had to contend with, particularly in conjunction with family relations. For example, participants reported that families from conservative religious backgrounds had misconceptions stemming from religious teachings, such as AIDS being “the devil’s wrath on gay people”. These religious teachings were seen by participants as a reason to stigmatize them or their relationship. This stigma would “hugely affect” these relationships, prompting partners to remain secret and causing tension within relationships.

Similarly, participants discussed their backgrounds and environmental factors as processes hindering coping within the relationship. Ability to cope with stigma was considered by participants in relation to political changes- particularly concerns that the political context was very labile, and “the political climate could shift at any given moment”. Environmental factors such as institutionalized discrimination or structural stigma were also discussed as a factor that made it difficult to cope, particularly if the couples lived in environments that were not supportive of their relationships. One participant described their experience after an attempted assault, and explained the unsupportive response they received from the city, perceiving that the city had “washed it under” to preserve its reputation.

The discrimination felt in these environments was something that participants felt resigned to. The general tone, as expressed by one participant, was that “it’s just what they believe in, that’s really how it is”. However, rather than focus on the environment, participants often discussed their own or their partner’s personality traits, describing them as facilitators for

coping within these environments. For example, one theme that emerged was the discordance between personality types being used as a coping mechanism to counterbalance one another:

“P1: Well usually I’m the more aggressive, um active partner where [he] is sometimes he is more passive or more grounded. So while I was like going off the deep end he was sort of calming...”

P2: And I think that was the moment where I think or probably that’s why we marked it as a significant moment was because that’s where I think we – we realized that we equal, like we’re Yin and Yang...we balance each other.”

Having differing personalities also bolstered partners’ ability to support their partner. Some participants described that being the “calm” partner allowed them to step outside of their own anxieties or concerns and focus on providing support for their partners. In this way, embracing each other’s personalities despite experiencing stigma was utilized as a coping strategy.

Predisposing Factors of Couples: Communication Style and Preferences for Outcomes

Couples’ communication styles were discussed in terms of whether they found them to be helpful and constructive, or whether they found them to be unhelpful and non-constructive. Couples who thought their communication styles were constructive described themselves as “willing to talk”, “honest from the very beginning”, and willing to have “a hard conversation” rather than feeling angry or yelling. These ‘fully cooperative’ couples tended to utilize constructive communication styles, indicating similar preferences and an understanding of what it might take to pursue those preferences:

“And I know that there’s potential there that I might grow in a different way but I think what at least my experience with you has been...we’re both open to that we figure out how to meet in the middle and let the person go with where they’re going but keeping ourselves together as a couple somehow.”

Conversely, poor communication often led to misunderstandings, which in turn resulted in discordant wishes and needs not being fulfilled by one’s partner. Communication was actually discussed as a factor that could determine the success of a relationship, particularly when one

partner “shuts down” instead of communicating. Multiple participants expressed the viewpoint that many male-male relationships don’t last, particularly because partners tend to leave the relationship rather than engaging in communication to address problems. In this sample, however, communication was an often-noted technique for coping with issues within and outside of the relationship.

Predisposing factors of couples: Relationship Functioning

Relationship functioning was generally discussed as a positive factor by these couples despite the stigma they faced. Numerous participants discussed affection, satisfaction, attachment, and love within their partnerships. Love, in particular, bonded one participant and his partner’s family to prevent negative interactions, in which the commonality of love between these parties promoted acceptance of the relationship. Frequently, these factors brought couples together and made them feel confident and satisfied within the relationship:

“...the one thing that I don’t think I’ve ever had in a relationship is the emotional support and stability of someone really being there. So that was probably the moment that I knew without a doubt that you were there emotionally and otherwise...it’s probably the one thing that helped me through that event...”

Financial equality also helped mitigate the stressors in relationships. Equality in this sense encouraged “easier adjustment” to any difficulty by removing one factor that people in relationships often fight about. Equality, particularly in the financial sense, also promoted feelings that both partners were “actually contributing” to the relationship, placing partners on equal footing during decision-making processes and tough conversations. Further, the concept of equality harkened back to the concept of partners counterbalancing one another to provide support during difficulties. Specifically, commitment and willingness to sacrifice were discussed in the context of coping with stigma from the relationship:

“One thing about me is when I care about somebody or love somebody, I love hard. I don’t see it for the moment. I see it for, you know, meaning that I’m willing to go through hell and high water...and I feel that he’s worth it.”

Willingness to sacrifice was also often discussed in terms of compromise, a technique described by numerous couples. For example, one partner described his decision to choose his partner over his family because of numerous toxic interactions with his mother that negatively impacted coping within the partnership. Another participant indicated willingness to not meet his partner’s family because of the stigma-related stress he knew would result from the interaction. Partners discussed both willingness and unwillingness to compromise or sacrifice for the sake of the relationship, indicating the response was not uniform across relationships.

Transformation of Motivation

Couples discussed ‘cognitive interpretation’ as their efforts (and sometimes shortcomings) at recognizing intellectually that stigma was a significant factor impacting coping within the relationship. While a few partners felt they were not “great at recognizing what was going on”, more participants described positive examples of identifying risky situations:

“P1: The issue relates to the fact that I feel and I’m assuming that you also feel that the idea of her living with us is not possible because I think it would destroy our relationship within months...maybe not destroy or relationship but it would put a major strain on us as individuals and a couple.”

Building on the skill of recognizing stigma as a threat, some partners described how they emotionally responded to those threats. Turning the cognitive recognition into an emotional response helped the couples frame the threat in terms of the health and security of the couple, thereby enhancing the likelihood they could work collaboratively to cope with the problem. Many partners spoke specifically about the process of moving from self-centered coping to relationship-centered coping, and explained this as a key component of emotional responses to

stigma threats in order to protect the relationship. For example, one participant described being “stressed over the fact that...this is upsetting him”, which made the threat more personal and prompted a stronger support response.

Social Factors

Social factors such as family relations, friends, and support outside of the partnership were brought up frequently. Friendship and support from others outside the partnership was described as particularly important for sexual minority men who created “heart families”, or non-biological persons considered family. Friends and supportive communities were described as a great source of help for couples coping with stigma:

“P1: ...I think a lot of that has the community that we create around us. Like our community is really important to both of us and we work – we put a lot of time and energy into our community. And that community’s a really open, loving, challenging but overall the people around us in our personal community are – P2: Are supportive of us trying to be happy. Yeah and even like our acquaintances at work I think like I think we are privileged to work in an environment where I don’t have to deal with people that have problems with people being gay.”

Family relations were described as both good and bad, capable of either causing difficulties or providing support for the relationship. Family members were able to provide support, normalize the relationship, or reduce anticipated and actual stigma through positive interactions:

“P1: I think the only other thing that I would add...is your niece’s wedding where she finally told off the rest of your family. I think that was the first time like everyone actually realized we’re more than – yeah we were more than roommates. She spoke up...and I think at that point was I think also the timeline where the rest of your family actually realized that we are truly a normal couple.”

However, some participants felt they could not disclose to families for fear of anticipated stigma. Participants described fears that disclosure might be “detrimental” to the relationship, and that the “apprehension of the unknown” prevents disclosure that might be beneficial to coping in the relationship. Other participants discussed interactions already known to cause

distress to the relationship and hinder coping, wherein the stigma and stress caused by family made partners distracted or preoccupied. This resulted in “taking away space from us” and negatively affecting partners’ ability to cope within the relationship. Therapy was also specifically addressed as a source of support outside the relationship, but participants expressed uncertainty about the utility of therapy as a tool for support based on previous experiences.

Stigma Management

Participants also described legal avenues used to cope with either actual or anticipated stigma as a communal coping strategy. Participants discussed legal strategies in terms of what they had learned about legal processes and legal preparation they had pursued in order to cope with stigma. For example, one couple described pursuing legal documentation to mitigate anticipated stigmatizing experiences while navigating within a healthcare system:

“Q: Were you allowed in the room?

P1: Yes...But his family wasn't here. So that was never an issue. I don't - I don't know if that would ever be an issue. But at some point, like with me and Carl, you know, you - you write your paperwork, your wills, power of attorney, all that, so that you try to make that not an issue.”

