Spring 5-4-2021

Minority Stress in the Context of the Disablement Process Model

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by

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ABSTRACT

The changing demographics and growing diversity in the United States pose significant challenges for researchers, particularly scholarship involving sexual minority adults' health and aging processes. Not much is known about how all minority stressors could lead to a disability. Sexual minority adults are at a greater risk of developing a disability later in life than their heterosexual counterparts (Fredriksen-Goldsen, Kim, and Barkan 2012). Drawing from critical components of the disablement process model (Verbrugge and Jette 1994), this dissertation sought to understand the relationship between minority stress and disability status among sexual minority adults 50 years and older. Minority stress in the context of the disablement process model is a social condition. While exploring the relationship between minority stress and disability status, intra-individual factors and extra-individual factors were assessed to see if they

mediated the relationship between minority stress and disability status among sexual minorities 50 years and older.

This dissertation used data collected from the National Health, Aging, and Sexuality/Gender 2010 Study (Fredriksen-Goldsen and Kim 2017), a nationally representative sample of sexual and gender minorities 50 years and older. The final sample was 1,513 sexual minorities, 50 years and older. Logistic regression was used to test the relationship between minority stress and disability status. Intra-individual factors and extra-individual factors were tested as mediators in the relationship between minority stress and disability status. Risk factors were included in all analyses.

Discrimination was significantly associated with having a disability. None of the intra-individual factors and extra-individual factors mediated the relationship between minority stress and disability; however, several intra-individual and extra-individual factors were associated with greater or lesser odds of experiencing a disability. On the one hand, the disablement process model does not support minority stress as a social condition leading to a disability. On the other hand, this dissertation's results support the ideology that experiencing discrimination is associated with a disability. Implications for academics and practitioners were explored.

INDEX WORDS: Minority Stress, the Disablement Process Model, Older Sexual Minorities, Disability

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A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree of

Doctor of Philosophy

in the College of Arts and Sciences

Georgia State University

2021

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May 2021

DEDICATION

I dedicate this dissertation to my husband, John Trunnell, my family, and my friends. Thank you for your love, support, and understanding.

ACKNOWLEDGEMENTS

This dissertation would not have been possible without the guidance, commitment, and motivation of my dissertation committee, peers, colleagues, friends, and family.

First, I would like to thank Dr. Karen Fredriksen-Goldsen and her team for letting me use the Aging with Pride: National Aging, Health, and Gender/Sexuality Study (2017) dataset for this dissertation.

Second, this dissertation would not have been possible without the direction and support of my dissertation committee. Dr. Eric R. Wright provided fantastic constructive feedback and advice. He is fully committed to assisting me throughout the dissertation process. His mentorship made the dissertation process more bearable. Dr. Raeda K. Anderson provided motivation and excitement for the dissertation process. Under her mentorship, she guided me through the dissertation process, asking the hard questions and teaching me valuable lessons. Our weekly meetings motivated me to cross the finish line! This dissertation is a product of Dr. Wright and Dr. Anderson's exceptional abilities to mentor future scholars. Dr. Candace L. Kemp provided excellent feedback and guidance and is dedicated and committed to ensuring student success. Dr. Ben Kail provided constructive feedback and worked with me on this dissertation in the earlier stages.

Third, I would like to thank my colleagues at the University of North Georgia and peers at Georgia State University for their support, answering my questions, reading parts of my dissertation, and, most importantly, motivating me to finish. Thanks for letting me bug you every five minutes with questions!

Finally, I would like to thank my friends and family for their support and motivation to finish. My friends and family checked in on me throughout the dissertation process. They kept asking when I will finish—I'm finally PHinisheD!

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LIST OF ABBREVIATIONS

SGM(s) Sexual and Gender Minority(ies)

IADLs Instrumental Activities for Daily Living

ADLs Activities for Daily Living

NHAS National Health, Aging, and Sexuality/Gender Study (2010)

1 INTRODUCTION

The changing demographics and growing diversity in the United States pose significant challenges for sociological and gerontological research, particularly scholarship involving sexual and gender minority (SGM) adults. As SGMs have gained more public acceptance and become more visible in the United States (Pew Research Center 2017), researchers have begun to recognize little is known about how identifying as an SGM might shape the aging process or the unique health challenges that SGMs confront. SGM adults are a marginalized group—meaning this group is historically oppressed by experiencing discrimination, prejudicial attitudes, and internalized stigma, and sometimes do not disclose their sexual minority status (Brooks 1981; Meyer 1995). Because SGMs are traditionally marginalized and socially disadvantaged, they are more likely to experience disparities with the health and aging process (Centers for Disease Control and Prevention 2013).

The state of aging in the SGM community is full of concerns and uncertainty. A lifespan of combatting discrimination, victimization, prejudice, and internalized stigma (aspects of minority stress) may lead to adverse consequences such as poorer mental and physical health. As a consequence of minority stress, SGM adults may experience economic insecurity (Dispenza, Brown, and Chastain 2016; Movement Advancement Project and Services and Advocacy for GLBT Elders 2017). Not only do some SGM adults experience ageism in the workplace, but they also have to combat discrimination based on their sexual orientation (Dispenza et al. 2016). For example, approximately 27% of respondents in a national study of mature and older SGM adults were not hired, and 26% were not promoted because of their sexual orientation (Movement Advancement Project and Services and Advocacy for GLBT Elders 2017). This ultimately affects their incomes and, in return, their retirement. In addition, many older SGM

adults cannot access their deceased partner's social security pre-marriage equality, as well as retirement and pension benefits, leaving some in poverty (Movement Advancement Project and Services and Advocacy for GLBT Elders 2017). Economic insecurity is one major concern as SGMs age (Dispenza et al. 2016; Movement Advancement Project and Services and Advocacy for GLBT Elders 2017).

A second major concern for aging SGMs is their reliance on their chosen family. Many older SGMs grew up in a period full of discrimination, prejudicial views, victimization, and internalized stigma. SGMs, who grew up pre-Stonewall, feared for their lives. Some SGMs experienced family rejection, leading them to be thrown out to the streets. Other SGMs were jailed or killed for dressing as the opposite sex or killed for identifying as SGMs (Patterson and D'Augelli 2013). This led many SGMs, at the time, to form families of choice. A family of choice, sometimes called a chosen family, is a family constructed of close people that may not be blood-related (Movement Advancement Project and Services and Advocacy for GLBT Elders 2017). This poses a significant challenge as SGMs age. Families of choice may not have the authority or right to make any significant health-related decisions. For example, a family of choice members may not be allowed to make decisions for end-of-life transition unless written as a power of attorney or power of healthcare (Movement Advancement Project and Services and Advocacy for GLBT Elders 2017). These families of choice tend to age together, meaning most of them are around the same age. At some point, members of their families of choice start to die, causing their social network sizes to shrink. This leaves them with a lack of support as they age (Movement Advancement Project and Services and Advocacy for GLBT Elders 2017). Moreover, many SGMs become caregivers for their families of choice and their families of origin if they maintain relationships with their families of origin (Croghan, Moone, and Olson

2014). Thus, relying on families of choice becomes a significant concern for SGM adults as they age.

A third major concern for aging SGM adults is a lack of competent healthcare inclusive of SGM adults' issues and experiences. Cultural competency training is defined as providing knowledge on SGM issues and best practices for serving this population. Cultural competence training aims to provide quality healthcare or social services to various marginalized communities such as SGMs in general, but specifically for older SGM adults (National LGBT Cancer Network et al. 2014). One study found that SGM cultural competency training for health and social services practitioners led to providing a better quality of care for SGM adults utilizing health and social services (Porter and Krinsky 2014). This study was conducted in a major metropolitan area, where SGMs experience less oppression. Conversely, another study found that some agencies lack the awareness of issues affecting SGM adults (Portz et al. 2014). Thus, causing concern among SGMs as they age, especially in areas where SGMs are not accepted or there is a smaller population of SGMs.

Research on the state of health in the SGM community has shown marked disparities across a wide range of health conditions (Fredriksen-Goldsen et al. 2017). SGMs have higher odds of experiencing chronic conditions compared to their heterosexual counterparts. For example, “sexual minority women had a significantly higher number of chronic conditions than heterosexual older women (Fredriksen-Goldsen et al. 2017:1334). SGM adults are more likely to have overall poorer health. For example, “sexual minority men were more likely to report a disability, including limitations with IADLs and ADLs” (Fredriksen-Goldsen et al. 2017:1334). SGM adults are more likely to engage in risky health behaviors such as heavy drinking or smoking. SGMs experience higher rates of disability compared to their heterosexual counterparts

(Fredriksen-Goldsen et al. 2012). Yet, sexual minorities are more likely to seek preventative care than their heterosexual counterparts (Fredriksen-Goldsen et al. 2017).

The changing demographics, the state of aging among sexual minority adults, and the health disparities among sexual minorities lead to significant research gaps. While we know a great deal about the health disparities among the SGM community, we know much less about older SGM people generally and the role of minority stress on older SGM adults' aging and health processes. One significant gap in the sexual minority health and aging scholarship is understanding how minority stress (a social condition) might influence the odds of experiencing a disability and what, if any, factors might mediate this relationship reducing the odds of experiencing a disability.

The effects of minority stress on mental health outcomes are well documented and researched (Baams, Grossman, and Russell 2015; Cramer et al. 2017; Herek and Garnets 2007; Meyer 1995, 2003; Pachankis, Cochran, and Mays 2015; Wight et al. 2012). The minority stress scholarship connecting minority stress to adverse mental health incomes laid the foundation for research to extend the minority stress framework to physical health outcomes (Flenar, Tucker, and Williams 2017; Hoy-Ellis and Fredriksen-Goldsen 2016; Lick, Durso, and Johnson 2013; Shilo and Mor 2014). This dissertation sought to test the minority stress framework in the context of the disablement process model, specifically looking at disability, such as limitations with instrumental activities for daily living (IADLs) and activities for daily living (ADLs). In addition, this dissertation examined intra-individual and extra-individual factors that may mitigate the odds of experiencing a disability.

1.1 Sexual Minority Adults and Disability

Sexual minority adults are at a higher risk of developing a disability later in life than their heterosexual counterparts (Fredriksen-Goldsen et al. 2012). One indicator of disability is sexual orientation. In a study conducted by Fredriksen et al. (2012), sexual orientation remained a significant factor in a multivariate analysis that included chronic conditions such as asthma, health behaviors such as smoking, and frequent poor health such as reporting how many days one was in poor health, and mental distress such as depression on disability (p. e19). A population-based study (only sexual minority adults) found that financial barriers (could not afford to go to the doctor), smoking (health behavior), obesity (chronic condition), lifetime victimization (minority stress), and internalized stigma (minority stress) increased the odds of disability (limited activities because of physical, mental, or emotional problems or conditions and health problems that require adaptive equipment). Physical activities, social support, and social network size positively decreased the odds of experiencing a disability (Fredriksen-Goldsen et al. 2013). Another study found that 44% of their sexual minority adult participants ages 60 and older reported a disability, and 25% reported using an assistive device while assessing their physical and mental health in a study of elder abuse (Grossman et al. 2014:1656). Hiedemann and Brodoff (2013) assessed the need for future long-term care among partnered sexual minority adults 60 and older. They assessed disability by using two measures, self-care (difficulty dressing or bathing) and personal care (difficulties with activities because of a physical, mental, or emotional condition, or doing errands alone such as visiting a doctor's office or shopping). The study concluded that older partnered sexual minority adults were at a greater risk of needing long-term care than older heterosexual adults (Hiedemann and Brodoff 2013). The results showed that partnered sexual minority men were more likely to need help doing

personal care activities, while partnered sexual minority women were more likely to need help doing self-care activities (Hiedemann and Brodoff 2013). Sexual minority men (gay and bisexual men over 50) were more likely to have a disability than their heterosexual counterparts (Fredriksen-Goldsen et al. 2013:1804). Both sexual minority men and women (50 years and older) were more likely to report a disability than heterosexual men and women (50 years and older). Sexual minority older men, compared to older heterosexual men, were more likely to report IADL and ADL limitations and bisexual women were more likely than lesbians to report ADL limitations (Fredriksen-Goldsen et al. 2017:1334).

1.2 Minority Stress in the Context of the Disablement Process Model

Drawing from critical components of the disablement process model (Verbrugge and Jette 1994), I framed minority stress as a social condition to understand the aging and health processes for middle and older sexual minorities in the United States. I used components from the disablement process model to test whether minority stress, as a social condition, is associated with disability. The main pathway to disability is through chronic or acute conditions (Verbrugge and Jette 1994). A social condition, minority stress (Meyer 1995, 2003), was substituted for a chronic or an acute condition. IADL and ADL limitations are measures of disability (Verbrugge and Jette 1994). In addition to the main pathway to a disability, intra-individual factors, extra-individual factors, and risk factors may slow down or speed up disability. I test the intra-individual and extra-individual factors as mediators in the relationship between minority stress (social condition) and IADL and ADL limitations (disability) to determine if these factors slow down or speed up experiencing a disability. Risk factors are present in all analyses. More details are provided in the literature review about minority stress and the disablement process model.

The disablement process model is complex and nuanced (Lawrence and Jette 1996; Verbrugge and Jette 1994). The disablement process model does not recognize minority stress as a social condition, nor was minority stress tested in the disablement process model as of yet. There are empirical studies framing minority stress as a social condition in the minority stress literature (Atkins 2018; Baams et al. 2015; Bränström 2017; Brooks 1981; Detwiler 2015; Hoy-Ellis and Fredriksen-Goldsen 2016; Meyer 2003, 2003; Williams, Mann, and Fredrick 2017). Conversely, there are no empirical studies using minority stress in the disablement process model framework. Minority stress was never considered conceptually as a social condition within the disablement process model framework. Minority stress uniquely affects the quality of life for marginalized groups and has implications on mental and physical health. Minority stress is a social condition and experienced throughout the life course (Brooks 1981; Dispenza et al. 2016; Meyer 1995, 2003). It is essential to understand the effects of minority stress on physical health outcomes, such as disability.

Some literature connects minority stress to physical health outcomes but not using the disablement process model framework. A majority of the minority stress literature tests the relationship between minority stress and psychological or mental health outcomes (Baams et al. 2015; Frisell et al. 2010; Gevonden et al. 2014; Herek and Garnets 2007; Kelleher 2009; Kuyper and Fokkema 2010; Lea, Wit, and Reynolds 2014; Meyer 1995; Williams et al. 2017). Scholars have recently begun to understand the relationship between minority stress and physical health outcomes (Bränström, Hatzenbuehler, and Pachankis 2016; Flenar et al. 2017; Frost, Lehavot, and Meyer 2015; Hoy-Ellis and Fredriksen-Goldsen 2016; O'Cleirigh et al. 2015; Shilo and Mor 2014; Sylaska and Edwards 2015). However, physical health outcomes were only broad descriptions of overall physical health, chronic conditions, or general disability measures

(Bränström et al. 2016; Flenar et al. 2017; Fredriksen-Goldsen, Emlet, et al. 2013; Frost et al. 2015; Hoy-Ellis and Fredriksen-Goldsen 2016; Lea et al. 2014; Lick et al. 2013; Shilo and Mor 2014). This dissertation tested minority stress as a social condition with more descriptive measures of disability status, such as limitations with IADLs and ADLs in the context of the disablement process model.

Third, no studies test minority stress drawing on the disablement process model's key components, especially with sexual minority adults. Surveys and interviews have begun to recently collect sexual orientation and gender identity data (Choi and Meyer 2016). Yet, there is still a considerable amount of research needed to fully understand sexual minorities' experiences in the realm of aging and health. This dissertation aimed to: (1) understand the complicated and nuanced nature of the disablement process vis-à-vis using minority stress as a social condition; and (2) test whether intra- and extra-individual factors mediate the relationship between minority stress and limitations with IADLs and ADLs.

This research extends minority stress and disablement process literature by reframing minority stress as a social condition, integrating minority stress in the disablement process model, and testing mediating factors in the relationship between minority stress and disability status. I framed minority stress as a social condition. The disablement process begins with a condition, which potentially leads to a functional limitation that ultimately could results in a disability (Verbrugge and Jette 1994). The social condition is minority stress. I examine how minority stress could potentially lead to disability among sexual minority adults. Second, I used minority stress as the social condition drawing from critical components of the disablement process model with sexual minority adults 50 years and older. The disablement process model's critical components allow for a deeper dive into understanding the relationship between minority

stress and disability. I examine, for example, what intra-individual factors and extra-individual factors might mediate the relationship between minority stress and disability among sexual minorities and what risk factors affect this relationship. I tested intra-individual factors, extra-individual factors, and risk factors that may affect the odds of experiencing disability among sexual minority middle and older adults.

It is essential to understand the social causes of health and disease to reduce or eliminate health disparities among minority populations (Cockerham 2013). In this case, how minority stress, a social condition, influences the odds of experiencing a disability. Until recently, social factors were not considered relevant to health research (Cockerham 2013). Minority stress is uniquely tied to marginalized groups, such as sexual minorities (Brooks 1981; Meyer 1995). Sexual orientation is a social factor that impacts the health and aging process among sexual minorities, similar to race/ethnicity, social class, and gender (Brooks 1981; Cockerham 2013; Lawrence and Jette 1996; Meyer 1995, 2003; Verbrugge and Jette 1994). For example, sexual minority status is associated with disability (Fredriksen-Goldsen et al. 2012). It only makes sense to add an understanding of the health and aging processes for sexual minorities.

1.3 Research Questions

After reviewing the literature, more research is needed to understand how the association between minority stress and disability affects sexual minority adults 50 years and older and the mechanisms that intervene or exacerbate the likelihood of experiencing disability. After careful review of relevant literature, I formulated my research questions based on the conceptual model illustrated in Figure 1.

Owing to the complexity and nuance of the disablement process, I separated the research questions into three different categories. The first category addressed the main research question:

what is the relationship between minority stress (defined by discrimination, victimization, internalized stigma, and disclosure disability status (defined by limitations with IADLs and ADLs) among sexual minority adults 50 years or older**?**

The second category addressed potential mediation of factors for the relationship between minority stress and disability status: ***what intra- and extra-individual factors (defined by participating in vigorous, moderate, wellness, and religious activities, social support, community belonging, social network size, substance misuse, and access to health care) mediate the relationship between minority stress disability status among sexual minority adults 50 years and older.***

The third category addressed the risk factors that may affect the relationship between minority stress and disability status: ***what risk factors (defined by sexual orientation, race/ethnicity, age, income, education, employment status, relationship status, living arrangements, and housing status) affect the relationship between minority stress and disability status among sexual minority adults 50 years and older.***

1.4 Conceptual Model

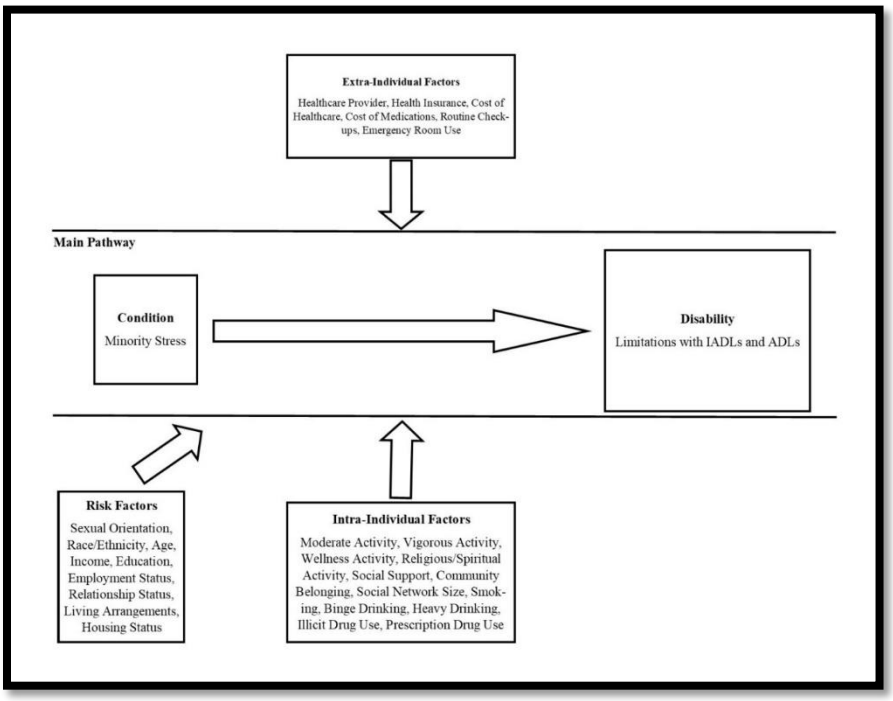

Figure 1. Conceptual Model

Figure 1, exhibited above, is the conceptual model for this dissertation. The main pathway to disability begins with the social condition, minority stress. Below the main pathway are risk factors and intra-individual factors. Risk factors are sociodemographic characteristics such as sexual orientation, race, and age, for example, and are present in all models. Intra-individual factors are factors that an individual can do to reduce the likelihood of experiencing a disability, such as participating in physical and wellness activities. Above the main pathway are extra-individual factors. Extra-individual factors are institution factors that can reduce disability, such as access to health care.

Older sexual minorities who experience high levels of minority stress are predicted to have a disability compared to older sexual minorities who experience low levels of minority stress. Because most sexual minority literature centers predominately on white, affluent, well-educated gay men and lesbian participants (Brooks 1981; MetLife Mature Market Institute 2010;

Meyer 2003; Woody 2014), it is predicted that the risk factors (sociodemographic characteristics) will yield different effects depending on the risk factor. Intra-individual and extra-individual factors will increase or decrease the likelihood of experiencing a disability (Verbrugge and Jette 1994). Intra-individual factor such as participating in wellness activities (moderate, vigorous, wellness, and religious/spiritual activities), social support (social support, positive sense of community, and social network sizes), and substance misuse (smoking, excessive drinking, illicit drug use, and misusing prescription drugs) will mediate the relationship between minority stress and disability status. Extra-individual factors such as access to health care (access to a healthcare provider, access to health insurance, the cost of healthcare and medications, routine checkups, and emergency room use) will mediate the relationship between minority stress and disability status. Thus, minority stress will increase the likelihood of experiencing disability among sexual minority adults 50 years and older. Risk factors will affect the relationship between minority stress and disability status and the mediating intra-individual and extra-individual factors. Intra- and extra-individual factors will mediate the relationship between minority stress and disability status.

2 LITERATURE REVIEW

Minority stress has been associated with adverse mental and physical health outcomes among sexual minorities (Crowell et al. 2015; D'Augelli et al. 2001; Detwiler and Caskie 2015; Flenar et al. 2017; Frost et al. 2015; Gevonden et al. 2014; Hoy-Ellis and Fredriksen-Goldsen 2016; Lewis et al. 2009; Li, Matthews, and Dong 2020; Lick et al. 2013; Liu et al. 2020; Mereish et al. 2017; Meyer 1995; Shilo and Mor 2014). Sexual minorities experience higher rates of disability compared to their heterosexual counterparts (Fredriksen-Goldsen et al. 2013; Fredriksen-Goldsen, Kim, and Barkan 2012). However, less is known about how minority stress may lead to disability among sexual minorities, especially among sexual minority middle and older adults (Fredriksen-Goldsen et al. 2017). In subsequent sections, I define and discuss minority stress, the adverse outcomes of minority stress, the disablement process model, and minority stress in the context of the disablement process model.

2.1 Minority Stress

Broadly, minority stress is defined as stress affecting marginalized groups that lead to adverse outcomes. Brooks (1981) and Meyer (1995) were the pioneers of minority stress. Brooks (1981) defined minority stress as a "state of intervening between sequential antecedent stressors of culturally sanctioned, categorically ascribe inferior status, social prejudice and discrimination, the impact of these environmental forces on psychosocial well-being, and consequent readjustment and adaptation" (p. 107). Sexual minorities have an inferior ascribed status which, initiates the minority stress process. Sexual minorities have an inferior ascribed status, which opens them up to prejudice and discrimination by members of the dominant group and institutions that potentially affect their psychosocial well-being. In the absence of resilience, the effects of minority stress on sexual minorities' well-being potentially leads to adverse outcomes

such as mental and physical health issues (Brooks 1981; Meyer 1995). Resilience is part of the minority stress process.

Meyer (2015) addresses two issues related to minority stress. First, resilience within the minority stress process, and second, individual and community resilience. According to Meyer (2015), minority stress is based on several premises. One, prejudice and discrimination toward sexual minorities result in unique stressors. Two, these stressors negatively affect overall mental and physical health. Resilience buffers the effects of minority stress. Resilience refers to the processes of surviving and thriving adversity and acts as an intervention that may reduce the effects of minority stress (Meyer 2015). Meyer (2015) discussed two forms of resilience, individual and community resilience.

First, individual resilience relates to agency and structure. Agency is the ability to be autonomous, and structure limits the ability to be autonomous (Elder 1998). Members of historically disadvantaged groups had limited access to resources. The ability for agency may be limited by the social, economic, and political structures. For example, sexual minorities who can pass as heterosexual, white, affluent, and able-bodied have easy access to social, economic, and political resources to diminish the effects of minority stress. For those who cannot pass, resources may be limited (Meyer 2015). Meyer (2015) noted that concentrating on individual resilience leads to blame the victim ideology—it assumes that individuals could be resilient because everyone is resilient (p. 211). Focusing on individual resilience shifts the focus of policy from protecting disadvantaged groups to forcing people to be resilient. Individual resilience only impacts the personal reactions to stressors, not the structural and institutional processes and barriers that result in minority stressors (Meyer 2015).

