# INTERNALIZED GAY AGEISM AND SEXUAL HEALTH AND WELL-BEING AMONG OLDER GAY MEN

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## ABSTRACT

Background: Older adults continue to engage in and enjoy sex later in life and sex is beneficial to their health. However, less is known about the sexual satisfaction, frequency of sex, and erectile dysfunction of aging gay men, especially those who live in the Midwest.

Materials and Methods: An online survey measured the relationship between internalized gay ageism and sexual health outcomes: erectile dysfunction, sexual satisfaction, and frequency of sex among gay men 50 years or older who lived in the Midwest (n = 181).

Results: Internalized gay ageism was not significantly associated with erectile dysfunction or frequency of sex. However, age and overall health were associated with erectile dysfunction, while relationship type and income level were associated with frequency of sex. Mediation analysis showed a significant relationship between internalized gay ageism and sexual satisfaction through the mediation of body image.

Conclusion: Clinicians, educators, and other health care providers should be aware of varying factors that influence sexual health outcomes among older gay men (e.g., relationship types, income levels, age, and overall health). Additionally, culturally competent interventions that address body image in consideration of the experience of being an aging gay man should be developed to potentially improve sexual satisfaction.



Keywords: gay men, erectile dysfunction, sexual satisfaction, frequency of sex, aging

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# CHAPTER 1: OVERVIEW OF DISSERTATION TOPIC AND RESEARCH

Sexual health and well-being are often not discussed as a social justice issue because it is not prioritized within the field of social work (Dodd & Tolman, 2017). However, the World Health Organization (WHO, 2020) acknowledges that all individuals have the right to lead a positive sex life. This includes the sexual health outcomes of frequency of sex, sexual satisfaction, and sexual function. Research suggests that a healthy sex life correlates with other health outcomes. For example, among adults' sexual satisfaction is associated with better relational well-being, fewer mental health problems, increased happiness, higher life satisfaction, and fewer physical functioning problems (Davison et al., 2009; Dogan et al., 2013; Holmberg et al., 2010; Sprecher et al., 2004). Given this, it is critical to examine potential factors that prevent subgroups of people such as older adults and marginalized populations from leading a positive sex life.

## Sexual Health and Well-Being Among Older Adults

In Western culture, ageist myths and stereotypes reinforce ideas that older adults are incapable of a sexual identity or should not engage in sex (Schwartz, 2011). However, empirical evidence suggests older adults continue to be interested and engage in sex (Lindau et al., 2007). Just like their younger counterparts, older adults who have a satisfying sex life report better life satisfaction and well-being (Buczak-Stec et al., 2019; Chao et al., 2011; Chen et al., 2007; Smith et al., 1997). Studies of older men find that a decrease in sexual activity is associated with higher risk of cardiovascular disease (Hall et al., 2010) and increased depression (Ganong & Larson, 2011). Additionally, emerging evidence suggests that ageism hinders the sexual health and well-being of older adults (Heywood et al., 2019; Syme & Cohn, 2020).

## Ageism and Sex Among Older Adults

Ageism has been defined as "…a deep seated uneasiness on the part of the young and middle-aged—a personal revulsion to and distaste for growing old, disease, disability; and fear of powerlessness, "uselessness," and death." (Butler, 1969. p. 243). Ageism often comes in two forms; it can be directed toward the older adult by others, known as experienced ageism, or it can be internalized ageism (Gendron et al., 2015). Internalized ageism, a form of ageism, is the adoption by older adults themselves of widespread negative attitudes or beliefs about old age and older people (Levy et al., 2009). Internalized ageism has been associated with negative physical and mental health outcomes among older adults (Chang et al., 2020; Malani et al., 2020), including sexual health and well-being (Estill et al., 2018; Syme & Cohn, 2016, 2020).

Internalized ageism and sexual health and well-being may be directly linked as research has found that individuals' perception of their age influences their attitudes about sex (Graf & Patrick, 2014). A recent exploratory study found that older adults who believed ageist stereotypes, like the view that sex is not a lifelong need, were more likely to report lower engagement in sexual and intimate activities (Syme & Cohn, 2020). Internalized negative age stereotypes also influence older adults' subjective age (how old a person feels; Cary & Chasteen, 2015), and research has shown that older adults who felt older or had less positive views of aging enjoyed sex less (Estill et al., 2018). These studies indicate that internalized ageism influences sexual health and well-being among older adults. This relationship should be explored among older gay men, given the prevalence of ageism within the gay community.

## Ageism and Sex Within the Gay Male Community

One of the most monumental events that changed the lives of gay men and significantly influenced the sexual health and well-being of gay men of all ages, then and now, was the 1980s

AIDS crisis. The AIDS crisis resulted in the deaths of an entire generation of gay men, who would have made up a significant portion of the older gay male population today, but it also shaped the socialization around sex in the gay community. Harmful myths, misconceptions (e.g., AIDS is a gay disease), and oppressive legislation perpetuated by the public created a stigmatizing environment for gay men and their sexual health and increased minority stress ( Meyer, 2003). The gay community internalized these harmful myths and misconceptions which often times created stigmatization within the gay community (Rotello & Gillis, 1997). Furthermore, the loss of a huge portion of this generation of older gay men and shortened life expectancy may have had an effect on the perception of old age.

Gay men endure accelerated aging in a subjective sense; that is, within the gay community, they are considered old at a younger age than their heterosexual counterparts (Bennett & Thompson, 1991; De Vries & Blando, 2004; Fenkl, 2012; Friend, 1980). Koziol (2015) documented that gay men over the age of 30 may be considered old and Duncan (2008) found an emphasis on youthfulness, beauty, and masculinity among gay men. These favored traits are evident in the dating sphere, as gay men were also more likely than heterosexual men to specify a preference for age on online personal ads (Kaufman & Phua, 2003). A study on aging gay men showed that they themselves perceive the gay community as more ageist than straight people (Slevin & Linneman, 2010). This is problematic given the evidence that ageism influences various health outcomes.

There is evidence that ageism influences aspects of gay men's lives. Stereotypes lead gay men in general to be self-conscious about their bodies and to have low sexual self-esteem (Filice et al., 2019; Slevin & Linneman, 2010). While the research on the impact of ageism on older gay men is inadequate, stereotypes often associated with older gay men are "lonely," "single," and

"depressed" (Lyons et al., 2013; Pugh, 2005). Given evidence of the relationship between internalized ageism and sexual health and well-being among older adults (Estill et al., 2018; Syme & Cohn, 2020), there is a need to examine this potential relationship among aging gay men. The fact that older gay men themselves internalize ageism may put them at particular risk of having lower levels of sexual well-being.

**Internalized Gay Ageism**

Wight et al. (2015)'s concept of *internalized gay ageism* can be described as the internalizing of ageist messages or stereotypes but from the perspective of aging as a gay man. Wight and colleagues constructed an Internalized Gay Ageism Scale based on six items including "As I get older, I feel good about myself as a gay man" and "I feel that older gay men are respected in the gay community." This scale provides a measure of internalization of ageism that considers cultural influences of the gay community. The original scale has adequate reliability as a standalone measure ($\alpha = 0.66$) among gay men aged 48-78 (M age = 60.7 years old) (Wight et al., 2015). It is also significantly correlated to an Ageism Scale created for Wight et al.'s (2015) study and Frost and Meyer's (2012) Internalized Homophobia Scale ($p < 0.001$) meaning there was conceptual overlap, but no collinearity issues were found (Wight et al., 2015). Additionally, Wight et al. (2015) found an association between internalized gay ageism and depressive symptoms. Use of Wight's concept of internalized gay ageism may strengthen existing theories on stereotypes, such as the stereotype embodiment theory (SET; Levy & Leifheit-Limson, 2009), by examining internalized ageism and health outcomes in the context of gay communities.

## Stereotype Embodiment Theory

SET is a theoretical perspective connecting internalized ageism and health outcomes. It was developed by Levy (2009) to explore how aging stereotypes influence various health outcomes among older adults. The approach posits that an individual internalizes aging stereotypes as they move through life, often without realizing they are adopting them. In this understanding, internalized aging stereotypes become activated through social cues as a person ages, and this shapes their self-perception, which in turn results in adverse health outcomes through three pathways: physiological, psychological, and behavioral.

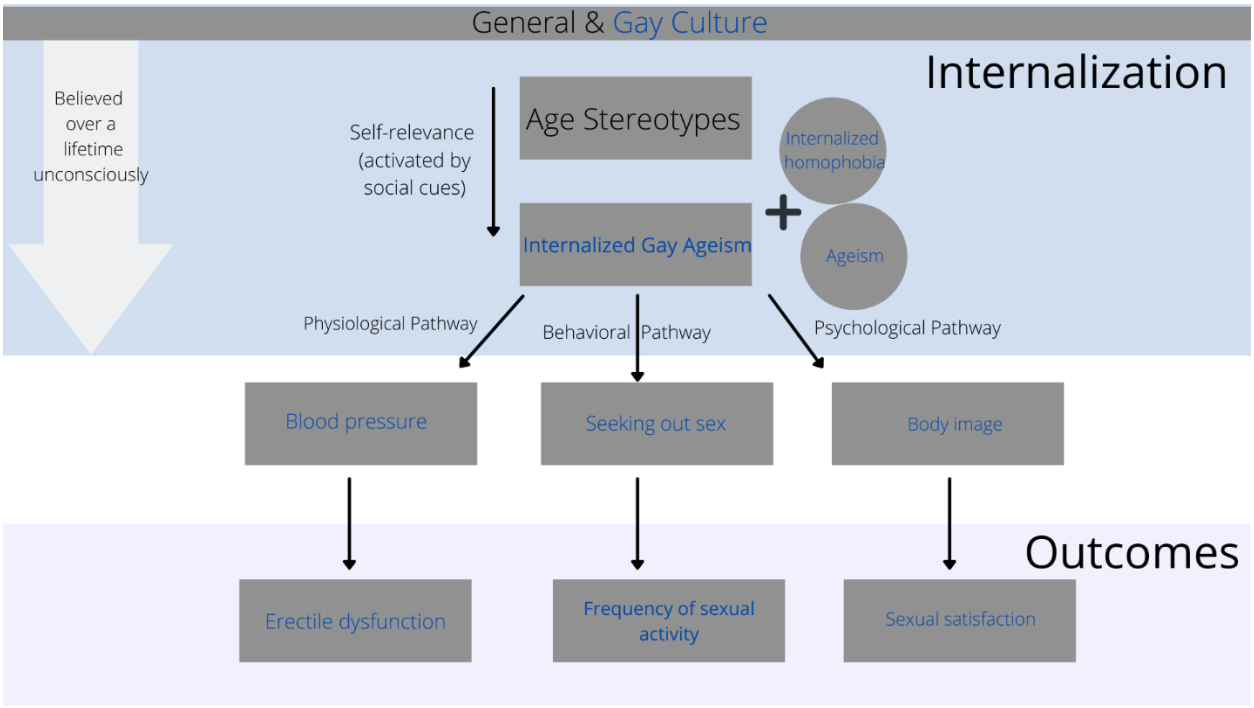
Through the physiological pathway, negative aging stereotypes contribute to stress and have implications for the nervous system. This stress impacts an individual's blood pressure, sweat glands, and heart rate (Levy et al., 2000; Swift et al., 2017). Through the psychological pathway, expectations become self-fulfilling once activated by automatic responses (Swift et al., 2017). For instance, a study found that adults 60 and older who were primed with negative aging words prior to taking a cognitive physical test were less likely to score well than those primed with positive aging words (Levy & Leifheit-Limson, 2009). Through the behavioral pathway, stereotypes change how an older person engages in health behaviors, such as being less engaged in preventive health behavior (Levy & Myers, 2004; Wurm et al., 2013). Additionally, older adults who believe age stereotypes about their sexuality may not seek help for their sexual problems (Gott & Hinchliff, 2003).

This dissertation study used an adapted version of Levy's (2009) SET model to explore the relationship between internalized gay ageism and sexual health outcomes: erectile dysfunction (ED), frequency of sexual activity, and sexual satisfaction (Figure 1.1). This adaptation may help explain how older gay men shape their self-perceptions of aging and its

potential influence on their sexuality. Aging stereotypes may be common in straight communities, but norms in gay communities may increase the prevalence of these stereotype messages. Based on the final premise of the SET model, I hypothesized that internalized gay ageism will manifest through psychological, behavioral, and physiological pathways to influence ED, frequency of sexual activity, and sexual satisfaction respectively.

**Figure 1.1**

*Adapted Stereotype Embodiment Theory (Levy, 2009)*




**Physiological Pathway**

The physiological pathway of the SET model states that age stereotypes influence the nervous system (Levy, 2009). The current study utilized this pathway to explore sexual function among older gay men; more specifically, internalized gay ageism and ED with a mediator of blood pressure.

While the relationship between internalized gay ageism and blood pressure has not been explored among older gay men specifically, previous evidence suggests internalized ageism influences chronic illnesses related to blood pressure among older adults (Allen, 2015). For instance, Levy et al. (2000) found that when older adults were implicitly exposed to negative age stereotypes, their cardiovascular responses to stress (measured by blood pressure) tended to increase. This is concerning as elevated blood pressure poses a risk to normal erectile function among men (Burchardt et al., 2000; Feldman et al., 1994; Foy et al., 2019; Heikkilä et al., 2017). Complications related to erectile function are categorized as ED (Lue, 2000) and can decrease overall sexual health and well-being among men (Smith et al., 2007). In the current study, this pathway was explored by examining the relationship between internalized gay ageism and ED among older gay men with blood pressure as a potential mediator.

**Behavioral Pathway**

The behavioral pathway of the SET model explains that age stereotypes influence health behaviors among older adults. For instance, older adults may stop engaging in health-promoting behaviors as they age and in turn their health deteriorates because they view health-promoting behaviors as useless (Levy, 2009).

Research has found that older adults who have negative self-perceptions of aging or who believe aging stereotypes are less likely to engage in healthy behaviors (Levy & Myers, 2004), such as physical exercise (Chalabaev et al., 2013; Emile et al., 2014). This relationship has not been fully explored when it comes to sexual activity among older gay men. However, the internalization of gay ageism may alter how older gay men seek out sex, which may reduce their frequency of sexual activity. One qualitative study suggests that, due to their age, older gay men are less likely compared to their younger counterparts to seek out sex in popular gay spaces

(Slevin & Linneman, 2010), which may be a result of internalized gay ageism. For example, one older gay man who was asked what happens to older gay men stated, ‘‘Well, such men stop going to bars, [they] become isolated, [they] become introverted, [they] become loners, [they] become peculiar people.” (Slevin & Linneman, 2010, p.497). Given findings that higher frequency of sexual activity is linked to improved overall sexual health and well-being (Carvalheira & Costa, 2015; Willert & Semans, 2000), this is concerning. In the current study this pathway was explored by examining the relationship between internalized gay ageism and the frequency of sex with sex-seeking as a potential mediator among older gay men.

**Psychological Pathway**

The psychological pathway in the SET model explains how age stereotypes influence expectations that lead to self-fulfilling prophecies, or in other words, make these expectations come true (Levy & Leifheit-Limson, 2009). .

The relationship between internalized ageism and body image among older adults is underexplored in the literature. However, among older women, one study found that perceived ageism was negatively associated with psychological well-being and was partially mediated by body image (Sabik, 2015). This suggests that for older women internalized ageism may influence their self-evaluation of their bodies. Body image is particularly salient to gay populations as gay male culture values attractiveness, masculinity, and youthfulness (Slevin, 2008). Body image is also known to be associated with sexual satisfaction. For example, studies of gay men have found that positive body image predicts sexual satisfaction (Shepler et al., 2018). This suggests body image may be a mediator between internalized gay ageism and sexual satisfaction. In line with the adapted conceptual model, older gay men who internalize gay ageism will have lower levels of sexual satisfaction, mediated by body image. Only two studies have explored sexual

satisfaction among older gay men. These studies found that self-stigma related to sexual identity, concealment of sexual identity in recent years, and low relationship satisfaction were associated with low sexual satisfaction (Fleishman et al., 2020; Gonçalves et al., 2020).

The current study used this pathway to explore the relationship between internalized gay ageism and sexual satisfaction mediated by body image among older gay men.

## Gaps in Literature

*Little is known about sexual health and well-being among older gay men.* Sexual health and well-being research has tended to focus on younger heterosexual adults, and most studies of sexual health and well-being that have focused on gay men have addressed sexual risk behavior, driven by concerns about sexually transmitted infections and HIV. While valuable, this focus leaves out significant portions of sexual health and well-being, and exploration into the relationship between internalized gay ageism and aspects of sexual health and well-being is scarce among older gay men. Thus, this study addressed several gaps in aging and sexual health and well-being research.

*Sexual health research on older gay men has tended to use qualitative methods.* The current study sheds new light by using quantitative methods, allowing for objective assessment and quantification of these relationships (Queirós et al., 2017).

*Lack of application of theoretical foundation.* Limited theory-based studies have explored sexuality in general among older gay men (Brown, 2009). Empirical evidence has tended to overlook the sexual health of LGBT elders; this may reflect the rhetorical silence about this group in the conceptual frameworks that are commonly used in aging and sexuality research, such as queer and gerontological theories (Brown, 2009). Adapting a conceptual framework,

such as Levy's SET, to include older gay men and their sexual health and well-being allowed this study to better hypothesize potential sexual health disparities.

## Significance of Research

This was the first research study to quantify the relationship between internalized gay ageism and sexual health and well-being among older gay men through mediation analysis. Social justice is a core social work value (Reamer, 2013), which includes health equity issues such as potential sexual health disparities among older gay men. Exploration of internalized gay ageism and ED, frequency of sexual activity, and sexual satisfaction among older gay men may inform social workers and health providers who work in gerontology, sexuality, and health disparities affecting the gay community. This information may be useful for interventions that aim to reduce ageism and could be used in contexts of sexual health and well-being that have not been thought of before. A reduction in ageism is important to sexual health as a qualitative study among medical practitioners found that older adults who have ageist ideologies are less likely to seek help for sexual problems (Gott & Hinchliff, 2003). Furthermore, as previous literature has suggested, ageism in general causes increased economic costs due to increased health conditions (Levy, 2009). Policy makers could seek interventions to decrease health disparities. While most policies regarding ageism in the United States focus on workplace and health care ageism, such as the 1967 Age Discrimination in Employment Act (Macnicol, 2006), a policy that expands the language of unacceptable age discrimination from workplaces to LGBT community spaces and dating applications may reduce ageism and thus improve health.