Participants also described very specific stigma management strategies not related to legal situations. Anticipating stigma, avoidance, concealment, and living openly were all identified as coping mechanisms utilized by partners to cope with either actual or anticipated stigma. Anticipating stigma in itself is a coping mechanism, which causes partners to change their behavior:

“P2: ...it was stressful in both situations, because around public and we can't, you know, if I wanted to cry during my cancer thing, I can't have him come in and hold me, like, you know, if he was a woman, or whatever.

Q: Okay. So you were denied -

P1: I mean, you could, but you're just uncomfortable, because -

P2: Yeah, it was sort of an underlying thing. Actually, we've never had anything just blatantly put in our face, but it's underlying stuff that we feel.”

Avoidance and concealment were used fairly similarly as stigma management techniques, often to prevent experiences of stigma rather than having to deal with them. Public displays of affection were specifically noted as something couples did not participate in to avoid stigma. While the first quote depicts actual avoidance of potentially stigmatizing situations, the second represents a concealment approach.

“P1: I don’t think we put ourselves in situations where it’s even an issue....

Q: Okay. So, you’ve just avoided it just by not telling people and keeping your lives very private.

P1: If they ask, I will tell. I don’t offer it.”

P1: We don’t throw our relationship in people’s face...we’re not blatant...

P2: We don’t have gay flags hanging. You know what I mean?

P1: Right...we don’t walk through the neighborhood holding hands...we just don’t do that.

While cited less frequently than concealment or avoidance, living openly was a stigma management strategy described by participants who lived in defiance of the stigma they experienced, counting each positive open interaction as a “moral victory”. A number of couples described how they hoped living openly would “normalize” their relationships, and how they drew strength and confidence from their openness. One participant expressed a more personal manifestation of this sentiment, stating, “...I want people to know. Because, it's like, I think that's the best part of me”.

Process of Communal Coping

Couples often discussed becoming better partners through jointly dealing with adversity. These experiences bolstered couples’ confidence that they could face adversity together, and that facing difficulties would be worthwhile. For example, participants discussed how they “learned a lot through all these experiences”, which provided mutual understanding to draw on during

future coping endeavors. Relatedly, couples often described dealing with stigma as something that strengthened their relationship rather than weakening them:

“...the longer we continue the relationship and make it work -- The more experiences we have that are stresses -- even the very enjoyable ones...I think it strengthens the relationship to experience those things together and, uh, and move on together and know that, well, you know, okay, we dealt with that.”

Participants described how communal coping “actually in all reality might lower the stress level” of negative experiences because they would “be doing it together”. These experiences were viewed as important by participants who recognized they “would have never stayed together” if they were not able to jointly deal with stigmatizing events.

Use of Communal Coping

In contrast to processes of communal coping, which are focused on confidence and belief in the utility of communal coping as precursors to engaging in communal coping behaviors, the use of communal coping are those activities partners actually engage in together as part of communal coping processes. Partners described ‘joint effort’ as work undertaken by both partners together to strengthen the relationship after facing adversity, including “re-inventing the relationship” and “bouncing back”. Participants also discussed joint decision-making within the partnership, such as jointly planning to disclose to a family member. However, couples in this sample did not often specifically discuss long-term planning, though the legal efforts discussed did entail planning ahead as a couple. One couple even specifically stated “we don’t do long term plans”.

In contrast, communication was frequently discussed by participants and viewed in a positive light as a necessary and helpful tool for dealing with stigmatizing situations. Participants described communication as the use of dialogue or discussion to achieve mutual goals:

“P2: Well, I think just having the conversation...made me feel a little bit more at ease that we talked about it...I felt some sort of a relief that it was something we talked about...So, as far as like how it affected our relationship, I felt like we had a...maybe not hard but a good conversation about a, a tough subject. And, uh, you know, it, it, it kind of made me feel a little more at ease about it.

P1: I would agree. I mean, yeah, it's - maybe you don't want to have those kinds - those conversations that might be uncomfortable, but...yeah, good for us to get it off the - our chest, I guess.”

Site Comparison: One additional aim was to examine differences in codebooks between the two study sites. Only one additional code was added when applying the Atlanta codebook to the San Francisco data. This code referred specifically to sections of the interviews where participants discussed their city of residence in relation to coping. The vast majority of San Francisco couples discussed the city itself as a factor that made coping with stigma in their relationship easier than it had been in other geographic locations. Participants in San Francisco discussed feeling “less ostracized” by living in “liberal areas”, which both reduced the amount of stigma experienced and made it easier to find a community to deal with stigma:

P1: “...I now understand why people move into you know quote/unquote ghettos because it feels so good to be around people like us. And even though we don't really relate to a lot of our neighbors and we're not really part of the gay community um, it – it's amazing uh, I – I think how much of that was going on in the background um, living in the suburbs of Seattle and uh, you know it's sort of shocking. Now I can see much more clearly how the things that I did and that we did as a couple...the interactions that we avoided uh, were informed by either real or perceived discrimination and prejudice...I don't feel any of that here.”

“Acceptance” was a common theme in these statements. Participants discussed how the city itself felt more accepting than other states or rural areas, which impacted their ability to use other coping mechanisms. For example, living openly or using public displays of affection or support felt more practical in San Francisco versus other locations where concealment was an easier coping mechanism to utilize. Participants discussed having to alter or “tailor” these coping actions when outside of San Francisco because of anticipated stigma. In this way, San Francisco

was viewed as a “bubble” of acceptance in which these participants could thrive. However, one couple did discuss the negative “ageist” and “look-ist” (appearance-based judgments) aspects of San Francisco as a potential source of anticipated stigma and discomfort. This couple was older (ages 49 and 65), which may have impacted this viewpoint.

Discussion: Although sexuality-based stigma affects the individuals in same-sex relationships, it also affects them as couples and it affects the relationship itself. This stigma creates minority stressors that can harm both relationship quality and partner well-being. This study addresses how men in same-sex relationships talk about the stigma they face, and how they cope with it – both individually and together. In this study, communal coping was demonstrated in important and theoretically relevant ways.

Results indicate that while the experiences of gay male couples fit general theoretical principles of Lewis Interdependence Theory, unique attributes and challenges of these couples warrant theory tailoring to this population. Social factors were discussed a great deal for this population, including family relations, support from friends and chosen families, and official support outside the partnership such as therapy. It may be that these factors are more important specific to gay male couples than for the general population, especially when considering the high likelihood of strained family relationships for gay men and the importance of chosen or lavender families for this population who seek to supplement these strained biological relationships (LaSala, 2000; Weston, 2005). Though external to the relationship, these social factors may be important to consider for future iterations of interdependence theories specific to same-sex male partnerships.

The frequently discussed subtheme of stigma management and its components (anticipating stigma, avoidance, concealment, and living openly) indicate the need for consideration of stigma

management theories when revising Lewis Interdependence Theory specific to this population. For example, work by Meisenbach (2010, p. 275) includes four main tactics for what they term “dirty work stigma management strategies”: occupational ideologies (reframing, refocusing), social buffers, confronting clients and public perceptions, and defensive tactics (e.g. avoiding, condemning condemners). Each of these tactics are reflected in participant interviews and codes, providing evidence that these factors are highly relevant and theoretically sound principles to incorporate into future theory iterations. Additionally, while the concept ‘perceptions of threat’, was depicted in Lewis Interdependence Theory under the concept ‘predisposing factors’, it may fit more appropriately for this population with the specific stigma management efforts. This would acknowledge that perceptions of threat are particularly relevant to same-sex male couples who often experience anticipated sexuality-based stigma resulting from their partnerships.