Second, focusing on community resilience impacts the structural and institutional processes that create stressors. According to Meyer (2015), “community resilience refers to how communities further the capacities of individuals to develop and sustain well-being” (p. 211). Community resilience shifts the focus to the social-environmental issues that cause stress. A sense of community is essential for sexual minorities. Those who have connections to the sexual minority community will have more options for resources and opportunities for social support that lead to higher levels of resilience. However, those who are not connected to the sexual minority community may have fewer options for resources and social support, leading to lower levels of resilience. Not all members of the sexual minority community will benefit from community resilience. The sexual minority community is structured the same way as the general population. There are hierarchies. Most of the sexual minority movements benefit those who pass as heterosexual and cisgender. Queer people of color are usually left out of these movements. This may impact their resilience (Meyer 2015).

Expanding on Brooks (1981), Meyer (1995) grounded minority stress on the “premise that gay, [lesbian, bisexual, and transgender] people in a heterosexist society are subjected to chronic stress related to stigmatization” (p. 38). Minority stress is a distinctive form of stress experienced only by marginalized groups, such as sexual minorities, because of their stigmatized status. In a heterosexist society, heterosexual identity is prioritized at all levels of society and seen as the norm. Because societal culture established heterosexuality as the norm, those who identity as sexual minorities are subject to internalized homophobia, perceived stigma (concealment/disclosure), discrimination and violence (Meyer 1995, 2003) based on their sexual minority status. Internalized homophobia, also known as internalized stigma, means that sexual minorities internalize the negative messages made by United States culture that may lead to

psychological distress. For example, internalized homophobia is a predictor of demoralization, guilt, suicide, AIDS-related trauma, and sex problems among gay men (Meyer 1995).

Perceived stigma means sexual minorities are vigilant about disclosing their sexual minority status to others. Sexual minorities are vigilant of their sexual minority status depending on the social environment to avoid harm (Meyer 1995). Perceived stigma was replaced by concealment/disclosure in a later version of the minority stress process (Meyer 2003). Concealment means hiding one's sexual minority status from others, while disclosure means revealing one's sexual minority status to others (Meyer 2003). Sexual minorities usually conceal their sexual minority status to avoid violence, while others may reveal their sexual minority status depending on the social environment. For instance, a gay man in the Bible Belt may conceal his sexual minority status from outsiders to avoid negative consequences (Barton 2012). The Bible Belt is a region in the American South that emphasizes religion and religious culture, leading to prejudice and discrimination among sexual minorities (Barton 2012).

Discrimination and violence, also known as prejudice events, means actions taken against sexual minorities to limit access to resources and services and experience violence (Meyer 1995). For instance, a sexual minority employee may not receive a promotion because of their sexual minority status (Meyer 2003). Discrimination and violence are predictors for demoralization, guilt, suicide, and AIDS-related trauma (Meyer 1995). Sexual minorities who disclose their sexual minority status may experience more discrimination and violence than those who conceal their sexual minority status, which means they may not experience internalized stigma. However, sexual minorities who conceal their status may experience more internalized stigma and less violence and discrimination than those who disclose their sexual minority status (Meyer 1995,

2003). Discrimination, victimization, internalized stigma, and concealment level directly influence the health and age processes for sexual minorities (Braveman 2013).

In 2003, Meyer reconceptualized the minority stress process for sexual and gender minorities. In this reconceptualization, Meyer identities two forms of minority stress: distal and proximal. Distal minority stress is defined as outside forces that negatively affect sexual minorities, such as prejudice, discrimination, and victimization (Meyer 2003). One study found distal minority stress directly affects depression, health risk behaviors, and social support (Brown 2013). Another study found distal minority stress is associated with a greater risk of smoking, which may lead to other health conditions (O'Cleirigh et al. 2015). Proximal minority stress is defined as inside forces that negatively affect sexual minorities, such as internalized stigma and concealment (Meyer 2003). One study found that proximal minority stress is associated with higher levels of affective well-being (emotional well-being and life satisfaction) and general stress (Cramer et al. 2017:1521–2). Another study found stigma and concealment (proximal minority stress) is associated with depression, alcohol misuse, and sexually transmitted infections (Ibragimov and Wong 2018:605–6).

Minority stress is a social condition that may affect overall health. Sexual minority status is associated with many adverse health effects and experiencing barriers accessing health care related to minority stress (Choi and Meyer 2016; Dahlhamer et al. 2014; Emlet 2016; Fredriksen-Goldsen, Emlet, et al. 2013; Fredriksen-Goldsen et al. 2017). Minority stress, therefore, is a social cause of health and illness and creates barriers to accessing quality healthcare (Cockerham 2013). Like minority stress (heterosexism), classism and racism become social conditions that influence health outcomes (Cockerham 2013; Garcia et al. 2021; Wilkinson and Marmot 2003). Heterosexism or heterosexist attitudes in healthcare systems affect sexual minorities' access to

quality care. The prioritization of heterosexuality above all other sexual minorities is reflected in social interactions with health providers, including lack of knowledge about sexual minority specific issues, possible discrimination, refusal of service, or lower quality of service (Brennan-Ing et al. 2014; Orel 2014; Woody 2014).

Socioeconomic status, such as class, income, wealth, education, lifestyle, and career prestige, affects health outcomes (Cockerham 2013; Wilkinson and Marmot 2003). For example, those who have higher incomes, higher levels of education, and prestigious careers are less likely to experience disease (Wilkinson and Marmot 2003). Lower class status becomes a social condition adversely affecting health among people in the lower class because of financial barriers (Cockerham 2013). Racial and ethnic status affects overall health outcomes. Racial and ethnic minorities are at greater risk of experiencing diseases such as chronic conditions due to institutionalized racism (Garcia et al. 2021). Racism becomes a social condition that influences overall health for racial and ethnic minorities. Like class and race, sexual minorities experience disparities in healthcare associated with minority stress, leading to adverse health outcomes. The following section highlights negative health outcomes for sexual minorities because of minority stress.

2.1.1 Minority Stress and Sexual Minorities

Minority stress is associated with a variety of adverse health outcomes among sexual minorities in general. Most of the minority stress literature is rooted in psychological and mental health outcomes. Minority stress predicts demoralization, guilt, suicide, AIDS-related trauma, and sex problems (Meyer 1995), anxiety, depression, and loss of behavioral/emotional control (Kelleher 2009), sexual orientation conflict (Lewis et al. 2009), psychiatric conditions (Frisell et al. 2010), loneliness and lower self-esteem (Kuyper and Fokkema 2010), depression, anxiety,

and substance misuse (Lehavot and Simoni 2011), depressive symptoms (Burton et al. 2013), psychiatric symptoms (Gevonden et al. 2014), psychological distress, suicidal thoughts, and substance misuse (Lea et al. 2014), mental distress (Dewaele, Houtte, and Vincke 2014), depressive symptoms (McCarthy et al. 2014), depression (Crowell et al. 2015), depressive symptoms (Bruce, Harper, and Bauermeister 2015), depression and suicide ideation (Baams et al. 2015), psychological distress (Puckett et al. 2016), depression and anxiety (Schwartz, Stratton, and Hart 2016), substance misuse (Mereish et al. 2017). Clearly, minority stress adversely affects mental and psychological health outcomes.

Earlier studies on minority stress and psychological and mental health outcomes laid the foundation for studying minority stress and physical health outcomes. Lick and colleagues (2013) reviewed studies at the time linking minority stress to physical health outcomes such as headaches, chronic conditions, poor overall/general health, and disability. However, there still more to discover about the aging and health processes for sexual minorities. Minority stress is one process that needs more understanding regarding physical health (Lick et al. 2013). Minority stress predicts engaging in physical health risks such as risky sexual behavior and substance misuse leading to poorer physical health outcomes (Shilo and Mor 2014), greater odds of experiencing an externally rated physical health problem such as a life-threatening or disabling illness (Frost et al. 2015), being more likely to report overall worse health, having more physical symptoms, presence of more chronic conditions, and exacerbated health disparities (Bränström et al. 2016), being less likely to report excellent or very good health and more likely to misuse substances that may lead to adverse physical health outcomes (Bariola, Lyons, and Leonard 2016), greater odds of chronic conditions (Hoy-Ellis and Fredriksen-Goldsen 2016), lower self-reported health (Williams et al. 2017), and reduced health-promoting lifestyle, increases the

number of physical health problems such as heart disease, diabetes, high cholesterol, and high blood pressure (Flenar et al. 2017). Clearly, minority stress influences physical health outcomes.

2.1.2 Minority Stress and Sexual Minority Adults

Sexual minority middle and older adults grew up in a time where sexual minority identities were severely stigmatized and often experienced discrimination, victimization, internalized stigma, and concealment, also known as minority stress (Choi and Meyer 2016; Meyer 2003; Vale and Bisconti 2020). However, as they age, it does not necessarily mean they may experience minority stress (Meyer 2003). A limited number of studies address the relationship between minority stress and sexual minority adults, a majority of these studies were recent. Minority stress in adulthood predicted psychological distress, reduced quality of life, reduce life satisfaction, and loneliness (Detwiler 2015; Detwiler and Caskie 2015), loneliness (Kuyper and Fokkema 2010), disability (Fredriksen-Goldsen et al. 2011), chronic conditions (Fredriksen-Goldsen et al. 2013), poor quality of life (Fredriksen-Goldsen et al. 2015), chronic conditions and depression (Hoy-Ellis and Fredriksen-Goldsen 2016), cardiovascular disease risk (Mereish et al. 2017), depressive symptoms (Vale and Bisconti 2020), psychological distress (Li et al. 2020), cognitive decline (Liu et al. 2020), and anxiety and depression (Frey 2020).

While some older sexual minorities experience minority stress, others do not. Meyer (2003) asserted that younger sexual minorities would experience more minority stress than older sexual minorities. Several studies confirmed Meyer's assertion (Lawson-Ross 2013; Vale, Pasta, and Bisconti 2019). One study found no evidence minority stress affected older sexual minorities based on two measures: outness and internalized stigma. They concluded that because most of the older sexual minorities were out and experienced less internalized stigma, therefore, less minority stress (Vale et al. 2019:304). Another study of sexual minorities 60 years and older

found that healthier sexual minorities experience less internalized ageism. These participants had "lower concealment motivation, lower internalized homonegativity, lower levels of acceptance concerns, and higher levels of identity affirmation" (Lawson-Ross 2013:114). While some sexual minority adults do not experience minority stress, it is essential to note the adverse outcomes of those who do experience minority stress in adulthood.

2.2 The Disablement Process Model

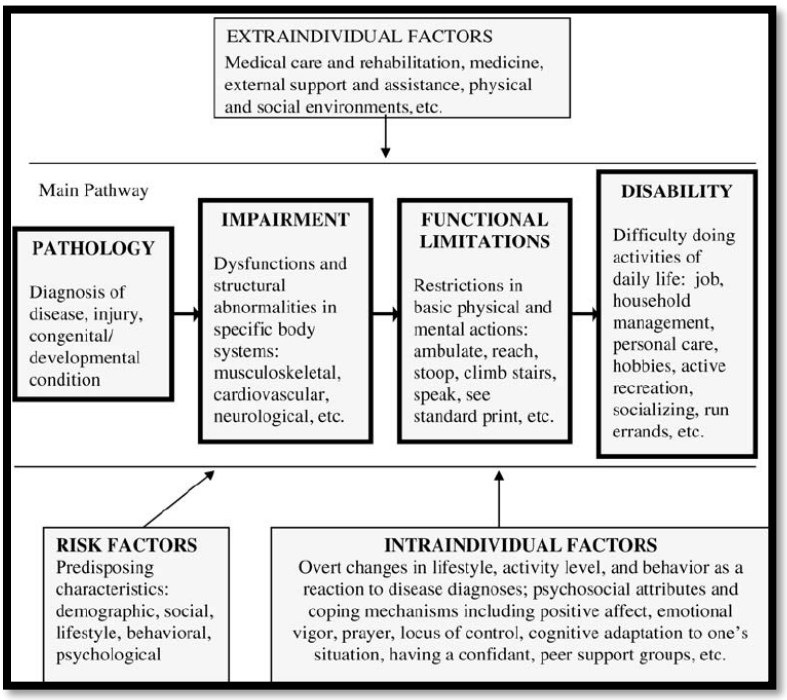

Figure 2 The Disablement Process Model (Verbrugge and Jette 1994).

The pathway to disablement is nuanced and complex. The primary path to disablement starts with an active pathology or a chronic/acute health condition, which leads to an impairment that could potentially cause a functional limitation resulting in disability (Verbrugge and Jette 1994). The intra-individual factors and extra-individual factors potentially mitigate disability status between the chronic condition and disability. In addition, risk factors such as predisposing characteristics may affect the process of disablement.

According to Verbrugge and Jette (1994), “disablement refers to the impacts that chronic and acute conditions have on the functioning of specific body stems and on people’s abilities to act in necessary, usual, expected, and personally desired ways in their society” (p. 3). The disablement process interrupts essential tasks for living, but it also serves as a predictor for a reduced quality of life. For example, disability status is a predictor for hospitalizations, nursing home use, reduced quality of life, loss of independence, additional chronic conditions, poverty, and death (Braungart Fauth et al. 2007; Chirikos and Nickel 1986; Forman-Hoffman et al. 2015; Lawrence and Jette 1996; Porell and Miltiades 2001; Rudberg et al. 1996; Verbrugge and Jette 1994). More details about the disablement process model are discussed in the subsequent sections.

2.2.1 Origins of the Disablement Process Model

The origins of the disablement process model began with Nagi (1964). Verbrugge and Jette (1994) formed thier disablement process model from Nagi’s (1964) concept of disability and rehabilitation. The disablement process model elaborated on Nagi’s (1964) concept and included language from the International Classification of Impairment, Disability, and Handicap (Verbrugge and Jette 1994:2–3). Nagi (1964) illustrated how pathology could lead to disability. There are two types of disability: congenital (born with a disability) and consequential (disability acquired later in life) (Nagi 1964). For the purposes of this dissertation, consequential disabilities are discussed. Consequential disabilities are acquired later in life triggered by a change in the individual that results in impairments or disability (Nagi 1964). The change in the individual is the onset of a pathology that can lead to impairment, then to a functional limitation, resulting in disability (Nagi 1964). The change in the individual could also be environmental (changes in the social milieu, for example), leading to impairments, then to a functional limitation, resulting in a

disability (Nagi 1964). For example, minority stress (a social condition in the environment) may lead to a disability. The scholarship mentioned-above in sections 2.1.1 minority stress and sexual minorities and 2.1.2 minority stress and sexual minority adults illustrated the adverse conditions triggered by minority stress.

The disablement process model elaborates on Nagi's (1964) concept. At the time, there was growing concern about social and psychological factors that may buffer the process of disablement (Verbrugge and Jette 1994). This lead to further development of the disablement process model. Verbrugge and Jette (1994) were concerned with the extent to which internal and external factors may affect the main pathway of the process of disablement. They advanced Nagi's model with the addition of intra-individual factors (internal factors) such as lifestyle and behavior changes, psychological attributes and coping, and activity accommodations; extra-individual factors (external) such as medical care and rehabilitation, mediation and other therapeutic regimes, external supports, and built, physical, and social environments; and risk factors (internal or external factors) such as sociodemographic characteristics and social, lifestyle, behavioral, psychological, environmental, and biological predisposing characteristics to the main pathway of the disablement process model (Verbrugge and Jette 1994:4).

The disablement process model reflects the social model of disability. The basic premise of the social model of disability is that society, meaning institutions, limits people with disabilities rather than the disability limiting the individual with disabilities (Haegele and Hodge 2016). Whereas the medical model of disability essentially treats the individual to fix the disability without considering the individual's social milieu. The focus is on the individual with a disability rather than a gap between the individual and the environment (Haegele and Hodge 2016; Verbrugge and Jette 1994). The distinction between impairment and disability separates

the social model from the medical model of disability. According to Haegele and Hodge (2016), an "impairment is defined as an abnormality of the body (malfunction of limb, for example), whereas a disability is a disadvantage or restriction in activity because of institutional practices that fail to include people with disabilities (no elevator to reach an upper floor, for example)" (p. 197). The social model of disability aims to close the gap between the individual and society (Haegele and Hodge 2016). The disablement process model encompasses the social model of disability to address external and internal factors that may result in disability (Haegele and Hodge 2016; Verbrugge and Jette 1994).

2.2.2 The Main Pathway of the Disablement Process Model

As mentioned above, the process of disablement starts with a pathology that may lead to disability. According to Verbrugge and Jette (1994), "a pathology refers to biomedical and physiological abnormalities that are detected and medically labeled as a disease, injury, or congenital/developmental condition (p. 3)." Pathologies are also known as chronic or acute conditions, and by extension, social conditions (Verbrugge and Jette 1994). Braungart Fauth et al. (2007) used rates of disease level to measure pathology very life-threatening, somewhat life-threatening, and non-life-threatening from a list of 48 health problems and conditions. The study concluded "age, disease level, and physical and cognitive functioning predicted changes in disability status (Braungart Fauth et al. 2007:622). Kail and Carr (2017) examined cancer, high blood pressure, diabetes, lung disease, arthritis, stroke, and heart disease to measure chronic conditions. They concluded that working or volunteering (productive engagement) mitigates the relationship between chronic conditions and subsequent functional limitations (Kail and Carr 2017). Kail and colleagues (2020) used the same chronic conditions to understand the influence of race and ethnicity. They concluded that both African Americans and Hispanics were at a

greater risk of early-onset chronic conditions than their white counterparts (Kail, Taylor, and Rogers 2020). Thus, a social condition such as minority stress may lead to changes in disability status among sexual minority adults 50 years and older. Verbrugge and Jette (1994) were aware that some datasets were not collecting pathology data and that pathology was sometimes difficult to measure. The solution was to substitute pathology for chronic and acute health conditions, by extension social conditions (Femia, Zarit, and Johansson 2001; Kail et al. 2020; Lawrence and Jette 1996; Meyer 2003; Verbrugge and Jette 1994).

The next component of the disablement process model is impairment. According to Verbrugge and Jette (1994), "impairments are dysfunctions and significant structural abnormalities in specific body systems such as musculoskeletal, cardiovascular, neurological system, for example. Clinical examinations, laboratory tests, imaging procedures, medical histories, and symptom reports were used to evaluate impairments and sometimes reflect the severity of the chronic condition" (p. 3-4). Schure and Goins (2016) measured impairment by "chronic pain intensity because it is commonly used and accesses severity of chronic conditions" (p. 949-50). Chronic pain intensity had both direct and indirect effects on disability status. Horowitz (1994) measured impairment with vision impairment and found them to be associated with functional limitations (ADL limitations) among institutionalized older adults (Horowitz 1994:321).

Functional limitations are next, after impairments, in the disablement process model. According to Verbrugge and Jette (1994), functional limitations are defined as "restrictions in performing fundamental physical and mental actions used in daily life" (p. 3). Verbrugge and Jette (1994) conceptualize functional limitations as ADL limitations assessed through measures with walking, reaching, stooping, climbing stairs, producing intelligible speech, seeing standard

print, hearing other people speak, short-term memory, alertness in daytime activities, time and space orientation, and positive affect (Verbrugge and Jette 1994:3–4). Schure and Goins (2014) measured functional limitations with the Short Performance Physical Battery tool. This tool measures balance, side-by-side stands, semi-tandem stand, tandem stand, usual walking, speed walking, standard chair stand, and repeated chair stand (Guralnik et al. 1994). Schure and Goins (2014) concluded that functional limitations have a direct effect on disability status. Rudberg et al. (1996) measure ADL limitations as needing assistance with bathing, dressing, eating, getting in/out of bed/chair, and toileting (p. 431). The study concluded that higher levels of functional limitations are associated with a higher probability of death with men in younger cohorts (70-89) compared to women. However, this changes with women having a higher probability for dying after 90 years old (Rudberg et al. 1996:434–35).

Disability, appearing last, is the outcome of the disablement process model. A disability prevents one from participating in activities needed to live independently. Verbrugge and Jette (1994) conceptualized disability as difficulties or limitations with instrumental activities for daily living (IADLS). IADLs include food preparation, housework, managing finances, using the phone, and shopping for food and other necessities. Bowen (2012) measured IADL disability by asking participants “if they had difficulties (yes/no) using the phone, managing money, taking medications, shopping for groceries, and preparing hot meals” (p. 619-20). The study concluded that higher frailty levels and over/underweight (compared to normal weight) were associated with IADL disabilities, and higher socioeconomic status was associated with lower IADL disabilities (Bowen 2012:623). Femia et al. (2001) measured disability with ADLs and IADLs. Respondents were asked about their ability to following tasks with or with difficulty: eating, bathing, dressing, toileting, getting up from bed, moving from bed to chair, hygiene (ADLs),

cleaning, making the bed, cooking, shopping, transportation, using the bank, and using the telephone (IALS), and walking indoors, walking outdoors, and walking stairs (mobility) (Femia et al. 2001:P16). Lin and Wu (2011) used ADLs and IADLs to measure disability and concluded that informal care increased disability progression because respondents relied heavily on informal caregivers to perform the tasks rather than practicing tasks themselves. This overreliance on informal caregivers leads to depression resulting in the progression of disability, and negative interactions with informal caregivers further affects disability progression (Lin and Wu 2011:592).

2.2.2.1 Differences between Functional Limitations and Disability

There is a difference between ADL functional limitations and IADL disability. ADLs are critical for a person's survival, while IADLs are imperative for maintaining independent living (Verbrugge and Jette 1994). The key difference between functional limitations and disability is language. Functional limitations were associated with the individual’s capacity to complete basic tasks (for clinical diagnosis). If one had difficulties completing one or more of these tasks, it would lead to activity restrictions, affecting one’s relationship between disability status and environment. Disability implies action, activity, or lack thereof. Lawrence and Jette (1996) reconceptualized functional limitations and disability. Functional limitations were measured using tasks such as "using your fingers to grasp or handle," "reaching up over your head," "reaching out," "walking a quarter of a mile," "walking up ten steps," "standing or being on your feet for about two hours," "trouble stooping, crouching, kneeling," and "lifting or carrying something as heavy as 10 pounds" (Lawrence and Jette 1996:S176). For disability, Lawrence and Jette (1996) included both ADLs and IADLs such as "bathing," "eating," "dressing," "toileting," "shopping," "preparing meals (ADLs)," "managing money," "using the telephone," and "doing

light housework (IADLs)" (p. S176). Language is the only difference between Lawrence and Jette's (1996) reconceptualization of functional limitations and disability to Verbrugge and Jette's (1994) original conceptualization of the disablement process model. Functional limitations were task oriented-activities that show a can-do characterization (can you do). Removing the ADL label from functional limitations helped reconceptualize disability to include both ADLs and IADLs. Disability (ADLs and IADLs) are the patterns of behavior in a social context: what one may need to do to live, remain independent, and be a productive member of society (Lawrence and Jette 1996; Verbrugge and Jette 1994). Essentially, ADLs and IADLs were two different sets of behaviors, both measuring disability, rather than ADLs measuring functional limitations and IADLs measuring disability (Lawrence and Jette 1996).

2.2.3 Intra-Individual Factors, Extra-Individual Factors, and Risk Factors

Intra-individual and extra-individual factors are two components of the disablement process model that may mitigate the association between the main pathways of the disablement process model; they increase or decrease the likelihood of disability. Intra-individual and extra-individual factors are interventions and exacerbators that may mitigate the relationship between the condition and disability outcome. Intra-individual factors include, but are not limited to, "lifestyle and behavior changes (overt changes to alter disease activity and impact), psychosocial attributes and coping (positive affect, emotional vigor, prayer, locus of control, cognitive adaptation to one's situation, confidant, and peer support groups), and activity accommodations (changes in kinds of activities, procedures for doing them, and frequency or length of time doing them) (Verbrugge and Jette 1994:4). Extra-individual factors include, but are not limited to, "medical care and rehabilitation (surgery, physical therapy, speech therapy, counseling, health education, and job training), medications and other therapeutic regimes (drugs, recreational

therapy, aquatic exercise, biofeedback, meditation, rest, and energy conservation), external supports (personal assistance, special equipment and devices, standby assistance or supervision, daycare, respite care, and meals-on-wheels), and built, physical, and social environment (structural modifications at job or home, access to buildings and public transportation, improvement of air quality, reduction of noise or glare, health insurance, access to medical care, laws and regulations, and employment discrimination) (Verbrugge and Jette 1994:4).

Several studies illustrate the possibility of how intra-individual and extra-individual factors may decelerate or accelerate the likelihood of experiencing disability. One study tested mediators between each of the main pathway variables of the disablement process model: between disease and impairment, impairment and functional limitations, and functional limitations and disability. They found that some of the mediators did mediate these relationships (Braungart Fauth et al. 2007). Another study found that promoting bio-behavioral and psychosocial interventions buffered the effects of gender and functional limitations (Ching-Ju Chiu and Wray 2011). Pachankis (2014) tested a cognitive-behavioral intervention designed to diminish the impact of minority stress called Effective Skills to Empower Effective Men (ESTEEM). This cognitive-behavioral intervention served as a buffer between minority stress and mental health outcomes of gay and bisexual men (Pachankis 2014).