## Methods

### Eligibility

The Study on Aging and Sexual Satisfaction Among Gay Men (SASSY) was a cross-sectional online survey that assessed the sexual health and well-being of gay men 50 years or older who resided in the Midwestern United States. Eligibility for participation in the survey included being 50 years or older (assessed by the question "What is your age range?"), (2) identifying as gay (assessed by "Do you identify as gay?"), (3) having been assigned male at birth (assessed by "What sex was originally listed on your birth certificate?"), (4) identifying as male (assessed by "What is your primary gender identity today?"), and (5) residing in a Midwestern state (Michigan, Ohio, Iowa, Minnesota, Indiana, Illinois, Wisconsin, Kansas, Nebraska, Missouri, North Dakota, and South Dakota) at the time of the survey.

### Ethical Approval and Data Management

All procedures with human subjects in the current study were submitted to the Michigan State University Institutional Review Board (MSU IRB) for approval. All data were collected via an online survey using the MSU Qualtrics software and all survey answers were confidential. Prior to the start of the study, the participants were presented with consent language that stated participants implied consent if they progressed through the survey. The consent language also stated that all participants were able to skip questions or stop at any point. The data were stored in a password-protected file and only the principal investigator and co-investigator had access. The gift card contact information was collected via a separate survey and saved in a separate password-protected file, with no way to link back to the survey answers.

## Key Informants

To ensure the survey questions were relevant to the target population, key informants from the local community was enlisted to check and revise the phrasing of questions, such that they were both understandable and culturally responsive. Such informants bring a community perspective to research projects and strengthen the effectiveness of survey research (Cossham & Johanson, 2019; Newman et al., 2011). Recruitment was undertaken by a recruitment flyer that was sent out to personal networks. The recruitment effort for the informants resulted in the enlistment of two gay men who worked with an LGBT organization for older people. An approved consent form was given to participants and verbal consent was collected prior to the participation. Three 1-hour meetings were scheduled via Zoom to discuss the overall research study. The first meeting addressed the responsibility of the key informants and explained the overall goals of the study. The second meeting discussed brainstorming about effective ways to recruit older gay men, and the board was given the survey to complete and record how long the survey took. The third 1-hour meeting discussed the survey by going over the clarity and relevance of each of the questions and recruitment materials. The key informants each received a $10 gift card after each meeting and the opportunity to collaborate on manuscripts developed from the study results.

## Survey Development

The survey included questions about participants' eligibility, sociodemographic information, physical and mental health, sexual health and well-being, and questions related to their internalized ageism, internalized homophobia, community belongingness, body image, and level of outness. Most survey questions were adapted from previous developed scales. To monitor quality of responses, three methods were set in place. This included the use of a number

of lie scales (e.g., “So that we can monitor the quality of responses, please respond with a two for this item”) as suggested by Meade & Craig (2012) and the bot detection and ballot-stuffing features on Qualtrics. Participants who were ineligible were redirected to a message in the survey that stated, “Thank you for your interest, but you are not eligible for this study.”

**Sample Size and Power Analysis**

To determine a target sample size that addressed the main hypotheses (Cohen, 1992) at an alpha level of .05 and power threshold of .80, previous data among a similar population to the target audience for the current study and variables similar to internalized ageism were used as inputs via an online mediation tool (Schoeman et al., 2017). The previous study had examined the relationship between internalized sexual minority stigma and sexual risk with lack of routine health care as a mediator (Emlet et al., 2017). The main variable correlations from the previous study were input into the online Monte Carlo Power Analysis mediation tool to determine sample size (Schoemann et al., 2017). The correlations and standard deviations for each variable pathway inputted were as follows: internalized sexual minority stigma x lack of routine health care utilization (r = .25, *SD* = .59), lack of routine health care utilization x sexual risk behaviors (r = .28, *SD* = .72), and internalized sexual minority stigma x sexual risk behaviors (r = .29, *SD* = .86). The number of replications for the Monte Carlo online tool was set to 500 and the random seed chosen was set to 4,244 at a confidence level of 95% with a minimum sample n of 100 and maximum sample n of 400. The results showed that a target sample size of 160 was needed to reach a power of .82. Thus, to anticipate missing and unusable data, a target sample size of 210 older gay men was used for the current study.

## Recruitment

Older LGBT people are considered to be a "hard-to-reach" population and the ongoing COVID-19 pandemic made recruitment more difficult. Previous common strategies to recruit this population have included snowball sampling and recruiting at LGBT venues (e.g., bars, nightclubs, coffeeshops, festivals). Restrictions due to COVID-19 made these recruitment methods more difficult; even if these locations were open older people may have been cautious about attending them. Current research on the topic of COVID-19 and sexual health and well-being among LGBT populations has utilized methods such as posting on social media (e.g., Facebook, Instagram, and Grindr), word of mouth, or using an already established pool of participants (Hammoud et al., 2020; Stephenson et al., 2021). Fredrickson-Goldsen (2017), a well-established scholar in aging LGBT research, suggested the best practices to find older aging populations is to use purposive sampling, to reach out to community-based agency contact lists and social networks, and to employ social networking cluster chains (Fredriksen-Goldsen & Kim, 2017). Drawing from the previous studies and best practices according to Fredriksen-Goldsen (2017), the present study utilized community-based agency contact lists and social networks to recruit participants. Recruitment included contact with 162 LGBTQIA+ organizations and health centers, nine LGBTQIA+ clubs, bars, or camping grounds, 102 places of faith/spirituality, one media source, three older gay men's adult websites, and several personal contacts between December 2022 – May 2023.

## Security Breaches

During the initial stages of the survey, social media (e.g., Facebook, Instagram) was a source of recruitment. An anonymous link to the survey was posted to relevant LGBTQIA2S+ pages; however, bots got ahold of the link and began to flood the survey (bringing in over 6,000

responses). Bots were able to successfully bypass all the security measures put in place via Qualtrics and the survey design (e.g., reCAPTCHA, prevent ballot stuffing, check-in questions). Due to this breach, the survey was restructured to be confidential instead of anonymous. Thus, participants who were interested had to email a designated email to receive their link. This greatly reduced the number of bots and scammers attempting to take the survey; however, attempts were still made. Red flags that tipped off the co-investigator to potential bots and scammers were context clues, outlined by Griffin et al. (2022), such as email addresses and messages that were slightly off. For instance, an email message that was considered a bot or scammer contained the phrase "I have enough time to finish the investigation" or email addresses with long strings of random letters or numbers. Qualtrics automatically collects IP addresses of survey participants, and once approved by the IRB, a strategy was to use a commercial IP address locator to see if the participant fit the eligibility criteria. This strategy was later removed as studies have shown that IP address locations are often inaccurate and unreliable (Komosny et al., 2017). Thus, the incentive had to be changed from an emailed incentive to one sent to a physical home address. Those who disseminated the survey information to potential participants were reminded to not share information on any social media platform.

**Data Collection**

A convenience sample of 195 older gay male participants was recruited to complete a 15- to 20-minute online confidential survey created using Qualtrics via MSU. The survey was conducted from January to May 2022. Since being gay is often stigmatized, especially for the current generation of older gay men, the use of a confidential online survey allowed for more robust answers (Kays et al., 2013). At the beginning of the survey, consent language was added and explained that as the participant proceeded, this implied consent. Participants who completed

the survey were sent to a separate survey to voluntarily provide their physical home address to be mailed a $10 Amazon gift card.

**Data Cleaning and Missing Values**

Prior to the data-cleaning stage, a total of two surveys from the beginning phases of the study that were deemed fraudulent using a commercial IP software checker were removed. Next, participants who had not completed at least two-thirds of the questions of the entire survey were removed, which resulted in the loss of 11 surveys. One survey response was removed as the respondent's sexual orientation was determined ineligible for the survey criteria from an open-text answer. For all computed scale scores, listwise deletion technique was conducted to omit missing data (Kang, 2013). A total of 195 surveys were collected and the final analytic sample after data cleaning was 181 participants.

**Structure of Dissertation**

This dissertation explored the relationship of internalized gay ageism and sexual health and well-being among older gay men. This dissertation satisfies the requirements that are necessary to obtain a Doctor of Philosophy degree from the School of Social Work at Michigan State University. The organization of the dissertation follows the "three-manuscript option" format. The three-manuscript option includes the following three papers, described below.

Manuscript 1 (Chapter 2) explores internalized gay ageism and ED among older gay men. The research questions were "What is the relationship between internalized gay ageism and erectile dysfunction among older gay men controlling for covariates?" and "Does blood pressure mediate the relationship between internalized gay ageism and erectile dysfunction?" The hypothesis for the first question was "Older gay men who report higher rates of internalized gay ageism will have higher rates of erectile dysfunction" and the hypothesis for the second question

was “Blood pressure mediates the relationship between internalized gay ageism and erectile dysfunction among older gay men.”

Manuscript 2 (Chapter 3) explores internalized gay ageism and frequency of sex among older gay men. Mediation analysis was conducted to determine if seeking out sex was a mediator in the relationship between internalized gay ageism and frequency of sex. The research questions were “What is the relationship between internalized gay ageism and frequency of sexual activity among older gay men controlling for covariates?” and “Does seeking out sex mediate the relationship between internalized gay ageism and frequency of sex?” The hypothesis for the first question was “Older gay men who report higher rates of internalized gay ageism will have lower frequency of sexual activity” and the hypothesis for the second question was “Seeking out sex mediates the relationship between internalized gay ageism and frequency of sexual activity among older gay men.”

Manuscript 3 (Chapter 4) explores internalized gay ageism and sexual satisfaction among older gay men. Mediation analysis was conducted to determine if body image was a mediator in the relationship between internalized gay ageism and sexual satisfaction. The research questions were “What is the relationship between internalized gay ageism and sexual satisfaction among older gay men controlling for covariates?” and “Does body image mediate the relationship between internalized gay ageism and sexual satisfaction?” The hypothesis for the first question was “Older gay men who report higher rates of internalized gay ageism will report lower sexual satisfaction” and the hypothesis for the second question was “Body image will mediate the relationship between internalized gay ageism and sexual satisfaction.”

The final chapter (Chapter 5) discusses the findings from the three manuscripts and the implications for future research, policy, and for clinical practice for social workers.

# CHAPTER 2: INTERNALIZED GAY AGEISM AND ERECTILE DYSFUNCTION AMONG OLDER GAY MEN

Sexual health and well-being have been shown to be associated with overall health (Davison et al., 2009; Dogan et al., 2013; Holmberg et al., 2010; Sprecher et al., 2004), and sexual health and well-being are important to older adults (Lindau et al., 2007). Yet, research that explores the sexual health and well-being of older gay men is lacking compared to literature that expounds on the sexual health and well-being of heterosexual and younger populations. Additionally, research is limited that examines the risk factors of erectile dysfunction (ED; a common health condition among older gay men), which is associated with negative health outcomes, such as an increased risk of depression (Liu et al., 2018; Nelson et al., 2011) in any age group of men.

Erectile function is a critical mechanism for many men to express their sexuality and engage in sexual activities. ED, the inability to achieve or maintain an erection, (Morgentaler, 1999), often threatens the ability of men to engage in certain sexual activities or sexual behaviors, such as penetration (Smith et al., 2007). Complications from ED are known to decreased overall sexual satisfaction and sexual health and well-being (Smith et al., 2007). ED may also cause stress, anxiety, depression, or low self-confidence (Latini et al., 2006; Shabsigh et al., 1998; Tomlinson & Wright, 2004).

ED may be caused by several physical and psychological factors. For instance, aging has been found to be an independent risk factor for ED (Mulhall et al., 2016). Research has found links between cardiovascular health (Gandaglia et al., 2014), diabetes (Penson et al., 2009), prostate cancer (and treatment) (Nelson, 2011), and erectile function. Additionally, normal blood flow to the penis is essential for erectile function. Hypertension or high blood pressure may

prevent dilation of the penis (i.e., erection) because blood may be trapped, preventing it from entering the penis (Burchardt et al., 2000; Feldman et al., 1994; Foy et al., 2019; Heikkilä et al., 2017). Depression is also positively correlated with ED (Seidman & Roose, 2000), and evidence suggests that the relationship between depression and ED is bidirectional (Shiri et al., 2007). Behavioral and mutable factors such as cigarette smoking (Mannino et al., 1994; Tostes et al., 2008), lack of regular exercise (Silva et al., 2017), side effects from taking medication (Rosen & Marin, 2003), and drinking/drug use (Pizzol et al., 2019) are also associated with ED. ED is known to affect populations of gay men 1.5 times more than heterosexual men (Bancroft et al., 2005; Barbonetti et al., 2019), yet less is known about how social factors play a role in ED among older gay men. One social factor that is known to affect various health outcomes among older adults is ageism.

Ageism has been defined as "…a deep seated uneasiness on the part of the young and middle-aged—a personal revulsion to and distaste for growing old, disease, disability; and fear of powerlessness, "uselessness," and death." (Butler, 1969. p. 243). Ageism, just like racism and sexism, is prevalent in the United States. Research has found that ageism influences various health outcomes among older adults, such as mental health and overall health (Chang et al., 2020). Ageism is quite common in the gay community as many gay men ascribe to a toxic ideology that only men who are youthful and beautiful are worthy of being sexy (Duncan, 2008), and older gay men often experience ageism in online spaces (Conner, 2019). These permissible acts of ageism in the gay community may stem from the internalized homophobia and stigma endured by gay men from the general society, especially during the AIDS/HIV crisis, which creates a hostile culture for gay men and perpetuates these prejudices against subgroups of gay men. Due to this toxic ideology, gay men over the age of 30 are often considered old in the eyes

of the community (Bennett & Thompson, 1991; De Vries & Blando, 2004; Fenkl, 2012; Friend, 1980; Koziol, 2015). This common way of thinking among the gay community perpetuates the narrative that older gay men, after a certain age, are undesirable, and this pejorative narrative perpetuates ageist views within the gay community. Even aging gay men admit that "gays are much more ageist than straights" (Slevin & Linneman, 2010, p. 497). For instance, gay men are more likely to express a specific age preference on online personal ads compared to heterosexual men (Kaufman & Phua, 2003).

Research on the relationship between social factors and ED among older gay men is limited. Generally, studies suggest that sexual health and well-being among gay men are associated with social factors such as internalized homophobia (Gonçalves et al., 2020; Simon Rosser et al., 1997). While the aforementioned studies are a helpful starting point for a conversation about social factors that influence sexual health and well-being in general, the studies leave out the discussion of ED among older gay men, a population that is more likely to experience ED. Among older adults in general, internalized ageism is found to negatively impact sexual health and well-being. Internalized ageism in older gay men is particularly important to examine because ageist stereotypes run rampant in gay culture (Slevin & Linneman, 2010).

Internalized ageism, a form of ageism, is the adoption by older adults themselves of widespread negative attitudes or beliefs about old age and older people (Levy et al., 2009). Internalized ageism is particularly perverse, as research cites several negative health outcomes as a result of internalized ageism (Chang et al., 2020). In terms of the relationship between sexual health and well-being and internalized ageism, Syme and Cohn (2020) found that older adults who embraced aging sexual stereotypes are less likely to engage in sexual and intimate activity (e.g., foreplay, hugging). While there is emerging evidence that suggests a negative relationship

between internalized ageism and sexual health and well-being among older adults (Syme & Cohn, 2020), little is known about the impact of internalized ageism on the sexual health and well-being of aging gay men. As noted earlier, part of the reason ageism is so prevalent among the gay community is because gay culture reinforces ageist stereotypes (Slevin & Linneman, 2010). Such stereotypes lead gay men in general to feel increased self-consciousness about their bodies and reduced sexual self-esteem (Filice et al., 2019; Slevin & Linneman, 2010). Wight and colleagues (2015) recently coined a term that explains the internalization of such ageist messages among gay men: *internalized gay ageism*. Internalized gay ageism provides a better description of the concept of general internalized ageism, as the internalized gay ageism concept describes how an aging gay man might internalize ageism experienced within the gay community. For instance, the scale includes items such as "As I get older, I feel more invisible when I am with other gay men" and "I feel that older gay men are respected in the gay community."

To explore the relationship between internalized gay ageism and ED among older gay men, the current study utilizes the stereotype embodiment theory (SET) (Levy, 2009) model to guide the research. SET is a theoretical model that explains how internalized ageism influences various health outcomes among older adults (Levy, 2009). SET posits that individuals internalize aging stereotypes as they move through life, often without realizing they are adopting and/or normalizing these aging stereotypes. When a person transitions from the younger age group to the older age group, these internalized aging stereotypes are activated through social cues (also known as stereotype threats) and shape the person's self-perception on aging (Levy, 2009). Negative self-perceptions of aging, according to Levy, result in adverse health outcomes. SET suggests three pathways by which internalized ageism affects health outcomes, including behavioral, psychological, and physiological pathways. The current study focuses on the

physiological pathway of the SET model and adapts this pathway to guide the hypothesis of internalized gay ageism and ED among older gay men.

The SET model explains that exposure to negative age stereotypes elevates stress and affects cardiac health (Levy, 2009). For instance, Levy et al. (2000) found that when older adults are implicitly exposed to negative age stereotypes, their cardiovascular responses to stress (measured by blood pressure) increased (Levy et al., 2000). Another study by Levy, a longitudinal study, found that negative aging stereotypes predicted the likelihood of heart attacks occurring among people 38 years later (Levy et al., 2009). Additionally, increased longevity and positive self-perceptions among older adults is a result of older adults generating lower levels of a stress-related protein in their bodies (Levy & Bavishi, 2018). Similar to the necessity of blood flowing regularly through a man's body for him to obtain an erection (Sáenz de Tejada et al., 2004), hypertension (increased blood pressure) hinders the ability to accomplish normal erection function (Burchardt et al., 2000; Feldman et al., 1994; Foy et al., 2019; Heikkilä et al., 2017). Among older gay men, ED can also contribute to worsening of psychological health. For example, one qualitative study found that aging gay men worried that ED would make them sexually disqualified or unable to be sexual partners (Ussher et al., 2017).