Patterns among the results were similar for both study locations, with almost identical codebooks applying accurately to both sites. The only major difference found between the two study locations was the attention paid to the physical location of the partners. The vast majority of couples in San Francisco described their location as a specific factor that reduced the amount of stigma faced and/or facilitated adaptive coping strategies. It is possible that less stigma exists or is felt in such environments with high concentrations of similarly-oriented men, leading to feelings among couples that coping is easier to achieve in such places. Alternatively, since social support was such an important factor throughout the results, it is likely that environments containing larger concentrations of gay men appear more supportive and less threatening to these couples, thus fostering their ability to communally cope with stigma. This does not presuppose that couples in supportive environments do not face stigma or automatically cope together more easily; rather, the assumption of a supportive environment and/or lack of institutionalized stigma

faced may bolster feelings of couple efficacy, resulting in increased coping capacity. Future research should examine these possibilities using both quantitative and qualitative to promote understanding of these nuanced coping pathways. Grounded theory approaches in particular are likely appropriate to test alterations to existing theory for this population.

Strengths & Limitations: This inquiry was limited as a secondary analysis; while coding was supervised and an audit trail was maintained, member checking was not possible. However, credibility and trustworthiness were assured through thick description and a large number of quotes from participants, inclusion of concrete details, and explanation and explication of culture and knowledge implied but not specifically stated by the text (Tracy, 2010). This was particularly important given the nature of stigma, which is a culturally specific concept that cannot be fully understood without attention to context and culturally situated meanings. Multivocality was also considered to provide numerous and opposing viewpoints when presented, increasing trustworthiness of the analysis. Selection bias may also exist, as couples using maladaptive coping approaches may not have wanted to participate. However, the theoretical coding base provided a strong framework for coding decisions related to coping, stigma, and couple's decision-making. Additionally, the national legalization of same-sex marriage may have impacted both perceptions of stigma and coping options for this population. Future research could ask similar questions in this new context to assess if coping strategies differ significantly before and after this cultural and legal shift.

Conclusion: This study aimed to increase understanding of how gay male couples cope with experiences of stigma together. Through the exploration of these experiences and an analysis of the participants' cultural needs, new insights have been unveiled related to the needs of same-sex male partners in the stigmatizing context of their relationships. The qualitative nature of this

analysis and theoretical perspectives chosen to guide analysis contributed to a deeper understanding of the nuanced coping mechanisms used by male partnerships to cope with stigma. Assessing the gaps in theory's ability to accurately represent this population allows future research to adjust perspective accordingly to better serve this unique population. Results of this proposal have identified significant factors affecting the relationship between couple's shared experience of internalized homophobia and coping to inform and improve intervention programs and policies that serve same-sex male partners experiencing stigma, capitalizing upon coping strategies above and beyond individual efforts.

Table 8. Male Couples Sample: Age, Relationship Length, and Race/Ethnicity (N=30 couples)

	San Francisco (N=15)		Atlanta (N=15)	
Relationship Duration				
6 months to < 3 years	5		3	
3 years to 7 years	5		8	
> 7 years	5		4	
Race/Ethnicity				
Both Non-Hispanic White	6		6	
Non-Hispanic White & Person of Color	7		6	
Both Persons of Color	2		3	
Cohabiting				
Yes	11		14	
No	4		1	
Age				
	Partner 1	Partner 2	Partner 1	Partner 2
18-25	0	0	0	1
26-35	7	4	5	4
36-45	3	4	6	7
46-55	2	7	3	2
56-65	2	0	0	1
66+	1	0	1	0

Chapter 6: Conclusion

Overall Summation & Relation to Previous Work

According to the World Health Organization, “discriminatory practices and unjust power relations” often result in inequitable health outcomes (World Health Organization, 2015). In the interest of addressing these inequalities, this dissertation work had the broad aim of exploring associations between health outcomes and stigma, a particularly relevant source of unjust power relations for sexual minority persons. Three separate aims were chosen to address gaps in knowledge: 1) to examine the association between self-reported sexuality-based stigma and depression among an online sample of rural sexual minority persons, 2) to examine aspects of dyadic functioning that contribute to the maintenance of health behaviors, and 3) to explore how same-sex male partners describe their experiences of coping with sexuality-based stigma, as well as the meaning they ascribe to these experiences.

The examination of these knowledge gaps produced mixed results concerning associations between stigma and health outcomes. In the first manuscript assessing stigma and depression among rural sexual minority persons, three types of stigma (internalized, enacted, and anticipated) had significant associations with depressive symptomology for those individuals. These findings are broadly consistent with the large body of work discussed in the literature review of this dissertation, which offered supportive evidence for the negative impact of stigma on the health of LGBT persons specific for depression in urban contexts (Cahill & Valadéz, 2013; Courtenay–Quirk, Wolitski, Parsons, Gomez, & Team, 2006; Haile, Padilla, & Parker,

2011; Hatzenbuehler, O’Cleirigh, Mayer, Mimiaga, & Safren, 2011; McCann & Sharek, 2014; Oldenburg et al., 2014; Poteat, German, & Kerrigan, 2013; Tucker et al., 2014). Urban literature similarly demonstrates these associations for enacted stigma (Hightow-Weidman et al., 2011; Logie, Newman, Chakrapani, & Shunmugam, 2012; Stahlman et al., 2016), perceived or anticipated stigma (Logie et al., 2012; Stahlman et al., 2016), and internalized stigma (Lee, Kochman, & Sikkema, 2002). While these outcomes are similar, it is important to view risk for depression in the context of rural settings, in which LGBT persons likely experience more stigma than in urban settings (Austin, 2013; Hastings & Hoover-Thompson, 2011; Swank, Fahs, & Frost, 2013). This indicates the importance of social contextual factors when considering this outcome.

Associations between stigma and health outcomes are more complicated and less aligned with previous research when considering stigma-related outcomes among dyads. No significant associations were found between stigma and outcomes for dyads in the second manuscript of this dissertation work regarding dyadic coping. Since internalized stigma has been associated with negative health outcomes for individuals throughout this dissertation work, it was hypothesized that stigma would be similarly associated with adverse outcomes for dyads. This lack of association suggests important distinctions between individuals and dyads regarding stigma and health outcomes.

One explanation is that a unique underlying factor may be mitigating the negative impact of stigma in same-sex male relationships. At first glance, this would suggest that the strength or resilience of these dyads in response to stigma is an important factor for intervening and capitalizing upon to improve health. It may also be that relationship satisfaction is a strong motivational factor for engaging in health-enhancing behaviors, or that relationship satisfaction

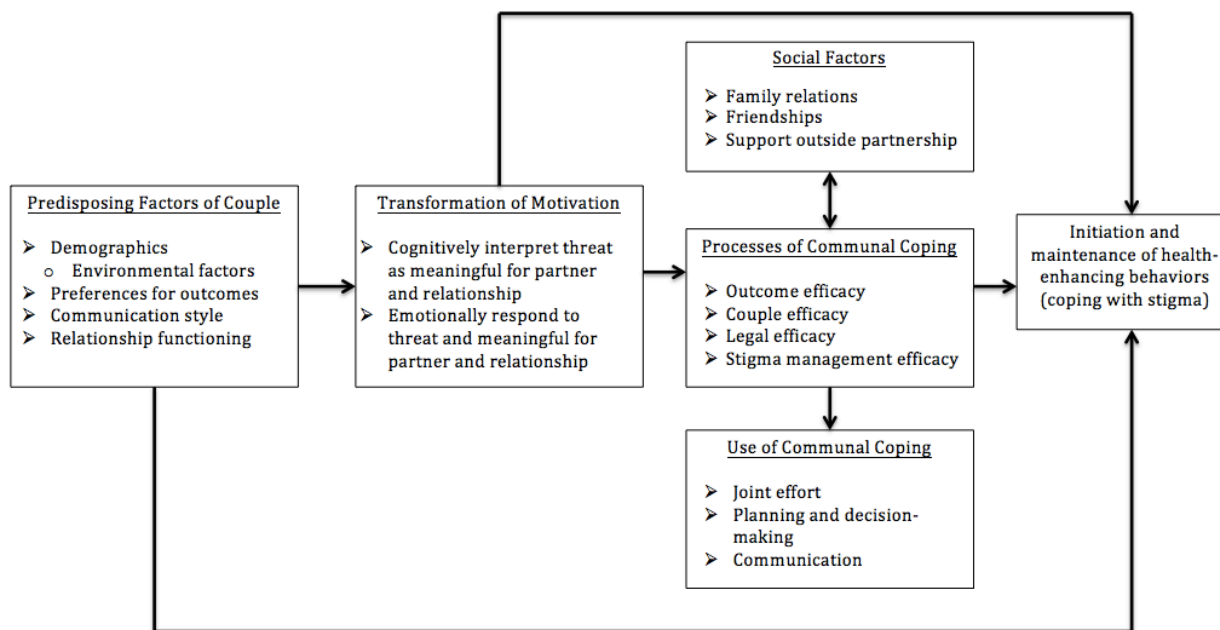
is a major perceived influence on a couple's ability to engage in and jointly maintain health behaviors. This hypothesis coincides with related previous research indicating associations between internalized homophobia and psychological aggression in relationships can be mediated by relationship satisfaction (Lewis, Milletich, Derlega, & Padilla, 2014). Future research should further explore and identify existing strengths of these relationships and capitalize on them to improve couple's capacity to engage in health-enhancing behaviors. Incorporating positive frameworks such as agency and resilience may better address the "deleterious effect of social structures on health outcomes" in these efforts by promoting positive health-enhancing behaviors and well-being (Fredriksen-Goldsen et al., 2014).