The final component of the disablement process model is risk factors. Risk factors are defined as sociodemographic characteristics and social, lifestyle, behavioral, psychological, environmental, and biological predisposing characteristics standard in social science research (Verbrugge and Jette 1994:4). These individual characteristics may buffer the effects of experiencing disability. Kail and Carr (2017) measured risk factors as race, gender, education, mortality, BMI, current functional limitations, and depression (control variables). Kail et al. 2020

measured risk factors as gender, age, marital status, and immigrant status (control variables). Schure and Goins (2016) measured risk factors as age and sex. Rudberg (1994) used age, gender, and average years living in an older adult care facility. These are examples of sociodemographic characteristics. For example, Kail et al. (2020) found that African Americans and Latinos, compared to non-Hispanic whites, have higher rates of chronic conditions, which results in functional limitation progression, before controlling for SES. Meanwhile, Rudberg (1994) found that men (70-89) have a higher probability of death from higher functional limitations than women in the same age range.

It is important to note there is no research testing the entire disablement process model (the main pathway and all risk factors, intra-individual factors, and extra-individual factors) (Braungart Fauth, Zarit, and Malmberg 2008). However, there is scholarship partially testing different components of the disablement process model. I highlighted several studies that found significant factors using components of the disablement process model. Lawrence and Jette (1996) found that walking a mile (never to every day) meditates the onset of lower-body functional limitations that predict disability. Femia et al. (2001) found the psychosocial factors potentially mitigated the relationship between functional limitations and disability. Porell and Miltiades (2001) found that having insurance and access to care decreased limitations with disablement between the functional limitations and disability pathway. Peek et al. (2003) found that higher levels of emotional support mitigate functional limitations. However, it was only lower-body functional limitations. Braungart et al. (2008) also found that specifically, mastery, a psychosocial factor, mediated both the relationships between impairment and functional limitations and functional limitations and disability. Yu and Zhang (2020) found that psychological distress explained why negative relationship quality was associated with

functional limitations. There is no research testing a full disablement process model. However, six studies partially illustrated testing components of the disablement process model (Braungart Fauth et al. 2008; Femia et al. 2001; Lawrence and Jette 1996; Peek et al. 2003; Porell and Miltiades 2001; Yu and Zhang 2020).

2.3 Minority Stress in the Context of the Disablement Process Model

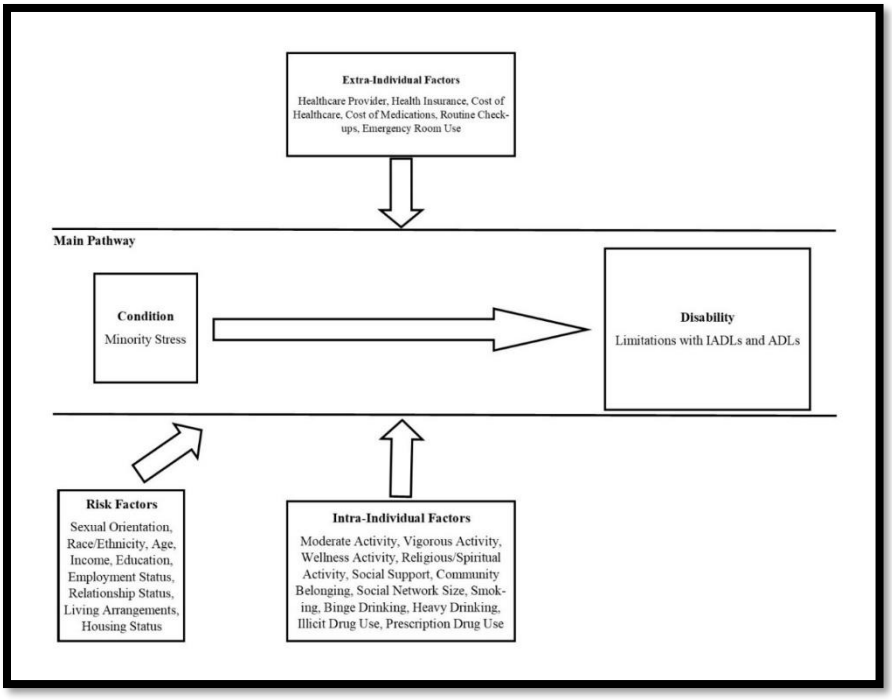

Figure 3. Minority Stress in the Context of the Disablement Process Model

Figure 3, shown above, illustrates minority stress in the context of the disablement process model. Figure 3 is the adjusted version of Verbrugge and Jette (1994) to reflect the dissertation's variables. It is important to note, the schematic reflects moderation, but the model used mediation to determine which intra-individual and extra-individual factors mediate the relationship between minority stress and disability status (Verbrugge and Jette 1994).

The main pathway started with minority stress as the social condition that could potentially lead to disability. Theoretically, the disablement process model asserts that a chronic or an acute condition may lead to a disability (Verbrugge and Jette 1994). I substituted chronic or

acute health conditions with a social condition, minority stress, by drawing on the disablement process model's critical components. Minority stress, a social condition, therefore, may lead to disability. Below the main pathway is risk factors that may affect the effects of the disablement process. Also below the main pathway are intra-individual factors that could potentially mitigate the association between minority stress and disability. Above the main pathway are extra-individual factors that could mitigate the association between minority stress and disability.

Previous minority stress scholarship used general measures of overall health, chronic conditions, and disability in general for adverse health comes (Bränström et al. 2016; Flenar et al. 2017; Frost et al. 2015; Hoy-Ellis and Fredriksen-Goldsen 2016; Kuyper and Fokkema 2010; Lea et al. 2014; Lick et al. 2013; Shilo and Mor 2014). The disablement process model allowed researchers to use specific measures of disability, such as limitations with IADLs and ADLs. For example, the following measures were used for physical health: smoking, prescription drug abuse, and anabolic steroid use, sex with a condom, and the use of drugs during sex (Shilo and Mor 2014). Another study measured physical health outcomes as self-appraised health and externally rated physical health that eluded to chronic and acute conditions (Frost et al. 2015). Some researchers use physical health outcomes with chronic health conditions such as angina, heart failure, and hypertension (Hoy-Ellis and Fredriksen-Goldsen 2016). The disablement process model "is a scientific theoretical model that guides researchers with terminology, measurement, and hypotheses testing" (Verbrugge and Jette 1994:1). Thus, disability is measured by limitations with IADLs and ADLs as specific physical health outcomes (Verbrugge and Jette 1994). In the subsequent paragraphs, I explain each of the variables used in this dissertation, including the hypotheses. A summary of hypotheses appears at the end of this section.

Minority stress is measured by discrimination, victimization, internalized stigma, and level of disclosure. Minority stress is a social condition unique to marginalized groups associated with a wide range of adverse effects (Brooks 1981; Meyer 1995, 2003).

H_1: Middle-aged and older sexual minorities who experience minority stress are more likely to have a disability than those who do not experience minority stress.

I identified several mediators that could may influence the relationship between minority stress and disability status. Based on the disablement process model, the intra-individual factors identified were activities to promote wellness, social support, substance misuse, and the extra-individual factor identified was access to health care. Access to health care includes having a regular primary care physician, having health insurance, healthcare costs, medication costs, routine checkups, and emergency room use. Activities that promote wellness include moderate and vigorous physical activities, wellness activities (meditating, reading, drawing), and religious/spiritual activities. Social support includes tangible, affectionate, positive, and emotional social support, a positive sense of community, and social network size. Substance misuse includes smoking, binge drinking, heavy drinking, illicit substance misuse, and prescription drug misuse. These mediators were used to test in the relationship between minority stress and limitations with IADLs and ADLs. I identified the intra- and extra-individual factors that may mediate the relationship between minority stress and limitations with IADLs and ADLs. Next, I described each of the intra- and extra-individual factors.

Participating in physical activities may mediate chronic/acute, disabling conditions and social conditions. Physical activity reduces the incidences of disability and acts as a protective factor (Gerst, Michaels-Obregon, and Wong 2011). Physical activities mediate the relationship between functional limitations and disability (Phillips et al. 2018). Those that can exercise were

more active, therefore reducing their odds of experiencing disability. Thus, participating in physical activities can mitigate the relationship between minority stress and limitations with IADLs and ADLs.

H_2: Engaging in moderate activities mediates the relationship between minority stress and disability status.

H_3: Engaging in vigorous activities mediates the relationship between minority stress and disability status.

Wellness activities, such as reading, meditation, drawing, painting, crafts, photography, and other activities that promote wellness, can reduce the disablement process. Reading, meditation, drawing, painting, crafts, and photography are examples of psychosocial interventions that intervene in an outcome due to a condition (England et al. 2015). Recall that Ching-Ju Chiu and Wray (2011) and Pachakis (2014) concluded that psychosocial interventions buffer the effects between social conditions and health outcomes. Thus, wellness activities mitigate the impact of minority stress on limitations with IADLs and ADL.

H_4: Engaging in wellness activities mediates the relationship between minority stress and disability status.

Religious/spiritual activity participation influences both mental and physical health outcomes. Religion and spirituality help reduce the adverse effects of mental health issues and illnesses (Koenig 2012). Religious and spiritual activities increased the impact of coping with adversity, positive emotions, well-being and happiness, hope, optimism, meaning and purpose, self-esteem, sense of control, and positive character traits. Religious and spiritual activities reduce the effects of depression, suicide, anxiety, psychotic disorders such as schizophrenia, bipolar disorders, substance use, other social problems, deviance and crime, and marital

instability (Koenig 2012). Religious activities (formal leisure activity) mitigate the relationship between functional limitations and disability. Those participating in formal leisure activities reduce their chances of experiencing disability due to acute conditions (Janke, Payne, and Van Puymbroeck 2008). Thus, participating in religious/spiritual activities may mitigate the relationship between minority stress and limitations with IADLs and ADLs.

H_5: Engaging in religious or spiritual activities mediates the relationship between minority stress and disability status.

Social support relates to building and maintaining relationships in the social milieu and can derive from family, friends, neighbors, and social and health service personnel. Social support is crucial for the overall quality of life. Social support serves as a buffer against adverse experiences throughout the lifespan. Social support reduces psychological and physiological issues, such as a disability (Towey 2016). Social support buffers the effect of physiological distress and quality of life (Burnette, Duci, and Dhembo 2017). Thus, social support may mediate the relationship between minority stress and limitations with IADLs and ADLs. See section 3.2.3.4 Social Support for more information about social support.

H_6: Having social support mediates the relationship between minority stress and disability status.

Substance misuse is a maladaptive coping behavior that has adverse health effects and may lead to disability. Substance misuse includes both heavy and binge drinking, smoking tobacco, and using illicit and prescription drugs. I would be remiss if I did not acknowledge that substance misuse is a mental health disorder. However, this dissertation used substance misuse as an intra-individual factor that could potentially mediate the relationship between minority stress and limitations with IADLs and ADLs. Those with mental illness and substance use

disorders have a higher risk of an adverse physical health condition (Lin et al. 2011). Substance misuse disorders lead to more hospitalizations for people with chronic disease (Wu et al. 2018). Chronic and acute conditions were associated with using drugs, and those who were using drugs ended up in the hospital compared to those who do not use drugs (Wu et al. 2018). Thus, substance misuse may mediate the relationship between minority stress and limitations with IADLs and ADLs.

H_7: Substance misuse mediates the relationship between minority stress and disability status.

Access to health care is crucial for the management of chronic and acute conditions. Access to quality health care "promotes and maintains health, prevents and manages disease and other chronic and acute conditions, reduces disability and premature death, and achieves health equity for Americans" (Healthy People 2014:1). Feng et al. (2020) found that access to oral health care for people living with HIV/AIDS increased dental services usage. Although researchers did not assess whether access to oral care mediated the relationship between HIV/AIDS to health outcomes, it is implied that access to oral care mitigates the link between HIV/AIDS and oral health outcomes (Feng et al. 2020). Enhancing access to physical therapy services helped increase functioning and overall wellness and health among chronic physical health conditions (Oosman et al. 2019). Thus, having access to health care may mediate the effects of minority stress and limitations with IADLs and ADLs.

H_8: Having access to health care mediates the relationship between minority stress and disability status.

Risk factors are sociodemographic characteristics. The risk factors were used as controls for each model. Sociodemographic characteristics include sexual orientation, race/ethnicity, age,

income, education, employment status, relationship status, living arrangements, and housing status. Sexual orientation determines the outcomes of health care.

Historically, sexual minorities experience discrimination, victimization, internalized stigma at all healthcare levels and other institutions (Fredriksen-Goldsen et al. 2013). Discrimination, victimization, internalized stigma, and outness level could negatively impact the quality of health care for sexual minorities (Gendron et al. 2013; Meyer 2003).

H_9: Lesbians, bisexuals, and people who identify as other sexual orientations have greater odds of experiencing disability due to minority stress than their gay counterparts.

Like sexual orientation, racial and ethnic minorities historically experience discrimination, victimization, and internalized stigma at all levels of the health care system — unfortunately, most sexual minority research centers on white, well-educated, middle-class gays and lesbians (Woody 2014). Research shows that racial and ethnic minorities such as Native Americans, African Americans, and Hispanics have poorer health than whites. As they age, racial and ethnic minorities are more likely to develop serious illnesses, chronic conditions, disability, and premature death than whites (Angel et al. 2003).

H_{10}: Non-whites have greater odds of experiencing disability due to minority stress compared to their white counterparts.

Age is a factor that impacts health. As one ages, it does not necessarily mean their health declines or become instantly frail in older adulthood. Healthy aging can help maintain the health of a person. To age healthy, one must stay active, stay connected to the community, eat healthy, locating resources in the community, understand mental health and brain health, learn about preventing diseases, and managing medications and treatments. Staying active means

participating in physical activities such as exercise, which maintains health. Staying connected to the community means socializing with other adults and participating in the community. Eating balanced and nutritious meals instead of fried or junk food contributes to keeping the body healthy. Adults can benefit from resources within communities such as senior centers that can reduce isolation and encourages socializing. Understanding mental health means learning about mental health issues among those who are aging into mature and older adulthood. In keeping the brain active, adults can reduce the chances of cognitive decline (Assistant Secretary for Public Affairs 2015). Learning about the potential chronic and acute conditions and other health issues will help prevent these diseases. Managing medications and treatment potentially helps keep conditions and illnesses from progressing (Assistant Secretary for Public Affairs 2015).

H_{11}: Older sexual minorities have greater odds of experiencing disability due to minority stress than those on the lower end of the age continuum.

Income is a risk factor that impacts health and is one measure of socioeconomic status. Research well established the link between socioeconomic status and health. Income widens health disparities between the upper and lower classes (Angel et al. 2003).

H_{12}: Lower-income groups have greater odds of experiencing disability to minority stress compared to their upper-class counterparts.

Education is a risk factor that affects health and one measure for socioeconomic status. The health gap between the most educated and least education widens with age, like income. Those who are most educated typically engage in health behaviors to extend their longevity. People with higher education levels exercise more, drink less, smoke less, engage in risky behavior less, and participate in other activities that increase their quality of life. Those who are more educated have access to occupations that allow them to take vacations, have access to gym

memberships, live in cleaner affluent neighborhoods, and are exposed to fewer hazards in general (Ferraro and Shippee 2009).

H_{13}: Those with lower educational attainment have greater odds of experiencing disability due to minority stress compared to those who have four or more years of college.

Employment status is another risk factor that impacts health and one measure for socioeconomic status. Employment status is a proxy for occupation. Occupations in the lower classes are less prestigious than those in the upper class. Since occupations vary by class status, health is also distributed unequally. Those in the lower rungs report worse health than those in the upper levels. The lower class has higher odds of disability and death than those in the upper class (Ravesteijn, van Kippersluis, and van Doorslaer 2013).

H_{14}: Those who are working have lower odds of experiencing disability due to minority stress compared to their nonworking counterparts.

Relationship status is another risk factor that impacts health. Partnered or cohabitating adults have overall better self-reported health than single people. For example, when couples cohabitate, it positively affects their health for the better (Kohn and Averett 2014).

H_{15}: Those who are partnered have lower odds of experiencing disability compared to those who are not partnered.

Living arrangements are another risk factor that impacts health. Those living with a spouse or partner were less likely to report a severe psychological disorder than people living with or without other people (Weissman and Russell 2018).

H_{16}: Those who live with their partners lower odds of experiencing disability due to minority stress compared to those living alone.

Housing status is another risk factor that impacts health. Stable, secure, adequate, and affordable housing may affect overall health status. Those living with HIV need stable, secure, adequate, and affordable housing to access consistent and appropriate care (Aidala et al. 2016).

H_{17}: Those renting a home or apartment and have other housing statuses have greater odds of experiencing disability due to minority stress than those who own their home or apartment.

Thus, sexual orientation, race/ethnicity, age, income, education, employment status, relationship status, living arrangements, and housing status are risk factors that may affect the relationship between minority stress, the mediator, and limitations with IADLs and ADLs.

2.3.1 Summary of Hypotheses

H_1: Middle-aged and older sexual minorities who experience minority stress are more likely to have a disability than those who do not experience minority stress.

H_2: Engaging in moderate activities mediates the relationship between minority stress and disability status.

H_3: Engaging in vigorous activities mediates the relationship between minority stress and disability status.

H_4: Engaging in wellness activities mediates the relationship between minority stress and disability status.

H_5: Engaging in religious or spiritual activities mediates the relationship between minority stress and disability status.

H_6: Having social support mediates the relationship between minority stress and disability status.

H_7: Substance misuse mediates the relationship between minority stress and disability status.

H_8: Having access to health care mediates the relationship between minority stress and disability status.

H_9: Lesbians, bisexuals, and people who identify as other sexual orientations have greater odds of experiencing disability due to minority stress than their gay counterparts.

H_{10}: Non-whites have greater odds of experiencing disability due to minority stress compared to their white counterparts.

H_{11}: Older sexual minorities have greater odds of experiencing disability due to minority stress than those on the lower end of the age continuum.

H_{12}: Lower-income groups have greater odds of experiencing disability due to minority stress than their upper-class counterparts.

H_{13}: Those with lower educational attainment have greater odds of experiencing disability due to minority stress compared to those who have four or more years of college.

H_{14}: Those who are working have lower odds of experiencing disability due to minority stress compared to their nonworking counterparts.

H_{15}: Those who are partnered have lower odds of experiencing disability compared to those who are not partnered.

H_{16}: Those who live with their partners lower odds of experiencing disability due to minority stress compared to those living alone.

H_{17}: Those renting a home or apartment and have other housing statuses have greater odds of experiencing disability due to minority stress than those who own their home or apartment.

3 METHODOLOGY

I drew on components of the disablement process model (Verbrugge and Jette 1994) to test the relationship between minority stress and disability status among sexual minority adults. In addition, I tested interventions and exacerbators that may mediate the relationship between minority stress and disability status. I described and discussed the Aging with Pride study (Fredriksen-Goldsen and Kim 2017) dataset, measures, and analysis plan in the subsequent sections.

3.1 Data

I used data from the Aging with Pride: National Health, Aging, and Sexuality/Gender 2010 Study (NAHS 2010), headed by the Principle Investigator, Dr. Karen Fredriksen-Goldsen (Fredriksen-Goldsen and Kim 2017). The purpose of this study was to collect data on the health, well-being, and aging process among sexual and gender minority adults 50 years old and older. To qualify, respondents were lesbian, gay, bisexual, or transgender self-identified adults 50 years old or older. The sampling frame was generated from undisclosed mailing lists from eleven agencies across the United States. Data were collected from June to November of 2010 via paper and online surveys. Paper surveys were mailed to 4,650 people, and an electronic letter was sent for the web-based version of the paper survey with 390 responses. The final sample size for both the paper and electronic surveys was 2,560 respondents, with a response rate of 51.1%, making it one of the largest sexual and gender minority datasets. This survey was partially funded by the National Institute on Aging (R01 AG026526) at the National Institutes of Health. The University of Washington Institutional Review Board reviewed and approved the Aging with Pride protocols (Fredriksen-Goldsen and Kim 2017).

The sample was limited to gay, lesbian, bisexual, and other sexual minority respondents. I removed all heterosexual and transgender participants —as the scope of the dissertation was related to sexual minority adults. The final study sample for this dissertation consisted of 1,513 respondents. Missing data (e.g., item non-response) were handled through listwise deletion.

3.2 Measures

3.2.1 Dependent Variable: Limitations with IADLs and ADLs

According to the disablement process (Verbrugge and Jette 1994), Instrumental Activities of Daily Living (IADLs) and Activities of Daily Living (ADLs) are a measure of disability. Disability is measured with two sets of indicators: the first addressed IADLs and the second addressed ADLs. For IADLs, respondents were asked, "*During the past week, have you needed any kind of help with… (Mark all that apply): using the telephone, grocery shopping, meal/food preparation, housekeeping (making the bed, vacuuming, dusting), doing laundry, traveling by car, bus, etc., taking medications in the correct dosages and or at the correct time, handling finances,* or *none of the above*," *0 for no limitations and 1 for limitations.* For ADLs, respondents were asked, "*During the past week, have you needed help: dressing, walking, toileting, eating meals, bathing excluding rinsing the back, moving in or out of bed or chair,* or *none of the above*" *0 for not limitations and 1 for one or more limitations* (Fredriksen-Goldsen and Kim 2017).

For this dissertation, I combined the binary indicators and dichotomized the results, 0 for no limitations with IADLs and ADLs and 1 for one or more limitations with IADLs and ADLs, mirroring other studies that use ADL and IADLs to measure disability status (Anderson 2018; Warner, Adams, and Anderson 2019). Because the dataset reflects community-dwelling adults, those who have severe limitations with IADLs and ADLs are more likely to be institutionalized

(Edemekong et al. 2020). This study predicts the outcome of having a disability and thus, a binary indicator was generated because only 18% of respondents in this study have a disability. The binary indicator 0 for no limitations with IADLs and ADLs and 1 for one or more limitations with IADLs and ADLs represented this dissertation's disability measure.

3.2.2 Independent Variables: Minority Stress

For this dissertation, I operationalized minority stress as victimization, discrimination, internalized stigma, and disclosure level. This operationalization of minority stress closely aligns with Meyer (2003).

3.2.2.1 Discrimination and Victimization

The Aging with Pride study used 16 items adapted from the 9-item MacArthur Foundation National Survey of Midlife Development in the United States (MIDUS) and a 7-item victimization survey for victimization and discrimination. The MIDUS study is housed at the University of Wisconsin-Madison, Institute on Aging (University of Wisconsin-Madison, Institute on Aging 1995). Respondents were asked to "*please indicate how many times in your life you have experienced each of the following because you are or were thought to be lesbian, gay, bisexual or transgender."* Respondents chose from the following 4-point Likert scale: (*0) never, (1) once, (2) twice, or (3) three or more times*. Responses of victimization or discrimination include, "*I was not hired for a job; I was not given a job promotion; I was fired; I was prevented from living in the neighborhood I wanted; I was denied or provided inferior health care; I was hassled by the police; I was verbally insulted (yelled at, criticized); I was threatened with physical violence; I had an object thrown at me; I was punched, beaten, or kicked; I was threatened with a knife, gun, or another weapon; I was attacked sexually; Someone threatened to tell someone else I am lesbian, gay, bisexual, or transgender; I was arrested or*

jailed; I was ignored by the police when I needed help; and *My property was destroyed*." The Aging with Pride study summed the scores into discrimination (ranging from 0-25, mean of 2.25) and victimization (ranging from 0-21, mean of 3.96), with higher scores indicating more experience of discrimination and victimization (Fredriksen-Goldson and Kim 2017).

3.2.2.2 Internalized Stigma

Internalized stigma was generated from a 5-item measure altered from the Internalized Homophobia Scale (Herek et al. 1998), using a 4-point Likert scale, (*1) Strongly Disagree, (2) Disagree, (3) Agree*, and *(4) for Strongly Agree*, that asked respondents, "*Please rate the extent to which you agree or disagree with each of the following statements"* related to their sexual orientation or gender identity. Statements include, "*I wish I weren't lesbian, gay, bisexual, or transgender*," "*I have tried not to be lesbian, gay, bisexual, or transgender*," "*If someone offered me the chance to be completely heterosexual or not transgender, I would accept it*," "*I feel that being lesbian, gay, bisexual, or transgender is a personal shortcoming for me*," and "*I would like to get professional help to not be lesbian, gay, bisexual, or transgender*." The Aging with Pride study generated a single score by calculating the summation of the five indicators mentioned above, ranging from 5-20, mean of 7.15, with higher scores indicating higher levels of internalized stigma (Fredriksen-Goldsen and Kim 2017).

3.2.2.3 Disclosure

The National Health, Aging, and Sexuality/Gender study (2017) measured "disclosure" from a modified 12-item outness inventory scale (Mohr and Fassinger 2000) using a 4-point Likert scale, (*1) Definitely do not know, (2) Probably do not know, (3) Probably know,* and *(4) Definitely know*, to measure whether specific individuals knew the respondents' sexual orientation. Respondents were asked, "*Do the following people know, or have known, that you*

were gay, lesbian, bisexual, or transgender?" The specific individual includes *mother, father, brothers (one or more), sisters (one or more), children (one or more), grandchildren (one or more), grandparent (one or more), best friend, current or most recent supervisor, neighbors (one or more), faith community,* and *primary physician*. The study calculated the average outness level using a summed mean score to examine overall outness. The scores ranged from 1 to 4 with a mean of 3.5, higher scores denoting higher disclosure (Fredriksen-Goldsen and Kim 2017).

Together, victimization, discrimination, internalized stigma, and disclosure construct minority stress. These measures were included in all models for this dissertation as separate scales mentioned above. These measures are relatively close to Meyer's (2003) operationalization of minority stress: internalized stigma and disclosure are perceived stigma and concealment (proximal minority stress), and discrimination and victimization are prejudicial events (distal minority stress) (Meyer 2003). Lewis et al. (2012) considered Meyer's (2003) meta-analysis the best model for conceptualizing and operationalizing minority stress among sexual minority people. See literature review section 2.1 Minority Stress for details about Meyer's (2003) conceptualization of minority stress.