For the current study, the use of an adapted form of the SET model guided the explanation of how internalized gay ageism may influence ED through the mediation of blood pressure. The research question for this study is "What is the relationship between internalized gay ageism and erectile dysfunction among older gay men who reside in the Midwestern United States?" Based on the previous literature, we hypothesized that older gay men who report higher rates of internalized gay ageism will report higher rates of ED. For the current study, several sociodemographic characteristics identified by previous ED studies.

## Methods

### Participants

The Study on Aging and Sexual Satisfaction Among Gay Men (SASSY) was a cross-sectional online survey that assessed the sexual health and well-being among gay men 50 years or older who resided in the Midwestern United States. Eligibility for participation in the survey included being 50 years or older (assessed by "What is your age range?"), (2) identifying as gay (assessed by "Do you identify as gay?"), (3) having been assigned male at birth (assessed by "What sex was originally listed on your birth certificate?"), (4) identifying as male (assessed by "What is your primary gender identity today?"), and (5) residing in a Midwestern state (Midwestern defined according to United States Bureau of Labor of Statistics Census Region) at the time of the survey.

Data were collected from December 2021 to May 2022 using Qualtrics online survey software (a paper survey option was available upon request). The survey took participants on average between 15 and 20 minutes. Recruitment of the sample was accomplished through several avenues, including word of mouth, email blasts, phone calls, and presentations. Places of recruitment included contact with 162 LGBTQIA+ organizations and health centers, nine LGBTQIA+ clubs, bars, or camping grounds, 102 places of faith/spirituality, one media source, three older gay men's adult websites, and several personal contacts. A $10 incentive was offered to participants who completed the survey and provided their home address on a separate form linked to the main survey. Bots and scammers breached the survey to receive the $10 incentive, which was pinpointed to a link to the survey being posted on social media. Thus, the survey was revised and changed from anonymous to confidential, and potential participants had to email a specific email address to receive their unique link to the study. Promoting the study on social

media was limited to prevent bots and scammers from attempting to take the survey. The study was approved by Michigan State University's Institutional Review Board.

## Measures

### *Dependent Variable*

**Erectile Dysfunction**. ED was measured by using investigator-adapted items from a subscale from the Gay Male Sexual Difficulties Scale (McDonagh et al., 2016). The subscale used four items on a 6-point scale, ranging from *not applicable* to *all the time*. The original question asked, "During the past 6 months…" and was adapted to ask "During the past 12 months…" The four items for the scale included (1) "When you engaged in sexual activity, were you able to get an erection?," (2) "When you wanked off (i.e., jerked), were you able to get an erection?," (3) "When you engaged in sexual activity, were you able to maintain your erection (i.e., keep it up)?," and (4) "When you wanked off, were you able to maintain your erection?" Two of the response options were adapted to say "jerked off" instead of "wanked off" in the original. The four items were reverse scored in the original scale and in the current study, which resulted in higher scores indicating more erectile difficulties. The reliability of the total original scale was .90 and the adapted four questions in the current study was .94.

### *Independent Variables*

**Sociodemographic Variables.** Participant demographic items included age, education level, race/ethnicity, relationship type, income, and residence.

***Education.*** Education level was asked based on the 2019 Behavioral Risk Factor Surveillance System (Centers for Disease Control and Prevention [CDC], 2019). The question was, "What is the highest grade or year of school you completed?" Response options were adapted, and included less than high school, some high school, some college or technical school,

community college degree (e.g., A.A.), undergraduate degree (e.g., B.S., B.A. etc.), graduate degree (e.g., M.S.W., M.A., Ph.D., J.D., M.D. etc.). A new analytic variable was created. The original response options included options such as did not graduate High School, Graduated High School, Attended College or Technical School, Graduated from College or Technical School, or Don't know/Not sure/Missing. The variable was collapsed into three categories: community college or below, undergraduate degree, and graduate degree.

***Race and Ethnicity.*** To ask about race and ethnicity, a question from Hughes et al.'s "Rethinking and Updating Demographic Questions: Guidance to Improve Descriptions of Research Samples" was used (Hughes, Camden et al., 2016). Participants were asked, "Which categories describe you? Select all that apply to you" with response options of: "American Indian or Alaska Native"; "Asian"; "Black or African American"; "Hispanic, Latino, or Spanish origin"; "Middle Eastern or North African"; "Native Hawaiian or other Pacific Islander"; "White"; and "Some other race, ethnicity, or origin (please specify)". The final analytic variable was collapsed into three categories: Black, White, and other/multiracial and multiethnic.

***Income.*** Income was asked on the survey using an adapted question from the 2019 Behavioral Risk Factor Surveillance System (CDC, 2019). It asked, "What is your annual household income from all sources?" The response options were adapted to include "don't know/not sure," "less than $25,000," "$25,000 less than $35,000," "$35,000 less than $50,000," "$50,000 less than $75,000," and "$75,000 or more."

***Relationship Type.*** Relationship type determined if a participant was single or the type of their relationship if they were in one. An investigator-adapted version of Parsons et al.'s (2013) question was used to include an "other" category with the original response options of single, monogamous, monogamish, and open. It asked, "What best describes your current relationship

type?" The response options were "single (e.g., do not have main partner)," "monogamous (e.g., have a partner and agreed to only have sex with each other and no sex with casual partners)," "monogamish (e.g., have partners and agreed to have sex with others but only when the other member of the relationship was present)," "open (e.g., have a partner and both the partner and I have casual partners without the other partner present)," and "other (please specify in the box)." Based on the other responses, "widow" was common in the "other" category, which was then collapsed with "single" into one category.

***Residence.*** One question asked about the residence of participants and was adapted from the Michigan Transgender Health Survey 2018 (Kattari et al., 2020). The question asked, "Would you consider where you live to be?" and the original response options were, "urban (metropolitan areas; cities of over 100,000 people [e.g., Detroit Grand Rapids])", "suburban (neighborhoods on the outskirts of near larger cities [e.g., Dearborn])", "small city (cities of 10,000 to 100,000 people [e.g., Jackson, Port Huron]), "rural (villages, hamlets, towns, cities under 10,000 people [e.g., Bad Axe])" and "frontier (less than six people living per square mile). The response options were adapted to include relevant cities in the Midwest. The response options included "urban (metropolitan areas; cities of over 100,000 people [e.g., Detroit, Cleveland, Chicago, Milwaukee])," "suburban (neighborhoods on the outskirts of near larger cities," "small city (cities of 10,000 to 100,000 people [e.g., Jackson, Port Huron, Saginaw]), and "rural (villages, hamlets, towns, cities under 10,000 people)."

**Health Status Variables.**

***HIV Status.*** HIV status was measured by asking participants, "Have you ever been told by a health care provider that you had HIV and/or AIDS?" with "yes" or "no" response options. This response options were investigator-adapted from "either or both diagnoses" and "none"

from a study that explored HIV disparities among older gay and bisexual men (Emlet et al., 2020).

***Overall Health.*** Overall health was measured using the Self-Rated Health Measure (Turner et al., 2016). The original measure asked respondents to indicate with how much they agreed with four statements such as "You seem to get sick a little easier than other people" and "In general, your health is excellent." Overall health scale was computed by summing four items from the Self-Rated Health Scale. Responses ranged from 1(*definitely true*) to 5 (*definitely false*) and scores were summed across the four items, with higher scores indicating better health. The scale was adapted to ask respondents to indicate their agreement within the last 12 months.

***High Blood Pressure.*** To measure high blood pressure the survey used a question from the 2011 Behavioral Risk Factor Surveillance System (CDC, 2011). It asked, "Have you EVER been told by a doctor, nurse, or other health professional that you have high blood pressure?" The response options for this question consisted of "yes," "no," "told borderline high or pre-hypertensive," and "don't know/not sure." The final high blood pressure analytic variable collapsed into a binary of "yes" or "no" with "borderline high or pre-hypertensive" and "don't know/not sure" coded as "no."

***Depression.*** Depression was measured using the items from the PHQ-2 scale (Kroenke et al., 2003) and an adapted depression question from the 2011 Behavioral Risk Factor Surveillance System (BRFSS; CDC, 2011). The BRFSS question was "Has a doctor, nurse, or other professional ever told you that you had a depressive disorder (including depression, major depression, dysthymia, or minor depression)?" with adapted response options of "yes," "no," or "don't know/not sure" (refused was removed as a response option). Participants who scored a 3 or above on the PHQ-2 scale or answered "yes" to the BRFSS question were considered

clinically diagnosed with depression or had depression symptoms. Those who answered "no" and scored less than 3 on the PHQ-2 scale were considered not to be clinically diagnosed or reported symptoms.

***Diabetes.*** Diabetes was measured using an adapted question from the 2005–2006 CDC Diabetes Questionnaire (NHANES, 2007). Participants were asked, "Have you ever been told by a doctor or other health professional that you have diabetes?" with answers of "yes," "no," "pre-diabetes or borderline diabetes," "no," and "don't know/not sure." The words "sugar diabetes" were removed from the question stem. Diabetes was collapsed into a binary variable of "yes" or "no" diabetes with "pre-diabetes or borderline diabetes," "no," and "don't know/not sure" coded as "no."

***Prostate Cancer.*** Prostate cancer was measured by asking, "Has a doctor ever told you that you had prostate cancer?" with responses of "yes," "no," and "don't know/not sure." A binary variable was created with "yes" and "no" categories and "don't know/not sure" was considered "no."

**Health Behavior Variables.**

***Physical Activity Level.*** To obtain information about a participant's level of physical activity, a question from the Physical Activity Measure was used (Brown & Roberts, 2011). The question asked, "In general how often do you participate in moderate or intense physical activity for at least 30 min? Moderate physical activity will cause a slight increase in breathing and heart rate such as brisk walking." Response options were 1-"not at all," 2-"less than once a week," 3-"1-2 times a week," 4-"3 times a week," 5-"more than three times a week but not every day," and 6-"every day" with higher scores indicating more physical activity.

***Smoking Status.*** Two questions regarding smoking from the 2019 Behavioral Risk Factor Surveillance System (CDC, 2019) were used in the current survey. The first question asked, "Have you smoked at least 100 cigarettes in your life?" with responses of "yes" and "no." Response options refused and don't know/not sure were removed. Those who said "yes" were asked, "Do you smoke cigarettes every day, some days, or not at all?" Response options included "every day," "some days," "not at all," and "don't know/not sure." The final analytic variable took responses from both questions to create three categories of smoking status: current, former, and never. Those who answered "yes" to the first question and "not at all" or "don't know/not sure" were coded as former smokers. Participants who answered "yes" to the first question and "some days" or "every day" were considered current smokers. Participants who answered "no" to the first question and "not at all" or "don't know/not sure" to the second question were considered never smokers.

***PDE5 Inhibitor Use.*** PDE5 inhibitor use was measured by asking participants, "In the past 12 months, have you used PDE5 inhibitors (such as Viagra or Cialis) for sexual encounters?" with "yes" or "no" response options.

***Alcohol Use Before or During Sex.*** Alcohol use during sex was measured using one question from the Substance Use Measure (Knyazev et al., 2004), which was adapted to ask about alcohol use immediately before or during sex. The original question was "have you used alcohol?" The question was, "In the past 12 months, have you used alcohol immediately before or during sex?" and was adapted to ask about past 12 months and response options of "yes" or "no."

***Illicit Drug Use Before or During Sex.*** Illicit drug use before or during sex was measured by using an adapted question item that asked participants about drug use in general

(Knyazev et al., 2004). The original question was “have you ever tried drugs?” The adapted question was, “In the past 12 months, have you used illicit drugs immediately before or during sex (e.g., marijuana, ketamine, poppers, crystal meth, heroin, etc.)?” with adapted response options of “yes” or “no.” The question was adapted to include the past 12 months, and adding before or during sex to the question stem.

**Social Variables.**

***Internalized Gay Ageism***. Internalized gay ageism was measured using Wight’s (2015) Internalized Gay Ageism Scale, which consisted of six statements. These six statements were “As I get older, I feel good about myself as a gay man”; “I feel that older gay men are respected in the gay community”; “Aging is especially hard for me because I am a gay man”; “I am not too worried about looking older”; “As I get older, I feel more invisible when I am with other gay men”; and “I feel pressured to try to look younger than my age.” The response options (utilizing Wight’s (2015) Table 2.1 response categories) were 1 (*strongly disagree*) to 4 (*strongly agree*). The questions “As I get older, I feel good about myself as a gay man,” “I am not too worried about looking older,” and “I feel pressured to try to look younger than my age” were reverse coded. Scores were averaged across items with higher scores indicating higher internalized gay ageism.

***Experienced Ageism***. Experienced ageism was measured using an investigator-adapted version of Wight et al.’s (2015) scale, which was created for the purposes of their study. The original scale assessed any occurrence of ageism within the past in the past year of the following acts or impressions attributed to one's age. The adaptation to Wight’s scale changed the wording to ask about the past 12 months. The scale assesses if participants had any occurrence within the past 12 months of the following acts or impressions attributed to one’s age: “bullied,” “made fun

of by a stranger/strangers," "ignored by others," "called a derogatory name," "rejected by younger people," "not taken seriously," and "treated like a child" with "yes" or "no" responses.

***Internalized Homophobia.*** The scale used to measure internalized homophobia was the Revised Internalized Homophobia Scale (Herek et al., 2009). Statements included: "I wish I weren't gay" and "If someone offered me the chance to be completely heterosexual, I would accept the chance." Response options were on a 5-point Likert scale and included 1 (*disagree strongly*), 2 (*disagree*), 3 (*neither agree nor disagree*), 4 (*agree*), and 5 (*agree strongly*). The sum of the entire scale was divided by the total number of items with higher scores indicating more internalized homophobia.

Comfortable with Health Provider. Comfortability with health provider was measured by asking "How comfortable are you discussing your sexual health and well-being with your health provider?" This question was created for the study. The question had three response choices from not comfortable, somewhat comfortable, and very comfortable.

**Data Cleaning and Missing Values**

Prior to the data cleaning stage, a total of two surveys from the beginning phases of the study that were deemed fraudulent using a commercial IP software checker were removed. Next, participants who did not complete at least two-thirds of the questions of the entire survey were removed, which resulted in the loss of 11 surveys. One survey response was removed as the respondent's sexual orientation was determined ineligible for the survey criteria from an open-text answer. For all computed scale scores, listwise deletion technique was conducted to omit missing data (Kang, 2013). A total of 195 surveys were collected and the final analytic sample after data cleaning was 181 participants.

## Scale Development

### *Overall Health Scale*

The scale score for overall health was computed by taking the sum of the four items from the Self-Rated Health Measure (Turner et al., 2016). The final score was set to "missing" if there were any missing values for the four items. The scale had a theoretical range of 4–20 and an actual range of 6–20, with higher scores indicating better overall health. Cronbach's alpha was ($\alpha$ = .71) with a skewness of -.251.

### *Erectile Dysfunction Scale*

The scale score for ED was computed based on the mean score of the four items (non-applicable responses did not count toward their score and were recoded as "missing") from the ED subscale of the Gay Male Sexual Difficulties Scale (McDonagh et al., 2016). The theoretical and actual range of scores was 1–5, with higher scores indicating higher ED. The final score was set to "missing" if there were any missing values for the four items. Cronbach's alpha was ($\alpha$ = .94) with a skewness of .998.

### *Internalized Gay Ageism Scale*

The scale score for internalized gay ageism was computed by taking the mean of the six items from the Internalized Gay Ageism Scale (Wight et al., 2015). The final score was set to "missing" if there were any missing values for any of the six items. Cronbach's alpha was ($\alpha$ = .77) with a skewness of .231. Higher scores indicated higher internalized gay ageism.

### *Experienced Ageism Scale*

The scale score for experienced ageism was taking the sum score of seven items from the Ageism Scale (Wight et al., 2015). Answers of "yes" were given a score of 1 and answers of "no" a score of 0. The actual range was a minimum score of 0 and a maximum score of 7, with

higher scores indicating more experienced ageism. Cronbach's alpha was (α = .73) with a skewness of 1.65.

### *Internalized Homophobia Scale*

The computed scale score took the sum of the entire Revised Internalized Homophobia Scale (five items; Herek et al., 2009) and divided by the total number of items, with higher scores indicating more internalized homophobia. The final score was set to "missing" if there were any missing values for the five items. The computed scale had a Cronbach's alpha of (α = .80) and skewness of 1.88. The theoretical score range was 1–5 and actual score range was 1–4.40.

## Statistical Analysis

Descriptive analyses were conducted to summarize all variables of interest. Means and standard deviations were measured for continuous variables, and frequencies and percentages were calculated for categorical variables. Bivariate analyses were conducted using non-parametric Mann-Whitney tests to test the relationship between categorical independent variables with two groups and the outcome variable of ED, and Kruskal-Wallis tests were conducted to test the relationship between categorical independent variables with three or more groups and ED. For continuous variables that were non-normally distributed, Spearman's r test was conducted.

A mediation analysis between internalized gay ageism and ED with a mediator of blood pressure was planned to be conducted. However, at the bivariate level internalized gay ageism and ED were not significantly associated; therefore, a hierarchical linear regression was chosen. A four-stage hierarchical linear regression was conducted to explore the relationship between predictor variables that were significant or approaching significance in the bivariate analyses (*p*

< .10) and ED (internalized gay ageism was included for the social variables for theoretical reasons). In the first model, significant sociodemographic characteristics were entered (age, race and ethnicity, and residence). In the second model, health variables were entered (overall health, HIV status, and blood pressure). In the third model, health behavior variables were entered (physical activity, alcohol use before and during sex). In the final model, internalized gay ageism was entered for the social variables.