A Hybrid Model of Lewis Interdependence Theory and its Wider Implications

Although current theories such as minority stress theory and syndemic theory have begun to explore health disparities among LGBT populations, gaps in knowledge still persist regarding the "complex and multilayered causal processes that underlie specific health disparities" among these disadvantaged identities (Stall et al., 2016). The qualitative work of this dissertation addressed these gaps by indicating adaptations to Lewis interdependence theory that may provide a model more applicable to same-sex male partnerships (Lewis et al., 2006). The addition of stigma management and social support principles identified during the qualitative research fosters the proposed theory's applicability to same-sex relationships, which often face sexuality-based stigma and discrimination. Social factors such as family relations, friends, and support outside of the partnership were brought up frequently, are participants in the qualitative interviews indicated these factors were inextricably associated with couple's coping. Additionally, the more complex subtheme that emerged is stigma management efficacy. This concept involved anticipating stigma, avoidance, concealment, and living openly as coping mechanisms utilized by partners to cope with either actual or anticipated stigma. These specific

coping mechanisms were also frequently discussed as indispensable tools for stigma management. ‘Social factors’ and ‘stigma management efficacy’ principles are therefore placed in a proposed adaptation to Lewis interdependence theory as factors involved in communal coping in Figure 14. Future research could make use of this adapted model for considering the risks and benefits of same-sex male relationships in relation to broader health-related concepts involving dyadic efforts.

Figure 12. Proposed Interdependence Theory for Same-Sex Male Couples



The application of empirically supported theories specific to the population of interest, particularly when considering intervention work, may promote more positive outcomes than atheoretical work. As stated by Stall et al. (2016), “Theoretical relationships that explain drivers of health disparities within populations are the basis for sound intervention design. This is why identifying the mechanisms that drive LGBT health disparities and codifying these variables into overarching theoretical statements is an essential next phase in the development of health

disparities research.” Accordingly, the proposed substantive additions to Lewis interdependence theory presented in this dissertation work may foster understanding, and ultimately alteration, of couples’ health-enhancing behaviors and related outcomes. Grounded theory approaches should be utilized to test potential applicability of proposed concepts for theory generation.

Implications of the Findings

The implications of these findings can be viewed in a framework based on Bronfenbrenner’s Social Ecological Model to cogitate all relevant levels of consideration (CDC, 2015). This framework promotes attention to both distal (immediate environment) and proximal (cultural and historical) considerations in both Bronfenbrenner’s Social Ecological Model and Minority Stress Theory (Karney et al., 2010). It is important to note that because stigma is such a pervasive issue in both distal and proximal considerations, significant changes based on the results of this dissertation would have to address all levels in order for proposed change to be effective.

Figure 13. Social Ecological Theory



(CDC, 2015)

The Individual Level

While societal changes at higher levels of the model occur over time, research can and should continue to focus on the needs of individuals. Successful individual interventions should therefore continue for those not involved in primary partnerships to improve individual outcomes. Strategies at the individual level often target changes in attitudes, beliefs, and

behaviors (CDC, 2015). These strategies may include education and skills training. In this case, what can be done is tailoring known interventions for similar outcomes or populations to those at need. These individually focused interventions may be especially pertinent for rural individuals who may not have a strong support network, but still require support to improve outcomes such as the high burden of depression identified in the first manuscript. For example, same-sex attracted youth face two problems related to mental health: they experience higher rates of anxiety and depression than heterosexual peers, and they often avoid seeking help because of anticipated stigma from mental health care providers (Abbott et al., 2014). To address this problem, one study tailored other online interventions that assumed heterosexuality toward same-sex attracted youth, providing anonymity and an environment purposefully free of stigma (Abbott et al., 2014). However, if the preliminary conclusions of the latter manuscripts from this dissertation work are confirmed by future research, a case exists for increasing emphasis on dyadic focused interventions in addition to ongoing individual efforts.

Relationship/Interpersonal Level

The second level examines close relationships that may influence a person's outcomes. A person's closest social contacts all influence behavior and the range of experiences one has. Interpersonal interventions may include family-focused efforts or mentoring and peer programs "designed to reduce conflict, foster problem solving skills, and promote healthy relationships" (CDC, 2015). There are four proposed overarching methods for intervening at the interpersonal level in the context of dyads, as addressed in this dissertation (Karney et al., 2010). First, programs designed for individuals can refer to and acknowledge that dyadic factors may require tailoring. For example, interventions regarding the psychosocial concerns of cancer survivors can recognize the importance of caregivers and include them in intervention design (Northouse et al.,

2014). Second, interventions can promote efficiency by providing both members of a dyad with the same materials, such a simultaneous education on condom use. Third, interventions promote both efficiency and effectiveness by training dyads in specific strategies and skills related to target outcomes that are impacted by being in a relationship. For example, couples trained in condom use will presumably engage in these behaviors more within their partnership (Northouse et al., 2014). Fourth, and most relevant to this dissertation work, interventions can directly promote improved relationships independent of target health behaviors. “The rationale for this approach is that stronger, closer relationships between partners may provide a context that supports more effective coordination” of health-enhancing behaviors (Karney et al., 2010). This approach aligns with results from this dissertation work, which indicate any current dyadic intervention could be more refined or successful by ensuring couple’s relationship satisfaction as a precursor for successful engagement in intervention activities, regardless of the specific outcome.

Based on the results from both the second and third manuscripts of this dissertation work, the dyad is an important type of interpersonal relationship on which to intervene. However, it is important, based on the qualitative work, to remember that important interpersonal units for intervention are not always romantic in nature. Due to the importance of social networks for this population, the inclusion of “heart families” as support systems in interventions should be considered. The proposed additions to Lewis Interdependence Theory can be considered as a guiding framework for these types of efforts in which a member of one’s “heart family” can provide support for interventions on any number of health outcomes, such as depression or ability to cope with stigma. This approach has been successful for a number of outcomes for heterosexual persons, including physical activity and psychosocial concerns related to cancer

diagnoses (Burkart, Laurent, & Alhassan, 2017; Northouse et al., 2014). The inclusion of dyads in this context may foster more successful interventions than those relying on individuals to support themselves.

Sexual or romantic dyads can be considered to re-conceptualize interventions for sexual minority persons and their outcomes. Based on both dyadic manuscripts but specifically on results from the APIM manuscript, interventions should capitalize on relationship satisfaction. In this way, work can improve a precursor to health-enhancing behaviors rather than the behaviors themselves. Again, this approach is vital because of its potential to improve any distal health-enhancing behavior outcome. For example, this additional focus could produce a number of benefits to both seronegative or serodiscordant dyads striving to maintain their serostatus through increased contact with medical professionals, increased HIV testing, better adherence to preventative medication or ARVs, increased disclosure to (and of) sexual partners, or particularly through the strengthening of social support gained within the relationship (Skinta, Lezama, Wells, & Dilley, 2015). These are all pathways couples with a strong communal coping foundation could more easily implement, which indicates interventions with varying target outcomes could all become more effective by additionally promoting couple's coping and functioning.