3.2.3 Intra-Individual Factors

Intra-Individual factors are a critical component of the disablement process model because they measure personal interventions that may mediate the relationship between minority stress and limitations with IADLs and ADLs. The following measures were used to examine the effects of intra-individual factors, outlined in Verbrugge and Jette's seminal work on the disablement process model (Verbrugge and Jette 1994).

3.2.3.1 Physical Activity

The Aging with Pride Study measured physical activity at two levels, moderate and vigorous activities. For moderate activities, respondents were asked, "*In a usual week, do you do moderate activities for at least 10 minutes at a time such as brisk walking, bicycling, vacuuming, gardening, or another else that causes some increase in breathing or heart rate*?" Respondents chose from (*0) no* and *(1) yes*. For vigorous activities, respondents were asked, "*In a usual week, do you do vigorous activities for at least 10 minutes at a time such as running, aerobics, heavy yard work, or anything else that causes large increases in breathing or heart rate*?" Respondents chose from (*0) no* and *(1) yes* (Fredriksen-Goldsen and Kim 2017).

3.2.3.2 Wellness Activities

Wellness activities were measure in a single indicator, "*In a usual week, do you do any of the following activities: reading, meditation, drawing, painting, crafts, photography, or other activities that promote wellness?*" Respondents chose the following answers: (*0) no* and *(1) yes* (Fredriksen-Goldsen and Kim 2017).

3.2.3.3 Religious/Spiritual Activity

A single indicator measures religious and spiritual activities, "*During the past 30 days, how often did you attend spiritual or religious services/activities*?" with responses of how many days (from *0 to 30*) they attended spiritual or religious services/activities (Fredriksen-Goldsen et al. 2017). For this dissertation, I generated a binary variable with *(0) not participating in any religious/spiritual activities and (1) for participating in one or more religious/spiritual activities*. This allows for the analysis of testing whether participating in religious or spiritual activities mediates the relationship between minority stress and disability status instead of the number of religious or spiritual activities (Beck 2016).

3.2.3.4 Social Support

The Aging with Pride Study measured social support using an abbreviated 4-item Social Support Instrument (Unden and Orth-Gomer 1989). The Social Support Instrument measured the degree of perceived social support. Respondents were asked, "*Please indicate how often the following type of support is available to you if you need it: someone to help with daily chores if you are sick (tangible support), someone to turn to for suggestions about how to deal with a personal problem (emotional support), someone to do enjoyable things with (positive support),* and *someone to love and make you feel wanted (affectionate support)*?" Respondents chose the following Likert scale options: (*1) never, (2) seldom, (3) usually,* and *(4) for always* (Fredriksen-Goldsen and Kim 2017). A mean scale was generated from the indicators mentioned above into the Social Support Instrument (tangible, emotional, positive, and affectional social support) ranging from 1 to 4, with higher scores indicating a higher amount of support (Fredriksen-Goldsen and Kim 2017).

3.2.3.5 Community Belonging

The Aging with Pride Study measured community belonging with two questions from the Collective Self-Esteem Scale (Luhtanen and Crocker 1992). Respondents were asked if they (*1) strongly disagreed, (2) disagreed, (3) agreed,* or *(4) strongly agreed* with the following two statements, "*I'm glad to belong to the lesbian, gay, bisexual, and transgender community* and *I feel good about belonging to the lesbian, gay, bisexual, and transgender community*." The variables' mean score was used to assess how the respondents felt about their community. The mean of a positive sense of community ranges from 1 to 4 with a mean of 3.42, with higher scores signifying greater community belongingness (Fredriksen-Goldsen and Kim 2017).

3.2.3.6 Social Network Size

The Aging with Pride Study measured social network size by asking, "*How many different lesbian, gay, bisexual, transgender, or straight people (such as friends, family members, colleagues, neighbors, etc.) have you interacted within (including talked to, visited with, exchanged phone calls or emails with, etc.) in a typical month?"* (Fredriksen-Goldsen and Kim 2017). Respondents were asked to report the number of people in their social networks: *Age 50 and older- gay men, gay women/lesbians, bisexual men and women, transgender men and women, heterosexual or straight men and women, and Under the Age of 50- gay men, gay women/lesbians, bisexual men and women, transgender men and women, heterosexual or straight men and women* (Fredriksen-Goldsen and Kim 2017). The Aging with Pride study added the values of the categories above of people to generate the social network size, then categorized the social network variable into quartiles to represent the respondents' social network size, eliminating possible outlier effects (Fredriksen-Goldsen and Kim 2017). The cut-off scores to determine each quartile criterion are 0-15 for small social network size, 16-35 for medium social network size, 36-72 for large social network size, and 73-1210 for an extra-large social network size (Fredriksen-Goldsen and Kim 2017). For this dissertation, I generated a binary indicator for each quartile, *small social network size (0 no, 1 yes), medium social network size (0 no, 1 yes), large social network size (0 no, 1 yes), and extra-large social network size (0 no, 1 yes)* to compare the quartiles separately. The reference group is an extra-large social network size because the more extensive social network size translates to more social and economic resources (Fredriksen-Goldsen et al. 2013). Since social network size is associated with positive or negative health outcomes, it is essential to understand the effect of each category of social network size. Dichotomizing social network sizes allowed researchers to explore micro-level

effects of the social network sizes (Deindl, Brandt, and Hank 2016). Deindl and colleagues (2016) dichotomized their social network size variables as 0, 1 or 2, and 3 or more (the reference group was 3 or more) and were present in all models, except for the reference group.

3.2.3.7 Substance Misuse

The Aging with Pride Study measured substance misuse in several different ways: smoking, excessive drinking, drug misuse, and prescription drug misuse. First, the Aging with Pride study measured smoking as a current smoker, (*0) not a current smoker* and *(1) current smoker* (Fredriksen-Goldsen and Kim 2017). This measure was derived from the questions, "*Have you smoked at least 100 cigarettes in your lifetime (0) no, (1) yes, and (If Yes), do you now smoke cigarettes (1) every day, (2) some days, or (3) not at all?*" Then recoded to *(1) everyday smoker, (2) occasional smoker, (3) previous smoker,* and *(4) nonsmoker*. Since every day and occasional smokers are current smokers, a binary indicator was formed for current smokers, *(0) no, (1) yes* (Fredriksen-Goldsen and Kim 2017).

Second, the Aging with Pride Study measured excessive drinking by binge and heavy drinking with the following questions, "*During the past 30 days, did you have at least one drink of any alcoholic beverage? One drink is equivalent to a 12-ounce beer, a 5-ounce glass of wine, or a drink with one shot of liquor, (0) no and (1) yes. During the past 30 days, how many days did you have at least one drink of any alcoholic beverage (actual number)? During the past 30 days, on the days you drank, about how many drinks on average did you drink (actual number)? During the past 30 days, considering all types of alcoholic beverages, what is the largest number of drinks you had on one occasion (actual number)?*" The Aging with Pride Study measured binge drinking as five or more drinks per occasion for men and four or more drinks per occasion for women. Sixty or more drinks measure heavy drinking in a month for men and 30 or more

drinks per month for women. Responses for each were *(0) not a binge drinker* and *(1) binge drinker,* and *(0) not a heavy drinker* and *(1) heavy drinker* (Fredriksen-Goldsen and Kim 2017).

Finally, the Aging with Pride study used two drug misuse measures, illicit and prescription drug misuse. For illicit drug misuse, respondents were asked, "*Have you used drugs other than those required for medical reasons during the past 12 months*?" Responses were (*0) not using illicit drugs* and *(1) for using illicit drugs* (Fredriksen-Goldsen and Kim 2017). For prescription drug misuse, respondents were asked, "*Have you used prescription drugs other than the manner prescribed during the past 12 months*?" Respondents chose from the following answers *(1) more than prescribed, (2) less than prescribed, (3) both,* or (*4) no* (Fredriksen-Goldsen et al. 2017). A binary indicator was generated to measure prescription drug misuse, *(0) not using prescription drugs other than prescribed use* (this includes the category *less than prescribed* mentioned above) and *(1) for using prescription drugs other than prescribed use* (this includes the category *both* mentioned-above). Those who answered both collapsed in the yes response because they are technically still using prescriptions other than intended. Those that answered *less than prescribed* were collapsed in the no response because they do not use prescriptions other than intended.

3.2.4 Extra-Individual Factors

Extra-Individual factors are a critical component of the disablement process model because institutional-level interventions may mediate the relationship between minority stress limitations with IADLs and ADLs. The following measures are all used to examine the effects of extra-individual factors outlined in Verbrugge and Jette's seminal work on the disablement process model (Verbrugge and Jette 1994).

3.2.4.1 Access to Health Care

There are several different variables to measure access to health care. These measures include health insurance coverage, health providers, financial barriers, routine checkups, and emergency room visits.

Health insurance coverage is measured with eight dichotomized indicators. Respondents were asked, "*What type of healthcare coverage do you have (please mark all that apply)? Medicare, Medicaid, private insurance (health/medical), private insurance (long-term care), Veterans Administration, Indian Health Service, Uninsured,* or *other* (Fredriksen-Goldsen and Kim 2017). I transformed each response into binary indicators to compare each form of insurance: *Medicare (0 no, 1 yes), Medicaid (0 no, 1 yes), private insurance (health/medical) (0 no, 1 yes), private insurance (long-term care) (0 no, 1 yes), Veterans Administration (0 no, 1 yes), Indian Health Service (0 no, 1 yes), Uninsured (0 no, 1 yes),* or *other (0 no, 1 yes).* The reference group is private health insurance (health and medical) because most respondents have private health insurance.

The Aging with Pride study measured health providers, "*Do you have one person you think of as your personal doctor or healthcare provider*?" Respondents chose *(0) no, (1) only one,* and *(2) more than one* (Fredriksen-Goldsen et al. 2017). For this dissertation, I generated a binary indicator *(0) no personal doctor or healthcare provider* and *(1) one or more personal doctor(s) or healthcare provider(s)*. This allows for the analysis of testing whether a participant has at least one health care provider that may mediate the relationship between minority stress and limitations with IADLs and ADLs instead of the number of health care providers.

Financial barriers were measured by two indicators: the cost of healthcare and the cost of medications. Respondents were asked to "*Please mark the situations that occurred to you in the*

past 12 months. Please mark all that apply." The first statement measured the cost of healthcare, "*You needed to see a doctor but could not because of cost."* and the second statement measured the cost of medications*, "You needed to have mediation but could not because of cost*." Respondents chose to answer (*0) no* and *(1) yes* (Fredriksen-Goldsen and Kim 2017).

Routine checkups were measured in a single indicator, "*How about how long has it been since you last visited a doctor for a routine checkup*?" Respondents selected one of the following: *(1) within the past one year, (2) within the past two years, (3) within the past five years, (4) five or more years ago,* or *(5) for never* (Fredriksen-Goldsen and Kim 2017). I transformed routine care into five binary indicators to distinctly compare each of the categories of routine checkups: *A check-up five or more years (0 no, 1 yes), a check-up within the past five years (0 no, 1 yes), a check-up within the past two years (0 no, 1 yes), a check-up within the past year (0 no, 1 yes),* and *never having a check-up (0 no, 1 yes)*. The reference group for routine check-ups is a check-up within the past year, which is the mode of these response options. To run the logistic regression models with all measures, I had to covert routine checkups from an ordinal categorical measure to binary dummy variables. Otherwise, I could not run the logistic regression models with the other intra-individual and extra-individual factors. Converting the ordinal measure to dummy coded binary categories does not violate any of the assumptions of regression (Sweet and Grace-Martin 2010).

For emergency room visits from the Aging with Pride study, respondents were asked, *during the past 12 months, did you visit a hospital emergency room for your own health*." Respondents chose *(0) no and (1) yes* (Fredriksen-Goldsen and Kim 2017).

3.2.5 Risk Factors

Risk factors are a critical component of the disablement process model because they may affect the relationship between minority stress and limitations with IADLs and ADLs. Sexual orientation, race and ethnicity, age, income, education, employment status, relationship status, living arrangements, and housing status were used to examine the effects of risk factors outlined in Verbrugge and Jette's seminal work on the disablement process model (Verbrugge and Jette 1994).

3.2.5.1 Sexual Orientation

The Aging with Pride study measured sexual orientation by asking respondents, "*Do you consider yourself to be: (1) gay/lesbian, (2) bisexual, (3) heterosexual or straight,* or *(4) other* (Fredriksen-Goldsen and Kim 2017). As this study examines sexual minorities, all heterosexual and transgender respondents were dropped from the data file. Sexual orientation was transformed into four binary indicators: *gay (0 no, 1 yes), lesbian (0 no, 1 yes), bisexual (0 no, 1 yes),* and *other sexual orientation (0 no, 1 yes)*. The reference group for this variable is gay because a majority of the respondents identified as gay.

3.2.5.2 Race and Ethnicity

First, ethnicity was measured as, "*Are you Hispanic or Latino (0 no, 1 yes)?* Second, respondents were asked about their *"race and ethnicity"* with responses (*1) White, non-Hispanic, (2) Black, non-Hispanic, (3) non-Hispanic Asian, (4) non-Hispanic Native Hawaiian or Pacific Islander, (5) non-Hispanic Native American or Alaskan Native, (6) non-Hispanic other, (7) non-Hispanic multiracial,* and *(8) Hispanic*. Only 13% of the sample identified as a racial or ethnic minority (Fredriksen-Goldsen and Kim 2017). For this dissertation, I generated a binary indicator

for race and ethnicity *(0) non-white, (1) white, non-Hispanic*. The reference group is white as a majority of respondents identified as white.

3.2.5.3 Age

Age was measure in a single indicator: age in *actual years*, ranging from *50 to 80 years old*. Respondents 80 years and older were collapsed into a single category to protect confidentiality (Fredriksen-Goldsen and Kim 2017).

3.2.5.4 Income

Income is measure by a single indicator with six possible responses, "*In general, people with larger incomes could easily get medical care. Select a category that best describes YOUR HOUSEHOLD income before taxes for all of 2009. Please include everyone in your household who contributed to your household income*." Response categories include: *(1) less than $20,000, (2) $20,000 to $24,999, (3) $25,000 to $34,999, (4) $35,000 to $49,999, (5) $50,000 to $74,999,* and *(6) $75,000 or more* (Fredriksen-Goldsen and Kim 2017). I generated binary indicators for each category of income chosen by the respondents to compare each income category separately: *less than $20,000 (0 no, 1 yes), $20,000 to $24,999 (0 no, 1 yes), $25,000 to $34,999 (0 no, 1 yes), $35,000 to $49,999 (0 no, 1 yes), $50,000 to $74,999 (0 no, 1 yes),* and *$75,000 or more (0 no, 1 yes)*. The reference group for income is making $75,000 or more as 1/3 of respondents made $75,000 or more. Since income is a factor related to health (i.e., lower socioeconomic status is associated with adverse health outcomes), I dichotomized each income category to investigate how each income category affects the relationship between minority stress and disability status (Hickson et al. 2012).

3.2.5.5 Education

Education was measured by a single indicator, "*What is your highest grade or year of school you completed?*" Respondents chose from the following categories: (*1) never attended school or only attended kindergarten, (2) grades 1-8, (3) grades 9-11, (4) grade 12 or GED, (5) college 1-3 years,* or *(6) college four or more years* (Fredriksen-Goldsen and Kim 2017). I generated six dichotomous indicators for education to compare each level of education: *never attended school or only attended kindergarten (0 no, 1 yes), grades 1-8 (0 no, 1 yes), grades 9-11 (0 no, 1 yes), grade 12 or GED (0 no, 1 yes), college 1-3 years (0 no, 1 yes), and college more than 4 years (0 no, 1 yes)*. The reference group for education is college four or more years because most respondents had four or more years of college. Since education is a factor related to health (i.e., lower educational attainment is associated with adverse health outcomes), I dichotomized each education category to investigate how each education category affects the relationship between minority stress and disability status (Hickson et al. 2012).

3.2.5.6 Employment Status

Employment status was measured by the asking respondents, "*Have you been employed full or part-time during the past 12 months*?" Respondents chose (*0) no* and *(1) yes* (Fredriksen-Goldsen and Kim 2017).

3.2.5.7 Relationship Status

Relationship status was measured by asking respondents, "*What is your relationship status?*" to choose from the following categories*: (0) other* and *(1) married or partnered* (Fredriksen-Goldsen and Kim 2017). For this dissertation, I recoded relationship status into a binary indicator *(0) single* and *(1) partnered.*

3.2.5.8 Living Arrangements

Living arrangements were measured with four binary indicators. Respondents were asked about their living arrangements, "*What is your living arrangement? Please check all that apply*", and chose from the following four dichotomous indicators: *living alone (0 no, 1 yes), with a partner/spouse (0 no, 1 yes), with other family members (0 no, 1 yes),* or *with non-family members (0 no, 1 yes)* (Fredriksen-Goldsen and Kim 2017).

3.2.5.9 Housing Status

Housing status was measured with a single indicator, "*What type of housing do you currently live?*" Respondents chose from the following categories: *(1) own a home or an apartment, (2) rent house/apartment/room, (3) senior housing, (4) assisted living, (5) nursing home, (6) homeless,* or *(7) other* (Fredriksen-Goldsen and Kim 2017). For this dissertation, I generated three dichotomized housing status indicators: *own (0 no, 1 yes), rent (0 no, 1 yes),* and *other housing (0 no, 1 yes)* (senior living, nursing home, homeless, or other). Senior living, assisted living, nursing home, homeless, and other housing status had lower responses; thus, collapsed them into the category "other." The reference group was owning or renting a home because stable, secure, adequate, and affordable housing are shown to affect overall health (Aidala et al. 2016).

3.3 Plan of Analysis

I used the Statistical Package for the Social Sciences version 27 for all analyses in this dissertation (IBM Corporation 2020).

3.3.1 Descriptive Statistics

To examine the dataset characteristics, I ran a frequency table and descriptive statistics of all study variables. Table 1 in the results chapter illustrated the descriptive statistics. Table 1

included the means, standard deviations, and ranges for each variable used in this dissertation. Standard deviations are not reported for dichotomous variables as standard deviations are only used with continuous variables (Leon-Guerrero and Frankfort-Nachmias 2015).

3.3.2 Logistic Regression

I used logistic regression to answer the research questions and for hypothesis testing. Logistic regression describes and tests hypotheses about the relationships between categorical outcome variable(s), limitations with IADLs and ADLs, and one or more categorical or continuous predictors, minority stress, intra- and extra individual factors, and risk factors. For this dissertation, my outcome variable, limitations with IADLs and ADLs, is binary; thus, logistic regression was appropriate to use (Leon-Guerrero and Frankfort-Nachmias 2015). The dependent variable took values of 0 and 1, with no limitations with IADLs and ADLs and one or more limitations with IADLs and ADLs, respectively.

The formula that best describes logistic regression (Moore, McCabe, and Craig 2016):

$$\ln\left(\frac{\mathrm{p}}{\mathrm{p}-1}\right) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 \ldots + \beta_k x_k + \varepsilon \quad (1)$$

where p is the outcome probability of the dependent variable, β_0 is the logistic regression intercept, $x_{1\text{-}k}$ represents the independent variables, ε represents the error term (Moore et al. 2016).

To calculate the odds ratio, that is, the possibility or impossibility of occurrences, such as the odds of possibly experiencing one or more limitations with IADLs and ADLs, is with the equation (Moore et al. 2016):

$$odds = \frac{p}{p-1} \quad (2)$$

where: p is the outcome probability of the dependent variable, in this case, limitations with IADLs and ADLs, and p-1 is the outcome probability of the dependent variable, limitations with

IADLs and ADLs, minus one to get the odds ratio (Moore et al. 2016). All model formulas are located in section 3.4 Models.

The results of the logistic regression analyses were presented with the odds ratio (OR). Because minority stress is predicting disability status, the OR illustrates the likelihood of experiencing a disability resulting from minority stress. The OR represents how the odds change with a one-unit increase in that variable holding all other variables constant. This dissertation tested whether minority stress increased or decreased the odds of experiencing limitations with IADLs and ADLs. The OR represents the likelihood of experiencing one or more limitations with IADLs and ADLs due to minority stress. In addition, mediators were introduced to test whether they increase or decrease the likelihood of experiencing one or more or not experiencing limitations with IADLs and ADLs (Leon-Guerrero and Frankfort-Nachmias 2015; Martin and Bridgmon 2012; Menard 2002; Pampel 2000). An OR 1 or more represents greater odds of having limitations with IADLs and ADLs, and an OR less than 1 represents lesser odds of experiencing limitations with IADLs and ADLs. For example, if there is one unit increase in minority stress, and if the OR is 2.56 for disability, those experiencing minority stress have a greater likelihood of experiencing a disability. If there is a one unit increase in minority stress, and if the OR is .56 disability, those experiencing minority stress have a less likely likelihood of experiencing a disability (Menard 2002).

Mediation analysis is “used to quantify and examine the direct and indirect pathways through which an antecedent variable X transmits its effect on the consequent variable Y through one or more intermediary or mediator variables” (Hayes 2017: 10). Where X is the independent variable that passes through M (a mediator) to change Y's outcome (Hayes 2017), for example, substance misuse may mediate the relationship between minority stress and disability status.

Maladaptive coping behavior for dealing with minority stress is excessively drinking; for instance, as one experiences higher levels of minority stress, one drinks more to feel better, but only temporarily (Brennan-Ing et al. 2014). Mediation allows for researchers to explore underlying factors between a given relationship (Hayes 2017). Theoretically, excessive drinking would mediate the relationship between minority stress and limitations with IADLs and ADLs by increasing the odds of experiencing limitations with IADLs and ADLs because excessive drinking is a maladaptive coping mechanism that temporarily makes one feel better (Brennan-Ing et al. 2014). The exact process is used for all mediators.

The Hosmer and Lemeshow Test was used to determine goodness-of-fit. The Hosmer and Lemeshow Test is specific to logistic regression. The Hosmer and Lemeshow Test determines goodness-of-fit for the model. To determine if the model meets goodness-of-fit criteria, the Hosmer and Lemeshow Test should not be statistically significant. If the Hosmer and Lemeshow Test is statistically significant, the model is rejected because a statistically significant test means the model does not fit goodness-of-fit criteria. Larger p-values mean the model meets goodness-of-fit criteria (Menard 2002).

To test for mediation, I assessed differences with the logit coefficient, denoted as β, and the 95% confidence intervals between the final model (minority stress, sociodemographic, and the mediators regressed on limitations with IADLs and ADLs) from the main model (minority stress and risk factors regressed on limitations with IADLs and ADLs). If the intervening variable affected the relationship between minority stress and limitations with IADLs and ADLs, the minority stress variables would not be significant in the final model. However, there is a chance that full mediation does not occur. Partial mediation accounts for some mediation between the relationship of minority stress and limitations with IADL and ADLs. To compare

the differences between the final model (minority stress, mediators, and sociodemographics regressed on limitations with IADLs and ADLs) and the main model (minority stress regressed on limitations with IADLs and ADLs), I used the (β) and 95% confidence intervals. The calculation to assess for mediation was:

$$\text{Lower Interval} = \beta - (1.96 * \text{se}) \quad (3)$$

$$\text{Upper Interval} = \beta + (1.96 * \text{se}) \quad (4)$$

where β represents the logit coefficient, 1.96 represents 95% confidence intervals, and the standard error. A partial mediation occurred if the final model's logit coefficient is outside of the 95% confidence intervals from the main model. If the minority stress variables are nonsignificant in the final model, full mediation occurred (Kleinbaum et al. 2014; Menard 2002).

Sensitivity analyses were completed. Sensitivity analyses have become standard practice in sociology, particularly social sciences in general, and extend to other fields such as business (Sheposh 2020). Sensitivity analyses test the individual effects of independent variables on dependent variables. One sensitivity analysis method is local sensitivity analysis, also known as the one-at-a-time sensitivity analysis (Sheposh 2020). This dissertation used one-at-a-time sensitivity analyses by testing minority stress (individually and combined) to disability status, minority stress (individually and combined) to each intra-individual factor and extra-individual factor, and each intra-individual factor and extra-individual factor to disability status. All risk factors were included in each of the sensitivity analyses.