## Results

### Descriptive Analysis

Among the 181 participants, the mean age was 65.29 years (SD = 9.32). The majority had an undergraduate degree (34.8%) or graduate degree (45.9%) degree and were White (85.6%). Slightly over half of participants were single or widowed compared to being in some form of a relationship (50.3% versus 49.2%). Nearly half of participants resided in an urban setting (urban 48.1% versus suburban 34.8%, small city 11.6%, and rural 5.0%). Most participants were HIV negative (81.2%) and a little more than half indicated they had high blood pressure (50.3%). About half had been clinically diagnosed or indicated symptoms of depression (47.5%). The mean average of rated overall health was 14.8 (SD = 3.58) and a majority of participants rated they exercised at least one or two times a week or above. On average, participants indicated that their internalized gay ageism was m = 2.21 (SD =. 56) and had mean levels of ageism of m = 1.06 (SD = 1.49) and internalized homophobia of m = 1.41 (SD = .61). Most did not use PDE5 inhibitors (n = 121, 66.9%), illicit drugs (n = 135, 74.6%), or alcohol (n = 117, 65.4%) before/during sex. The mean ED score was just over 2 on a 1 to 4 scale (m = 2.23, SD = 1.5) meaning on average participants reported having ED “several times” in the past 12 months (see Table 2.1).

**Bivariate Analysis**

In bivariate analyses, the variables that were significantly associated with ED were alcohol use before/during sex (p = .052), physical activity level (p = .039), and race/ethnicity (p = .035) (Table 2.2). Age was positively associated with ED (r = .278, p < .001), while overall health was negatively associated with ED (r = -.347, p < .001). Notably, internalized gay ageism was not significantly associated with ED, nor was high blood pressure (see Table 2.2).

**Hierarchical Linear Regression Analysis**

***Model 1***

In Model 1, age positively predicted ED, *b* = .035, *t* = 3.425, p < .001. Additionally in Model 1, participants who identified as other and multiracial/multiethnicities were less likely to have ED compared to Black participants, *b* = -1.007, *t* = -2.123, p = .036. Age, race and ethnicity, and residence accounted for 14.1% variation in ED and contributed significantly to the model *F*(6,134) = 3.655, p = .002 (see Table 2.3).

***Model 2***

In Model 2, age remained significant, *b* = .032, *t* = 3.263, p = .001. Participants who identified as other and multiracial/multiethnicities remained less likely to have ED compared to Black participants, *b* = -.974, *t* = -2.057, p = .042. Overall health negatively predicted ED, *b* = -.093, *t* = -3.686, p < .001. Introducing overall health, HIV status, and blood pressure explained an additional 10.5% of variation of ED and significantly contributed to the model *F(*6,134) = 6.047, *p* < .001 (see Table 2.3).

***Model 3***

In Model 3, age remained significant, *b* = .030, *t* = 3.049, p = .003. Overall health remained significant in Model 3, *b* = -.075, *t* = -2.899, p = .004. Adding physical activity and

alcohol use before and during sex explained an additional 21.8% of the variance of ED and significantly contributed to the model $F(2,129) = 3.027$, $p = .052$ (see Table 2.3).

***Model 4***

In Model 4, age ($b = .027$, $t = 2.703$, $p = .008$) and overall health ($b = -.080$, $t = -3.051$, $p = .003$) remained significant. Neither physical activity nor alcohol use before and during sex remained significant in Model 4. Finally, adding internalized gay ageism to the final model explained .07% of variance of ED and was insignificant to the model $F(1,128) = 1.251$, $p = .265$ (see Table 2.3).

## Discussion

To our knowledge, this is the first study to examine both generally known and unique potential predictors of ED among gay men 50 years or older in the Midwest. A recently published systematic review suggested that ED is 1.5 times higher among gay men compared to heterosexual men (Barbonetti et al., 2019). In our study, we asked, “How often have you had erectile difficulties?” and the mean suggests that the average response to the erectile difficulties questions was “several times” within the past 12 months. \We found 80.1% of older gay men had stated they had some type of ED in the past 12 months.

Contrary to our hypothesis, internalized gay ageism was not associated with ED in this sample. However, age, overall health, physical activity, and alcohol use before and during sex was found to be significantly associated with ED at the bivariate level. In our study, as a participant aged and had worse self-reported overall health, the more often ED was reported. While age (Mulhall et al., 2016), health (Barbonetti et al., 2019), and exercise (Allen, 2019) have been showed to be associated with ED among the general population of men, alcohol use before and during sex and ED may be more unique due to the high prevalence of use among gay men.

Alcohol use is known to be more prevalent among sexual minorities compared to heterosexual populations (Hughes, Wilsnack et al., 2016), and our bivariate results suggest that alcohol use before or during sex is approaching significance with ED (p=.052); and that those who use alcohol use before or during sex had less ED compared to older gay men who did not use alcohol before or during sex. This phenomenon may be explained by the stress-reducing effect alcohol (Pohorecky, 1981; Sillaber & Henniger, 2004) has and may be the motive for older gay men to use before or during sex to focus on the sexual activity and not their sexual anxiety (Pyke, 2020). Although alcohol use before or during sex became insignificant in the linear regression, future studies should consider examining this factor further in relation to ED.

While our main hypothesis of internalized gay ageism being associated with ED was not confirmed, this leads us to believe there are other factors that may be contributing to the higher levels of ED in older gay men compared to other groups of men that we are missing. Furthermore, our results in the first two regression models show that participants who identified as other or multiracial and multiethnicities are less likely to report ED compared to Black participants. This aligns with other research regarding Black populations having higher prevalence rates of ED compared to other races among older men in general (Laumann et al., 2007). However, race and ethnicity was not significant when physical activity and alcohol use before or during sex was accounted for. Stigmatization and discrimination of race and ethnicity among older gay Black populations should be further examined as a factor for ED, especially as previous literature has suggested health inequities for Black populations that may prevent them from seeking help for their ED (Carroll, 2020). This is worthwhile to explore as the intersectionality of identities between race and ethnicity and sexual orientation status may

contribute to a bigger barrier to help-seeking behaviors in health care (Ayalon & Young, 2005; Gupta et al., 2011; Willging et al., 2006).

**Implications for Social Work**

These findings suggest the importance for older gay men to maintain their overall level of health as they age to ensure erectile function. Clinicians and educators must remain aware of healthy behaviors in which clients or patients are engaging, especially if the clients are presenting with issues around sexual dysfunction. A biopsychosocial assessment is vital to assess older gay men's sexual health and determine possible interventions as the current study confirmed that sociodemographic characteristics are known to be associated with ED.

**Limitations**

Although this is the first study exploring the relationship between internalized gay ageism and ED among older gay men in the Midwestern United States, the results should be viewed with caution. The sample was predominantly White, highly educated, high socioeconomic status, and was restricted to older gay men in the Midwest. Social acceptability and laws regarding LGBTQIA+ issues vary from region to region and may have influenced how participants responded. Furthermore, the current study utilized a cross-sectional design, which does not allow for causal inferences to be made, future studies should consider longitudinal designs. Additionally, this questionnaire required participants to self-report several items that assessed health, which may allow for recall bias or misreporting. Lastly, despite the best efforts from the researchers to prevent bots and scammers from entering the survey, it is possible some made it through to the survey.

## Conclusion

Age and overall health were found to be associated with ED among older gay men in the Midwestern United States. While this trend is similar to general populations of men, this study reinforces the importance of health as an integral piece of healthy sexual functioning among older gay men. Thus, clinicians and educators must highlight the importance of health-promoting behaviors, especially among older adult clients presenting with sexual health issues. Future studies should continue to investigate the factors associated with ED in older gay men and examine this phenomenon among a more diverse sample.

**Table 2.1**

*Descriptive Characteristics of Midwestern Gay Men 50 Years or Older (n = 181)*[1]

| Variable | *n* | % |
|---|---|---|
| **Sociodemographic Characteristics** | | |
| **Age (M/SD)** | 176 | *65.29, 9.32* |
| Missing | 5 | 2.8 |
| **Education** | | |
| Some college or technical school or below | 35 | 19.3 |
| Undergraduate degree | 63 | 34.8 |
| Graduate degree | 83 | 45.9 |
| Missing | 0 | 0 |
| **Race/Ethnicity** | | |
| Black | 15 | 8.3 |
| White | 155 | 85.6 |

**Table 2.1 (cont'd)**

| | | |
|---|---|---|
| Other/Multiple races or ethnicities | 11 | 6.1 |
| Missing | 0 | 0 |
| **Income** | | |
| Don't know/Not sure | 4 | 2.2 |
| Less than $25,000 | 18 | 9.9 |
| $25,000 less than $35,000 | 20 | 11.0 |
| $35,000 less than $50,000 | 26 | 14.4 |
| $50,000 less than $75,000 | 27 | 14.9 |
| $75,000 or more | 86 | 47.5 |
| Missing | 0 | 0 |
| **Relationship Type** | | |
| Single or Widowed | 91 | 50.3 |
| Monogamous | 34 | 18.8 |
| Monogamish | 26 | 14.4 |
| Open | 29 | 16.0 |
| Missing | 1 | .6 |
| **Residence** | | |
| Urban | 87 | 48.1 |
| Suburban | 63 | 34.8 |
| Small City | 21 | 11.6 |
| Rural | 9 | 5.0 |

**Table 2.1 (cont'd)**

| | | |
|---|---|---|
| Missing | 1 | .6 |
| **Health Status** | | |
| HIV Status | | |
| Positive | 33 | 18.2 |
| Negative | 147 | 81.2 |
| Missing | 1 | .6 |
| Overall Health Scale[2] | 179 | *14.8*, 3.58 |
| Missing | 2 | 1.1 |
| High Blood Pressure | | |
| Yes | 91 | 50.3 |
| No | 90 | 49.7 |
| Missing | 0 | 0 |
| Depression | | |
| Depression (Clinically diagnosed or reported symptoms) | 86 | 47.5 |
| Never been diagnosed or showing symptoms of depression | 91 | 50.3 |
| Missing | 4 | 2.2 |
| Diabetes | | |
| Yes | 35 | 19.3 |

**Table 2.1 (cont'd)**

| | | |
|---|---|---|
| No | 146 | 80.7 |
| Missing | 0 | 0 |
| Prostate Cancer | | |
| Yes | 15 | 8.3 |
| No | 166 | 91.7 |
| Missing | 0 | 0 |
| Erectile Dysfunction[3] | 151 | 2.23, 1.5 |
| Missing | 30 | 16.6 |
| **Health Behaviors** | | |
| Physical Activity Level | | |
| Not at all | 17 | 9.4 |
| Less than once a week | 29 | 16.0 |
| 1-2 times a week | 37 | 20.4 |
| 3 times a week | 38 | 21.0 |
| More than three times a week but not every day | 42 | 23.2 |
| Every day | 17 | 9.4 |
| Missing | 1 | .6 |
| Smoking Status | | |
| Current | 21 | 11.6 |
| Former | 73 | 40.3 |
| Never | 84 | 46.4 |

**Table 2.1 (cont'd)**

| | | |
|---|---|---|
| Missing | 3 | 1.7 |
| PDE5 Inhibitor Use | | |
| Yes | 60 | 33.1 |
| No | 121 | 66.9 |
| Missing | 0 | 0 |
| Alcohol Use Before/During Sex | | |
| Yes | 62 | 34.3 |
| No | 117 | 64.6 |
| Missing | 2 | 1.1 |
| Illicit Drug Use Before/During Sex | | |
| Yes | 46 | 25.4 |
| No | 135 | 74.6 |
| Missing | 0 | 0 |
| **Social Factors** | | |
| Internalized Gay Ageism[4] | 181 | 2.21, .55 |
| Missing | 0 | 0 |
| Experienced Ageism[5] | 181 | 1.06, 1.49 |
| Missing | 0 | 0 |
| Internalized Homophobia[6] | 177 | 1.41, .61 |
| Missing | 4 | |

**Table 2.1 (cont'd)**

| | | |
|---|---|---|
| Comfortable with Health Provider | | |
| Very comfortable | 96 | 53.0 |
| Somewhat comfortable | 57 | 31.5 |
| Not comfortable | 27 | 14.9 |
| Missing | 1 | .6 |

[1]M = Mean; SD = Standard Deviation

[2]Overall health scale was computed by summing four items from the Self-Rated Health Scale. Responses ranged from definitely true to definitely false and scores were summed across the four items and higher scores indicated better health. A theoretical range 4–20 and an actual range of 6–20. Cronbach's alpha was (α = .71) with a skewness of -.251.

[3]Erectile dysfunction was measured by using a subscale from the Gay Male Sexual Difficulties Scale. The subscale used four items on a 6-point scale from not applicable to all the time. The four items were reverse scored in the original scale and in the current study resulting in higher scores indicating more erectile difficulties (α = .94) with a skewness of .998. The mean was computed based on the number of items a participant answered (non-applicable responses did not count towards their score and was recoded as missing). Theoretical range 1–5 and actual range 1–5.

[4]Internalized gay ageism was assessed from the Internalized Gay Ageism Scale (Wight et al., 2015) using six items on a 4-point scale ranging from *strongly disagree* to *strongly agree*. Three items were reverse coded. The scale was computed by averaging each item (α = .77) and the

**Table 2.1 (cont'd)**

scale had a skewness of -.231. Higher scores indicated higher levels internalized gay ageism. Theoretical range 1–4 and actual range 1–4.

[5]Experienced ageism was assessed from the created Ageism Scale (Wight et al., 2015). Experienced ageism scoring was a count of seven items with scores ranging from 0 to 7 (actual range 0–7; α = .73, skewness 1.65). Higher scores indicated more experienced ageism.

[6]Internalized homophobia was computed by summing the responses to each item and dividing by the total number of items. The theoretical scale score was 1–5 and actual score range was 1–4.40 with a skewness of 1.88 (α = .80). Higher scores indicated more negative self-attitudes.

**Table 2.2**

*Bivariate Analyses of Midwestern Gay Men 50 Years or Older and Erectile Dysfunction (n = 181)*

| Variable | | n | M[1] | U[2]/KW[3] | p |
|---|---|---|---|---|---|
| Sociodemographic Characteristics | | | | | |
| Education | Community College or Below | 27 | 2.2315 | .778 | .678 |
| | Undergraduate Degree | 52 | 2.1827 | | |
| | Graduate Degree | 72 | 2.2674 | | |
| | Total | 151 | 2.2318 | | |
| **Race/Ethnicity** | **Black** | **12** | **2.2292** | **6.718** | **.035** |
| | **White** | **129** | **2.2926** | | |

**Table 2.2 (cont'd)**

| | | | | | |
|---|---|---|---|---|---|
| | **Other/Multiracial or Multiethnicities** | **10** | **1.4500** | | |
| | **Total** | **151** | **2.2318** | | |
| Income | Don't know/Not Sure | 3 | 3.3333 | 2.659 | .752 |
| | Less than 25,000 | 15 | 2.4500 | | |
| | 25,000–35,000 | 13 | 2.3846 | | |
| | 35,000 less than 50,000 | 23 | 2.1957 | | |
| | 50,000 less than 75,000 | 20 | 2.0250 | | |
| | 75,000 or more | 77 | 2.1851 | | |
| | Total | 151 | 2.2318 | | |
| Relationship Type | Single/Widowed | 66 | 2.3598 | 2.528 | .470 |
| | Monogamous | 31 | 2.1694 | | |
| | Monogamish | 25 | 2.3300 | | |
| | Open | 28 | 1.9107 | | |
| | Total | 150 | 2.2317 | | |
| Residence | Urban | 69 | 2.1630 | 6.249 | .100 |
| | Suburban | 57 | 2.2456 | | |
| | Small City | 17 | 2.7206 | | |

**Table 2.2 (cont'd)**

| | | | | | |
|---|---|---|---|---|---|
| | Rural | 7 | 1.5714 | | |
| | Total | 150 | 2.2300 | | |
| Health Variables | | | | | |
| HIV Status | Positive | 28 | 2.5446 | 1353.000 | .084 |
| | Negative | 122 | 2.1619 | | |
| | Total | 150 | 2.2333 | | |
| Blood Pressure | Yes | 75 | 2.3967 | 2409.000 | .098 |
| | No | 76 | 2.0691 | | |
| | Total | 151 | 2.2318 | | |
| Depression | Clinical diagnosis or showing signs of depression | 66 | 2.3561 | 2469.500 | .299 |
| | No clinical diagnosis or signs of depression | 83 | 2.1084 | | |
| | Total | 149 | 2.2181 | | |
| Diabetes | Yes | 27 | 2.5556 | 1380.000 | .150 |
| | No | 124 | 2.1613 | | |
| | Total | 151 | 2.2318 | | |
| Prostate Cancer | Yes | 12 | 2.1458 | 767.000 | .642 |
| | No | 139 | 2.2392 | | |

**Table 2.2 (cont'd)**

| | | | | | |
|---|---|---|---|---|---|
| | Total | 151 | | | |
| Health Behaviors | | | | | |
| **Physical Activity** | **Not at all** | **14** | **2.9643** | **11.678** | **.039** |
| | **Less than once a week** | **22** | **2.5795** | | |
| | **1-2 times a week** | **30** | **2.3250** | | |
| | **3 times a week** | **32** | **1.9219** | | |
| | **More than three times a week but not every day** | **35** | **2.0786** | | |
| | **Every day** | **17** | **1.8088** | | |
| | **Total** | **150** | **2.2200** | | |
| Smoking Status | Current | 19 | 1.8816 | 1.480 | .477 |
| | Former | 53 | 2.23491 | | |
| | Never | 76 | 2.2336 | | |
| | Total | 148 | 2.2297 | | |
| PDE5 Inhibitors | Yes | 55 | 2.2500 | 2277.500 | .158 |
| | No | 96 | 2.2214 | | |
| | Total | 151 | 2.2318 | | |
| Drug Use Before/During Sex | Yes | 42 | 2.0119 | 2005.500 | .235 |