Community Level

The third organizational level within the model explores the settings in which social relationships occur to determine the characteristics of these settings that are associated with outcomes (CDC, 2015). Intervention strategies at this level impact the social and physical environment – for example, by reducing social isolation or improving the climate and policies within healthcare settings (CDC, 2015). Community-based interventions can help shift

paradigms through broad goals such as increasing community engagement and shifting local attitudes or norms. These interventions could take place in a number of community institutions such as neighborhoods, schools, churches, work sites, voluntary agencies, or other organizations. The community level is uniquely situated, both impacted by and impactful on individual, interpersonal, and societal levels. Furthermore, community-wide changes can impact societal outcomes in a way that sometimes individuals or dyads alone cannot. For example, one individual likely doesn't have enough social capital to change a local policy, such as one prohibiting transgender individuals from using specific bathrooms. However, if a community changes their perceptions of transgender individuals and supports this initiative, they represent a large lobbying body with the ability to vote in LGBT-supportive policies that an individual alone does not possess.

We can consider the problem of stigma and depression for sexual minority individuals seen in the first manuscript as appropriate for community intervention. Research shows clear associations between stigma and mental health, indicating interventions are needed. Previous research on a community connectedness intervention for older gay and bisexual men produced a significant decrease in depressive symptoms (Cahill, Valadéz, & Ibarrola, 2013). Community involvement would likely also be a good intervention for rural sexual minority individuals such as in manuscript one, but may not be feasible with all the known problems in rural communities such as lack of LGBT-friendly social gathering places.

The use of religion would be one way to address this dilemma. Religiosity was one factor noted in the literature review and qualitative work as a factor impacting one's ability to cope with stigma. While mixed opinions existed regarding the impact of religion on coping, those who saw it in a positive light held strong views about the utility of religion as a coping mechanism.

Using religious community-based interventions could foster feelings of involvement in the community, as well as acceptance by community members who may not interact with sexual minority individuals outside of this setting. It is worth mentioning, as with any intervention, that racial differences may exist on this topic. While African-American individuals historically have stronger cultural ties to religion, this may actually increase the amount of stigma felt and create further difficulties in using religion as a coping mechanism (Balaji et al., 2012; Lewis, 2015; Wilson, Wittlin, Muñoz-Laboy, & Parker, 2011).

Innovation may also be required to conceptualize what a ‘community’ is for this population. Since community involvement has been shown to buffer the association between stigma and depression for urban LGBT residents (Ramirez-Valles, Fergus, Reisen, Poppen, & Zea, 2005), increasing community involvement may also be an appropriate intervention to decrease depression for rural counterparts. Increasing involvement in community activities not related to LGBT identity could decrease incidence of depression by fostering feelings of belonging in the community. However, the appropriateness of any intervention designed for urban populations must be carefully considered for adaptation to rural settings. Given that rural social settings are traditionally more hostile toward LGBT identities than urban settings (Austin, 2013; Hastings & Hoover-Thompson, 2011; Swank, Fahs, & Frost, 2013), integration into the community at large may not be a feasible aim. The lack of specifically LGBT friendly medical centers, resources, or community gathering places to capitalize upon (Gottschalk, 2007; Lyons, Hosking, & Rozbroj, 2015; McCann & Sharek, 2014) may necessitate creative alternatives for traditional, in-person community involvement.

Online communities are an example of a more feasible option when the physical community is not supportive, such as for rural sexual minority individuals. Given the widespread

use of online technologies, creating or utilizing existing online communities may be more feasible and appropriate for this population. A study of 233 Chinese LGB persons concluded social media was useful for rural residents to promote LGB group membership, specifically through community surveillance, identity expression, and emotional support (Chong, Zhang, Mak, & Pang, 2015). The study concluded these factors promote feelings of group membership, which in turn reduced stigma, and that this intervention may be particularly useful for those residing in rural or conservative areas with less resources (Chong et al., 2015). This suggests that while loneliness and isolation in dealing with stigma contribute to decreased mental health, resilience found within online communities and group-level coping may help combat stigma's detrimental effects on mental health.

Community-level interventions also can and should consider utilizing pre-existing structures common to most community settings, such as health departments. These institutions can be essential for implementing change at the community level, such as interventions to reduce stigmas based on sexuality, gender identity, mental health, and race- all important factors identified in the results of this dissertation work. The community level can be especially pertinent for tackling these multiple and additive stigmas which cannot necessarily be addressed by individual interventions. For example, one study recommended utilizing health departments and other institutions to design interventions premised on the idea of anti-gay bias as a threat to public health (Cahill, Valadéz, & Ibarrola, 2013). These types of interventions are aimed at the public that ultimately assigns and perpetuates stigma, a necessarily and vital step in shifting public perceptions and creating widespread, positive change.

Societal Level

The societal level considers broad societal factors that help create a climate in which stigma is encouraged or inhibited, including social and cultural norms or attitudes that maintain stigma (CDC, 2015). These considerations also include policies in healthcare, economics, and education that sustain inequalities between stigmatized and non-stigmatized groups in society (CDC, 2015). As discussed in the literature review, structural stigma is so embedded in modern society that no matter how many individual or interpersonal changes are successfully made, problems will persist until the root cause is eliminated. Due to the widespread and pervasive nature of stigma, large-scale interventions are needed. Importantly, this approach addresses the fact that the onus to change should not always be on the stigmatized individual. Structural changes have the best chance to support this viewpoint by addressing those perpetuating the problem instead of the stigmatized population.

One way to address the problem at a structural level is anti-stigma campaigns. There are numerous approaches for stigma reduction and prevention campaigns, including information dissemination and education, environmental change, community-based approaches, media-based approaches, and any combination thereof (Addiction Technology Transfer Center Network, 2012). Anti-stigma campaigns exist regarding key concepts and findings of this dissertation, including mental health stigma, racial stigma, and sexuality-based stigma. Anti-LGBT specific campaigns have often attempted to address micro-aggressions in language, such as using the word ‘gay’ to indicate disappointment (British Broadcasting Corporation, 2017; Gay, Lesbian and Straight Education Network, 2012). While these types of media campaigns can find immediate success in reaching a broad audience of diverse individuals, long term changes based on these campaigns has yet to be assessed.

Similar anti-stigma campaigns for topics other than sexuality-based stigma can also be considered for alteration to this topic. For example, a meta-analysis was completed to assess the effectiveness of programs for reducing mental health related stigma (Griffiths, Carron-Arthur, Parsons, & Reid, 2014). This study determined educational interventions and interventions incorporating consumer contact were most successful, indicating these approaches could be pursued relative to sexuality-based stigma (Griffiths, Carron-Arthur, Parsons, & Reid, 2014). However, this work also could not conclude that stigma interventions were effective in reducing internalized stigma, indicating different types of stigma may require altered approaches (Griffiths, Carron-Arthur, Parsons, & Reid, 2014). Similar work has also been done around masculinity and gender norms, including gender-transformative interventions aimed at “reconfiguring men’s attitudes towards gender norms in the direction of more gender equality” (Dworkin, Fleming, & Colvin, 2015, p. S131). Again, while systematic reviews indicate immediate success of these efforts, questions remain regarding sustainability of these positive outcomes and of the interventions themselves (Dworkin, Fleming, & Colvin, 2015). This work also discusses the difficulties inherent to “privileging a gender lens over an intersectional perspective”, whereby important racial aspects of this work may not receive adequate attention due to the focus on gender (Dworkin, Fleming, & Colvin, 2015, p. S132).

The success of future anti-stigma campaigns would likely depend on a number of factors. First, any kind of social marketing campaign should utilize strength-based messaging rather than fear-based messaging to avoid re-stigmatizing either the topic or the population of interest (Cahill, Valadéz, & Ibarrola, 2013). Campaigns should be based on science from statistical, epidemiological, biological, psychological, and sociological data. Research-based principles should also be utilized, as there has been a demonstrated effectiveness of “certain principles and

theories regarding behavior and attitude change, information delivery, learning, and communication” (Addiction Technology Transfer Center Network, 2012). Additionally, the population of interest can actively participate in these campaigns. For example, campaigns to reclaim the words “queer” and “fag” to reduce stigma around those terms may not have been successful without the participation of LGBT individuals. Finally, cultural attitudes, and reflective norms and policies, take time to change. It is important to remember that campaigns may need to be sustained over several years or offer “booster sessions” to have an effect (Addiction Technology Transfer Center Network, 2012). Once effective and sustainable interventions are identified, larger scale interventions can also be trialed to reach broader audiences and standardize care, ultimately improving the health of this vulnerable and underserved population. This approach aligns with NIH recommendations that support effective and evidence-based interventions to reduce LGBT health inequities (Coulter, Kenst, & Bowen, 2014).