3.4 Models

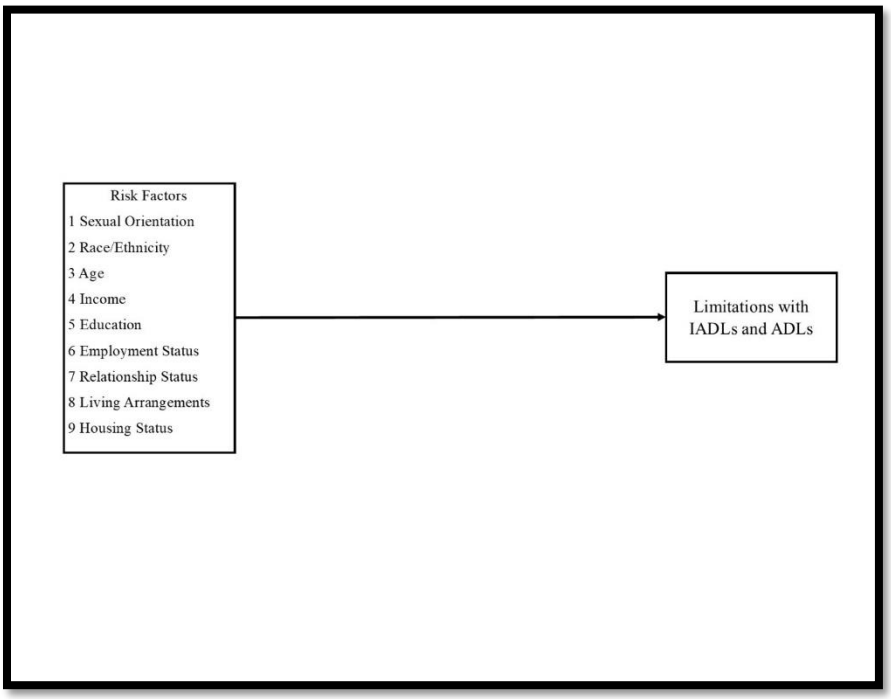

Figure 4. Model 1: Risk Factors to Disability

Model 1 regresses the risk factors (sociodemographic characteristics) to limitations with IADLs and ADLs. Because diverse groups may experience social conditions differently, it is predicted that lesbians, bisexuals, and other sexual orientations will have higher odds of experiencing limitation with IADLs and ADLs than gay men. Non-whites are predicted to experience higher odds of experiencing limitations with IADLs and ADLs compared to whites. Older sexual minorities are expected to have higher odds of experiencing limitations with IADLs and ADLs than younger ones. Incomes lower than $50,000 will likely have higher odds of experiencing limitations with IADLs and ADLs. Educational attainment less than 4 years of college will likely have higher odds of experiencing limitations with IADLs and ADLs than attending college for 4 or more years. Employment is expected to lower the odds of experiencing limitations with IADLs and ADLs compared to no employment. Partnered or married status likely will have lower odds of experiencing limitation with IADLs and ADLs than not partnered

or married statuses. Living alone, living with other family, and living with other non-family is predicted to have greater odds of experiencing limitations with IADLs and ADLs compared to living with a partner or spouse. Renting a home or apartment and other housing statuses is expected to have greater odds of experiencing limitations with IADLs and ADLs than owning a home or an apartment.

Model 1 equation:

$$\ln\left(\frac{p}{p-1}\right) = \beta_0 + \beta_{\text{sexual orientation}} + \beta_{\text{race}} + \beta_{\text{age}} + \beta_{\text{income}} + \beta_{\text{education}} + \beta_{\text{employment}} + \beta_{\text{partnered}} + \beta_{\text{living arrangement}} + \beta_{\text{housing status}} + \varepsilon \quad (5)$$

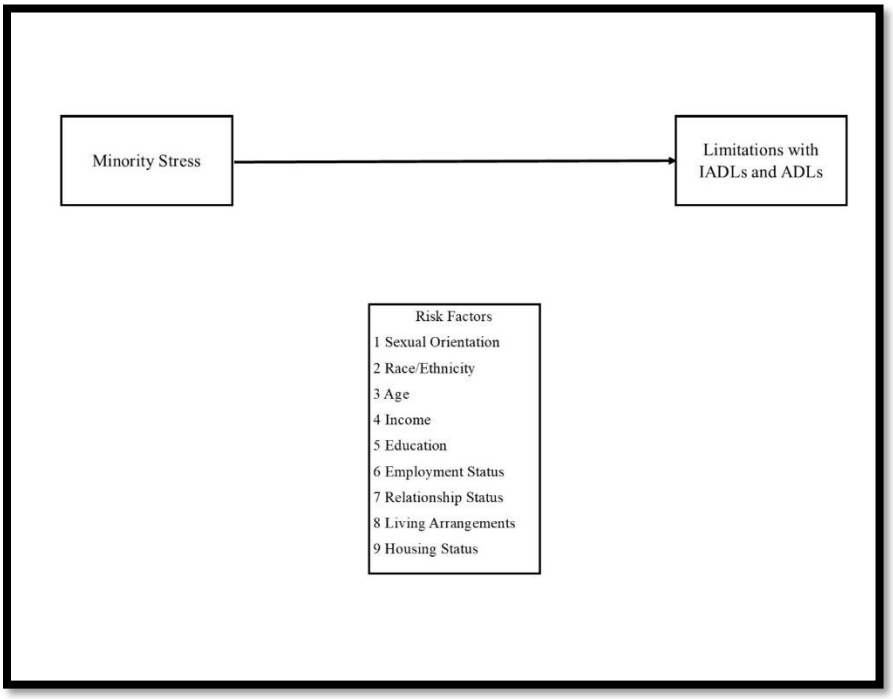

Figure 5. Model 2: Minority Stress to Disability, Controlling for Risk Factors

Model 2 builds on Model 1 by adding minority stress to the model. Minority stress is predicted to have greater odds of experiencing limitations with IADLs and ADLs while controlling for the risk factors. It is predicted that lesbians, bisexuals, and other sexual orientations will have higher odds of experiencing limitation with IADLs and ADLs than gay

men. Non-whites are expected to have higher odds of experiencing limitations with IADLs and ADLs compared to whites. Older sexual minorities are expected to have higher odds of experiencing limitations with IADLs and ADLs than younger ones. Incomes lower than $50,000 are expected to have higher odds of experiencing limitations with IADLs and ADLs. Educational attainment less than 4 years of college is expected to have higher odds of experiencing limitations with IADLs and ADLs than attending college for 4 or more years. Employment likely will have lower odds of experiencing limitations with IADLs and ADLs compared to no employment. Partnered or married status likely will have lower odds of experiencing limitation with IADLs and ADLs than not partnered or married statuses. Living alone, living with other family, and living with other non-family are expected to have higher odds of experiencing limitations with IADLs and ADLs compared to living with a partner or spouse. Renting a home or apartment and other housing statuses are expected to have higher odds of experiencing limitations with IADLs and ADLs than owning a home or an apartment.

Model 2 equation:

$$ln\left(\frac{p}{p-1}\right) = \beta_0 + \beta_{discrimination} + \beta_{victimization} + \beta_{internalized\ stigma} + \beta_{outness} + \beta_{sexual\ orientation} + \beta_{race} + \beta_{age} + \beta_{income} + \beta_{education} + \beta_{employment} + \beta_{partnered} + \beta_{living\ arrangement} + \beta_{housing\ status} + \varepsilon \quad (6)$$

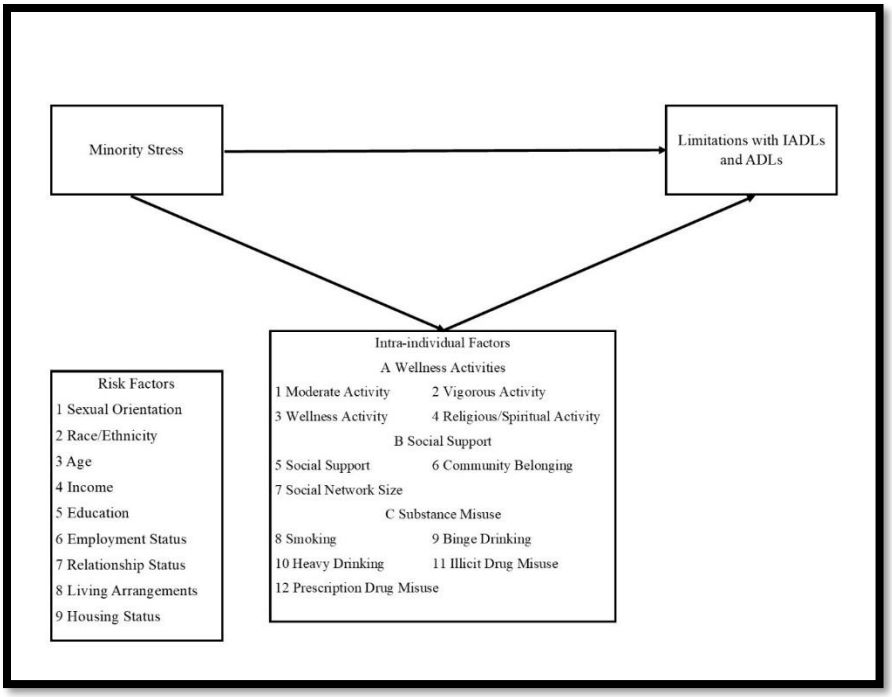

Figure 6. Model 3: Minority Stress and Intra-individual Factors to Disability, Controlling for Risk Factors

Model 3 regresses minority stress and intra-individual factors while controlling for risk factors on limitations with IADLs and ADLs. Participating in wellness activities (moderate, vigorous, wellness, and religious/spiritual activities), higher social support levels, greater community belonging, and larger social network sizes are expected to lower the odds of experiencing limitations with IADLs and ADLs due to minority stress. All risk factors will have the exact predictions as Model 1 and Model 2.

Model 3 equation:

$$ln\left(\frac{p}{p-1}\right) = \beta_0 + \beta_{discrimination} + \beta_{victimization} + \beta_{internalized\ stigma} + \beta_{outness} +$$

$$\beta_{sexual\ orientation} + \beta_{race} + \beta_{age} + \beta_{income} + \beta_{education} + \beta_{employment} + \beta_{partnered} +$$

$$\beta_{living\ arrangement} + \beta_{housing\ status} + \beta_{moderate\ activity} + \beta_{vigorous\ activity} +$$

$$\beta_{wellness\ activities} + \beta_{religious\ or\ spiritual\ activities} + \beta_{social\ support} + \beta_{community\ belonging} +$$

$$\beta_{social\ network\ size} + \beta_{smoking} + \beta_{binge\ drinking} + \beta_{heavy\ drinking} + \beta_{illicit\ drug\ use} + \beta_{prescription\ drug\ use} + \varepsilon \quad (7)$$

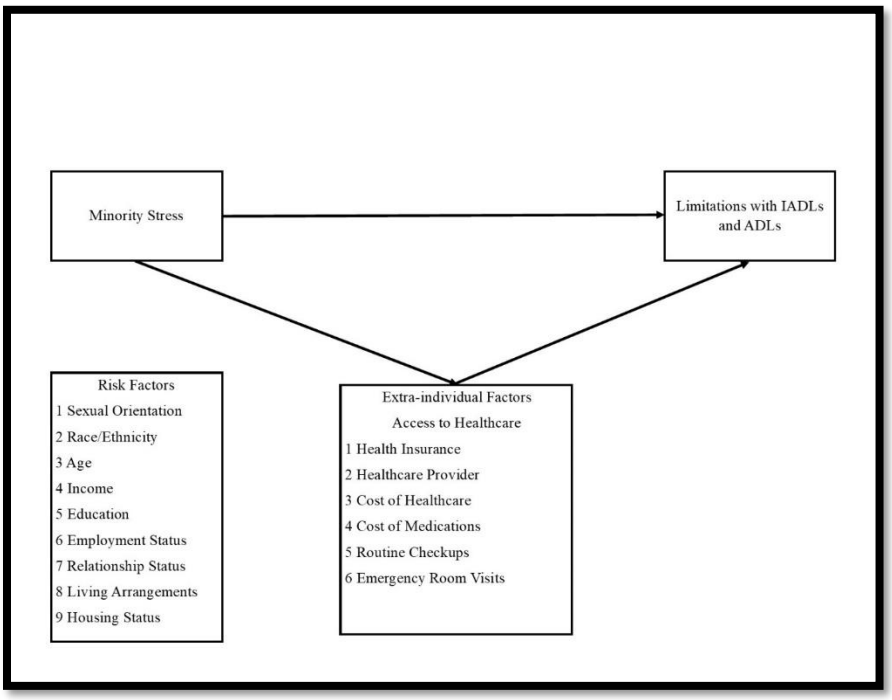

Figure 7. Model 4: Minority Stress and Extra-individual Factors to Disability, Controlling for Risk Factors

Model 4 regresses minority stress and extra-individual factors while controlling for risk factors on limitations with IADLs and ADLs. Having a regular health care provider and access to health insurance are expected to lower the odds of experiencing limitations with IADLs and ADLs due to minority stress compared to not having a regular health care provider and access to health insurance. Healthcare costs and the cost of medications are expected to have higher odds of experiencing limitations with IADLs and ADLs due to minority stress. Routine checkups over 1 year or never receiving a routine checkup are expected to have higher odds of experiencing limitations with IADLs and ADLs due to minority stress compared to routine checkups within 1 year. Using the emergency room for health care needs is expected to have higher odds of

experiencing limitations with IADLs and ADLs due to minority stress. All risk factors will have the exact predictions as Model 1 and Model 2.

Model 4 equation:

$$\ln\left(\frac{p}{p-1}\right) = \beta_0 + \beta_{\text{discrimination}} + \beta_{\text{victimization}} + \beta_{\text{internalized stigma}} + \beta_{\text{outness}} + \beta_{\text{sexual orientation}} + \beta_{\text{race}} + \beta_{\text{age}} + \beta_{\text{income}} + \beta_{\text{education}} + \beta_{\text{employment}} + \beta_{\text{partnered}} + \beta_{\text{living arrangement}} + \beta_{\text{housing status}} + \beta_{\text{healthcare provider}} + \beta_{\text{health insurance}} + \beta_{\text{cost of healthcare}} + \beta_{\text{cost of medications}} + \beta_{\text{routine checkups}} + \beta_{\text{emergency room visits}} + \varepsilon \quad (8)$$

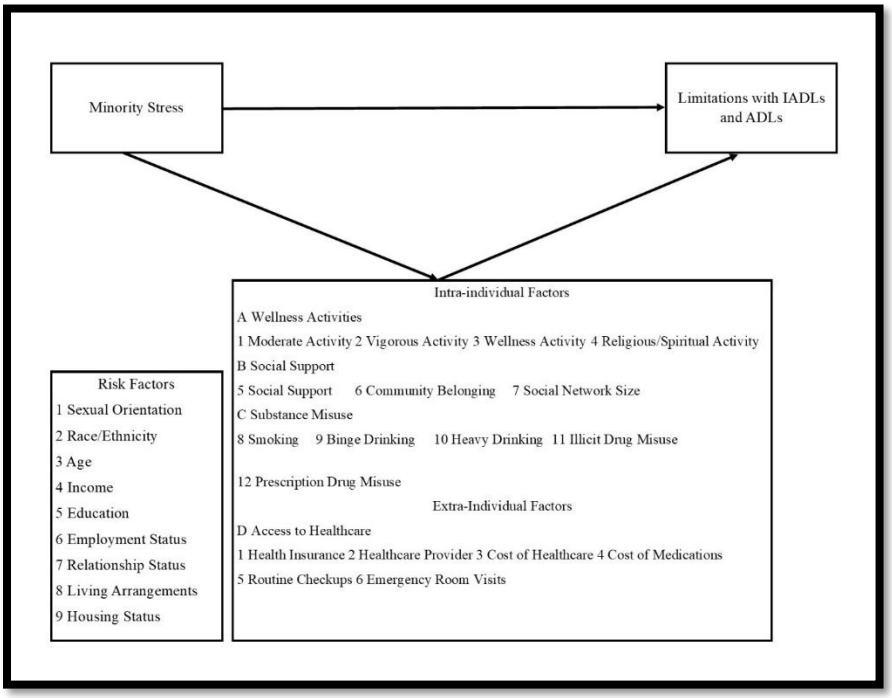

Figure 8. Model 5: Minority Stress, Intra-Individual Factors, Extra-Individual Factors to Disability, Controlling for Risk Factors

Model 5 regresses minority stress and intra- and extra-individual factors while controlling for risk factors on limitations with IADLs and ADLs. Model 5 has the exact predictions as Model 3 (intra-individual factors) and Model 4 (extra-individual factors). All risk factors will have the exact predictions as Model 1 and Model 2.

Model 5 formula:

$$\ln\left(\frac{p}{p-1}\right) = \beta_0 + \beta_{\text{discrimination}} + \beta_{\text{victimization}} + \beta_{\text{internalized stigma}} + \beta_{\text{outness}} + \beta_{\text{sexual orientation}} + \beta_{\text{race}} + \beta_{\text{age}} + \beta_{\text{income}} + \beta_{\text{education}} + \beta_{\text{employment}} + \beta_{\text{partnered}} + \beta_{\text{living arrangement}} + \beta_{\text{housing status}} + \beta_{\text{moderate activity}} + \beta_{\text{vigorous activity}} + \beta_{\text{wellness activities}} + \beta_{\text{religious or spiritual activities}} + \beta_{\text{social support}} + \beta_{\text{community belonging}} + \beta_{\text{social network size}} + \beta_{\text{smoking}} + \beta_{\text{binge drinking}} + \beta_{\text{heavy drinking}} + \beta_{\text{illicit drug use}} + \beta_{\text{prescription drug use}} + \beta_{\text{healthcare provider}} + \beta_{\text{health insurance}} + \beta_{\text{cost of healthcare}} + \beta_{\text{cost of medications}} + \beta_{\text{routine checkups}} + \beta_{\text{emergency room visits}} + \varepsilon \quad (9)$$

4 RESULTS

This dissertation examined the relationship between minority stress and disability status and interventions and exacerbators that may mediate the relationship between minority stress and disability status. This chapter is organized into two sections: descriptive statistics and logistic regression analyses

4.1 Descriptive Statistics

Table 1 illustrated the descriptive statistics of all study variables. The total number of respondents was 1,513.

4.1.1 Disability

A vast majority of the sample (82%) are not disabled, as they did not identify having limitations with IADLs and ADLs, while 18% experienced one or more limitations with IADLs and ADLs.

4.1.2 Minority Stress

Overall, the respondents scored low on the discrimination scale (M = 2.28, SD = 3.53), victimization scale (M = 4.12, SD 4.13), and internalized stigma scale (M = 7.08, SD 2.63) and high on the outness scale (M = 3.52, SD 0.60). These scale values mean that many respondents had disclosed their sexual identities to those close to them, and respondents experienced low levels of discrimination, victimization, and internalized stigma.

4.1.3 Intra-Individual Factors

For wellness activities, the majority of the respondents participated in moderate activities (84%), vigorous activities (51%), and wellness activities (93%). In comparison, only 36% of the respondents participated in one or more religious or spiritual activities. Overall, most respondents scored high on the social support (M = 3.11, SD 0.78) and had a positive sense of

community (M = 3.44, SD 0.73). Twenty-three percent of respondents had small social network sizes (0-15), while 26% of respondents had medium social network sizes (16-35), 26% had large social network sizes (36-72), and 25% had an extra-large social network size (73+). Most of the participants (56%) did not misuse substances: 9% of respondents were current smokers, 10% binge drink, 10% are heavy drinkers, 12% misuse illicit substances, and 3% misuse prescription drugs.

4.1.4 Extra-Individual Factors

Nearly all respondents (94%) had a regular healthcare provider. A vast majority had access to private health insurance (65%) and Medicare (55%). In comparison, a small minority of respondents had access to Medicaid (7%), Private Long-Term Care (17%), Veterans Administration (5%), uninsured (3%), and other forms of insurance (14%). Some of the respondents could not afford healthcare (6%), or their medications (6%). Most respondents (82%) received routine care within one year, while a minority of respondents have received checkups within 1-2 years (10%), 3-5 years (4%), 5 or more years (3%), and only 1% never got a routine checkup. One-fifth (20%) of respondents used the emergency room for healthcare needs.

4.1.5 Risk Factors

Most of the respondents were gay (61%), while 33% were lesbians, 5% were bisexual, and 1% were another sexual orientation. An overwhelming majority of respondents were white (89%), while non-whites accounted for 11%. The respondents' mean age was 66.05 with a standard deviation of 8.14, ranging from 50-80+ years. One-fifth (20%) made less than $20,000, 8% made $20,000 to $24,999, 12% made $25,000 to $34,999, 14% made $35,000 to $49,999, and 19% made $50,000 to $74,999, 32% made $75,000 or more. An overwhelming majority of respondents (76%) attended college for four or more years, while 1% only complete grades 9-11,

6% had a high school diploma or GED, and 17% attended college 1-3 years. Less than half (46%) of respondents were currently employed. Less than half (46%) of respondents were partnered. More than half (54%) of the sample live alone, while 38% live with their partners, 3% live with other family members, and 6% live with non-family members. A majority of respondents (61%) owned their home or apartment, while 31% rented a home or apartment and 8% had other housing statuses.

Table 1. Descriptive Statistics

	Mean	SD[a]	Min	Max
Disability				
Limitations With IADLs And ADLs	.18	-	0	1
Minority Stress				
Discrimination	2.28	3.53	0	25
Victimization	4.12	4.13	0	21
Internalized Stigma	7.08	2.63	5	20
Outness	3.52	.60	1	4
Intra-Individual Factors				
Wellness Activities				
Moderate Activity	.84	-	0	1
Vigorous Activity	.51	-	0	1
Wellness Activity	.93	-	0	1
Religious Activity	.36	-	0	1
Social Support				
Social Support	3.11	.78	1	4
Community Belonging	3.44	.73	1	4
Social Network Size (73+)				
0 - 15	.23	-	0	1
16 – 35	.26	-	0	1
36 – 72	.26	-	0	1
73+	.25	-	0	1
Substance Misuse				
Smoking	.09	-	0	1
Binge Drinking	.10	-	0	1
Heavy Drinking	.10	-	0	1
Illicit Drug Use	.12	-	0	1
Prescription Drug Use	.03	-	0	1
Extra-Individual Factors				
Healthcare Provider	.94	-	0	1
Health Insurance (Private)				
Private Health Insurance	.65	-	0	1
Medicare	.55	-	0	1

Medicaid	.07	-	0	1
Private Insurance- LTC	.17	-	0	1
Veterans Administration	.05	-	0	1
Uninsured	.03	-	0	1
Other	.14	-	0	1
Cost of Healthcare	.06	-	0	1
Cost of Medication	.06	-	0	1
Routine Checkups (Within 1 Year)				
Within 1 Year	.81	-	0	1
1-2 Years	.10	-	0	1
3-5 Years	.04	-	0	1
More Than 5 Years	.03	-	0	1
Never	.01	-	0	1
Emergency Room Use	.22	-	0	1
Risk Factors				
Sexual Orientation (Gay)				
Gay	.61	-	0	1
Lesbian	.33	-	0	1
Bisexual	.05	-	0	1
Other	.01	-	0	1
Race/Ethnicity (White)				
White	.89	-	0	1
Non-White	.11	-	0	1
Age	66.05	8.14	50	80
Income ($75,000+)				
Less Than $20,000	.15	-	0	1
$20,000 - $24,999	.08	-	0	1
$25,000 - $34,999	.12	-	0	1
$35,000 - $49,999	.14	-	0	1
$50,000 - $74,999	.19	-	0	1
$75,000 or more	.33	-	0	1
Education (College 4+)				
Less than HS	.07	-	0	1
HS Diploma/GED	.06	-	0	1
College 1-3 Years	.17	-	0	1
College 4 or More Years	.77	-	0	1
Employment Status (Working)	.46	-	0	1
Relationship Status (Partnered)	.46	-	0	1
Living Arrangement (With Partner)				
Living With A Partner	.38	-	0	1
Living Alone	.54	-	0	1
Living With Family	.03	-	0	1
Living With Non-Family	.06	-	0	1
Housing Status (Owns Home)				
Own Home or Apartment	.61	-	0	1
Rent	.31	-	0	1

Other	.08	-	0	1

Data = Aging With Pride: National Health, Aging, And Sexuality/Gender Study 2010
N= 1,513
[a] Standard deviations are only reported for continuous variables
Note: Reference Group Is Identified Within () For Each Of The Following Variables: Social Network Size 73+, Private Health Insurance, Routine Checkups Within 1 Year, Gay, White, $75,000 Or More, College 4 Or More Years, Working, Partnered, Living With Partner, Owning A Home

4.2 Logistic Regression Analyses

The results from logistic regression analyses predicting disability status by minority stress, intra-individual factors, extra-individual factors, and risk factors are presented below. Table 2 showed models 1-5, and Table 3 illustrated goodness-of-fit tests and mediation analyses. Model 1 regressed the risk factors on the dependent variable, disability status. Model 1 marginally met goodness-of-fit ($\chi^2 = 14.76$, $p = 0.06$). Lesbians have higher odds of experiencing a disability by 76% compared to gay men. Other sexual minorities were not statistically significant from gay men.

Respondents who earn less than $20,000 were 250% more likely to have a disability than people who earn $75.000 or more per year. Similarly, respondents who earn $20,000 to $24,999 were 105% more likely to have a disability than respondents who earned $75,000 or more per year, and respondents who earned $25,000 to $34,999 were 74% more likely to have a disability compared to those making $75,000 or more. Respondents who earn 35,000- $74,999 did not have significantly different odds of having a disability. Thus, people with low incomes report higher levels of disability compared to people with high incomes ($75,000 or more), while people who make $35,000 - $74,999 are not significantly different than people who have an income of $75,000 or more per year.

Respondents who worked had a 61% reduction in the odds of experiencing disability than those who were not working. Respondents who have other housing statuses have higher odds of

experiencing a disability by 136% than those who owned a home or an apartment. Respondents who rented were not statistically different from respondents who owned a home or an apartment. Model 1 accounted for 19% of the variance.