**Table 2.2 (cont'd)**

| | | | | | |
|---|---|---|---|---|---|
| | No | 109 | 2.3165 | | |
| | Total | 151 | 2.2318 | | |
| **Alcohol Use Before/During Sex** | **Yes** | **56** | **1.9063** | **2112.000** | **.052** |
| | **No** | **93** | **2.3898** | | |
| | **Total** | **149** | **2.2081** | | |
| Social Variables | | | | | |
| Comfort With Health Provider | Very Comfortable | 85 | 2.0853 | 3.640 | .162 |
| | Somewhat comfortable | 45 | 2.4500 | | |
| | Not comfortable | 21 | 2.3571 | | |
| | Total | 151 | 2.2318 | | |
| | | r | | p | |
| **Age** | | **.278** | | **< .001** | |
| **Overall Health** | | **-.347** | | **< .001** | |
| Internalized Gay Ageism | | -.020 | | .811 | |
| Experienced Ageism | | .018 | | .825 | |

**Table 2.2 (cont'd)**

| | | |
|---|---|---|
| Internalized Homophobia | .026 | .753 |

[1]Mean

[2]Mann-Whitney Test

[3]Kruskal-Wallis Test

**Table 2.3**

*Hierarchical Regression Analysis of Predictors of Erectile Dysfunction*

| Predictor Variables | Regression 1 | Regression 2 | Regression 3 | Regression 4 |
|---|---|---|---|---|
| **Sociodemographic Variables** | | | | |
| Age | .035*** | .032** | .030** | .027** |
| Race and Ethnicity | | | | |
| Black (Reference) | | | | |
| White (1, yes; 0, no) | -.207 | -.235 | -.146 | -.098 |
| Other/Multiracial and Multiethnicities (1, yes; 0, no) | -1.007* | -.974* | -.888 | -.895 |
| Residence | | | | |
| Urban (Reference) | | | | |
| Suburban (1, yes; 0, no) | -.056 | -.067 | -.079 | -.072 |

**Table 2.3 (cont'd)**

| | | | | |
|---|---|---|---|---|
| Small City (1, yes; 0, no) | .313 | .345 | .275 | .303 |
| Rural (1, yes; 0, no) | -.635 | -.494 | -.455 | -.530 |
| **Health Variables** | | | | |
| Overall Health | | -.093*** | -.075** | -.080** |
| HIV Status (1, positive; 0, negative) | | .229 | .239 | .252 |
| High Blood Pressure (1, yes; 0, no) | | .265 | .227 | .227 |
| **Health Behavior Variables** | | | | |
| Physical Activity (1, not at all; 6, every day) | | | -.108 | -.108 |
| Alcohol Use Before and During Sex (1, yes; 0, no) | | | -.269 | -.274 |
| **Social Variables** | | | | |
| Internalized Gay Ageism | | | | -.201 |
| $R^2$ | .141 | .245 | .279 | .286 |
| Adjusted R Square | .102 | .193 | .218 | .219 |

**Table 2.3 (cont'd)**

| | | | | |
|---|---|---|---|---|
| $R^2$ change | .141 | .105 | .034 | .007 |

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

# CHAPTER 3: INTERNALIZED GAY AGEISM AND FREQUENCY OF SEXUAL ACTIVITY AMONG OLDER GAY MEN

Older adults continue to engage in sexual activity late in their lives and rate sex as important (Lindau et al., 2007), contrary to American myths that older adults are asexual or uninterested in sex (Schwartz, 2011). Furthermore, sex is not only important to the lives of older adults, but it is also beneficial. For example, frequent sex is linked to better overall well-being and greater life satisfaction in older adults (Penhollow et al., 2009). Additionally, sexual health and well-being is associated with better physical and mental health (DeLamater, 2012), higher quality of life (Penhollow et al., 2009), and less relationship strain (Hinchliff et al., 2018) among older adults.

Frequency of sexual activity is an indicator of sexual health and well-being among general populations. For example, people who have higher frequency of sexual activity are at lower risk of all-cause mortality and cancer mortality (Cao et al., 2020). In regard to older adults, a correlation has been found between the frequency of sex and sexual satisfaction among partnered older adults (Gillespie, 2017), and sexual satisfaction has been found to be linked to overall subjective well-being among older adults (Buczak-Stec et al., 2019). Thus, factors that influence frequency of sex are worthwhile to explore among older adults.

While research begins to uncover more about the sexual health and well-being of older adults in general, information regarding marginalized subgroups of older adults (e.g., older gay men) is less understood. Sexual health research targeting older gay men tends to focus on sexual risk behavior. Little is known about frequency of sex among older gay men and the potential factors influencing this aspect of their lives. The current study fills this gap by exploring factors that may influence frequency of sex among older gay men.

Ageism has been defined as "…a deep seated uneasiness on the part of the young and middle-aged—a personal revulsion to and distaste for growing old, disease, disability; and fear of powerlessness, "uselessness," and death." (Butler, 1969. p. 243). Experiences of ageism are known to negatively affect various health outcomes among older adults, such as mental health (Lyons et al., 2018). Experiencing ageism is also associated with frequency of sexual behavior among older adults; Heywood et al. (2019) found that older adults who experienced ageism in general were less likely to have had sex within the past two years and less likely to have hope for their future sex lives. Long-term exposure to ageism eventually becomes internalized and embedded within an individual's belief system (Ayalon & Tesch-Römer, 2017; Kotter-Grühn & Hess, 2012; Levy & Leifheit-Limson, 2009), and research suggests that this internalization influences individuals' behaviors, including their sexual behavior.

Syme and Cohn (2020) found that older adults who believed sexual stereotypes related to aging were less likely to engage in sexual and intimate activities. A study among older adults exploring predictors of sexual activity found that those with positive attitudes toward sexual changes due to aging were predictors of increased partnered sexual activity (Fischer et al., 2021). While research around the relationship between internalized ageism and frequency of sex is emerging among older adults, this relationship is less understood among older gay men.

Research is inadequate about internalized gay ageism among older gay men and the potential influence this may have on sexual behavior. Previous qualitative research has indicated that the gay community facilitates a culture that perpetuates negative views on aging and sex (Lyons et al., 2015; Slevin & Linneman, 2010; Tiggemann et al., 2007). For example, youthfulness, masculinity, and beauty are the traits that are seen as the most sexually desirable within gay culture (Lyons et al., 2013; Lyons et al., 2015; Slevin, 2008; Slevin & Linneman,

2010). Such traits are often unattainable for older gay men as they age, due to biological, psychological, and social changes (Lyons et al., 2015). Negative perceptions of aging in gay culture may make older gay men more susceptible to the exposure of ageism, and therefore the potential to internalize it. Because gay culture is vastly different than heterosexual culture in terms of aging (Heaphy et al., 2004), previous measures of internalized ageism may not accurately explain this phenomenon in older gay man.

The way older gay men internalize ageism may affect their behavior when looking for sexual partners. Slevin and Linneman's (2010) qualitative study suggested evidence to explore internalized gay ageism and how older gay men seek out sexual partners. For example, one gay participant named Gary knew his age was a "distinct disadvantage in the gay world" and this influenced his behavior when looking for sexual partners, through hiding his age or not bringing it up (Slevin & Linneman, 2010, p. 499). Gary's experience is not an isolated one, as other older gay men from other studies have reported similar evidence for the internalization of ageist narratives. Another older gay man reported not attending bars and clubs, which are common spots for gay men to find sexual partners (Slevin & Linneman, 2010), because he felt out of place due to his age. Even in gay online spaces (e.g., Grindr, Scruff, etc.), which are alternative ways for gay men to seek out sex, younger users have ageist messages in their public profiles such as "No age AND pic on your profile? = no response from me. Also, decreasing chances of me replying to you for every year beyond 28 years old" (Conner, 2019, p. 8), which may lead older gay men to abandon this method of finding sexual partners. The effort older gay men make to seek out sex also may play a role in the amount of sex they engage in.

Some aspects of gay culture that perpetuate ageism are different compared to heterosexual cultures. For example, aging is considered to be accelerated due to a focus on

youthfulness, masculinity, and attractiveness within the gay community (Koziol, 2015; Duncan, 2008). Thus, the context of gay culture should be acknowledged when exploring internalized ageism. Researchers have developed the term *internalized gay ageism* to explain internalized ageism that is specific to the gay community (Wight et al., 2015). Wight and colleagues' (2015) concept of internalized gay ageism takes into account aging as a gay man within the gay community. For example, question items in Wight's scale ask older gay men to report their own aging experience in relation to that of other gay men, as well as how respected they believe older gay men are within the gay community. Previous measures of ageism or aging stereotypes have not taken into consideration the different cultural experiences of sexual minorities. Wight's scale fills this gap and depicts how older gay men may internalize such messages compared to general population older adults.

Three covariates that should also be considered when examining internalized gay ageism and frequency of sex among older gay men are relationship type, level of outness, and community belongingness. Research does tell us that gay men are more likely to have varying sexual agreements compared to the heteronormative default of monogamy (Parsons et al., 2013). Relationship types such as monogamish (i.e., a blend between monogamy and being open where partners can have sex with others but only when both partners are present) and open relationships (i.e., both partners can have casual partners without the other partner present) are common among the gay community (Parsons et al., 2013). Thus, seeking out sex may be different and may influence the amount of sex an older gay man has. Level of outness may influence the way older gay men seek out sex today, as a study found that outness moderated an indirect effect of sex-seeking with number of casual sexual partners (Chan, 2017). This is salient as this generation of older gay men grew up during contentious times where being gay and same-sex sex were

highly stigmatized. Lastly, older gay men that feel connected to the community may be more likely to attend LGBTQIA+ events, network with other men their age, and, in turn, possibly have more options to find sexual partners, when partner availability is a concern with other sexual health outcomes, such as sexual satisfaction (Skałacka & Gerymski, 2019).

The current study utilizes an adapted version of a previous theoretical model that explores internalized ageism among older adults. The theoretical model is stereotype embodiment theory (SET), which explains how internalized ageism affects health outcomes among older adults through three pathways. The original SET model posits three major underpinnings: (a) over a lifetime self-perceptions and stereotypes about aging are internalized, (b) such perceptions and stereotypes become "self-stereotypes," and (c) these views become activated unconsciously or consciously and then affect health outcomes (Levy, 2009). The model also states that age stereotypes and self-perceptions regarding age influence health outcomes through multiple pathways, including physiological, behavioral, and psychological (Levy, 2009). For the purposes of this study, the focus is on the behavioral pathway. For the behavioral pathway, age perceptions and stereotypes influence healthy behavioral practice; for example, older adults who had positive attitudes toward aging engaged in more physical activity (Chalabaev et al., 2013; Emile et al., 2014).

The current study adapts the SET model by incorporating Wight's internalized gay ageism concept and the behavioral pathway. In the adapted model our hypothesis is that older gay men internalize gay ageism stereotypes, ideas, and perceptions expressed by the gay community over time. Such thoughts and perceptions become self-fulfilling prophecies that influence their sexual behaviors; specifically, how often older gay men seek out sex, which then influences how frequently older gay men engage in sex. This adapted model is based on previous

evidence, such as the findings from Slevin and Linneman (2010) and Lyon et al. (2015). The adapted model posits that seeking out sex will mediate the relationship between internalized gay ageism and the frequency of sex.

Such exploration among older gay men could potentially lead to information regarding how older gay men internalize ageism and the influence on their sexual behaviors that may be useful to reduce health disparities (Fredriksen-Goldsen et al., 2013; Frost et al., 2015).

## Aims/Hypotheses

This study was guided by the following research questions and hypotheses:

RQ 1: What is the relationship between internalized gay ageism and frequency of sexual activity?

RQ 2: Does seeking out sex mediate the relationship between internalized gay ageism and frequency of sexual activity controlling for covariates?

*Hypothesis 1: Older gay men who report higher rates of internalized gay ageism will have lower frequency of sexual activity.*

*Hypothesis 2: Seeking out sex mediates the relationship between internalized gay ageism and frequency of sexual activity among older gay men.*

## Methods

The Study on Aging and Sexual Satisfaction Among Gay Men (SASSY) was a cross-sectional online survey that assessed the sexual health and well-being of gay men 50 years or older who resided in the Midwestern United States. Eligibility for participation in the survey included being 50 years or older (assessed by "What is your age range?"), (2) identifying as gay (assessed by "Do you identify as gay?"), (3) having been assigned male at birth (assessed by "What sex was originally listed on your birth certificate?"), (4) identifying as male (assessed by

"What is your primary gender identity today?"), and (5) residing in a Midwestern state (Michigan, Ohio, Iowa, Minnesota, Indiana, Illinois, Wisconsin, Kansas, Nebraska, Missouri, North Dakota, and South Dakota) at the time of the survey.

For the current study, 146 cases out of a sample of 181 were selected for analysis. Only participants who were single/widowed, monogamish, or in an open relationship were chosen as these individuals would be likely to actively seek out new sexual partners. Participants who identified as monogamous were excluded.

Data were collected from December 2021 to May 2022 using Qualtrics online survey software (a paper survey option was available upon request). The survey took participants on average between 15 and 20 minutes. Recruitment of the sample was accomplished through several avenues including word of mouth, email blasts, phone calls to LGBTQIA+ organizations, LGBTQIA+ events, churches, and gay men's adult entertainment websites. A $10 incentive was offered to participants who completed the survey and provided their home address on a separate form linked to the main survey. Bots and scammers breached the survey to receive the $10 incentive, which was pinpointed to a link to the survey being posted on social media. Thus, the survey was revised and changed from anonymous to confidential, and potential participants had to email a specific email address to receive their unique link to the study. Posting flyers on social media was not a means of recruitment to prevent bots and scammers from receiving the incentive. The study was approved by Michigan State University's Institutional Review Board.

## Measures

### *Dependent Variable*

**Frequency of Sexual Activity.** Frequency of sexual activity was measured by asking participants a question created for this study, "On average, how many times in the past 12

months have you:" followed by a list of sexual acts that were selected by the investigator from a study about male-partnered sexual events (Rosenberger et al., 2011). The list included "gave oral sex," "received oral sex," "masturbated partner," "masturbated by partner," "genital-genital contact," "anal intercourse (receptive)," "anal intercourse (insertive)," "oral-anal contact (performed)," "oral-anal contact (received)" and "other (specify)." The response options included "never," "once per year," "once a month," "once every week," "a few times a week," "once a day," and "a few times a day." Scores were given a numeric value with each response option (e.g., 0 = *never* to 6 = *a few times a day*) and the highest number from all items was recorded. Higher scores indicated more sexually active. Solo masturbation (including solo anal play) was a part of the original study but excluded from analysis as the focus of the study was to examine engagement in partnered sexual activity.

### *Independent Variable*

**Internalized Gay Ageism.** Internalized gay ageism was measured using Wight's (2015) Internalized Gay Ageism Scale, which consisted of six statements. These six statements were "As I get older, I feel good about myself as a gay man"; "I feel that older gay men are respected in the gay community"; "Aging is especially hard for me because I am a gay man"; "I am not too worried about looking older"; "As I get older, I feel more invisible when I am with other gay men"; and "I feel pressured to try to look younger than my age." Responses for these items were on a 4-point Likert scale (utilizing Wight's (2015) Table 3.1 response categories) from 1 (*strongly disagree*) to 4 (*strongly agree*). Scores were averaged across items with higher scores indicating higher disagreement, meaning higher internalized gay ageism. The questions "As I get older, I feel good about myself as a gay man," "I am not too worried about looking older," and "I

feel pressured to try to look younger than my age" were reverse coded. The original scale had a reliability of Cronbach's alpha of ($\alpha = 0.66$).

### *Sociodemographic Variables*

Participant demographic items included age, education level, race/ethnicity, relationship type, income, and residence.

***Education.*** Education level was asked based on the 2019 Behavioral Risk Factor Surveillance System (Centers for Disease Control and Prevention [CDC], 2019). The question was, "What is the highest grade or year of school you completed?" Response options were adapted, and included less than high school, some high school, some college or technical school, community college degree (e.g., A.A.), undergraduate degree (e.g., B.S., B.A. etc.), graduate degree (e.g., M.S.W., M.A., Ph.D., J.D., M.D. etc.). A new analytic variable was created. The original response options included options such as did not graduate High School, Graduated High School, Attended College or Technical School, Graduated from College or Technical School, or Don't know/Not sure/Missing. The variable was collapsed into three categories: community college or below, undergraduate degree, and graduate degree.

**Race and Ethnicity.** To ask about race and ethnicity, a question from Hughes et al.'s "Rethinking and Updating Demographic Questions: Guidance to Improve Descriptions of Research Samples" was used (Hughes, Camden, et al., 2016). Participants were asked, "Which categories describe you? Select all that apply to you" with response options of "American Indian or Alaska Native"; "Asian"; "Black or African American"; "Hispanic", "Latino or Spanish Origin"; "Middle Eastern or North African"; "Native Hawaiian or Other Pacific Islander"; "White"; and "Some other race, ethnicity, or origin (please specify)." The final analytic variable was collapsed into three categories: Black, White, and other/multiracial and multiethnic.

**Income.** Income was asked on the survey using a question from the 2019 Behavioral Risk Factor Surveillance System (CDC, 2019). It asked, "What is your annual household income from all sources?" The response options were adapted and included "don't know/not sure," "less than $25,000," "$25,000 less than $35,000," "$35,000 less than $50,000," "$50,000 less than $75,000," and "$75,000 or more."

**Relationship Type.**

***Relationship Type.*** Relationship type determined if a participant was single or the type of their relationship if they were in one. An investigator-adapted version of Parsons et al.'s (2013) question was used to include an "other" category with the original response options of single, monogamous, monogamish, and open. It asked, "What best describes your current relationship type?" The response options were "single (e.g., do not have main partner)," "monogamous (e.g., have a partner and agreed to only have sex with each other and no sex with casual partners)," "monogamish (e.g., have partners and agreed to have sex with others but only when the other member of the relationship was present)," "open (e.g., have a partner and both the partner and I have casual partners without the other partner present)," and "other (please specify in the box)." Based on the other responses, "widow" was common in the "other" category, which was then collapsed with "single" into one category.