Policy & Education

Despite the recent gains made in human rights and social justice for sexual minority persons, what has already been done is not enough. The national legalization of same-sex marriage, for example, was a huge stride forward for human rights, improving equality regarding legal benefits and marital social determinants of health such as insurance coverage. However, while these laws provide protection for *couples*, this research supports the large body of literature demonstrating the negative health effects of stigma and discrimination on *individuals* who also require protection. Policy changes must be made to prohibit stigma and discrimination in all spheres that might impact individual social determinants of health, including housing, employment, and healthcare. While some states protect these rights, these are insufficient on their own- change at

the national level is needed to address institutionalized stigma and create uniform protections. For instance, national change is especially pertinent for rural sexual minority individuals, who face more systematic inequalities than urban counterparts (Maril, 2014).

These suggested policy changes are likely irrevocably intertwined with shifting societal attitudes and/or structural interventions. The goal of these policies is not to conform sexual minority persons to the norm or give them something ‘separate but equal’ - the goal is to create truly equitable rights for these individuals in society. Garnering adequate or majority support for that kind of change is difficult to achieve without changing the majority’s cultural perceptions. As in the example of the national legalization of same-sex marriage, this legislation was hard fought for a long time, but only successful once a majority of people supported it (i.e. when cultural attitudes shifted in favor of the population). We can similarly consider the civil rights movement, which gained the most success once the general population outside those whose rights the movement concerned started supporting the cause. Similarly, success from the civil rights movement represents an accumulation of efforts and change over time, again indicating that no one intervention or policy can address the problem immediately.

However, even policy change itself is not enough; the success of a policy depends on its education, enforcement, and support. Given the known risk factors for rural individuals experiencing increased stigma, interventions aimed at increasing social support and access to stigma-free resources would be appropriate. For example, resource guides with national resources such as hotlines could be created and distributed to lessen dependence on local assets. Training can be provided to healthcare providers to draw attention to resources available and improve appropriate use of these resources in various situations. To address local resources, new or existing educational programs for healthcare professionals should be implemented to ensure

discrimination is not experienced in the healthcare system, and to encourage appropriate depression screening. This education could be included as a mandatory component of continuing education to ensure participation and train medical professionals to utilize these guides.

Education can also be based on anti-stigma campaigns or policy changes. In this way, policy can help bridge the gap between research and practice by providing widespread education and holding everyone accountable to a certain standard. Education could, for example, be based on WHO recommendations for dyadic HIV testing and intervention, a recommendation supported by this dissertation work. These recommendations can gain more widespread traction than any one research article, particularly if tied in to the mandatory continuing education requirements for various health-related fields. Education could also be part of anti-stigma campaigns, which can similarly address the multiple types of stigma noted in results from this dissertation work as community-based interventions. Existing examples can be edited for the population or outcome instead of piloting new interventions: for example, educational programs already exist to reduce stigma regarding mental health disorders (ÜÇOk et al., 2006) and addiction disorders (Addiction Technology Transfer Center Network, 2012).

Practice/Clinical Care

First and foremost, this dissertation work supports the large body of literature indicating workplaces and clinical centers and healthcare centers must be inclusive in their policies, practices, and patient interactions to avoid stigmatizing practices. However, another dimension of inclusivity based on the results of this work would be the inclusion of the social support garnered from “heart families”. Social support systems have been identified as extremely important for this population, and have a wide range of potentially positive impacts on health

from reducing depression to providing support to dyads dealing with stigma and/or engaging in change. Therefore, this knowledge should be implemented in how healthcare providers communicate with patients. Providers should not make assumptions about who the patient or who their support is. Healthcare practices should support patient needs and promote patient-centered care by allowing these support system individuals to be involved in healthcare processes.

These clinical changes would likely be tied to the creation or alteration of professional guidelines/policies to reflect this knowledge. Policies in individual institutions can protect patient interests even in the absence of state or national laws by, for example, allowing for visitation by primary support persons whether they are biologically related or not. While previously addressed by a presidential memorandum by President Obama, this ruling does not apply to equally to all healthcare settings, and the enforcement of this memorandum/policy is not uniformly adopted (Wahlert & Fiester, 2012). While it is certainly difficult to create and implement a policy that allows for non-biological visitation while still being mindful of HIPAA protocols, this effort is worth pursuing in the interest of patient-centered care. Another example would be the adoption of dyadic HIV testing recommendations from the WHO into clinical guidelines/policies. This would represent a clinical standard changing to reflect the most current research knowledge that dyads are another unit of analysis to consider in the prevention of new HIV infections. These clinical changes would likely create the need for clinician trainings to improve knowledge and skills to intervene on all dissertation outcomes, including: mental health and depression screening, promoting health-enhancing behaviors within and outside of dyads, stigma reduction behaviors, and inclusion of “heart families”.

Guiding Principles

Any effort made to intervene on the health outcomes discussed in this dissertation, whether in the realm of policy, research, education, or clinical work, should adhere to certain guiding principles. It is likely that future research or interventions which are evidence-based, theoretically driven, and formed with the help of the community they serve will have the greatest capacity for improving the health of LGBT individuals and/or dyads. Additionally, any future interventions research should strive to engage in community based participatory research when possible (Pachankis, Hatzenbuehler, & Starks, 2014). This type of research connects target communities to science and policy, whether that community is geographic or population-based. When community member and leaders are part of the research and dissemination process, it promotes ownership of the program, advocacy for the program, and sustainability of the program because those involved see their ideas being taken seriously and implemented (Hinshaw, 2011). Iterative approaches that allow for community input at multiple stages of the project promote intervention refinement, enhanced feasibility and acceptability, better attendance and participation, and positive feedback from those involved (Reisner et al., 2016). The National Institute of Nursing Research (NINR) has likewise endorsed scientific partnerships with “underrepresented and minority communities”, particularly regarding health disparities and social determinants of health such as stigma (National Institute of Nursing Research, 2016). The 2016 NINR Strategic Plan specifically stated, “By working in close research partnerships with communities, nurse scientists are well positioned to develop culturally congruent, feasible, and sustainable interventions to promote healthy behaviors and prevent chronic conditions across the lifespan,” which is the ultimate goal of this research (National Institute of Nursing Research, 2016).

Additionally, it is important that these efforts avoid re-stigmatizing either the disease or the sexuality of the population, as this may hinder intervention or policy effectiveness and/or cause undue psychological distress (Skinta et al., 2015). Finally, and perhaps most importantly, it should be noted that when addressing a problem like stigma, the realms of policy, practice, research, and education are not entirely separate endeavors. It is extremely unlikely that any one of these realms can have the desired reduction in stigma alone, and all should be utilized together additively to the benefit of the population.

Interdisciplinary collaboration: All of these recommendations may be best accomplished through interdisciplinary collaboration. While stigma is certainly pervasive in nursing, social work, and public health for example, the problem doesn't "belong" to any one of those disciplines. Though these recommendations could be carried out by any relevant discipline, the combined expertise of multiple disciplines may be best to address these complex health and social problems. Larger scale projects could build on the success of these smaller efforts with the help of agencies and researchers from multiple disciplines. The use of interdisciplinary collaboration also provides multiple viewpoints to consider different aspects of the issue.

Interdisciplinary collaboration can also be conceptualized as working with professional organizations. While discipline-specific organizations such as the American Nurses Association are certainly worth getting involved with, multidisciplinary organizations such as Academy Health or the National Alliance on Mental Illness what provide different viewpoints and opportunities than those focused on the needs and foci of only one discipline. The use of interdisciplinary collaboration can also be beneficial to making large structural or policy changes. For example, involvement with these organizations can provide opportunities for testifying at senate hearings or servings on boards that create strategic plans. These organizations

also provide large lobbying bodies- while science is certainly necessary, it is not always sufficient for creating necessary policy change.