Table 2. Disability Status as Predicated by Minority Stress, Intra-Individual Factors, Extra-Individual Factors, and Risk Factors, Logistic Regression

	Model 1		Model 2		Model 3		Model 4		Model 5	
	OR	sig	OR	sig	OR	sig	OR	sig	OR	sig
Minority Stress										
Discrimination			1.10	***	1.11	***	1.10	***	1.10	***
Victimization			1.03		1.04		1.02		1.04	
Internalized Stigma			1.01		.99		1.02		1.00	
Outness			.99		1.05		1.00		1.04	
Intra-Individual Factors										
Wellness Activities										
Moderate Activity					.55	**			.53	***
Vigorous Activity					.36	***			.34	***
Wellness Activity					.81				.91	
Religious Activity					1.33				1.35	
Social Support										
Social Support					.96				.94	
Community Belonging					1.03				.98	
Social Network (73+)										
0 - 15					2.26	***			2.20	**
16 – 35					1.91	**			1.85	*
36 – 72					1.12				1.15	
Substance Misuse										
Smoking					1.33				1.16	
Binge Drinking					.97				1.03	
Heavy Drinking					.68				.65	
Illicit Drug Use					.60				.65	
Prescription Drug Use					2.24				2.16	
Extra-Individual factors										
Healthcare provider							.88		1.10	
Health Insurance (Private)										
Medicare							1.53	*	1.46	
Medicaid							2.06	*	2.00	*
Private- LTC[a]							.70		.70	
Veterans Administration							1.43		1.45	
Uninsured							.29	*	.24	*
Other							1.02		1.08	
Cost of Healthcare							1.09		1.04	
Cost of Medication							2.89	***	3.01	***
Checkups (Within 1 Year)										

1-2 Years							.92		.90	
3-5 Years							1.08		1.36	
More Than 5 Years							2.20	*	2.64	**
Never							.00		.00	
Emergency Room Use							2.11	***	2.09	***
Risk factors										
Sexual Orientation (Gay)										
Lesbian	1.76	***	2.13	***	2.09	***	2.13	***	2.13	***
Bisexual	1.20		1.36		1.40		1.24		1.28	
Other	.67		.68		.75		.65		.73	
Race/ethnicity (White)										
Non-White	1.04		1.01		1.11		.92		1.02	
Age	1.01		1.02	*	1.03	**	1.02		1.02	
Income ($75,000+)										
Less Than $20,000	3.50	***	2.88	***	2.37	**	1.58		1.35	
$20,000 - $24,999	2.05	**	1.85	*	1.50		1.30		1.08	
$25,000 - $34,999	1.74	*	1.52		1.20		1.10		.88	
$35,000 - $49,999	1.45		1.33		1.23		1.14		1.10	
$50,000 - $74,999	.77		.73		.59		.61		.49	*
Education (College 4+)										
Less than HS	2.72		2.63		2.00		3.84		3.61	
HS Diploma/GED	.85		.93		.81		.85		.74	
College 1-3 Years	1.07		1.05		.87		1.05		.90	
Working	.39	***	.39	***	.45	***	.48	***	.56	**
Partnered	1.04		1.06		1.21		1.24		1.33	
Household (With Partner)										
Living Alone	1.04		1.08		1.16		1.29		1.33	
Living With Family	1.71		1.87		1.55		2.33		1.95	
Living With Non-Family	1.39		1.48		1.79		1.75		1.94	
Housing Status (Owns)										
Rent	1.33		1.26		1.10		1.17		1.01	
Other	2.36	***	2.14	**	1.86	**	1.91	*	1.67	
Constant	.05***		.02***		.02**		.02***		.02**	
Nagelkerke r^2 (Δr^2)	.19		.22(0.03)		.31(0.09[a])		.28(0.06[b])		.36(0.05[c])	

Data = Aging with Pride: National Health, Aging, and Sexuality/Gender Study 2010
N= 1,513
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
[a] Δr^2 is based on Model 2 to Model 3
[b] Δr^2 is based on Model 2 to Model 4
[c] Δr^2 is based on Model 3 to Model 5
[a] Private-LTC = Private- Long-Term Care
Note: reference group is identified Within () for each of the following variables: Social Network Size 73+, Private Health Insurance, Routine Checkups Within 1 Year, Gay, White, $75,000 or more, College 4 or more Years, Working, Partnered, Living With Partner, Owning a Home
Note: Household = Living Arrangement

Model 2 introduced minority stress variables with risk factors regressed on the dependent variable, disability status. Model 2 met goodness-of-fit criteria ($\chi^2 = 10.72$, $p = 0.22$). Of the four minority stress variables, discrimination was significant. Respondents who experienced higher levels of discrimination were 10% more likely to have a disability than respondents with lower levels of discrimination. Victimization, internalized stigma, and outness were not statistically significant. Thus, people experiencing discrimination have higher odds of disability than people who do not experience discrimination. There were no differences in the sensitivity analysis. Discrimination remained significant when all four minority stressors were tested. See table 4, located in Appendix B.

Lesbians have higher odds of experiencing a disability by 113% compared to gay men. Other sexual minorities were not statistically different from gay men. Older sexual minority adults have higher odds of experiencing disability by 2% than younger sexual minority adults.

Respondents earning less than $20,000 were 188% more likely to have a disability than respondents who made $75,000 or more. Similarly, respondents earning $20,000 to $24,999 were 85% more likely to have a disability than respondents earning $75,000 or more. Respondents earning $25,000 to $74,999 did not have statistically significant odds of disability compared to respondents earning $75,000 or more. Thus, people reporting lower income levels are more likely to experience a disability than people earning higher incomes.

Respondents who have employment were less likely to have a disability by 61% than respondents who do not have employment. Respondents having other housing statuses were more likely to have a disability by 114% than respondents who owned a home or an apartment. Respondents who rented were not statistically different from respondents owning a home or an

apartment. Model 2 accounted for 22% of the variance in disability status, with an increase of 3% of variance explained in addition to Model 1. Thus, only a small percent of variance (3%) is accounted for by including minority stress indicators into the model with risk factors and disability status.

Table 3. Mediation Analysis and Model Fit

	Model 1		Model 2		Model 3		Model 4		Model 5	
	β	CI	β	CI	β	CI	β	CI	β	CI
Mediation Analysis										
Discrimination***			.10	.06-.14	.10	.06-.14	.09	.05-.13	.10	.04-.16
Victimization			.03	-.01-.07	.04	.00-.08	.02	-.02-.06	.04	.00-.08
Internalized Stigma			.01	-.05-.07	-.01	-.00-.04	.02	-.03-.07	-.00	-.00-.00
Outness			-.01	-.26-.24	.05	-.20-.30	-.01	-.26-.24	.03	-.24-.30
Goodness-of-Fit										
HL Test	14.76		10.72		8.81		5.34		14.26	
P-Value	.06		.22		.36		.72		.08	

Data = Aging with Pride: National Health, Aging, and Sexuality/Gender Study 2010
N= 1,513
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
Note: Discrimination was significant across all models
Note: HL Test = Hosmer and Lemeshow Test

Model 3 introduced intra-individual factors. Model 3 regressed minority stress, risk factors, and intra-individual factors on disability. Model 3 met goodness-of-fit criteria ($\chi^2 = 8.81$, $p = 0.36$). Discrimination was the only significant variable of the minority stress measures. Respondents who experienced higher levels of discrimination were 11% more likely to have a disability than respondents with lower levels of discrimination. Victimization, internalized stigma, and outness were not statistically significant. Thus, people experiencing discrimination have higher odds of disability than people who do not experience discrimination.

Both moderate and vigorous activities reduced the odds of experiencing disability. Respondents participating in moderate activities were 45% less likely to have a disability than respondents not participating in moderate activity. Respondents participating in vigorous activities were 64% less likely to have a disability than respondents not participating in vigorous activities. Respondents participating in wellness and religious or spiritual activities were not

statistically different from respondents participating in moderate and vigorous activities. Thus, respondents participating in physical activities reduces the likelihood of disability than participating in wellness or religious or spiritual activities.

Respondents who have smaller social network sizes were 126% more likely to have a disability than respondents with extra-large social network sizes. Similarly, respondents with medium social network sizes were 91% more likely to have a disability than respondents with extra-large social network sizes. Respondents with large social network sizes were not statistically different from respondents with extra-large social network sizes. Thus, people with smaller and medium social network sized are more likely to have a disability than people with larger social network sizes.

Lesbians were 109% more likely to have a disability than gay men, while other sexual minority respondents were not statistically different from gay men. Older sexual minority adults were 3% more likely to have a disability than younger sexual minority adults.

Respondents earning less than $20,000 were 133% more likely to have a disability than respondents earning $75,000 or more. Respondents earning $20,000 to $74,999 were not statistically different from respondents earning $75,000 or more. Thus, people earning less than $20,000 were more likely to have a disability than those earning more than $20,000. Respondents who have employment were 55% less likely to have a disability than respondents who do not have employment. Respondents having other housing statuses were 86% more likely to have a disability than respondents who owned a home or an apartment. Respondents who rented were not statistically different from respondents who owned a home or an apartment.

Model 3 accounted for 31% of the variance in disability status, with an increase of 9% of variance explained in addition to model 2. Thus, only a small percentage of variance (9%) is

accounted for by including intra-individual factors into the model with minority stress, risk factors, and disability status. No mediation occurred. Thus, the intra-individual factors identified have no mediating effects in the relationship between minority stress and disability status. There were no differences between the sensitivity analysis and the main model. See table 5, located in Appendix B.

Model 4 introduced extra-individual factors. Model 4 regressed minority stress, risk factors, and extra-individual factors on disability status. Model 4 met goodness-of-fit criteria ($\chi^2 = 5.34$, $p = 0.72$). Discrimination was the only significant variable out of the minority stress variables. Respondents who experienced higher levels of discrimination were 10% more likely to have a disability than respondents with lower levels of discrimination. Victimization, internalized stigma, and outness were not statistically significant. Thus, people experiencing discrimination have higher odds of disability than people who do not experience discrimination.

Respondents with Medicare were 53% more likely to have a disability compared to respondents with private insurance. Similarly, respondents with Medicaid were 106% more likely to have a disability than respondents with private health insurance. Uninsured respondents were 71% less likely to have a disability compared to respondents with private health insurance. Respondents with private long-term care insurance, Veterans Administration insurance, and other forms of insurance were not statistically different from respondents with private health insurance. Thus, people with Medicaid and Medicare are more likely to have a disability, while uninsured people are less likely to be diagnosed with a disability.

Cost of medication was the only statistically significant indicator for barriers to health care. Respondents experiencing cost of medication barriers were 189% more likely to have a

disability than respondents who could afford medications. The cost of health care was not a significant factor for accessing health care services.

Respondents who had a routine checkup more than five years ago were 120% more likely to have a disability than respondents who receive routine yearly checkups. Routine checkups between 1 to 2 years and 3 to 5 years were not statistically different from respondents who have routine yearly checkups. Thus, people who have routine checkups for more than 5 years are more likely to have a disability than people who have routine yearly checkups. Respondents who use the emergency room for healthcare were 111% more likely to have a disability than respondents who seek healthcare through nonemergency services, routine yearly checkups, for example.

Lesbians have higher odds of experiencing disability by 113%, compared to gay men. Other sexual minorities were not statistically different from gay men. Respondents who have other housing statuses were 91% more likely to have a disability than respondents who own a home or an apartment. Respondents who rent were not statistically different from respondents who own a home or an apartment.

Model 4 accounted for 28% of the variance in disability status, with an increase of 6% of the variance explained in addition to model 2. Thus, only a small percentage (6%) is accounted for by including extra-individual factors into the model with minority stress, risk factors, and disability status. No mediation occurred. Thus, the extra-individual factors identified have no mediating effects in the relationship between minority stress and disability status. There were no differences between the sensitivity analysis and the main model. See table 6, located in Appendix B.

Model 5 included both intra- and extra-individual factors. Model 5 regressed minority stress, sociodemographics, and intra- and extra-individual factors on limitations with IADLs and

ADLs. Model 5 met goodness-of-fit criteria ($\chi^2 = 14.26$, $p = 0.08$). Of the four minority stress measures, discrimination remained significant. Respondents experiencing higher levels of discrimination were 10% more likely to have a disability than those with lower levels of discrimination. Victimization, internalized stigma, and outness were not statistically significant. Thus, people experiencing discrimination have higher odds of disability than people who do not experience discrimination.

Both moderate and vigorous activities reduced the odds of experiencing disability. Respondents participating in moderate activities were 47% less likely to have a disability than respondents not participating in moderate activity. Respondents participating in vigorous activities were 66% less likely to have a disability than respondents not participating in vigorous activities. Respondents participating in wellness and religious or spiritual activities were not statistically different from respondents participating in moderate and vigorous activities. Thus, respondents participating in physical activities reduces the likelihood of disability than participating in wellness or religious activities.

Respondents who have smaller social network sizes were 120% more likely to have a disability than respondents with extra-large social network sizes. Similarly, respondents who have medium social network sizes were 85% more likely to have a disability than respondents with extra-large social network sizes. Respondents with large social network sizes were not statistically different from respondents with extra-large social network sizes. Thus, people with smaller and medium social network sized are more likely to have a disability than people with larger social network sizes.

Respondents with Medicaid were 100% more likely to have a disability than respondents with private health insurance. Conversely, uninsured respondents were 76% less likely to have a

disability than respondents with private health insurance. Respondents with Medicare, private long-term care insurance, Veterans Administration insurance, and other forms of insurance were not statistically different from respondents with private health insurance. Thus, people with Medicaid are more likely to have a disability, while uninsured people are less likely to be diagnosed with a disability.

Cost of medication was the only statistically significant indicator for barriers to health care. Respondents experiencing cost of medication barriers were 201% more likely to have a disability than respondents who could afford medications. The cost of health care was not a significant factor for accessing health care services.

Respondents who had a routine checkup more than five years ago were 164% more likely to have a disability than respondents who receive routine yearly checkups. Routine checkups between 1 to 2 years and 3 to 5 years were not statistically different from respondents who have routine yearly checkups. Thus, people who have routine checkups for more than 5 years are more likely to have a disability than people who have routine yearly checkups. Respondents who use the emergency room for healthcare were 109% more likely to have a disability than respondents who seek healthcare through nonemergency services, routine yearly checkups, for example.

Lesbians were 113% more likely to have a disability compared to gay me. Other sexual minorities were not statistically different from gay men. Respondents earning $50,000 to $74,999 were 51% less likely to have a disability relative to respondents earning $75,000 or more. Respondents earning less than $20,000 to $49,999 were not statistically different from respondents earning $75,000 or more. Thus, people with higher incomes are less likely to have a disability. Respondents who have employment were 44% less likely to have a disability than respondents who do not have employment.

Model 5 accounted for 36% of the variance in disability status, with an increase of 5% of the variable explained in model 3. Thus, only a small percentage (5%) is accounted for by including extra-individual factors into the model with minority stress, risk factors, intra-individual factors, and disability status. Mediation did not occur. Thus, the intra-individual factors and extra-individual factors identified have no mediating effect in the relationship between minority stress and disability status. There were no differences between the sensitivity analysis and the main models. See table 7 in Appendix B.

5 DISCUSSION

This dissertation was conducted to test the relationship between minority stress and disability status and test intra-individual and extra-individual factors that may mediate the relationship between minority stress and disability status. In the subsequent three sections, the results of this dissertation's analyses were discussed in relation to established empirical research. In the last section of this chapter, results were applied to possible implications. This dissertation yielded several key findings on the relationship between minority stress and disability status; most notably, discrimination is associated with higher odds of experiencing a disability, and mediation did not occur with intra-individual and extra-individual factors.

Discrimination is associated with significant effects with moderate and vigorous activities, social network sizes, Medicaid, uninsured, cost of medications, routine checkups, lesbians, and income. Respondents who participated in physical activities (moderate and rigorous activities) were less likely to experience a disability. Compared to extra-large social network sizes, both small and medium social network sizes were more likely to experience a disability. Respondents with Medicaid were more likely, while uninsured respondents were less likely to have a disability. Respondents who struggled to afford their medications, received routine checkups for 5 or more years, and used the emergency room for healthcare needs were more likely to have a disability. Respondents who identified as lesbian, compared to gay men, were more likely to experience a disability. Respondents earning $50,000 or more were less likely to have a disability relative to those making less than $50,000.

5.1 What is the relationship between minority stress and disability status?

One of the four minority stress variables did affect disability status among sexual minority adults. Discrimination is associated with higher odds of experiencing a disability among

sexual minority adults. Sexual minorities 50 years and older who experienced higher levels of discrimination were 1.1 times more likely to experience a disability than those who experience lower levels of discrimination. These results were consistent with Frost et al.'s (2015), Shilo and Mor's (2014), and Andrinopoulos et al.'s (2015) research on minority stress and physical health outcomes where discrimination was associated with adverse physical health outcomes. Frost et al. (2015) concluded that sexual minorities were three times more likely to experience physical health consequences from discrimination. Frost et al. (2015) discovered that none of the minority stress measures were associated with experiencing physical health issues in a multivariate analysis. Shilo and Mor (2014) found that minority stressors were associated with poorer physical health. Andrinopoulos et al. (2015) found discrimination associated with minority stress reduced the likelihood for healthy practices such as HIV testing. Victimization, internalized stigma, and outness were not associated with disability status.

Several limitations were associated with the Aging with Pride dataset—one of which was the means of the minority stress measures. An overwhelming majority of respondents in the Aging with Pride study did not experience high levels of discrimination, victimization, and internalized stigma and were out to other people. The mean for discrimination was 2.28 (range 0-25), victimization was 4.12 (range 0-21), identity stigma was 7.08 (range 5-20), and outness was 3.52 (range 1-4). Respondents had lower scores on the discrimination scale, victimization scale, and internalized stigma scale; therefore, they experienced lower levels of discrimination, victimization, and internalized stigma. Respondents had higher outness scores; therefore, they were out to their communities. The average respondent did not experience most of the adverse effects of minority stress, consistent with other scholarship on minority stress (Fredriksen-Goldsen et al. 2013; Fredriksen-Goldsen et al. 2013, 2017).

Meyer (2003) states, “research has suggested that LGB youth are even more likely than adults to be victimized by antigay prejudice events [discrimination and victimization]” (p. 9), which is reflected in the results of this dissertation. Even though sexual minority youth were more likely to experience the consequences of minority stress (Meyer 2003), some sexual minority midlife and older adults do experience minority stress (D’Augelli et al. 2001; Detwiler 2015; Fredriksen-Goldsen et al. 2017; Fredriksen-Goldsen, Hyun-Jun Kim, et al. 2013). Discrimination, one of the measures for minority stress, significantly affects midlife and older sexual minority adults’ odds of experiencing disability.

The results contradict some of the minority stress literature (Andrinopoulos et al. 2015; Baams et al. 2015; Cramer et al. 2017; Detwiler and Caskie 2015; Flenar et al. 2017; Frost et al. 2015; Gevonden et al. 2014; Hoy-Ellis and Fredriksen-Goldsen 2016; Li et al. 2020; Mereish et al. 2017; Meyer 1995; Shilo and Mor 2014). Sexual minority adults who disclosed their sexual minority status did not experience higher levels of discrimination, victimization, and internalized stigma. Sexual minorities who conceal their sexual minority status often experience higher levels of internalized stigma. In comparison, sexual minorities who disclose their sexual minority status often experience higher levels of discrimination and victimization (Meyer 2003). Vale et al. (2019) found sexual minority older adults who were out experiences less internalized stigma, therefore, less discrimination and violence. Lawson-Ross (2013) found sexual minority older adults were out and accepted by their communities, and therefore, less likely to experience negative consequences related to sexual minority status.

5.2 What risk factors impact the relationship between minority stress and disability status among sexual minority adults 50 years and older?

Some risk factors did impact the relationship between minority stress and disability status. Lesbians, income, employment status, and housing status affected the relationship between minority stress and disability status. Sexual orientation can determine the outcomes of health care. Across all models, lesbians had greater odds of experiencing a disability due to minority stress compared to their gay counterparts. Lesbians experience multiple oppressions simultaneously due to their sexual orientation, gender identity, and intersectional combinations. Multiple oppressions can explain the minority stress experienced by lesbians compared to their gay counterparts (Brooks 1981). However, gender expression among lesbians matters. Those who follow traditional gender roles were less likely to experience distal minority stressors (discrimination and victimization). Those who do not follow traditional gender roles were more likely to experience proximal minority stressors (internalized stigma) (Lehavot and Simoni 2011). Lesbians and bisexual women are more likely to experience disability (Fredriksen-Goldsen et al. 2013).

Other sexual minority statuses did not affect disability status. Lewis et al. (2009) found that bisexuals were less likely to disclose their sexual minority status; therefore, less likely to experience minority stress. However, a vast majority of the dataset identified as gay (61%), while 32% identified as lesbian (94% of respondents) compared to bisexuals (5%) and other sexual orientations (1%). The dataset was not representative of the sexual minority community, the second limitation of this dissertation. Unfortunately, there are no official demographic numbers, as the United States Census does not collect sexual orientation and gender identity data (Choi and Meyer 2016).

Historically, some sexual minorities experience discrimination, victimization, and internalized stigma depending on if they disclose their sexual minority identity at all health care levels and other institutions in the United States (Fredriksen-Goldsen et al. 2013). Discrimination, victimization, and internalized stigma negatively impact the quality of health care for sexual minorities (Gendron et al. 2013; Meyer 2003). For instance, sexual minority adults are at a higher risk of disability, poorer mental health, smoking, and excessive drinking than their heterosexual counterparts (Fredriksen-Goldsen et al. 2013). Some differences between gay/bisexual men and lesbian/bisexual women exist. Lesbians and bisexual women have higher odds of disability and poor mental health compared to their straight counterparts. Lesbians and bisexual women have higher odds of obesity and a higher risk for cardiovascular disease. Lesbians and bisexual women were less likely to have health insurance and experience more financial barriers to health care than their heterosexual counterparts. Lesbians and bisexual women were more likely to smoke compared to their heterosexual counterparts. Lesbians and bisexual women were less likely to screen for breast cancer and more likely to be tested for HIV than their heterosexual peers (Fredriksen-Goldsen et al. 2013).

Gay and bisexual men were more likely to have poorer physical and mental health and higher odds of disability than their heterosexual counterparts (Fredriksen-Goldsen et al. 2013). Gay and bisexual men have lower odds of obesity compared to heterosexual men. However, bisexual men were more likely than gay men to be diagnosed with diabetes. Gay and bisexual men were less likely to have insurance compared to straight men. Gay and bisexual men had higher odds of smoking and excessive drinking compared to heterosexual men. Gay and bisexual men were more likely than their heterosexual counterparts to receive the flu shot and test for HIV. However, bisexual men, compared to gay men, were less likely to be tested for HIV

(Fredriksen-Goldsen et al. 2013). A second limitation of this dissertation was an overwhelming majority identified as gay or lesbian.

Race and ethnicity affect the outcomes of health and health care (Kail et al. 2020). Across all models, race and ethnicity did not affect the relationship between minority stress and disability status. Racial and ethnic sexual minorities are rooted in collective identity, meaning their racial and ethnic identity are master statuses (Brooks 1981; Woody 2014). They are more likely to have the skills to mediate the effects of minority stress from racial/ethnic discrimination (Brooks 1981; Woody 2014). However, whites made up approximately 89% of the respondents. According to the US Census (2019), white non-Hispanics made up 60.4% of the total US population. A third limitation of this dataset was that the overwhelming majority of white gay and lesbian respondents.

Like sexual orientation, racial and ethnic minorities historically experience discrimination, victimization, and internalized stigma at all healthcare system levels — unfortunately, most sexual minority research centers on white, educated, middle-class gays and lesbians (Brooks 1981; Woody 2014). Racial and ethnic sexual minorities are often misrepresented or underrepresented in research, making it challenging to infer potential research implications (Woody 2014).

African American, Latino or Hispanic, and Asian cultures are rooted in collectivity rather than Western white cultures rooted in individuality (Kim, Jen, and Fredriksen-Goldsen 2017). Often, racial and ethnic sexual minorities identify their racial or ethnic group membership first and foremost, while all other group identities come second. The priority is to identify as their racial or ethnic identity rather than their sexual minority identity. Woody (2014) identified several themes that impact sexual minority African Americans. First, African American sexual

minorities felt a sense of alienation from their community as a whole. For example, a participant's mother expected him to conform to rigid gender roles such as playing baseball or fixing a car. Instead, he conformed to behaviors consisted of female gender roles such as love for theater, sowing, and cooking. His mother alienated him through homophobic behavior. Second, African Americans in the study deliberately concealed their sexual minority status. Only several participants were out. One reason for not disclosing their sexual minority status was fear of rejection. Third, among the African American participants, there were aversions to sexual minority labels. For instance, gay and lesbian labels are associated with whites. The sample participants preferred terms like women who have sex with women, men who have sex with men, or same-gender-loving (Woody 2014).

Fourth, the religiosity of African American communities is relatively high compared to whites. Historically, organized religion condemns homosexuality (Woody 2014). Higher religiosity rates are less likely to tolerate religious text violations, such as committing same-sex actions and behaviors (Janssen and Scheepers 2019). The study participants were frustrated at the interpretations of homosexuality in the Bible (Woody 2014). Lastly, African American participants felt isolated from the broader community. Some participants felt a fear of reprisal, job loss, dishonorably discharged from the armed forces, disparate treatment in various settings such as the criminal justice system or the health care system. Also, racial and ethnic sexual minorities experience rejection from white sexual minorities, thus further isolating racial and ethnic sexual minorities from the broader community (Woody 2014).

Regarding age, some of the issues of isolation are the same across all races and ethnicities, such as no transportation, mistreatment from youth or young adults, lack of events, lack of peer groups, to mention a few (Woody 2014). Research shows that racial and ethnic

minorities such as Native Americans, African Americans, and Hispanics have poorer health than whites. As they age, racial and ethnic minorities are more likely to develop serious illnesses, chronic/acute conditions, disability, and premature death (Angel et al. 2003).