***Residence.*** One question asked about the residence of participants and was adapted from the Michigan Transgender Health Survey 2018 (Kattari et al., 2020). The question asked, "Would you consider where you live to be?" and the original response options were, "urban (metropolitan areas; cities of over 100,000 people [e.g., Detroit Grand Rapids])", "suburban (neighborhoods on the outskirts of near larger cities [e.g., Dearborn])", "small city (cities of 10,000 to 100,000 people [e.g., Jackson, Port Huron]), "rural (villages, hamlets, towns, cities

under 10,000 people [e.g., Bad Axe])" and "frontier (less than six people living per square mile). The response options were adapted to include relevant cities in the Midwest. The response options included "urban (metropolitan areas; cities of over 100,000 people [e.g., Detroit, Cleveland, Chicago, Milwaukee])," "suburban (neighborhoods on the outskirts of near larger cities," "small city (cities of 10,000 to 100,000 people [e.g., Jackson, Port Huron, Saginaw]), and "rural (villages, hamlets, towns, cities under 10,000 people)."

### *Health Status Variable*

**HIV Status.** HIV status was measured by asking participants, "Have you ever been told by a health care provider that you had HIV and/or AIDS?" with "yes" or "no" response options. This response options were investigator-adapted from "either or both diagnoses" and "none" from a study that explored HIV disparities among older gay and bisexual men (Emlet et al., 2020).

A final binary analytic variable was created with categories of positive versus negative HIV status.

### *Sexual Health Variables*

**Seeking Out Sex.** Seeking out sex was measured by three questions. Two were adapted from the Gay Auckland Periodic Sex Survey and Gay Men's Online Sex Survey (Saxton et al., 2014) to ask about the past 12 months, and the other was created for the current study. The three questions included, "How frequently have you gone online to look for male sexual partners in the past 12 months? (e.g., Grindr, Adam4Adam, Scruff, Jack'D)"; "How frequently have you looked for male sexual partners offline in the past 12 months (e.g., bars, community centers, bathhouses)?" and "How often did you contact a casual sex partner or fuck buddy looking for

sex?" The response options included "never," "once per year," "once every 6 months," "once every 3 months," "once a month," "once every week," and "daily."

***Experienced Ageism***. Experienced ageism was measured using an investigator-adapted version of Wight et al.'s (2015) scale, which was created for the purposes of their study. The original scale assessed any occurrence of ageism within the past in the past year of the following acts or impressions attributed to one's age. The adaptation to Wight's scale changed the wording to ask about the past 12 months. The scale assesses if participants had any occurrence within the past 12 months of the following acts or impressions attributed to one's age: "bullied," "made fun of by a stranger/strangers," "ignored by others," "called a derogatory name," "rejected by younger people," "not taken seriously," and "treated like a child" with "yes" or "no" responses.

***Internalized Homophobia.*** The scale used to measure internalized homophobia was the Revised Internalized Homophobia Scale (Herek et al., 2009). Statements included: "I wish I weren't gay" and "If someone offered me the chance to be completely heterosexual, I would accept the chance." Response options were on a 5-point Likert scale and included 1 (*disagree strongly*), 2 (*disagree*), 3 (*neither agree nor disagree*), 4 (*agree*), and 5 (*agree strongly*). The sum of the entire scale was divided by the total number of items with higher scores indicating more internalized homophobia.

**Community Belongingness**. A series of four items were adapted from the Connectedness to the LGBT Community (Frost & Meyer, 2012) scale were used to assess community belongingness. The four items were "You feel you're a part of the LGBTQIA+ community," "You feel a bond with the LGBTQIA+ community," "Participating in the LGBTQIA+ community is a positive thing for you," and "You are proud of the LGBTQIA+ community." Originally the scale was focused on New York's LGBT community; however, the

adapted version omits New York and adds QIA+ to be broader. The adapted scale used a 6-point Likert scale from 1 (*strongly disagree*) to 6 (*strongly agree*). Higher scores indicated more community belongingness.

## Data Cleaning and Missing Values

Prior to the data cleaning stage, a total of two surveys from the beginning phases of the study that were deemed fraudulent using a commercial IP software checker were removed. Next, participants who did not complete at least two-thirds of the questions of the entire survey were removed, which resulted in the loss of 11 surveys. One survey response was removed as the respondent's sexual orientation was determined ineligible for the survey criteria from an open-text answer. A total of 195 surveys were collected and the final analytic sample after data cleaning and case selection, after removal of monogamous participants, was 146 participants. For all computed scale scores, listwise deletion technique was conducted to omit missing data (Kang, 2013).

## Scale Development

### *Frequency of Sex Scale*

The scale for frequency of sex was computed by giving a numeric value to each response option (e.g., 0 = *never* to 5 = *daily*) and the highest number from all items was recorded. Solo masturbation (including solo anal play) was excluded from analysis as the focus of the study was to examine engagement in partnered sexual activity. The scale had a theoretical range of 0–5 and an actual range of 0–5. The scale had a Cronbach's alpha of ($\alpha = .93$) with a skewness of .15. Higher scores indicated higher frequency of sex.

### *Seeking Out Sex Scale*

To compute the scale for seeking out sex, the mean of the three adapted seeking out sex questions was computed. The response option of "never" was recoded as 0. The final score was set to "missing" if there were any missing values for the three items. The scale had a theoretical range of 0–5 and an actual range of 0–4.33. The scale had a Cronbach's alpha of ($\alpha = .69$) and a skewness of .43. Higher scores indicated higher frequency of seeking out sex.

### *Internalized Gay Ageism Scale*

The scale score for internalized gay ageism was computed by taking the mean of the six items from the Internalized Gay Ageism Scale (Wight et al., 2015). The final score was set to "missing" if there were missing values for any of the six items. Cronbach's alpha was ($\alpha = .78$) and skewness was .17. Higher scores indicated higher internalized gay ageism.

### *Experienced Ageism Scale*

The scale score for experienced ageism was taking the sum score of the seven items from the Ageism Scale (Wight et al., 2015). Answers of "yes" were given a score of 1 and answers of "no" a score of 0. The actual range was a minimum score of 0 and a maximum score of 7. Cronbach's alpha was ($\alpha = .71$) and skewness was 1.48. Higher scores indicated higher experienced ageism.

### *Internalized Homophobia Scale*

The computed scale score took the sum of the entire Revised Internalized Homophobia Scale (five items; Herek et al., 2009) and divided by the total number of items, with higher scores indicating more internalized homophobia. The final score was set to "missing" if there were any missing values for the five items. The computed scale had a Cronbach's alpha of ($\alpha =$

.80) and skewness of 1.74. The theoretical score range was 1–5 and actual score range was 1–4.40.

### *Community Belongingness Scale*

The computed scale score took the mean of the adapted Connectedness to the LGBT Community Scale (four items) and divided by the total number of items, with higher scores indicated more feelings of belongingness to the LGBTQIA+ community. Four items were adapted by removing the information about New York and asking about the LGBTQIA+ community in a broader sense. The final score was set to "missing" if there were any missing values for the four items. The computed scale had a Cronbach's alpha of ($\alpha$ = .91) and a skewness of -.94. The theoretical range of the scale was 1–6 and the actual scale was 1–6. Higher scores indicated more feelings of belongingness to the LGBTQIA+ community.

### *Outness Scale*

The outness scale was computed by taking the average of means of two out of the three subscales from the Outness Inventory to get total outness. The computed scale of both subscales combined had a Cronbach's alpha of ($\alpha$ = .89) and a skewness of -.45. Non-applicable responses were set as "missing." The theoretical range of the scale was 1–8 and the actual range was 1–8. Higher scores indicated higher outness.

## Covariates

To determine which covariates were kept in the model, bivariate analysis was conducted to test the relationship between each variable and the outcome "frequency of sex." Predictor variables with a p value of <.10 were included in multivariate analyses, resulting in outness, relationship type, and income being included. While age was not significant at the bivariate

level, it was also included due to the relationship between age and frequency of sex found in prior studies (Lindau et al., 2007).

**Statistical Analysis**

All statistical analyses were conducted using IBM SPSS V.28 (IBM Corp., 2021). Descriptive analyses were conducted to summarize all variables of interest. Means and standard deviations were conducted for continuous variables, and frequencies and percentages were calculated for categorical variables. Bivariate analyses were conducted using ANOVA to test the relationship between categorical independent variables with three or more groups and the outcome variable of frequency of sex, Mann-Whitney U t-tests were conducted to test the relationship between skewed categorical variables with two groups and frequency of sexual activity, and Kruskal-Wallis tests were conducted to test the relationship between skewed categorical variables with three or more groups and frequency of sex. For continuous variables that were non-normally distributed Spearman's r test was conducted, and for continuous variables that were normally distributed, Pearson's test was conducted.

Seeking out sex was examined as a potential mediator of the relationship between internalized gay ageism and frequency of sex. We used Hayes's (2009) PROCESS macro with bootstrapping (2,000 samples) to analyze whether the effect of internalized gay ageism is mediated by seeking out sex at a 95% confidence interval (CI). We conducted PROCESS macro to examine the total effects, direct effects, and indirect effects. The pathway for the direct effect was internalized gay ageism and frequency of sex. The indirect pathway was seeking out sex and frequency of sex. The total effect was both the direct and indirect effects combined. A linear regression was conducted between internalized gay ageism, internalized homophobia, and experienced ageism to check for multicollinearity issues due to scales being conceptually

connected. There were no multicollinearity issues found between internalized gay ageism, internalized homophobia, and experienced ageism.

## Results

### Descriptive Analysis

Among 146 participants, the mean age was 65.44 years. The majority of participants had an undergraduate degree (33.6%) or graduate degree (47.3%) and were White (85.6%). Almost half had an income level of $75,000 or more (45.2%) and resided in urban locations (49.3%) (see Table 3.1). Most participants were single or widowed (62.3%) compared to monogamish (17.8%) and open (19.9%). Most participants were HIV negative (82.2%). On average, participants had low sexual-seeking behaviors based on the 0–5 scale ($M = 1.43$, $SD = 1.24$) and on average participants engaged in sexual activity once every 6 months ($M = 1.99, 1.54$). On average participants had a mean score of internalized gay ageism of 2.23 ($SD = .566$), a mean of 1.13 for experienced ageism ($SD = 1.49$), and a mean of 1.44 for internalized homophobia ($SD = .620$).

### Bivariate Analysis

In bivariate analyses, variables that were significantly associated with frequency of sexual activity were income [$F(5, 140) = 3.73$, $p = .003$] and relationship type [$F(2, 143) = 20.25$, $p < .001$] (see Table 3.2). Seeking out sex was positively associated with frequency of sexual activity ($r = .57$, $p < .001$) and internalized gay ageism was negatively associated with frequency of sexual activity ($r = -.20$, $p = .017$).

## Mediation Analysis

### *Total and Indirect Effects of Internalized Gay Ageism and Frequency of Sex Mediated by Seeking Out Sex*

To test Hypothesis 2, we conducted a mediation analysis between internalized gay ageism and frequency of sex via seeking out sex. In the sample, the total effects of the bootstrapped mediation analyses indicated a nonsignificant relationship between internalized gay ageism and frequency of sex via seeking out sex ($b$ = -.21, SE = .22, 95% CI [-.66, .23], p = .34) (see Table 3.3). Additionally, a nonsignificant direct effect between internalized gay ageism and frequency of sex was found ($b$ = -.26, SE = .18, 95% CI [ -.62, .09], p = .15).

The significance of the indirect effects, the pathway of internalized gay ageism on frequency of sex via seeking out sex, were tested. These analyses resulted in a nonsignificant finding, indicating that there is not a relationship through this pathway ($b$ = .05, 95% CI [-.20, .32]). Thus, we fail to reject the null hypothesis (H2).

Although the main mediation analyses were insignificant, seeking out sex was significantly associated with frequency of sex ($b$ = .68, SE = .08, 95% CI [.51, .84], p < .001). Furthermore, relationship type as a covariate was significantly associated with seeking out sex. Participants in open relationships had higher frequency of seeking-out behaviors compared to those who were single or widowed ($b$ = .59, SE = .29, 95% CI [.023, 1.16], p = .04).

Both relationship type and income were associated with the outcome variable of frequency of sex. Participants who had an income level above $50,000 but less than $75,000 ($b$ = -1.03, SE = .39, 95% CI [-1.08, -.26], p = .0089) had less frequent sex compared to those who had less than $25,000 income. Participants with $75,000 or more compared to participants who had less than $25,000 had less frequent sex ($b$ = -.81, SE = .36, 95% CI [-1.5230, -.0923], p =

.0272). Furthermore, participants who were in monogamish (*b* = 1.61, SE = .30, 95% CI [1.03, 2.20], p < .001) or open (*b* = .76, SE = .2707, 95% CI [.22, 1.30], p = .006) relationships compared to single/widowed participants had higher frequency of sex. Outness or age did not contribute to the model.

**Discussion**

The present study examined the relationship between internalized gay ageism and frequency of sex. Furthermore, mediation analysis was conducted to examine the role of seeking out sex as a mediator between internalized gay ageism and frequency of sex. Overall rates of any sexual activity within the past year among older gay men were higher compared to a recent study on older gay and bisexual men (75% versus 63.9%, respectively; Brennan-Ing et al., 2021). One explanation for the difference in rates of sexual activity is that Brennan-Ing et al.'s sample oversampled HIV-positive participants compared to the current study and these participants reported high levels of erectile dysfunction (ED). ED is a risk factor for a reduction of sexual activity among older men (Araujo et al., 2004).

The findings suggest that internalized gay ageism does not predict frequency of sex when looking at the factor of seeking out sex. One explanation to this null finding may be in part that older gay men in this study reported on average low levels of internalized gay ageism to begin with. For example, on average, participants rated their mean internalized gay ageism as 2.23 on a scale of 1–4. However, it is worth noting that relationship type does in fact influence how often older gay men seek out sex.

While little was previously known about the frequency of sex in varying types of sexual agreement relationships among older gay men, among American adults, people who were married had more sex than those who were unmarried (Twenge et al., 2017). In our study, we

found that older gay men who are in open or monogamish relationships compared to single/widowed had more frequent sex. Thus, an argument can be made that relationship types are contextually different among gay men versus heterosexual people and plays a role in the frequency of sex. Previous studies have suggested gay men are often in relationship types other than the default of monogamy for heterosexual couples (Conley, Ziegler et al., 2013; Gotta et al., 2011). For instance, Gotta et al. (2011) found that gay men (59.4%) are more likely have sex with someone else outside their relationship compared to lesbian (8.2%) and heterosexual (10.1%) couples. Our findings suggest that there is a benefit to being in "nontraditional" relationship types among older gay men compared to older gay men who are single, as those who are in an open relationship report more frequent sex. This is important as empirical evidence has shown that people who engage in sex report better physical and mental health outcomes (Cox et al., 2021). However, there is still a stigma and bias when it comes to relationship types outside of monogamy (Balzarini & Muise, 2020; Balzarini et al., 2018; Barker & Langdridge, 2010; Conley, Moors et al., 2013). Therefore, older gay men may be less likely to discuss their sex life with their health care providers due to stigma related to their relationship type, and it is already known that there are barriers for older adults to discuss their sexual health issues with medical providers (Gott & Hinchliff, 2003), which may further sexual health disparities.

Interestingly enough, age was not a factor in the amount of sex older gay adults had when other factors were controlled, which is inconsistent with previous empirical evidence in general older adult populations. Previous studies have found that sexual activity decreases as one ages among general older adults (Beckman et al., 2008; Laumann et al., 2005; Twenge et al., 2017). Again, this may be explained by the varying sexual agreements that older gay men typically engage in versus older heterosexual populations.

We also found that participants with lower incomes had more frequent sex. Interestingly, among younger populations aged 18 to 44 years in the U.S., participants with lower incomes were more likely to be sexually inactive (Ueda et al., 2020). One explanation for the difference in our study is that many participants may have been retired due to the average retirement age of 66 in the United States (AARP, 2022), and may have reported a lower income bracket. To back up this explanation it should be noted that this survey was conducted amid the COVID-19 global pandemic, which negatively affected employment and income levels (Coates et al., 2020; Tooze, 2021). In fact, empirical evidence has found that men who are affected by unemployment or a decrease in household income report lower sexual desire and higher sexual dysfunction (Beutel et al., 2008; Laumann et al., 1999), and we know from sexual health research that good health and importance of sex is associated with sexual activity in older adults (Lindau et al., 2007). Thus, many of our participants who might be retired may not have felt the financial stress from losing a job amid the pandemic, which in turn did not influence the amount of sex they were having.

**Implications for Social Work**

At the policy level, removing barriers and stigma related to different relationship types is critical. One method to achieve this is to add response options that capture inclusive relationship types on national surveys. For example, the 2021 Behavioral Risk Surveillance System asks about marital status but has only standard response options such as married, divorced, and widowed (CDC, 2021). However, a follow-up question to ask about the type of relationship for people who are coupled (e.g., open, monogamous, monogamish, etc.) may be beneficial in relation to other health indicators asked on the survey. At the micro level, physicians, clinicians, and educators should work at destigmatizing various relationship types by not assuming when

working with clients, especially older gay men. Following Barker's (2011) call to action for awareness to treatment of consensual non-monogamous relationships, clinicians should not assume the relationship types of their clients and patients and should become culturally competent in sexual health issues of nontraditional relationships.

**Limitations**

Several limitations of the study should be considered. The first limitation is that the sample was predominately White, highly educated, and was restricted to gay men in the Midwest, thus not allowing for generalizability for older gay men in other parts of the country. Another limitation that should be considered is how seeking out sex was measured. The question on seeking out sex only measured sex-seeking behaviors outside the primary relationship. Lastly, the current study utilized a cross-sectional design, which does not allow for causal inferences to be made. Additionally, there is a limitation to conducting mediation analysis with cross-sectional data, inability to demonstrate temporality.

**Conclusion**

While the results did not support our main hypotheses, our findings are still important because they add to the limited discussion about frequency of sex among older gay men. Different relationship types and income levels influence how older gay men seek out sex and how frequently they engage in sex. Future studies should continue to explore sexual behavior to understand the sexual health and well-being of older gay men.