Future Research

Utilizing these guiding principles, there is still much work to be done. Future research should examine unresolved problems not able to be addressed in this work. One such item would be the potential impact of types of stigma necessitating further study, such as institutionalized and enacted stigmas. Additionally, research should continue to investigate the impact of social factors on both individual and dyadic processes/interventions. Since institutionalized stigma is tied largely to geographic location, future areas of investigation should include the impact of place as a confounding variable when possible. This recommendation is further supported by the qualitative work of this dissertation in which participants reported differences in the amount of stigma and support experienced between geographic locations. Indicators such as age (Johnson & Fluty Jr, 2016), particularly age discrepancies as discussed in the qualitative manuscript, and racial differences among partners should also be taken into consideration for future research and interventions. Given results from all manuscripts indicating race/ethnicity as an important concept, future research should give credence to the importance of multiple types of stigma experienced by those with both sexual and racial or ethnic minority identities. Any of these factors may alter both the amount of stigma experienced and individual's or couple's ability to cope with stigma, and are thus important considerations for rigorous scientific work.

Significance & Conclusion

This dissertation overall represents an effort to “apply human rights to sexuality in the context of health” by understanding the role of stigma as a determinant of power and health in modern society (Meyer & Northridge, 2007, p. 123). The significance of this dissertation work

lies in its focus on beneficence and justice, core values of many health professions (American Nurses Association, 2001). LGBT persons currently have an imbalanced distribution of fewer benefits and greater burdens in both healthcare and research. This imbalance is demonstrated in the dissertation work as largely related to the stigma experienced in modern society, which manifests through a variety of pathways resulting in health disparities and even premature death (Hatzenbuehler et al., 2014). The social benefit of this work thus lies in potential disparity reduction that comes from increased representation in research and utilization of results, promoting equity for this disadvantaged population.

Nurse scientists, regardless of their personal identification or viewpoints, are beholden to these standards of the profession. These standards include a duty to care for all populations in a culturally competent and informed manner, regardless of whether that ‘care’ occurs in the clinical, social, or research realms. It is impossible to provide this informed care without an evidence base. These results provide significant new information to address gaps in knowledge and ultimately improve health outcomes for this understudied, disadvantaged population. They can also pave the way for future policy change, culturally competent care, and research to continue to address these health disparities. This research is thus the foundation for future work to address social justice issues on a broad scale. As stated by Stall et al. (2016), “This is an ambitious agenda, but one that we must undertake if the profession...is to meet our charge of resolving health disparities and so furthering the cause of social justice” (p. 788). This dissertation work represents a step toward this important ambition and toward justice for this vulnerable population.

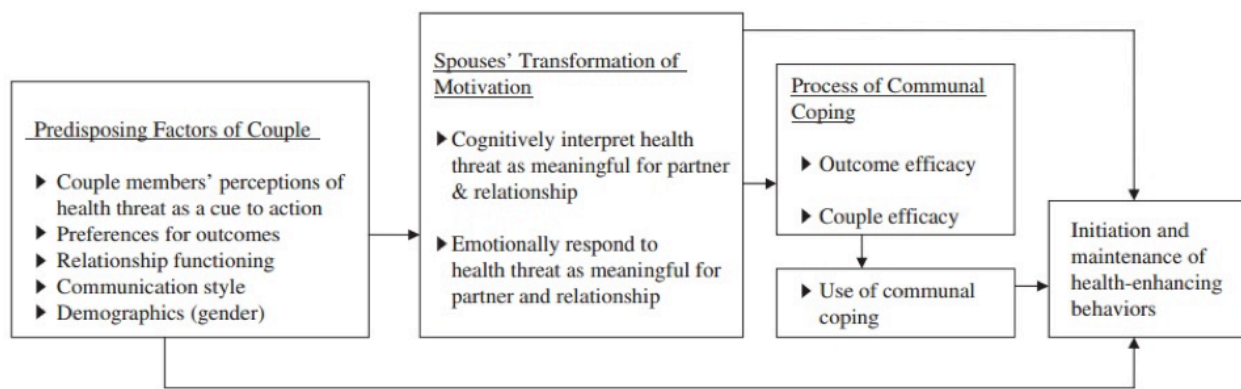
Appendix A: APIM Analysis Supplement

For the second manuscript, the focus shifted from individuals to those within partnerships, and from depression to HIV health maintenance behaviors. While it is well known that HIV and stigma negatively affect the health of MSM, as discussed in previous chapters, the bulk of this literature is focused on individuals. However, it has been purported that previous research examining couples' interaction, especially social support, has been overly simplistic in conceptualizing how partners influence each other (Lewis et al., 2006). Therefore, this manuscript aimed to complete a more complex assessment of the maintenance of HIV health-enhancing behaviors by couples that face stigma within their relationships.

In addition to shaping the sexual risk taking behavior of MSM, relationship status can also impact health maintenance behaviors. This concept can be viewed in the context of Lewis Interdependence Theory (Lewis et al., 2006). Combined with Minority Stress Theory as a lens, Lewis Interdependence Theory was the framework used to operationalize concepts and guide variable and measurement selection in this study (Lewis et al., 2006; Meyer, 2003). According to Minority Stress Theory, members of stigmatized minority groups face chronic and disproportionately high stress levels (Meyer, 2003). The most common causal pathway of minority stress is related to prejudice and discrimination, both frequently experienced by LGBT persons (Herek, 2015; Institute of Medicine, 2011). This combination of stress, prejudice, and/or discrimination creates internal stress responses. Minority Stress Theory posits that these responses, associated with social injustices, build with time and contribute significantly to

inferior mental and physical health for minority populations. Minority Stress Theory can be combined with Lewis Interdependence Theory to consider the impact of stigma not only on individuals, but also on couples. Lewis Interdependence Theory has four concepts representing dyadic characteristics key to the initiation and maintenance of health behaviors: predisposing factors of couples, partners' transformation of motivation, process of communal coping, and use of communal coping (Lewis et al., 2006).

Figure 14. Lewis Interdependence Theory



Lewis et al., 2006

The theoretical pathways in relation to this proposal are conceptualized such that couples with varying predisposing factors cognitively approach and emotionally respond to the threat of HIV in different ways. For example, couples with more constructive communication styles may come to joint decisions on HIV testing practices more easily than couples with less constructive communication styles. Thus, these predisposing factors either positively or negatively impact couples' transformation of motivation, a concept that includes cognitive interpretation of and emotional response to perceived health threats. Processes and use of communal coping mediate the relationship between these predisposing factors and the initiation and maintenance of health-enhancing behaviors. Health maintenance behaviors for this proposal are conceptualized as HIV testing, PrEP use, antiretroviral (ARV) use, and decreased sexual risk taking.

This analysis utilized baseline survey data from a large, randomized control trial funded by the National Institutes of Health titled “A Couples-Based Approach to Linkage to Care and ARV Adherence” (1R01HD075655-01). The purpose of this ongoing project is to examine the impact of receiving a couples-focused continuum of care package (which includes joint HIV testing and adherence counseling) on linkage to care, retention in care, and adherence to antiretroviral therapy. Centers in three cities across the United States were involved in data collection: Emory University in Atlanta, the Fenway Institute in Boston, and the Center for Gender, Sexuality, and HIV in Chicago. These centers were chosen for their expertise in HIV research, and these cities were purposefully chosen for their high rates of HIV infection (Illinois Department of Public Health, 2016; The Georgia Department of Health, 2014). An effect size of 0.35 for partner and 0.3 for actor on the outcome of internalized homonegativity was included in the power calculation given slightly higher actor effect sizes seen in previous research for factors such as depression, communication, relationship quality and relationship stigma (Johnson et al., 2012; Reisner, Gamarel, Nemoto, & Operario, 2014). These effect sizes require a sample size of 28 actors and 37 partners to provide sufficient power to detect statistically significant relative differences with 80% power and an alpha of 0.05 (Ackerman, Ledermann, & Kenny, 2016).