Alternatively, racial and ethnic identities can buffer minority stress and other health outcomes (Brooks 1981). Because the first two things people notice about other people are race or ethnicity and gender, those who have multiple identities use resilience from one identity to combat the discrimination, victimization, and internalized stigma from another identity (Brooks 1981). For instance, black lesbians are the most resilient group in the United States. Black lesbians experience discrimination and prejudice from their womanness, blackness, and lesbianness. Black lesbians often experience racism. Black lesbians use the resilience from combatting racism to combat sexism, heterosexism, and ageism (Brooks 1981).

Age is a factor that affects health. Age was significant in Model 2 and Model 3. As sexual minorities age, they are more likely to experience a disability. However, as one ages, it does not necessarily mean their health declines or become instantly frail in older adulthood. Minority stress affects the healthy aging process with some sexual minority adults. Healthy aging can help maintain the health of a person. To age healthy, one must stay active, stay connected to the community, eat healthily, locate resources in the community, understand mental health and brain health, learn about preventing diseases, and managing medications and treatments (Assistant Secretary for Public Affairs 2015). Discrimination, however, is associated with disability among sexual minority adults. Thus, minority stress could dampen healthy aging among sexual minorities, resulting in a poorer quality of life.

Remaining as active as possible means participating in physical activities such as exercise, which maintains health (Assistant Secretary for Public Affairs 2015). Participating in

moderate or vigorous activities is associated with lower odds of disability. Staying connected to the community means socializing with other adults and participating in the community. Eating balanced and nutritious meals instead of fried or junk food will keep the body healthy. Adults can benefit from resources within communities such as senior centers that can reduce isolation and encourages socializing. Understanding mental health means learning about mental health issues among those who are aging into mature and older adulthood. In keeping the brain active, adults can reduce the chances of cognitive decline. Learning about the potential chronic conditions and other health issues, including social conditions such as minority stress, will help prevent the onset of diseases and disabilities. Managing medications and treatment potentially helps keep conditions and illnesses from progressing (Assistant Secretary for Public Affairs 2015).

Income is a risk factor that influences health and is one measure of socioeconomic status. Income was a factor across all models. Incomes less than $49,999 increase the odds of experiencing disability compared to those who made $75,000 or more; however, the odds of experiencing a disability decrease as incomes increase. These results confirm existing research regarding income and access to quality health care. Research has established the link between socioeconomic status and health—income widens health disparities between the upper and lower classes. Those in the upper-class strata usually maintain their good health as they have the resources to purchase the best health care. Unfortunately, those in the lower class strata do not have access to income for quality health care. Those in the upper class have lower levels of disability than those in the lower class (Angel et al. 2003). A fourth limitation of this dataset was that 32% of respondents made $75,000 or more, which increased their access to social and economic capital to counter the relationship between minority stress and disability status.

Education is a risk factor that influences health and one measure for socioeconomic status. Across all models, education did not affect the relationship between minority stress and limitations with IADLs and ADLs across all models. The health gap between the most and least educated widens with age, like income. Those who are most educated typically engage in health behaviors to extend their longevity. People with higher education levels exercise more, drink less, smoke less, engage in risky behavior less, and participate in other activities that increase their quality of life. Those who are more educated have access to occupations that allow them to take vacations, have access to gym memberships, live in cleaner affluent neighborhoods, and are exposed to fewer hazards in general (Ferraro and Shippee 2009). Those with more education typically have better health outcomes because they have access to resources than less educated people (Gates 2014). A fifth limitation to the Aging with Pride dataset was that most of the respondents (74%) attained four or more years of college, which meant that the respondents had educational capital to buffer the effects of minority stress on disability status.

Employment status is another risk factor that affects health and one measure for socioeconomic status. The results of this dissertation confirm existing research. Across all models, employment status reduced the odds of experiencing a disability significantly. Employment status is a proxy for occupation. Occupations in the lower classes are less prestigious than in the upper class. Since occupations vary by class status, health also is distributed unequally. Those in the lower-level positions report worse health than those in the upper-level positions. The lower class has higher odds of disability and death than those in the upper class (Ravesteijn et al. 2013).

Relationship status is another risk factor that influences health. Relationship status did not affect the relationship between minority stress and disability status across all models.

Partnered or cohabitating adults have overall better self-reported health than single people (Kohn and Averett 2014). A study by Kohn and Averett (2014) found that cohabitating among men and women over 45 positively affects health. Cohabitation had a similar impact on health as marriage. The support from these relationships fuels the connection between relationship status and overall health. Divorce and never-married people were no better or worse with overall health, except for men under 45. Relationships enhance health and health outcomes because of the support and investment between partners (Kohn and Averett 2014).

Living arrangements are another risk factor affecting health. Living arrangements did not affect the relationship between minority stress and disability status across all models. A study conducted by Weissman and Russell (2018) found that those living with a spouse or partner were less likely to report a severe psychological disorder than people living with or without other people. Those living alone reported greater life dissatisfaction, less support, less happiness, and more loneliness than those living with a spouse or partner or living with other family members. Gender difference exists between living arrangements and health outcomes. For instance, men living alone were less likely to report their health status that included chronic conditions compared to men living with a spouse or partner. Women who live alone were more likely to report a chronic condition and report having excellent or better health than women living with a spouse or partner (Weissman and Russell 2018).

Housing status is another risk factor that influences health. Across all models, other housing statuses affected the relationship between minority stress and limitations with IADLs and ADLs. Other housing statuses included senior living, nursing homes, homeless, and other housing statuses. Those who do not own or rent their home or apartment live in unstable housing, insecure, inadequate, and unaffordable housing have higher odds of developing a disability than

those who live in stable, secure, adequate, and affordable housing. Stable, secure, adequate, and affordable housing affects overall health status (Aidala et al. 2016). A study conducted by Aidala et al. (2016) found that those living with HIV need stable, secure, adequate, and affordable housing to access consistent and appropriate care. Those living with HIV who have access to permanent, safe, proper, and affordable housing had access to HIV care, adhere to HIV medications and treatments, sustained viral suppression, and reduced HIV risk behaviors such as unprotected sex. Those who do not have access to stable, secure, adequate, and affordable housing serve as a significant barrier to accessing HIV health care and services. They usually experience poor overall health and are less engaged in treatment (Aidala et al. 2016).

5.3 What extra- and intra-individual mediate the relationship between minority stress and disability status among sexual minority adults 50 years and older?

None of the intra- and extra-individual factors mediated the relationship between minority stress and disability. Across all models, intra- and extra-individual factors (participating in vigorous, moderate, wellness, and religious/spiritual activities, social support, community belonging, social network size, substance misuse, and access to healthcare) did not mediate the relationship between minority stress and disability status. The sexual minority respondents in the Aging with Pride study did not experience the harmful effects of minority stress. This particular dataset revealed the privileged status of a majority of sexual minority respondents.

Although discrimination is associated with higher odds of experiencing a disability, most respondents had social and economic capital that may have buffered the effects of minority stress yielding nonsignificant findings regarding mediation. As mentioned above, the mean for discrimination was low, meaning the respondents did not experience much discrimination. The respondents also had low means for victimization and internalized stigma scores. These

respondents did not experience victimization or internalized stigma. The mean for outness was high; an overwhelming majority of the respondents disclosed their sexual minority status. In addition, social support and community belonging measures showed more substantial social support (M = 3.11, range 1-4) and community belonging (M = 3.44, range 1-4) among sexual minorities in this dataset. SGMs who have greater social support and strong community belonging have better mental health outcomes. Therefore, sexual minorities with greater social support and strong community belonging do not experience the adverse effects of minority stress (McDonald 2018). The respondents were also affluent, well educated, employed, and owned a home or an apartment. Income, education, employment, homeownership, and lifestyle combined are socioeconomic status measures and had social capital—one of the strongest predictors of health in the United States is socioeconomic status. Moreover, social capital, such as social support and community belonging, is also a predictor of health (Cockerham 2013). These respondents had access to social and economic capital to negate the harmful effects of minority stress on disability status.

Alternatively, as Meyer wrote, many older sexual minorities do not experience minority stress at the same level as their younger counterparts (Meyer 2003). It could be possible that this dataset reflects his thoughts. The respondents in the Aging with Pride Study did not experience many of the adverse consequences of minority stress. As mentioned above, the study respondents scored lower on the discrimination, victimization, and internalized stigma scales, and most respondents disclosed their sexual minority identities. Thus, suggesting that minority stress is not as prevalent among older sexual minorities as expected. There are two reasons why middle-aged and older adult sexual minorities did not experience the adverse effects of minority stress: (1) period/cohort effects and (2) cumulative advantages.

Period/cohort effects were present among respondents. A period effect "is the impact of a historical event on an entire society, and a cohort effect "is the social change that occurs as one cohort replaces another cohort" (Quadagno 2018:27–28). The characteristics of the dataset reflect period/cohort effects because many of these respondents may have experienced the adverse effects of minority stress earlier in their life course and, as they age, build resilience to bounce back from minority stress they may experience in later life (Meyer 2003, 2015). In addition, there was a culture shift in the past few decades as SGMs have gained more public acceptance and have become more visible, making it easier for older SGMs to disclose their sexual and/or gender minority status (Meyer 2003, 2015; Pew Research Center 2017). As SGMs gain more public acceptance, and more of them are disclosing their SGM identities, which could possibly reduce minority stressors.

Cumulative advantage theory aligned with the characteristics of the dataset creating an age effect. Cumulative advantage theory posits that social and economic resources cumulate over time, thus having more social and economic capital as individuals age through their life course (Dannefer 2003). An age effect is a change in an individual because of their age. The change includes physiological, biological, and social developments independent of time, place, or event (Quadagno 2018:27). The accumulation of income and education over time puts respondents at an advantage. Coupled with higher levels of social support, community belonging (positive sense of community), and larger social network sizes make it safer for sexual minority adults to be their authentic selves, ultimately reducing or eliminating minority stress. Cumulative advantages over time as sexual minorities age buffer the adverse effects of minority stress.

Mediation did not occur because most of the respondents had access to economic and social capital. Most of the respondents participated in activities that promote wellness, always

had social support, and a positive community sense. More than half of the respondents had access to health care, meaning they had medical insurance, a primary care provider, had routine checkups in the past year, and hardly used the emergency room. More than 90% of respondents did not smoke, excessively drink, misuse illicit substances, or misuse prescription medications. These particular respondents practiced healthy aging habits to counter the effects of minority stress (Assistant Secretary for Public Affairs 2015). Therefore, the intra- and extra-individual factors identified, for better or worse, did not mediate the relationship between minority stress and disability status.

5.4 Implications

While only one minority stress factor, discrimination, was associated with disability status, the disablement process model does not support minority stress as a social condition. This suggests discrimination is a more prevalent factor than other minority stressors among sexual minority adults. The disablement process model does not support minority stress as a social condition. This suggests that social conditions may not be appropriate to use in place of a chronic or an acute condition within the disablement process model framework. Sociologists study behavior patterns and their impact in various social interactions, at the personal level, to social institutions, on the societal level (American Sociological Association 2008).

Similarly, psychologists also study human behavior in social contexts at the personal, institutional, and societal levels (American Psychological Association 2021). Since minority stress is a social condition studied by sociologists and psychologists (Cramer et al. 2017; LeBlanc, Frost, and Wight 2015), the framework used in this study may be used to test other theoretical frameworks that may better account for social conditions concerning disability status. Sociologists can use fundamental cause theory (Link and Phelan 1995; Phelan, Link, and

Tehranifar 2010) to study the effects of minority stress on physical health conditions. Fundamental cause theory posits that social class is a fundamental cause of chronic or acute conditions and their progression. Access to quality care is tied to income. Therefore, those who may not have economic capital may find it difficult to access needed healthcare, ultimately progressing a disability or disease (Link and Phelan 1995; Phelan et al. 2010). Since minority stress is a social condition similar to racism (Garcia et al. 2021), using the fundamental cause theory framework may help determine whether minority stress affects chronic conditions that could lead to debilitating conditions such as IADL and ADL limitations.

Likewise, sociologists and psychologists could use these results to study psychosocial factors for combatting the adverse effects of minority stress. While psychosocial interventions such as wellness activities (drawing, reading, meditating, for example) and religious or spiritual activities did not reduce the odds of experiencing a disability associated with minority stress, it is worth noting other psychosocial interventions such as Effective Skills to Empower Effective Men, ESTEEM (Pachankis 2014), may reduce the odds of experiencing a disability associated with minority stress. For example, (Pachankis 2014). Pachankis (2014) tested an intervention to reduce the effects of minority stress on mental health outcomes. To combat the impact of minority stress, Pachankis tested an evidence-based intervention with gay and bisexual men using cognitive-behavioral theory (CBT). Pachankis (2014) selected the Effective Skills to Empower Effective Men (ESTEEM). The study "yielded six principles and six techniques that merged the sexual minority affirmative approach of minority stress with the CBT-based principles and techniques" (p. 318). It is necessary to explain the ESTEEM intervention because it can reduce the effects of minority stress through adaptive coping strategies.

The first principle of the ESTEEM intervention is normalizing. Normalizing mental health consequences of minority stress is the first principle in the ESTEEM intervention. Therapists were to normalize depression and anxiety as the minority stress response. Rework negative cognitions stemming from early and ongoing minority stress experiences is the second principle. Often, gay and bisexual men are made to feel deficient, inferior, or impaired because of their minority status. This population internalizes these messages; therefore, impacting cognition or ways of thinking. ESTEEM worked to reduce or eliminate negative cognitions. Empower gay and bisexual men to communicate openly and assertively across contexts is the third principle. Minority stress reduces gay and bisexual men's ability to communicate (Pachankis 2014).

Often, gay and bisexual men's desires are invalidated. Thus, gay and bisexual men are socialized not to disclose their needs, wants, and desires. ESTEEM taught gay and bisexual men in the sample to communicate openly and assertively. Validating gay and bisexual men's unique strengths is the fourth ESTEEM principle. Therapists drew upon the unique strengths that gay and bisexual men in the sample. The advantages fostered the development of adaptive coping skills to combat minority stress. Affirm healthy, rewarding expressions of sexuality is the fifth principle. Because of antigay ideology, gay and bisexual men have negative perceptions of their bodies. Often, they are made to feel shameful, undesirable, and incapable of forming meaningful romantic relationships. ESTEEM taught gay and bisexual men to embrace their sexuality and express it in healthy ways as a vital part of overall health. Facilitate supportive relationships is the final principle. Minority stress often leads to exclusion and isolation across the life course. Unfortunately, the gay culture in the US values masculinity, financial success, youth, attractiveness, and is inaccessible and inhospitable to many in the community. Internalized

homophobia develops into poor relationships. Poor social support from community members often leads to poor mental health. ESTEEM taught gay and bisexual men how to create meaningful and supportive relationships with other gay and bisexual men (Pachankis 2014).

There are six techniques for implementing ESTEEM principles. These techniques include consciousness-raising, self-affirmation, emotion awareness and acceptance, restructuring minority stress cognition, decreasing avoidance, assertiveness training. Consciousness-raising includes bringing awareness to minority stress and its effects on health to the community. Self-affirmations combat the impact of minority stress on self-worth. This assists in cultivating resilience among the sample. Emotional awareness and acceptance force gay and bisexual men to become aware of their reactions to minority stress. This builds from validating gay and bisexual men's experiences with minority stress and empowers them to be openly honest and assertive. ESTEEM helped gay and bisexual men to understand their emotional responses to minority stress. It restructures maladaptive responses such as substance use to adaptive responses such as engaging in exercise, and becoming self-aware of the effects of minority stress helps decrease avoidance. For instance, ESTEEM helps reduce the following avoidance behaviors: avoiding romantic connection to other men, avoiding heterosexual men, or using substances to cope with minority stress. ESTEEM taught gay and bisexual men assertiveness. It is essential for gay and bisexual men to communicate in healthy ways (Pachankis 2014). Mediating extra-individual factors such as cognitive behavioral therapy alter the association between minority stress and mental health outcomes for gay and bisexual men (Pachankis 2014). The ESTEEM intervention is an example of interventions that could theoretically test the relationship between minority stress and disability status by empowering sexual minority adults.

Like sociologists and psychologists, psychiatrists and psychotherapists could potentially use these findings. Psychiatrists could use these results to expand on post-traumatic stress disorder (PTSD) or acute stress disorder by classifying minority stress as a form of PTSD or acute stress disorder. PTSD accounts for long-term exposure to trauma, while acute stress disorder accounts for short-term exposure to trauma (American Psychiatric Association 2013). PTSD is defined as "a psychiatric disorder that may occur in people who have experienced or witnessed a traumatic event such as a natural disaster, a serious accident, a terrorist act, war/combat, or rape or who have been threatened with death, sexual violence or serious injury" (American Psychiatric Association 2020:1). Conversely, acute stress disorder has a similar diagnosis, but symptoms last less than 30 days; anything past 30 days is diagnosed as PTSD (American Psychiatric Association 2013). Although this study could not determine chronic minority stress, it accounts for acute minority stress in the form of discrimination. The medicalization of minority stress may help those who experience minority stress receive appropriate care and attention (Conrad 2007). Medicalization is how social conditions become recognized as medical conditions for treatment purposes (Conrad 2007). For example, in the past, alcoholism was referred to as a morally corrupt behavior of an individual dating back to the Puritans, but then in 1966, medical professionals classified alcoholism as a medical condition so alcoholics could receive appropriate care (Stevens and Smith 2018). Classifying minority stress as a diagnosable form of PTSD or acute stress disorder may help sexual minority adults get the care and tools they need to combat minority stress acutely and chronically.

The results from this research could be used to inform practitioners and service providers of sexual minority adults' experiences with minority stress and disability. Discrimination was a predictor for disability for middle and older sexual minority adults. SGM adults have a greater

risk for developing a disability later in life (Fredriksen-Goldsen et al. 2017). Service practitioners could use these results to develop tailored diversity sensitivity training for practitioners working with sexual minority adults. Since discrimination is associated with disability, these diversity sensitivity training sessions should include how discrimination affects sexual minority adults and the consequences of discrimination. Research indicated that sensitivity training positively changes staff attitudes regarding SGM older adults leading to a better quality of life from receiving inclusive and affirming care (Porter and Krinsky 2014). Receiving quality care has positive effects on overall health and well-being (Asare et al. 2020). Asare et al. (2020) found that quality of care mediated the relationship between patient-provider relationship and African American cancer survivor's health outcomes (based on self-reports on quality of care and self-related health the Health Information National Trends Survey). Diversity sensitivity training provides practitioners with the tool to deliver quality care for sexual minority adults, positively affecting overall health and well-being for a better quality of life.

Healthcare and social service practitioners can use these findings to provide inclusive and affirming care and make policies for SGM middle and older adults. This research, paired with other scholar's work, has well established that having a disability is correlated with discrimination in many contexts of a person's life (Colker 2009; Daley, Phipps, and Branscombe 2018; Doyle 1995; Kruse et al. 2018; Pfeiffer 1994). Healthcare and social service practitioners should be aware of sexual and gender minorities' experiences related to disability as baby boomers are entering retirement and moving into healthcare facilities such as nursing homes and assisted living communities (Lanzieri 2011; Tolson and Morley 2011). In these long-term care settings, social service providers should consciously support and generate policies that monitor and improve social conditions for sexual and gender minorities, especially those who experience

disabilities, to reduce discrimination. Practitioners can now understand the role of minority stress related to the health outcomes of sexual minorities. Minority stress has implications on physical health outcomes, such as disability, contributing to a poorer quality of life among sexual minorities 50 years and older. Beyond healthcare and social service workers who are working directly with patients, researchers within the context of healthcare and social services examining disability should be keenly aware of discrimination across all groups, but especially sexual and gender minorities. These scholars can build upon this research to examine other interventions to reduce or eliminate the adverse effects of minority stress associated with experiencing a disability.

6 CONCLUSION

This dissertation sought to test the relationship between minority stress and disability status and the mediating effects of intra-individual and extra-individual factors. Of the four minority stress measures, sexual minority adults 50 years and older who experience discrimination are more likely than those who do not experience discrimination to experience a disability. This suggests that discrimination plays a more prominent role in sexual minority adults' lives than the other components of minority stress. An overwhelming majority of respondents did not experience the adverse effects of victimization or internalized stigma (Meyer 2003). Likewise, a vast majority of respondents were out to their communities. According to the minority stress process, sexual minorities who are out to their communities should experience more victimization and discrimination depending on their outness level (Meyer 1995, 2003). Only discrimination was significant, suggesting respondents did not experience violence for being out to their communities. In addition, there were period/cohort effects and cumulative advantages that may have buffered the adverse effects of minority stress.

The intra-individual and extra-individual factors did not mediate the relationship between minority stress and disability status. Mediation did not occur, but some intra-individual and extra-individual factors affected the relationship between minority stress and disability status. Respondents participating in physical activities and uninsured respondents were significantly less likely to experience a disability. Respondents who have small and medium social networks, respondents who receive Medicaid, respondents who could not afford the cost of medications, respondents who receive a routine check-up greater than 5 years, and respondents who use the emergency room for healthcare needs were significantly more likely to experience disability. Some risk factors were associated with disability. Respondents who identified as lesbian were

significantly more likely to have a disability than gay men, while other sexual minorities were not statistically different from gay men. Respondents who earned less than $20,000 were significantly more likely to have a disability relative to respondents earning $75,000 or more. Conversely, respondents earning between $50,000 and $74,999 were significantly less likely to have a disability than respondents earning less than $20,000.

6.1 Strengths and Limitations

This dissertation had several strengths. First, the Aging with Pride dataset was more robust than other datasets for this dissertation. This was one of the first federally funded datasets to capture sexual orientation and gender identity data (Fredriksen-Goldsen and Kim 2017). Second, this dissertation tested untested relationships. This dissertation is the first to test the relationship between minority stress and disability status using the disablement process model framework with sexual minority data. Lastly, this dissertation fills a gap in minority stress and disablement process model scholarship by testing the relationship between minority stress and disability status by reframing minority stress as a social condition, integrating the disablement process model, and testing mediating factors in the relationship between minority stress and disability status.

This dissertation had several limitations. Most importantly, the overwhelming majority of the study respondents did not experience high levels of minority stress than other studies on minority stress (Meyer 1995, 2003; Shilo and Mor 2014). The second limitation was that the respondents were not representative of the total sexual minority population. Gay and lesbians were an overwhelming majority of the respondents. Bisexuals accounted for five percent of the total sample. Compton and Bridges (2019) found that 3.3% of the population identifies as bisexual, compared to 1.7% that identifies as gay and lesbian. However, there is no exact number

of sexual minorities because sexual orientation and gender identity questions are not included on many national federally funding datasets (Choi and Meyer 2016).

Third, the racial and ethnic demographics were not representative of the total United States population. Whites represented 87% of the Aging with Pride dataset, while white, non-Hispanics represented 60.4% of the total United States population (US Census Bureau 2019). Fourth, 31% of the Aging with Pride dataset made $75,000 or more, a significant income that potentially buffered the effect of adverse health outcomes (Cockerham 2013). Fifth, an overwhelming majority of respondents had four or more years of college. Education is a measure of socioeconomic status, along with income, higher levels of education may buffer the effects of adverse health outcomes (Cockerham 2013). Finally, the disablement process model accounts for time changes (Verbrugge and Jette 1994). I used a cross-sectional dataset that captured the health and aging of sexual minorities at a single point in time. Therefore, I cannot assess these experiences and changes throughout time.

6.2 Future Directions

Despite the limitations, discrimination was associated with higher odds of experiencing a disability. Some intra-individual and extra-individual factors did affect the relationship between minority stress and disability status. However, none of the intra- and extra-individual factors mediated this relationship. These findings have implications both at the academic and practical levels. Academics can use these findings to test other possible interventions for mediating the effects of minority stress on physical health outcomes. Practitioners can use these results to deliver inclusive and affirming care for sexual minority adults to improve the quality of life for sexual minority adults and SGMs in general.

More research is required for understanding the nuances of minority stress and disability status, especially for SGM adults. I attempted to use minority stress as a social condition and test it in the disablement process model. The disablement process model does not support minority stress (as a social condition). One future direction is to test minority stress as an exacerbator between the main pathway of chronic conditions and disability and the interactions between chronic conditions and minority stress on disability status. Researchers should include datasets that capture sexual orientation and gender identity data so that there can be a complete understanding of the disablement process for SGM adults. Another future direction step is to test the entire disablement process model comparing SGMs to their heterosexual counterparts. Meyer (2003) wrote that sexual minority youth are more likely to experience minority stress than older sexual minorities; however, less is known about minority stress among middle and older SGM adults. One last future direction is to study minority stress as it relates to middle and older SGM adults. This may help establish an understanding of how the minority stress process works with middle and older SGM adults and comparing their experiences to SGM youth.

A great deal of social change has happened since the collection of these data. One significant change was the legalization of same-sex marriage (Fredriksen-Goldsen and Espinoza 2014). These data were collected before marriage equality. While some respondents were partnered (46%), most of them lived alone (54%). It would be interesting to find out if the relationship between minority stress and disability status has changed. President Obama was in office when marriage equality became law (Fredriksen-Goldsen and Espinoza 2014). In 2016, Trump became president and encouraged congressional lawmakers to pass unprecedented policies that could affect the relationship between minority stress and disability status among sexual minority adults. One such policy is the Opposition to Equality Act, supported by Trump.