**Table 3.1**

*Descriptive Characteristics of Midwestern Gay Men 50 Years or Older (n = 146)*

| Variable | *n* | % |
|---|---|---|
| **Sociodemographic Characteristics** | | |
| **Age (M/SD)** | 141 | 65.44, 9.44561 |
| Missing | 5 | |
| **Education** | | |
| Some college or technical school or below | 28 | 19.2 |
| Undergraduate degree | 49 | 33.6 |
| Graduate degree | 69 | 47.3 |
| Missing | 0 | |
| **Race/Ethnicity** | | |
| Black | 12 | 8.2 |
| White | 125 | 85.6 |
| Other/Multiple races or ethnicities | 9 | 6.2 |
| Missing | | |
| **Income** | | |
| Don’t know/Not sure | 3 | 2.1 |
| Less than $25,000 | 15 | 10.3 |
| $25,000 less than $35,000 | 17 | 11.6 |
| $35,000 less than $50,000 | 23 | 15.8 |

**Table 3.1 (cont'd)**

| | | |
|---|---|---|
| $50,000 less than $75,000 | 22 | 15.1 |
| $75,000 or more | 66 | 45.2 |
| Missing | 0 | |
| **Relationship Type** | | |
| Single or Widowed | 91 | 62.3 |
| Monogamish | 26 | 17.8 |
| Open | 29 | 19.9 |
| Missing | 0 | |
| **Residence** | | |
| Urban | 72 | 49.3 |
| Suburban | 50 | 34.2 |
| Small City | 17 | 11.6 |
| Rural | 7 | 4.8 |
| Missing | 0 | |
| **Health Status** | | |
| HIV Status | | |
| Positive | 25 | 17.1 |
| Negative | 120 | 82.2 |
| Missing | 1 | .7 |
| **Sexual Factors** | | |
| Seeking Out Sex[1] | 144 | 1.43, 1.24 |
| Missing | 2 | |

**Table 3.1 (cont'd)**

| | | |
|---|---|---|
| Frequency of Sex[2] | 146 | 1.99, 1.54 |
| Missing | 0 | |
| **Social Factors** | | |
| Internalized Gay Ageism[3] | 146 | 2.2340, .56581 |
| Missing | 0 | |
| Experienced Ageism[4] | 146 | 1.13, 1.49 |
| Missing | 0 | |
| Internalized Homophobia[5] | 145 | 1.4359, .620 |
| Missing | 1 | |
| Community Belongingness[6] | 145 | 4.7241, 1.16358 |
| Missing | 1 | |
| Outness | 146 | 5.3836, 1.68376 |
| Missing | 0 | |

[1]Seeking out sex was assessed by summing three questions: "In the past 12 months, how frequently have you gone online to look for male sexual partners? (e.g., Grindr, Adam4Adam, Scruff, Jack'D)"; "In the past 12 months, how frequently have you looked for male sexual partners offline (e.g., bars, community centers, bathhouses)?"; and "In the past 12 months, how often have you contacted a casual sex partner or 'fuck buddy' looking for sex?" Higher scores indicate higher likelihood of seeking out sex.

[2]Frequency of sex was assessed by taking the highest score from a list of sexual activities. The higher the score, the higher frequency of sex.

**Table 3.1 (cont'd)**

[3]Internalized gay ageism was assessed from the Internalized Gay Ageism Scale (Wight et al., 2015) using six items on a 4-point scale ranging from *strongly disagree* to *strongly agree*. Three items were reverse coded. Higher scores indicated higher levels of disagreement, meaning higher internalized gay ageism.

[4]Experienced ageism was assessed from the created Ageism Scale (Wight et al., 2015). Experienced ageism scoring was a count of seven items with scores ranging from 0 to 7. Higher scores indicated more experienced ageism.

Internalized homophobia was computed by summing the responses to each item and dividing by the total number of items. Higher scores indicated more negative self-attitudes.

[5]Community belongingness was assessed using four adapted questions from the Connectedness to the LGBT Community Scale. The four items were averaged across a 6-point Likert scale from 1 (*agree strongly*) to 6 (*disagree strongly*). Higher scores indicated less feeling of belongingness to the LGBT community.

[6]Outness was assessed using two subscales of the Outness Inventory. The subscales were averaged across items, and then averaged between both subscales for total sum. Higher scores indicated more outness.

**Table 3.2**

*Bivariate Analyses of Frequency of Sex With Midwestern Gay Men 50 Years or Older (n = 146)*

| Variable | n | M[1] | F[2]/U[3]/K | p |
|---|---|---|---|---|
| Sociodemographic Characteristics | | | | |

**Table 3.2 (cont'd)**

| | | | | | |
|---|---|---|---|---|---|
| Education | Community College or Below | 28 | 2.0357 | .627 | .536 |
| | Undergraduate Degree | 49 | 1.7959 | | |
| | Graduate Degree | 69 | 2.1159 | | |
| | Total | 146 | 1.9932 | | |
| Race/Ethnicity | Black | 12 | 2.3333 | 1.123 | .328 |
| | White | 125 | 2.0080 | | |
| | Other/Multiracial or Multiethnicities | 9 | 1.3333 | | |
| | Total | 146 | 1.9932 | | |
| **Income** | **Don't know/Not Sure** | **3** | **.6667** | **3.727** | **.003** |
| | **Less than 25,000** | **15** | **2.0000** | | |
| | **25,000-35,000** | **17** | **1.5882** | | |
| | **35,000 less than 50,000** | **23** | **1.8696** | | |
| | **50,000 less than 75,000** | **22** | **1.1364** | | |

**Table 3.2 (cont'd)**

| | | | | | |
|---|---|---|---|---|---|
| | **75,000 or more** | **66** | **2.4848** | | |
| | **Total** | **146** | **1.9932** | | |
| **Relationship Type** | **Single/Widowed** | **91** | **1.4396** | **20.245** | **<.001** |
| | **Monogamish** | **26** | **3.1154** | | |
| | **Open** | **29** | **2.7241** | | |
| | **Total** | **146** | **1.9932** | | |
| Residence | Urban | 72 | | .544 | .909 |
| | Suburban | 50 | | | |
| | Small City | 17 | | | |
| | Rural | 7 | | | |
| | Total | 146 | | | |
| Health Variables | | | | | |
| HIV Status | Positive | 25 | | 1412.500 | .640 |
| | Negative | 120 | | | |
| | Total | 145 | | | |
| | | $r^4$ | p | | |
| **Sexual Factors** | | | | | |
| **Seeking Out Sex** | | **.566** | **<.001** | | |
| Age | | -.155 | .067 | | |
| **Internalized Gay Ageism** | | **-.197** | **.017** | | |

**Table 3.2 (cont'd)**

| | | |
|---|---|---|
| Experienced Ageism | .025 | .768 |
| Internalized Homophobia | -.006 | .945 |
| Community Belongingness | .090 | .284 |
| Outness | .165 | .047 |

[1]Mean

[2]F Statistic

[3]Mann-Whitney U Statistic

[4]Pearson's/Spearman's

**Table 3.3**

*Mediation Analysis of Internalized Gay Ageism and Frequency of Sex and Seeking Out Sex With Midwestern Gay Men 50 Years or Older (n = 146)*

| Variable | **C** | SE | 95% CI | p |
|---|---|---|---|---|
| IGA (X) Seeking Out Sex (M) Frequency of Sex (Y) | | | | |
| Total Direct Effect | -.1765 | .2130 | -.5978, .2448 | .4087 |
| Direct Effect | -.2267 | .1745 | -.5719, .1184 | .1960 |

**Table 3.3 (cont'd)**

| | | | | |
|---|---|---|---|---|
| Indirect Effect | .0502 | .1254 | -.1970, .3025 | |
| Seeking Out Sex | | | | |
| Constant | .6837 | .6085 | -.5199 1.8873 | .2632 |
| IGA | .0760 | .1865 | -.2929 .4449 | .6844 |
| Single/Widowed (ref.) | | | | |
| Monogamish | -.1856 | .3097 | -.7983, .4271 | .5501 |
| Open | .6167 | .2784 | .0660, 1.1675 | .0285 |
| Less than $25k (ref.) | | | | |
| $25k < $30k | .1636 | .4303 | -.6875, 1.0148 | .7043 |
| $30k < $50k | .1485 | .4181 | -.6785, .9756 | .7230 |
| $50k < $75k | .0093 | .4051 | -.7920, .8106 | .9817 |
| >$75k | .6977 | .3789 | -.0519, 1.4472 | .0679 |
| Outness | .0261 | .0661 | -.1047, .1568 | .6941 |
| Frequency of Sex | | | | |
| Constant | 1.5747 | .5716 | .4440, 2.7055 | .0067 |
| IGA | -.2267 | .1745 | -.5719, .1184 | .1960 |
| Seeking out Sex | .6610 | .0814 | .5000, .8220 | <.001 |
| Single/Widowed (ref.) | | | | |

**Table 3.3 (cont'd)**

| | | | | |
|---|---|---|---|---|
| Monogamish | 1.6671 | .2900 | 1.0934, 2.2407 | <.001 |
| Open | .7752 | .2651 | .2508, 1.2997 | .0041 |
| Less than $25K (ref.) | | | | |
| $25k < $30k | -.3542 | .4914 | -1.3263, .6178 | .4723 |
| $30k < $50k | -.2333 | .4775 | -1.1778, .7113 | .6260 |
| $50k < $75k | -1.0479 | .4626 | -1.9630, -.1327 | .0251 |
| >$75k | -.3065 | .4328 | -1.1626, .5496 | .4800 |
| Outness | .0485 | .0755 | -.1008, .1979 | .5214 |

*Note.* C = Coefficient, SE = standard error, p = p value

# CHAPTER 4: INTERNALIZED GAY AGEISM AND SEXUAL SATISFACTION AMONG OLDER GAY MEN

According to the World Health Organization (WHO), sexual health rights are considered human rights (WHO, 2006). WHO describes sexual health as "a positive and respectful approach to sexuality and sexual relationships, as well as the possibility of having pleasurable and safe sexual experiences, free of coercion, discrimination and violence" (WHO, 2006, p. 5). Sexual satisfaction, one aspect of sexual health, is defined as "the evaluation of positive and negative dimensions of one's sexual relationship" (Velten & Margraf, 2017, p. 1) and has been associated with improved overall health and wellness among older adults (Buczak-Stec et al., 2019; Laumann et al., 2006; Skałacka & Gerymski, 2019).

In older men, certain health conditions have been found to be negatively associated with sexual satisfaction, such as diabetes (Burke et al., 2007) and depression (Scott et al., 2012). Additionally, poorer body image has been shown to be associated with lower sexual satisfaction (Kvalem et al., 2019). On the opposite side of the spectrum, protective factors such as having accessibility to a partner (Skałacka & Gerymski, 2019) and better overall health (Laumann et al., 2006) are positively associated with sexual satisfaction (Penhollow et al., 2009; Shepler et al., 2018). Despite this, very little has been explored in terms of what predicts sexual satisfaction among older gay men.

Understanding what drives sexual satisfaction among older gay men is essential, as previous literature suggests that older adults in general who are sexually satisfied report better overall health and life satisfaction (Buczak-Stec et al., 2019; Laumann et al., 2006; Skałacka & Gerymski, 2019). This phenomenon, however, has not been adequately researched in populations of older gay men, and health disparities, such as poorer mental health, are more common among

older gay men (Emlet, 2016; Foglia & Fredriksen-Goldsen, 2014; Fredriksen-Goldsen et al., 2013; Fredriksen-Goldsen et al., 2015). Thus, inattention to older gay men's sexual health and well-being may exacerbate health disparities. Only two previous studies have focused on factors that are associated with sexual satisfaction among older gay men; these studies found that a recent concealment of their sexual orientation, self-stigma, and relationship satisfaction were associated with sexual satisfaction (Fleishman et al., 2020; Gonçalves et al., 2020). Another factor that exacerbates health disparities among older adults in general is experiences of ageism.

Ageism has been defined as "…a deep seated uneasiness on the part of the young and middle-aged—a personal revulsion to and distaste for growing old, disease, disability; and fear of powerlessness, "uselessness," and death." (Butler, 1969. p. 243). In fact, literature has noted that exposure to ageism often leads to internalized negative beliefs about aging, and this process is known as *internalized ageism* (Ayalon & Tesch-Römer, 2017; Kotter-Grühn & Hess, 2012; Levy & Leifheit-Limson, 2009). Emerging evidence suggests that internalization of ageism influences sexual health and well-being outcomes among older adults. One study suggests that believing ageist messages, such as that sexuality is not a lifelong need, negatively influences sexual health and well-being (Syme & Cohn, 2020) among older adults. Furthermore, another study among older adults found that those with positive aging attitudes toward sexual changes reported more partnered sexual activity (i.e., sex that involves another person) compared to those who did not have positive aging attitudes (Fischer et al., 2021).

Internalized ageism is particularly salient among older gay individuals, as the gay community fosters a culture where ageism is allowed to thrive. The ageist atmosphere of gay men stems from the ideology that characteristics such as youthfulness, beauty, and masculinity are revered, and other traits are cast aside and not seen as sexually desirable (Slevin &

Linneman, 2010; Tiggemann et al., 2007). These ideas of beauty stem from a culture fostered by stigmatization and homophobia over time. These standards become harder to achieve for gay men as they age. Internalized ageism is critical to examine as negative perspectives, such as internalized homophobia and internalized stigma, influence sexual satisfaction among older gay men. However, just exploring internalized ageism as it has been previously measured will not be sufficient, as gay and heterosexual cultures differ greatly from each other in terms of aging. For example, gay men age at accelerated rates due to gay culture perceiving men past their 20s as old (Bennett & Thompson, 1991; Friend, 1980; Koziol, 2015). The internalization of ageist stereotypes and messages may also vary. Fortunately, researchers have developed a concept to capture internalized ageism among older gay men. Such a concept allows for a deeper and more accurate understanding of how ageism is internalized by older gay men.

*Internalized gay ageism* is a concept that was developed to explain internalized ageism that is specific to how an older gay man ages within the gay community (Wight et al., 2015). Internalized gay ageism is a type of minority stress that is a byproduct of combining internalized homophobia and ageism to develop a separate concept (Wight et al., 2015). Wight et al. (2015) created a validated 6-item Likert scale that measures this construct. Because this measuring tool seeks to understand the distinct experiences of older gay men within the larger gay community, it may be better equipped to then inform the nuances of sexual satisfaction in this group external to the broader population.

It is important to capture ageism that is specific to the gay community because it can vary from ageism experienced by the heterosexual community. Previous qualitative literature suggests that body image influences how older gay men shape their own views on their sexuality. For instance, a qualitative study among older Portuguese men found that older gay men felt that they

were less valuable as sexual partners compared to younger gay men. One respondent aged 64 said:

> This is a walk to death, the body no longer responds like it used to, sex doesn't happen as I would like to and the truth is that people lose physical interest in me, I stopped having looks of interest, engaging smiles, and I face the risk of ending up alone. It is the evolution of life, I have to accept it, but the fact that I ceased to be coveted by younger gays makes me feel apart, makes me feel like I'm not special. (Pereira et al., 2018, p. 15).

Previous literature has shown an association between body image and sexual satisfaction among both older men (Penhollow et al., 2009; Schiavi et al., 1994) and gay men (Shepler et al., 2018). What is less clear, however, is the relationship between internalized gay ageism and body image among older gay men. Studies such as Pererira's (2018) have alluded to the internalization of ageist stereotypes and prejudices (Slevin, 2008; Slevin & Linneman, 2010; Tiggemann et al., 2007), but it is unclear how these stereotypes affect sexual satisfaction, and via which pathways.

To date, sexual satisfaction among older gay men has not been explored in the context of stereotype embodiment theory (SET). An adapted version of the SET model will explore this hypothesized relationship of how internalized ageism affects health outcomes among older adults (Levy, 2009). The SET model posits that over time older adults internalize ageist messages unknowingly, and such messages affect older adults through three pathways: physiological, behavioral, and psychological. Negative stereotypes and perceptions of ageism become self-fulling expectations through the psychological pathway. For example, older adults who were primed with negative stereotypes about aging did worse on cognitive tasks compared to those who were primed with positive stereotypes (Levy & Leifheit-Limson, 2009). An adapted version of this pathway proposes that internalized gay ageism influences sexual satisfaction among older

gay men. Furthermore, body image is considered a potential factor that may influence the relationship between internalized ageism and sexual satisfaction.

The current study represents the first efforts to examine the relationship between internalized gay ageism, body image, and sexual satisfaction among older gay men utilizing the SET model. The use of the Internalized Gay Ageism Scale allows us to account for the experience of internalized ageism within the framework of the gay community. This is exceptionally important as the gay community has unique traits compared to other communities. Furthermore, body image may mediate the relationship between internalized gay ageism and sexual satisfaction, as qualitative research suggests an importance placed on body appearance in the gay community.

## Aims/Hypotheses

The current study is guided by the following research questions and hypotheses:

RQ 1: What is the relationship between internalized gay ageism and sexual satisfaction among older gay men?

RQ 2: Does body image mediate the relationship between internalized gay ageism and sexual satisfaction controlling for covariates?

*Hypothesis 1: Older gay men who report higher rates of internalized gay ageism will report lower sexual satisfaction.*

*Hypothesis 2: Body image will mediate the relationship between internalized gay ageism and sexual satisfaction.*

## Methods

### Participants

The Study on Aging and Sexual Satisfaction Among Gay Men (SASSY) was a cross-sectional online survey that assessed the sexual health and well-being of gay men 50 years or older who resided in the Midwestern United States. Eligibility for participation in the survey included being 50 years or older (assessed by "What is your age range?"), (2) identifying as gay (assessed by "Do you identify as gay?"), (3) having been assigned male at birth (assessed by "What sex was originally listed on your birth certificate?"), (4) identifying as male (assessed by "What is your primary gender identity today?"), and (5) residing in a Midwestern state (Michigan, Ohio, Iowa, Minnesota, Indiana, Illinois, Wisconsin, Kansas, Nebraska, Missouri, North Dakota, and South Dakota) at the time of the survey.