All measures included in analysis are those used in the baseline survey for the Stronger Together project, which were chosen in accordance with theoretical concepts. Specific to this study, measures were sought that would be representative of both theoretical concepts and MSM partnerships. Table 1 contains references, examples, and psychometric properties of measures used in this analysis to operationalize theoretical concepts. This analysis controlled for the predisposing factors of couples, including demographic data and relationship characteristics.

Demographics included race, education, employment status, and yearly income. Relationship Characteristics can be visualized in Table 2.

Table 9. Survey Scale Properties for Measures Included in Analysis

Scale	Cronbach Alpha	Validity	Reference	Use in Literature
Outcome: Couple's Coping (process and use of communal coping)				
Subscale: Planning and Decision-Making	0.87	Face, Construct	Salazar, Stephenson, Sullivan, & Tarver, 2013	Stachowski & Stephenson, 2015; Stephenson, Rentsch, Salazar, & Sullivan, 2011
Subscale: Communication	0.86	Face, Construct	Salazar, Stephenson, Sullivan, & Tarver, 2013	Stephenson, Rentsch, Salazar, & Sullivan, 2011
Subscale: Joint Effort	0.68	Face, Construct	Salazar, Stephenson, Sullivan, & Tarver, 2013	Stephenson, Rentsch, Salazar, & Sullivan, 2011
Key Covariate: Internalized Stigma				
Internalized Homophobia	0.8438	Not provided	Meyer et al., 2006	Whitehead, Shaver, & Stephenson, 2016
Other Covariates (predisposing factors of couples)				
Intimate Partner Violence (IPV-GBM Scale)	>0.90 for five domains	Not provided	Stephenson & Finneran, 2013	Stephenson, Freeland, & Finneran, 2016
Conflict Style Inventory	0.78	Face, Construct	Levinger, 1989; Salazar, Stephenson, Sullivan, & Tarver, 2013	Lopez, Gover, Leskela, Sauer, Schirmer, & Wyssmann, 1997; Carnelley, Pietromonaco, & Jaffe, 1994
Adapted Triangular Love Scale	Subscales: intimacy 0.87, passion 0.88, commitment 0.87	Not provided	Lemieux & Hale, 1999; Lemieux & Hale, 2000	Ahmetoglu, Swami, & Chamorro-Premuzic, 2010
Dyadic Trust Scale	0.93	Discriminant, Convergent	Larzelere & Huston, 1980	Johnston & Thomas, 1996; Jones, 2004
Sexual Agreement Investment Scale	Raykov's coefficient: $p=0.954$; 95% CI = (0.945, 0.964)	Construct, Convergent, Discriminant	Neilands, Chakravarty, Darbes, Beougher, & Hoff, 2010	Mitchell, Harvey, Champeau, Moskowitz, & Seal, 2011; Gass, Hoff, Stephenson, & Sullivan, 2012; Mitchell, 2014; Mitchell, Champeau, & Harvey, 2013

Table 10. Relationship Characteristics Included in Analysis

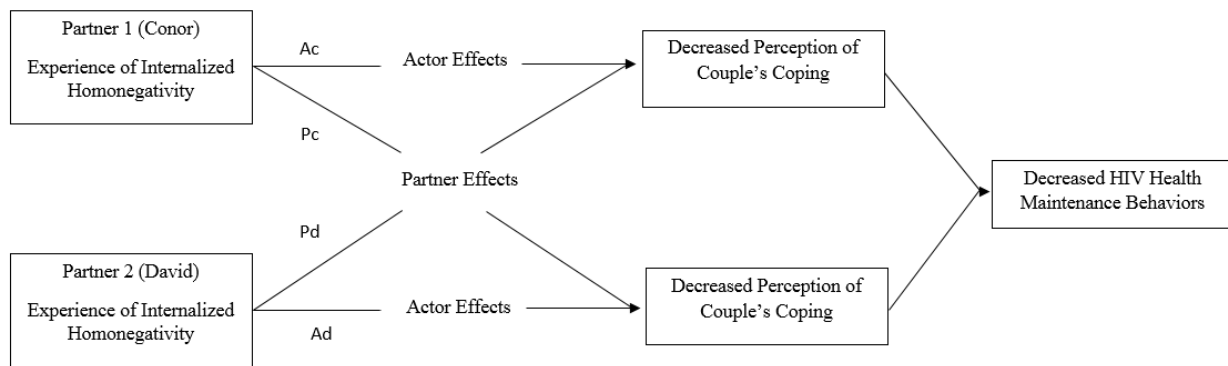
Scale	Question	Answer Options
Relationship Length	<i>How long have you and [partner name] been in your current relationship?</i>	type in for years and months
Marital Status	<i>Have you and [partner name] been legally married, had a commitment ceremony, or been registered as domestic partners (in any state or country)? Please select all that apply.</i>	we have been legally married, we have had a commitment ceremony, we have registered as domestic partners, we have done none of these things, I don't know
Relationship Type	<i>What term best describes your relationship with [partner name]</i>	boyfriend, lover, husband, spouse, partner, "fuck buddy", hook-up, friends with benefits, we don't use labels, other
Cohabitation Status	<i>Are you currently living together:</i>	yes, no, I don't know
Length of Cohabitation	<i>How long have you been living together:</i>	type in for years and months
Time Spent Together	<i>Out of the last 30 days, how many nights have you spent with [partner name]:</i>	type in 0-30
Sexual Agreements <i>(Adapted from the National HIV Behavioral Surveillance System (NHBS) behavioral inventory; Mitchell, 2014b)</i>	<i>All relationships look different, and many have different rules or understandings about what is allowed or not allowed with outside partners. For each of the following, please indicate if this act IS allows, IS NOT allowed, or if you do not have an agreement about this act:</i>	kissing, groping, mutual masturbation, oral sex, anal sex, vaginal sex, and condom usage during these acts

Analysis

Innovative actor-partner interdependence modeling (APIM) techniques were used to examine associations between shared experiences of internalized homonegativity and couple's coping outcome scales (planning and decision-making, communication, and joint effort) as antecedents to the maintenance of health behaviors. APIMs are models that account for the nesting of individuals within dyads, and therefore can examine two effects simultaneously: individual's data affects both their own dependent variable score (known as the actor effect) and their partner's dependent variable score (known as the partner effect) (Kenny, 2006; Zvara, Mills-Koonce, Heilbron, Clincy, & Cox, 2015). APIM is uniquely suited to the present analysis because it allows for a concurrent examination of both partners' individual experiences of

internalized homophobia, as well as other theorized moderators of the association between internalized homophobia and couple’s coping. This technique, while novel, has been successfully utilized for heterosexual, MSM, and transgender dyadic analyses (Johnson et al., 2012; Reisner et al., 2014; Zvara et al., 2015). Dyadic modeling was conducted using a multilevel modeling approach (Kenny, 2006).

Figure 15. APIM Example Model



In the present analysis, separate models were run for each of the outcomes representing couple’s coping (planning and decision-making, communication, and joint effort). A model has been drawn for two partners, named Conor (and David for the sake of understanding. In the model, Ac represents the actor effect of Conor’s experience of internalized stigma on his own contribution to couple’s coping, whereas Pc represents the partner effect of Conor’s experience of internalized stigma on David’s perception of their couple’s coping. Similarly, Ad represents the actor effect of David’s experience of internalized stigma on his own contribution to couple’s coping, whereas Pd represents the partner effect of David’s experience of internalized stigma on Conor’s perception of their couple’s coping. It is hypothesized within this model that increased stigma will result in mutually decreased perceptions of couple’s coping, thus resulting in decreased HIV health maintenance behaviors in accordance with theoretical principles of Minority Stress Theory and Lewis Interdependence Theory.

Based on these theoretical principles, this analysis was originally focused on stigma as the key covariate of interest. However, results instead indicated the importance of relationship characteristics and satisfaction for the continuation of HIV-related health maintenance behaviors. While the underlying theoretical principles remain, the discussion details why stigma may not have been a significant factor in this analysis, and what future analyses can do to improve upon this study's design.

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