In addition, Trump attempted to dismantle diversity sensitivity training (Acosta 2020). It would be interesting to see how the relationship between minority stress and disability status changed in the Trump era. A third significant change is the COVID-19 pandemic. COVID-19 impacts older adults because they are at a greater risk of hospitalizations and death (Centers for Disease Control and Prevention 2021). In addition, COVID-19 has socially isolated some SGM older adults from their social networks and communities, coupled with experiences of discrimination, make COVID-19 especially dangerous for older SGM adults (SAGE 2020). It would be interesting to learn how the relationship between minority stress and disability status changed during the COVID-19 pandemic.

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APPENDIX A: SPSS CODE

Descriptive Statistics; Table 1

```
*Descriptive Statistics Table.
DESCRIPTIVES VARIABLES=DISCR VICT IDSTIGMA OUTNESS LTMI_ADLS
MODACT VIGACT WELLACT RELACT socsup COLEST SMSNS MDSNS LGSNS XLSNS
MEDCAR MEDCAID PRIVHIN PRIVLTC VAINSUR UNINSUR OTHINSU HLTHPVDR
   BARDOC BARMED EMGRM CHECKUPS_1 CHECKUPS_2 CHECKUPS_3 HECKUPS_4
CHECKUPS_5 SMOKE BINGDRK HVYDRK DRUGUSE PRESCRIB GAY LESBIAN
BISEX OTHSEXO WHITE NONWHITE AGE INC_1 INC_2 INC_3 INC_4 INC_5 INC_6
EDU_2 EDU_3 EDU_4 EDU_5 WORKING RELATION LAALONG LAPARTN LAFAM
LANONFAM HOUSING_1 HOUSING_2 HOUSING_3
  /STATISTICS=MEAN STDDEV MIN MAX.
```

Main Models; Table 2

Model 1: Risk Factors to Disability

```
*Model 1: Risk Factors to Disability.
LOGISTIC REGRESSION VARIABLES LTMI_ADLS
  /METHOD=ENTER LESBIAN BISEX OTHSEXO NONWHITE AGE INC_1 INC_2 INC_3
INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING RELATION LAALONG LAFAM
LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
```

Model 2: Risk Factors and Minority Stress to Disability

```
* Model 2: Risk Factors and Minority Stress to Disability.
```

```
LOGISTIC REGRESSION VARIABLES LTMI_ADLS
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS LESBIAN BISEX OTHSEXO
NONWHITE AGE INC_1 INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING
RELATION LAALONG LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
```

Model 3: Risk Factors, Minority Stress, and Intra-Individual Factors to Disability

```
*Model 3: Risk Factors, Minority Stress, and Intra-Individual Factors to Disability.
LOGISTIC REGRESSION VARIABLES LTMI_ADLS
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS MODACT VIGACT WELLACT
RELACT socsup COLEST SMSNS MDSNS LGSNS SMOKE BINGDRK HVYDRK
DRUGUSE PRESCRIB LESBIAN BISEX OTHSEXO NONWHITE AGE INC_1 INC_2
INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING RELATION LAALONG LAFAM
LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
```

Model 4: Risk Factors, Minority Stress, and Extra-Individual Factors to Disability

```
*Model 4: Risk Factors, Minority Stress, and Extra-Individual Factors to Disability.
LOGISTIC REGRESSION VARIABLES LTMI_ADLS
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS MEDCAR MEDCAID PRIVLTC
VAINSUR UNINSUR OTHINSU HLTHPVDR BARDOC BARMED EMGRM CHECKUPS_2
CHECKUPS_3 CHECKUPS_4 CHECKUPS_5 LESBIAN BISEX OTHSEXO NONWHITE
```

AGE INC_1 INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING RELATION LAALONG LAFAM LANONFAM HOUSING_2 HOUSING_3

/PRINT=GOODFIT CI(95)

/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

Model 5: Risk Factors, Minority Stress, Intra-Individual Factors, Extra-Individual Factors to Disability

*Model 5: Risk Factors, Minority Stress, Intra-Individual Factors, Extra-Individual Factors to Disability.

LOGISTIC REGRESSION VARIABLES LTMI_ADLS

/METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS MODACT VIGACT WELLACT RELACT socsup COLEST SMSNS MDSNS LGSNS SMOKE BINGDRK HVYDRK DRUGUSE PRESCRIB MEDCAR MEDCAID PRIVLTC VAINSUR UNINSUR OTHINSU

HLTHPVDR BARDOC BARMED EMGRM CHECKUPS_2 CHECKUPS_3 CHECKUPS_4 CHECKUPS_5 LESBIAN BISEX OTHSEXO NONWHITE AGE INC_1 INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING RELATION LAALONG LAFAM LANONFAM HOUSING_2 HOUSING_3

/PRINT=GOODFIT CI(95)

/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

Sensitivity Analysis Models

Minority Stress (individually and combined) with Risk Factors to Disability Status; Table 4

* Minority Stress (individually and combined) with Risk Factors to Disability Status.

LOGISTIC REGRESSION VARIABLES LTMI_ADLS

```
  /METHOD=ENTER DISCR LESBIAN BISEX OTHSEXO NONWHITE AGE INC_1 INC_2
INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING RELATION LAALONG LAFAM
LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES LTMI_ADLS
  /METHOD=ENTER VICT LESBIAN BISEX OTHSEXO NONWHITE AGE INC_1 INC_2
INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING RELATION LAALONG LAFAM
LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES LTMI_ADLS
  /METHOD=ENTER IDSTIGMA LESBIAN BISEX OTHSEXO NONWHITE AGE INC_1
INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING RELATION LAALONG
LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES LTMI_ADLS
  /METHOD=ENTER OUTNESS LESBIAN BISEX OTHSEXO NONWHITE AGE INC_1
INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING RELATION LAALONG
LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
```

```
LOGISTIC REGRESSION VARIABLES LTMI_ADLS
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS LESBIAN BISEX OTHSEXO
NONWHITE AGE INC_1 INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING
RELATION LAALONG LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
```

Minority Stress (combined) with Risk Factors to Intra-Individual Factors; Table 5

```
* Minority Stress (combined) with Risk Factors to Intra-Individual Factors.
LOGISTIC REGRESSION VARIABLES MODACT
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS LESBIAN BISEX OTHSEXO
NONWHITE AGE INC_1 INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING
RELATION LAALONG LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES VIGACT
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS LESBIAN BISEX OTHSEXO
NONWHITE AGE INC_1 INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING
RELATION LAALONG LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES WELLACT
```

```
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS LESBIAN BISEX OTHSEXO
NONWHITE AGE INC_1 INC_2 INC_3 INC_4 INC_5EDU_2 EDU_3 EDU_4 WORKING
RELATION LAALONG LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES RELACT
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS LESBIAN BISEX OTHSEXO
NONWHITE AGE INC_1 INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING
RELATION LAALONG LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT socsup
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS LESBIAN BISEX OTHSEXO
NONWHITE AGE INC_1 INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING
RELATION LAALONG LAFAM LANONFAM HOUSING_2 HOUSING_3
REGRESSION
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA
```

```
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT COLEST
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS LESBIAN BISEX OTHSEXO
NONWHITE AGE INC_1 INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING
RELATION LAALONG LAFAM LANONFAM HOUSING_2 HOUSING_3.
NOMREG SocNet (BASE=0 ORDER=ASCENDING) WITH DISCR VICT IDSTIGMA
OUTNESS LESBIAN BISEX OTHSEXO NONWHITE AGE INC_1 INC_2 INC_3 INC_4
INC_5 EDU_2 EDU_3 EDU_4 WORKING RELATION LAALONG LAFAM LANONFAM
HOUSING_2  HOUSING_3
  /CRITERIA CIN(95) DELTA(0) MXITER(100) MXSTEP(5) CHKSEP(20) LCONVERGE(0)
PCONVERGE(0.000001)
    SINGULAR(0.00000001)
  /MODEL
  /STEPWISE=PIN(.05) POUT(0.1) MINEFFECT(0) RULE(SINGLE) ENTRYMETHOD(LR)
REMOVALMETHOD(LR)
  /INTERCEPT=INCLUDE
  /PRINT=CLASSTABLE FIT PARAMETER SUMMARY LRT CPS STEP MFI IC.
LOGISTIC REGRESSION VARIABLES SMOKE
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS LESBIAN BISEX OTHSEXO
NONWHITE AGE INC_1 INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING
RELATION LAALONG LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
```

```
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES BINGDRK
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS LESBIAN BISEX OTHSEXO
NONWHITE AGE INC_1 INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING
RELATION LAALONG LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES HVYDRK
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS LESBIAN BISEX OTHSEXO
NONWHITE AGE INC_1 INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING
RELATION LAALONG LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES DRUGUSE
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS LESBIAN BISEX OTHSEXO
NONWHITE AGE INC_1 INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING
RELATION LAALONG LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES PRESCRIB
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS LESBIAN BISEX OTHSEXO
NONWHITE AGE INC_1 INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING
RELATION LAALONG LAFAM LANONFAM HOUSING_2 HOUSING_3
```

```
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
```

Minority Stress (combined) with Risk Factors to Extra-Individual Factors; Table 6

```
*Minority Stress (combined) with Risk Factors to Extra-Individual Factors.
 LOGISTIC REGRESSION VARIABLES HLTHPVDR
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS LESBIAN BISEX OTHSEXO
NONWHITE AGE INC_1 INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING
RELATION LAALONG LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES MEDCAR
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS PRIVHIN MEDCAID PRIVLTC
VAINSUR UNINSUR OTHINSU LESBIAN BISEX OTHSEXO NONWHITE AGE INC_1
INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING RELATION LAALONG
LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES MEDCAID
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS PRIVHIN MEDCAR PRIVLTC
VAINSUR UNINSUR OTHINSU LESBIAN BISEX OTHSEXO NONWHITE AGE INC_1
INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING RELATION LAALONG
LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
```

```
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES PRIVLTC
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS PRIVHIN MEDCAID MEDCAR
VAINSUR UNINSUR OTHINSU LESBIAN BISEX OTHSEXO NONWHITE AGE INC_1
INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING RELATION LAALONG
LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES VAINSUR
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS PRIVHIN MEDCAR MEDCAID
PRIVLTC UNINSUR OTHINSU LESBIAN BISEX OTHSEXO NONWHITE AGE INC_1
INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING RELATION LAALONG
LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES UNINSUR
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS PRIVHIN MEDCAR MEDCAID
PRIVLTC VAINSUR  OTHINSU LESBIAN BISEX OTHSEXO NONWHITE AGE INC_1
INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING RELATION LAALONG
LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES OTHINSU
```

```
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS PRIVHIN MEDCAR MEDCAID
PRIVLTC VAINSUR UNINSUR  LESBIAN BISEX OTHSEXO NONWHITE AGE INC_1
INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING RELATION LAALONG
LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES BARDOC
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS LESBIAN BISEX OTHSEXO
NONWHITE AGE INC_1 INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING
RELATION LAALONG LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES BARMED
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS LESBIAN BISEX OTHSEXO
NONWHITE AGE INC_1 INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING
RELATION LAALONG LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
NOMREG RouCup (BASE=FIRST ORDER=ASCENDING) WITH DISCR VICT IDSTIGMA
OUTNESS LESBIAN BISEX OTHSEXO NONWHITE AGE INC_1 INC_2 INC_3 INC_4
INC_5 EDU_2 EDU_3 EDU_4 WORKING RELATION LAALONG LAFAM LANONFAM
HOUSING_2 HOUSING_3
```

```
  /CRITERIA CIN(95) DELTA(0) MXITER(100) MXSTEP(5) CHKSEP(20) LCONVERGE(0)
PCONVERGE(0.000001)
    SINGULAR(0.00000001)
  /MODEL
  /STEPWISE=PIN(.05) POUT(0.1) MINEFFECT(0) RULE(SINGLE) ENTRYMETHOD(LR)
REMOVALMETHOD(LR)
  /INTERCEPT=INCLUDE
  /PRINT=CLASSTABLE FIT PARAMETER SUMMARY LRT CPS STEP MFI IC.
LOGISTIC REGRESSION VARIABLES EMGRM
  /METHOD=ENTER DISCR VICT IDSTIGMA OUTNESS LESBIAN BISEX OTHSEXO
NONWHITE AGE INC_1 INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING
RELATION LAALONG LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
```

Intra-Individual Factors and Extra-Individual Factors with and without Risk Factors to Disability Status; Table 7

```
*Intra-Individual Factors and Extra-Individual Factors with and without Risk Factors to
Disability Status.
LOGISTIC REGRESSION VARIABLES LTMI_ADLS
  /METHOD=ENTER LESBIAN BISEX OTHSEXO NONWHITE AGE INC_1 INC_2 INC_3
INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING RELATION LAALONG LAFAM
LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
```

```
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES LTMI_ADLS
  /METHOD=ENTER MODACT VIGACT WELLACT RELACT socsup COLEST SMSNS
MDSNS LGSNS SMOKE BINGDRK HVYDRK DRUGUSE PRESCRIB
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES LTMI_ADLS
  /METHOD=ENTER MODACT VIGACT WELLACT RELACT socsup COLEST SMSNS
MDSNS LGSNS SMOKE BINGDRK HVYDRK DRUGUSE PRESCRIB LESBIAN BISEX
OTHSEXO NONWHITE AGE INC_1 INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4
WORKING RELATION LAALONG LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES LTMI_ADLS
  /METHOD=ENTER MEDCAR MEDCAID PRIVLTC VAINSUR UNINSUR OTHINSU
HLTHPVDR BARDOC BARMED EMGRM CHECKUPS_2 CHECKUPS_3 CHECKUPS_4
CHECKUPS_5
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES LTMI_ADLS
  /METHOD=ENTER LESBIAN BISEX OTHSEXO NONWHITE AGE INC_1 INC_2 INC_3
INC_4 INC_5 EDU_2 EDU_3 EDU_4 WORKING RELATION LAALONG LAFAM
LANONFAM HOUSING_2 HOUSING_3 MEDCAR MEDCAID PRIVLTC VAINSUR
```

```
UNINSUR OTHINSU HLTHPVDR BARDOC BARMED EMGRM CHECKUPS_2
CHECKUPS_3 CHECKUPS_4 CHECKUPS_5
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
LOGISTIC REGRESSION VARIABLES LTMI_ADLS
  /METHOD=ENTER MODACT VIGACT WELLACT RELACT socsup COLEST SMSNS
MDSNS LGSNS SMOKE BINGDRK HVYDRK DRUGUSE PRESCRIB MEDCAR
MEDCAID PRIVLTC VAINSUR UNINSUR OTHINSU HLTHPVDR BARDOC BARMED
EMGRM CHECKUPS_2 CHECKUPS_3 CHECKUPS_4 CHECKUPS_5 LESBIAN BISEX
OTHSEXO NONWHITE AGE INC_1 INC_2 INC_3 INC_4 INC_5 EDU_2 EDU_3 EDU_4
WORKING RELATION LAALONG LAFAM LANONFAM HOUSING_2 HOUSING_3
  /PRINT=GOODFIT CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
```

APPENDIX B: SENSITIVITY ANALYSES

Table 4. Minority Stress with Risk Factors to Disability, Logistic Regression

	Limitations with IADLs and ADLs		
	OR	sig	r^2
Minority Stress (Individually)			
Discrimination	1.12	***	.22
Victimization	1.08	***	.21
Internalized Stigma	1.01		.19
Outness	1.09		.19
Minority Stress (Combined)			
Discrimination	1.10	***	.22
Victimization	1.03		
Internalized Stigma	1.01		
Outness	.99		

Data = Aging with Pride: National Health, Aging, and Sexuality/Gender Study 2010
N= 1,513
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
Note: All models include risk factors (sociodemographic characteristics) but are not reported in the table.

Table 5. Minority Stress to Intra-Individual Factors

Dependent Variables		Independent Variables												
		Discrimination			Victimization			Internalized Stigma			Outness			C[d]
		OR	sig	r^2	OR	sig	r^2	OR	sig	r^2	OR	sig	r^2	r^2
Moderate Activity	I[c]	1.00		.05	1.01		.05	1.00		.05	1.70		.05	
	C	.99			1.01			1.00			1.18			.05
Vigorous Activity	I	1.01		.08	1.02		.08	.99		.08	.90		.08	
	C	.99			1.03			.98			.86			.09
Wellness Activity	I	.96		.08	1.00		.07	.96		.08	1.73	***	.09	
	C	.93	*		1.03			.98			1.78	***		.10
Religious Activity	I	1.02		.04	1.00		.04	1.01		.04	1.12		.04	
	C	1.02			.99			1.02			1.13			.04
Social Support[a]	I	.00		.03	-.01		.03	.01		.03	-.03		.03	
	C	.00			-.00			.01			-.02			.03
Community Belonging[a]	I	.00		.05	.00		.05	-.12	***	.22	.15	***	.06	
	C	.01			.00			-.12	***		.04			.22
Social Network 0-15[b]	I	.94	**	.12	.95	**	.12	1.12	***	.12	.57	***	.12	
	C	.97			.96			1.10	**		.68	**		.14
Social Network 16-35[b]	I	.93	**	.12	.95	**	.12	1.05		.12	.68	**	.12	
	C	.95			.96			1.04			.75	*		.14
Social Network 36-72[b]	I	.96		.12	.97		.12	.99		.12	.92		.12	
	C	.97			.99			.99			.95			.14
Smoking	I	1.02		.14	1.02		.14	.97		.14	.93		.14	
	C	1.01			1.02			.96			.88			.14
Binge Drinking	I	1.05	*	.08	1.06	**	.08	1.02		.07	.85		.07	
	C	1.01			1.06	*		1.01			.81			.09
Heavy Drinking	I	1.01		.03	1.02		.03	.92	*	.04	.85		.03	
	C	.91			1.03			.91	*		.78			.05
Illicit Drug Use	I	1.09	***	.11	1.10	***	.12	.99		.08	1.68	**	.10	
	C	1.03			1.08	**		1.01			1.56	*		.13
Prescription Drug Use	I	1.10	**	.14	1.05		.12	1.03		.12	1.84		.13	
	C	1.08	*		.98			1.06			1.78			.15

Data = Aging with Pride: National Health, Aging, and Sexuality/Gender Study 2010
N= 1,513
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
[a] Ordinary Least Squares (unstandardized coefficient)
[b]Multinomial Logistic Regression
[c]Individual effects of each Minority Stress variable on Intra-Individual Factors
[d]Combined effects of Minority stress variables on Intra-Individual Factors
Note: All models include risk factors (sociodemographic characteristics) but are not reported in the table.
Note: Positive Community = Positive Sense of Community
Note: Social Network = Social Network Size
Note: Reference group for Social Network Size is extra-large social network size (73+).

Table 6. Minority Stress to Extra-Individual Factors

		Independent Variables												
		Discrimination			Victimization			Internalized Stigma			Outness			C[c]
Dependent Variables		OR	sig	r^2	OR	sig	r^2	OR	sig	r^2	OR	sig	r^2	r^2
Healthcare Provider	I[b]	.99		.14	.97		.29	1.07		.15	1.08		.14	
	C	1.03			.95			1.09			1.21			.15
Medicare	I	1.02		.70	1.04	*	.70	1.04		.70	1.21		.70	
	C	.97			1.05			1.05			1.22			.70
Medicaid	I	.96		.46	.98		.46	1.01		.46	.94		.46	
	C	.95			1.01			1.01			.99			.46
Private-LTC	I	.96		.20	1.00		.20	1.02		.20	.91		.20	
	C	.96			1.02			1.02			.94			.20
Veterans Administration	I	1.01		.29	1.02		.29	.95		.30	.94		.29	
	C	1.00			1.03			.94			.87			.30
Uninsured	I	.85		1.00	.87		1.00	.74		1.00	.10		1.00	
	C	.79			1.02			.44			.02			1.00
Other	I	.98		.46	1.00		.46	.99		.46	.75		.47	
	C	.97			1.02			.98			.74			.47
Cost of Healthcare	I	1.12	***	.30	1.11	***	.29	1.04		.27	1.00		.27	
	C	1.08	*		1.06	*		1.04			.89			.30
Cost of Medication	I	1.11	***	.29	1.12	***	.30	1.05		.27	.85		.27	
	C	1.06			1.08	**		1.03			.76			.31
Checkups 1-2 Years	I	.98		.16	.99		.16	1.06		.16	.67		.16	
	C	.98			1.00			1.06			.98			.17
Checkups 3-5 Years	I	1.03		.16	1.01		.16	.97		.16	.76		.16	
	C	1.05			.98			.95			.70			.17
Checkups < 5 Years	I	1.01		.16	1.01		.16	.98		.16	.75		.16	
	C	1.02			1.01			.97			.71			.17
Never	I	.80		.16	.92		.16	1.13		.16	2.00		.16	
	C	.81			.97			1.17			2.70			.17
ER Use	I	1.03		.06	1.05	***	.07	.98		.06	1.10		.06	
	C	1.00			1.05	**		.98			1.04			07

Data = Aging with Pride: National Health, Aging, and Sexuality/Gender Study 2010
N= 1,513
* p < 0.05, ** p < 0.01, *** p < 0.001
[a]Multinomial Logistic Regression
[b]Individual effects of each Minority Stress variable on Intra-Individual Factors
[c]Combined effects of Minority stress variables on Intra-Individual Factors
Note: All models include risk factors (sociodemographic characteristics) but are not reported in the table.
Note: Reference group for Health Insurance is Private Health Insurance.
Note: Private-LTC = Private Health Insurance-Long-Term Care
Note: Checkups = Routine Checkups
Note: Reference group for Routine Checkups is within 1 year.
Note: ER Use = Emergency Room Use

Table 7. Intra- and Extra-Individual Factors to Disability, Logistic Regression

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	OR	sig	OR	sig	OR	sig	OR	sig	OR	sig	OR	sig
Intra-Individual Factors												
Moderate Activity			.56	***	.56	**					.53	***
Vigorous Activity			.33	***	.38	***					.36	***
Wellness Activity			.84		.73						.85	
Religious Activity			1.40	*	1.40	*					1.42	*
Social Support			1.00		.96						.94	
Positive Community			1.02		1.04						.99	
Social Network 0-15			2.31	***	1.90	**					1.85	*
Social Network 16-35			1.73	**	1.59	*					1.55	
Social Network 36-72			1.07		1.03						1.56	
Smoking			1.56	*	1.41						1.19	
Binge Drinking			.84		1.08						1.11	
Heavy Drinking			.76		.68						.64	
Illicit Drug use			.71		.78						.82	
Prescription Drug Use			2.13	*	2.45	*					2.24	
Extra-Individual Factors												
Healthcare Provider							.72		.91		1.07	
Medicare							2.56	***	1.61	*	1.54	*
Medicaid							3.11	***	1.93	*	1.86	*
Private-LTC							.57	*	.67		.66	
Veteran Administration							1.66		1.39		1.37	
Uninsured							.45		.31	*	.28	*
Other							1.30		1.02		1.06	
Cost of Healthcare							1.69		1.31		1.24	
Cost of Medication							4.03	***	3.27	***	3.54	***
Checkup 1-2 years							.95		.89		.85	
Checkup 3-5 years							.92		1.10		1.35	
Checkup < 5 years							2.16	*	2.15		2.59	*
Never							0.00		0.00		0.00	
ER Use							2.29	***	2.16	***	2.17	***

Risk factors									
Lesbian	1.76	***		1.75	***		1.80	***	1.78	**
Bisexual	1.19			1.12			1.09		1.01	
Other	.67			.81			.69		.80	
Non-white	1.05			1.16			.96		1.07	
Age	1.01			1.02			1.01		1.04	
Less than $20,000	3.47	***		2.98	***		1.77		1.58	
$20,000 - $24,999	2.07	**		1.67			1.36		1.14	
$25,000 - $34,999	1.73	*		1.45			1.20		1.02	
$35,000 - $49,999	1.45			1.36			1.21		1.18	
$50,000 - $74,999	.77			.65			.63		.52	
Grades 1-8	0.00			0.00			0.00		0.00	
Grades 9-11	3.34			2.38			4.13		3.44	
HS Diploma/GED	.85			.77			.79		.69	
College 1-3 years	1.07			.91			1.06		.91	
Working	.39	***		.44	***		.49	***	.56	***
Partnered	1.04			1.17			1.21		1.30	
Living Alone	1.03			1.09			1.25		1.27	
Living with Family	1.70			1.35			2.17		1.74	
Living with Others	1.39			1.68			1.65		1.84	
Rent	1.32			1.19			1.22		1.08	
Other	2.36	***		2.07	**		2.09	**	1.84	*
Nagelkerke r^2	.19		.29	.27		.19	.26		.33	

Data = Aging with Pride: National Health, Aging, and Sexuality/Gender Study 2010
N= 1,513
* p < 0.05, ** p < 0.01, *** p < 0.001
Note: Positive Community = Positive Sense of Community
Note: Social Network = Social Network Size
Note: Private-LTC = Private Health Insurance-Long-Term Care
Note: Checkups = Routine Checkups
Note: ER Use = Emergency Room Use
Note: HS Diploma/GED = High School Diploma/General Education Development
Note: Living with Others = Living with Non-Family

Note: Reference groups: Social Network Size 73+, Private Health Insurance, Routine Checkups Within 1 Year, Gay, White, $75,000 or more, College 4 or more Years, Working, Partnered, Living With Partner, Owning a Home