Data were collected from December 2021 to May 2022 using Qualtrics online survey software (a paper survey option was available upon request). The survey took participants on average between 15 and 20 minutes. Recruitment of the sample was accomplished through several avenues including word of mouth, email blasts, phone calls to LGBTQIA+ organizations, LGBTQIA+ events, churches, and gay men's adult entertainment websites. A $10 incentive was offered to participants who completed the survey and provided their home address on a separate form linked to the main survey. Bots and scammers breached the survey to receive the $10 incentive, which was pinpointed to a link to the survey being posted on social media. Thus, the survey was revised and changed from anonymous to confidential, and potential participants had to email a specific email address to receive their unique link to the study. Posting flyers on social media was not a means of recruitment to prevent bots and scammers from receiving the incentive. The study was approved by Michigan State University's Institutional Review Board.

## Measures

### *Dependent Variable*

**Sexual Satisfaction.** Sexual satisfaction was assessed using the ego subscale of the New Sexual Satisfaction Scale (Štulhofer et al., 2010). The subscale had 10 statements regarding sexual satisfaction and was assessed on a Likert scale ranging from 1 (*not at all satisfied*) to 5 (*extremely satisfied*). Some examples of the question stem include, "The intensity of my sexual arousal," "My focus/concentration during sexual activity," and "My 'letting go' and surrender to sexual pleasure during sex." To compute the scale score, all items were summed, with higher scores indicating higher sexual satisfaction. The question was adapted to ask about sexual satisfaction within the last 12 months compared to the original scale that asked about sexual satisfaction in the preceding six months.

### *Independent Variable*

**Internalized Gay Ageism.** Internalized gay ageism was measured using Wight's (2015) Internalized Gay Ageism Scale, which consisted of six statements. These six statements were "As I get older, I feel good about myself as a gay man"; "I feel that older gay men are respected in the gay community"; "Aging is especially hard for me because I am a gay man"; "I am not too worried about looking older"; "As I get older, I feel more invisible when I am with other gay men"; and "I feel pressured to try to look younger than my age." Scores were averaged across items, with higher scores indicating higher internalized gay ageism. The statements "As I get older, I feel good about myself as a gay man," "I am not too worried about looking older," and "I feel pressured to try to look younger than my age" were reverse coded. Participants were asked to rate these statements on a 4-point Likert scale (utilizing Wight's (2015) Table 4.1 response

categories) from 1 (*strongly disagree*) to 4 (*strongly agree*). The original scale has a reliability of Cronbach's alpha of ($\alpha = 0.66$) and had an average factor loading of 0.50.

### *Sociodemographic Variables*

Participant demographic items included age, education level, race/ethnicity, relationship type, income, and residence.

***Education.*** Education level was asked based on the 2019 Behavioral Risk Factor Surveillance System (Centers for Disease Control and Prevention [CDC], 2019). The question was, "What is the highest grade or year of school you completed?" Response options were adapted, and included less than high school, some high school, some college or technical school, community college degree (e.g., A.A.), undergraduate degree (e.g., B.S., B.A. etc.), graduate degree (e.g., M.S.W., M.A., Ph.D., J.D., M.D. etc.). A new analytic variable was created. The original response options included options such as did not graduate High School, Graduated High School, Attended College or Technical School, Graduated from College or Technical School, or Don't know/Not sure/Missing. The variable was collapsed into three categories: community college or below, undergraduate degree, and graduate degree.

**Race and Ethnicity.** To ask about race and ethnicity, a question from Hughes et al.'s "Rethinking and Updating Demographic Questions: Guidance to Improve Descriptions of Research Samples" was used (Hughes, Camden et al., 2016). Participants were asked, "Which categories describe you? Select all that apply to you" with response options of "American Indian or Alaska Native"; "Asian"; "Black or African American"; "Hispanic, Latino or Spanish origin"; "Middle Eastern or North African"; "Native Hawaiian or other Pacific Islander"; "White"; and "Some other race, ethnicity, or origin (please specify)." The final analytic variable was collapsed into three categories: Black, White, and other/multiracial and multiethnic.

***Income.*** Income was asked on the survey using an adapted question from the 2019 Behavioral Risk Factor Surveillance System (CDC, 2019). It asked, "What is your annual household income from all sources?" The response options were adapted to include "don't know/not sure," "less than $25,000," "$25,000 less than $35,000," "$35,000 less than $50,000," "$50,000 less than $75,000," and "$75,000 or more."

***Relationship Type.*** Relationship type determined if a participant was single or the type of their relationship if they were in one. An investigator-adapted version of Parsons et al.'s (2013) question was used to include an "other" category with the original response options of single, monogamous, monogamish, and open. It asked, "What best describes your current relationship type?" The response options were "single (e.g., do not have main partner)," "monogamous (e.g., have a partner and agreed to only have sex with each other and no sex with casual partners)," "monogamish (e.g., have partners and agreed to have sex with others but only when the other member of the relationship was present)," "open (e.g., have a partner and both the partner and I have casual partners without the other partner present)," and "other (please specify in the box)." Based on the other responses, "widow" was common in the "other" category, which was then collapsed with "single" into one category.

***Residence.*** One question asked about the residence of participants and was adapted from the Michigan Transgender Health Survey 2018 (Kattari et al., 2020). The question asked, "Would you consider where you live to be?" and the original response options were, "urban (metropolitan areas; cities of over 100,000 people [e.g., Detroit Grand Rapids])", "suburban (neighborhoods on the outskirts of near larger cities [e.g., Dearborn])", "small city (cities of 10,000 to 100,000 people [e.g., Jackson, Port Huron]), "rural (villages, hamlets, towns, cities under 10,000 people [e.g., Bad Axe])" and "frontier (less than six people living per square mile).

The response options were adapted to include relevant cities in the Midwest. The response options included “urban (metropolitan areas; cities of over 100,000 people [e.g., Detroit, Cleveland, Chicago, Milwaukee]),” “suburban (neighborhoods on the outskirts of near larger cities,” “small city (cities of 10,000 to 100,000 people [e.g., Jackson, Port Huron, Saginaw]), and “rural (villages, hamlets, towns, cities under 10,000 people).”

### *Health Status Variable*

**HIV Status.** HIV status was measured by asking participants, “Have you ever been told by a health care provider that you had HIV and/or AIDS?” with “yes” or “no” response options. This response options were investigator-adapted from “either or both diagnoses” and “none” from a study that explored HIV disparities among older gay and bisexual men (Emlet et al., 2020). A final binary analytic variable was created with categories of positive versus negative HIV status.

### *Social Variables*

***Experienced Ageism***. Experienced ageism was measured using an investigator-adapted version of Wight et al.’s (2015) scale, which was created for the purposes of their study. The original scale assessed any occurrence of ageism within the past in the past year of the following acts or impressions attributed to one's age. The adaptation to Wight’s scale changed the wording to ask about the past 12 months. The scale assesses if participants had any occurrence within the past 12 months of the following acts or impressions attributed to one’s age: “bullied,” “made fun of by a stranger/strangers,” “ignored by others,” “called a derogatory name,” “rejected by younger people,” “not taken seriously,” and “treated like a child” with “yes” or “no” responses.

***Internalized Homophobia.*** The scale used to measure internalized homophobia was the Revised Internalized Homophobia Scale (Herek et al., 2009). Statements included: “I wish I

weren't gay" and "If someone offered me the chance to be completely heterosexual, I would accept the chance." Response options were on a 5-point Likert scale and included 1 (*disagree strongly*), 2 (*disagree*), 3 (*neither agree nor disagree*), 4 (*agree*), and 5 (*agree strongly*). The sum of the entire scale was divided by the total number of items with higher scores indicating more internalized homophobia.

**Body Image.** Body image was assessed using the Body Appreciation Scale-2 (Tylka & Wood-Barcalow, 2015). The scale includes 10 statements participants were asked to respond to on a Likert scale ranging from 1 (*never*) to 5 (*always*). Statements included "I respect my body," "I am comfortable in my body," "I am attentive to my body's needs," and "I feel that my body has at least some good qualities." An average of the sum of the statements was conducted to compute the score. The original scale was tested among undergraduate students, women and men, and had Cronbach's coefficient alphas of ($\alpha = .94$) and ($\alpha = .93$), respectively.

**Data Cleaning and Missing Values**

Prior to the data cleaning stage, a total of two surveys from the beginning phases of the study that were deemed fraudulent using a commercial IP software checker were removed. Next, participants who did not complete at least two-thirds of the questions of the entire survey were removed, which resulted in the loss of 11 surveys. One survey response was removed as the respondent's sexual orientation was determined ineligible for the survey criteria from an open-text answer. For all computed scale scores, listwise deletion technique was conducted to omit missing data (Kang, 2013). A total of 195 surveys were collected and the final analytic sample after data cleaning was 181 participants.

## Scale Development

### *Sexual Satisfaction Scale*

To compute sexual satisfaction, the participants' responses to the New Sexual Satisfaction Scale items were averaged (Štulhofer et al., 2010). The theoretical range was 10–50 and the actual range was 10–48 with a Cronbach's alpha of (α = .93). Higher scores indicated higher sexual satisfaction.

### *Internalized Gay Ageism Scale*

The scale score for internalized gay ageism was computed by taking the mean of the six items from the Internalized Gay Ageism Scale (Wight et al., 2015). The final score was set to "missing" if there were any missing values for any of the six items. The Cronbach's alpha was (α = .77) and skewness was -.231. Higher scores indicated higher internalized gay ageism.

### *Experienced Ageism Scale*

The scale score for experienced ageism was taking the sum score of seven items from the Ageism Scale (Wight et al., 2015). Answers of yes were given a score of one and answers of no a score of 0. The actual range was a minimum score of 0 and a maximum score was 7. Cronbach's alpha was (α = .73) and skewness was 1.65. Higher scores indicate higher experienced ageism.

### *Internalized Homophobia Scale*

The computed scale score took the sum of the entire Revised Internalized Homophobia Scale (five items; Herek et al., 2009) and divided by the total number of items, with higher scores indicating more internalized homophobia. The final score was set to "missing" if there were any missing values for the five items. The computed scale had a Cronbach's alpha of (α = .80) and skewness of 1.88. The theoretical score range was 1–5 and actual score range was 1–4.40. Higher scores indicated higher internalized homophobia.

### *Body Image Scale*

To compute the score, an average of participants' responses from all 10 items from the Body Appreciation Scale-2 was calculated (Tylka & Wood-Barcalow, 2015). The theoretical range was 1–5 and the actual range was 1.30–5 with a Cronbach's alpha of ($\alpha = .96$) and a skewness of -.432. Higher scores indicated better body image.

## Covariates

To determine which covariates were kept in the model, bivariate analysis was conducted to test the relationship between the independent variables and sexual satisfaction. We included only variables that were significant at the $p <= .10$ level in multivariate analyses, with the exception of age, which was included based on prior studies.

## Statistical Analysis

Descriptive analyses were conducted to summarize all variables of interest. Means and standard deviations were measured for continuous variables, and frequencies and percentages were calculated for categorical variables. Bivariate analyses were conducted using non-parametric Mann-Whitney tests to test the relationship between categorical independent variables with two groups and the outcome variable of sexual satisfaction, and Kruskal-Wallis tests were conducted to test the relationship between categorical independent variables with three or more groups and sexual satisfaction. For continuous variables that were non-normally distributed Spearman's r test was conducted, and for normally distributed variables Pearson's r was conducted.

Body image was tested as the potential mediator of the relationship between internalized gay ageism and sexual satisfaction. We used Hayes's (2009) PROCESS macro with bootstrapping (2,000 samples) to analyze whether the effect of internalized gay ageism is

mediated by seeking out sex at a 95% CI. We conducted PROCESS macro to examine the total effects, direct effects, and indirect effects. The pathway for the direct effect was internalized gay ageism and frequency of sex. The indirect pathway was seeking out sex and frequency of sex. The total effect was both the direct and indirect effects combined. Variables that were significant at $p < .05$ or approaching significance at $p < .1$ at the bivariate analysis level were added as covariates to the model, as was age. A linear regression model was conducted between internalized gay ageism, internalized homophobia, and experienced ageism to check for multicollinearity issues due to scales being conceptually connected. There were no multicollinearity issues found between internalized gay ageism, internalized homophobia, and experienced ageism.

## Results

### Descriptive Analysis

Among the 181 participants, the mean age was 65.29 years (SD = 9.32). The majority had an undergraduate degree (34.8%) or graduate degree (45.9%) and were White (85.6%) (see Table 4.1). Slightly over half of participants were single or widowed compared to being in some form of a relationship (50.3% versus 49.2%). Nearly half of participants resided in an urban setting (urban 48.1% versus suburban 34.8%, small city 11.6%, and rural 5.0%). Most participants were HIV negative (81.2%). On average, participants reported low internalized gay ageism (Internalized Gay Ageism Scale 1–4; m = 2.21, SD = .55) and had low levels of ageism (m = 1.06, SD = 1.49) and low levels of internalized homophobia (m = 1.41, SD = .61).

### Bivariate Analysis

In bivariate analyses, relationship type was significantly associated with sexual satisfaction [$F(3, 176) = 6.628$, $p < .001$]. Internalized gay ageism ($r = -.254$, $p < .001$) and

internalized homophobia (r = -.175, p = .02) were negatively associated with sexual satisfaction, and body image (r = .510, p < .001) was positively significantly associated with sexual satisfaction (see Table 4.2).

**Meditation Analysis**

To test Hypothesis 2, we conducted a mediation analysis between internalized gay ageism and sexual satisfaction via body image. In the sample, the total effects of the bootstrapped mediation analyses indicated a significant relationship between internalized gay ageism and sexual satisfaction (*b* = -4.4737, SE = 1.3314, 95% CI [-7.1027, -1.8448], p = .001) (see Table 4.3). Additionally, a non-significant direct effect between internalized gay ageism and sexual satisfaction was found (*b* = .3440, SE = 1.3729, 95% CI [-2.3671, 3.0552], p = .8025).

The significance of the indirect effects, the pathway of internalized gay ageism on sexual satisfaction via body image, were tested. These analyses resulted in a significant finding indicating that there is a relationship through this pathway (*b* = -4.8177, 95% CI [-6.8642, -2.9820]). Due to a significant result for the total and indirect effects of the model, there is a complete mediation. Thus, hypothesis (H2) was supported by the mediation analysis.

Besides finding a complete mediation model, body image was significantly associated with sexual satisfaction (*b* = 5.6982, SE = .8357, 95% CI [4.0480, 7.3484], p < .001).

Relationship type was associated with sexual satisfaction. Participants who were in an open relationship had higher sexual satisfaction compared to those who were single or widowed (*b* = 5.1544, SE = 1.7284, 95% CI [-1.0844, -.2642], p = .0089). Age and internalized homophobia did not contribute to the mediation model.

## Discussion

To our knowledge, this is the first study to examine the relationship between internalized gay ageism and sexual satisfaction among older gay men in the Midwestern United States. Overall, participants had a higher mean sexual satisfaction score. Our results suggest that internalized gay ageism influences sexual satisfaction through the pathway of body image. Older gay men who have higher internalized gay ageism will report lower body image, and lower body image results in lower sexual satisfaction. Therefore, older gay men who internalize negative feelings about aging as a gay man will feel worse about their body, which results in lower sexual satisfaction. Our results confirm earlier studies that indicated body image is associated with sexual satisfaction among older men (Penhollow et al., 2009; Schiavi et al., 1994) and partnered gay men (Shepler et al., 2018).

Our finding is particularly salient as body image has been discussed in previous studies among gay men (Frederick et al., 2022) and older gay men (Slevin & Linneman, 2010) and how it relates to their sexuality. In Frederick's (2022) study, gay men reported poorer sexuality-related body image compared to heterosexual men. Previous empirical evidence that discusses body image among older gay men recorded one participant stating: "a guy who is hot is masculine" (p. 496, 2010). In the current study, we found that internalized gay ageism drives body image, and body image drives sexual satisfaction. Therefore, efforts should be made to decrease negative internalized gay ageism and negative body image as this influences an individuals' level of sexual satisfaction. Interventions aimed to improve body image that take into consideration the context of aging as a gay men could be a point of intervention. For example, researchers recently adapted a technique that aims to improve body image among

general populations, called emotionally focused family therapy (Johnson, 2004) to be culturally sensitive to gay men (Smith et al., 2022).

We found that participants who were in open relationships had higher sexual satisfaction compared to those who were single or widowed. We know from previous studies among older adults that an important factor that determines sexual satisfaction is partner availability (Skałacka & Gerymski, 2019). Older adults who are partnered tend to have more sexual satisfaction compared to single older adults (Lee et al., 2016; Skałacka & Gerymski, 2019).

Age did not significantly predict sexual satisfaction in the mediation analysis. Therefore, gay men in their 80s, for example, were no less or no more sexually satisfied compared to those who were in their 50s. This is inconsistent with prior population studies which have shown that sexual satisfaction declines as people age (del Mar Sánchez-Fuentes & Sierra, 2015; Graf & Patrick, 2014; Træen & Schaller, 2010). Therefore, there are differences between older gay men and older heterosexual adults in terms of their sexual satisfaction later in life. Furthermore, internalized homophobia was statistically correlated with sexual satisfaction at the bivariate level but not statistically significant once added to the mediation analysis, meaning internalized homophobia becomes less important to sexual satisfaction once other factors are controlled. This finding is consistent with a previous study among same-sex older partnered adults and sexual satisfaction, suggesting that internalized homophobia is related only at the bivariate level (Fleishman et al., 2020). Fleishman et al. (2020) found that relationship satisfaction predicted sexual satisfaction, and thus, relationship satisfaction should be explored in future studies.

**Implications for Social Work**

Social workers who work with older gay men on issues related to sexual health must be aware that older gay men may be in varying types of relationships. This is critical, as we live in a

heteronormative society and relationship types tend to skew to monogamy. Additionally, social workers should develop interventions that reduce negative body image but in the context of aging gay men. Similar to the construction of Wight et al.'s (2015) concept of internalized gay ageism, interventions that take into consideration the lived experience of gay men in the gay community would hopefully be more beneficial than a general body image intervention.

**Limitations**

Limitations should be considered for the current study. A limitation is that the sample was predominately White, highly educated, and was restricted to gay men in the Midwest, thus not allowing for generalizability for older gay men in other parts of the country. Social acceptability and laws regarding LGBTQIA+ issues vary from region to region and may have influenced how participants responded. Lastly, the current study utilized a cross-sectional design, which does not allow for causal inferences to be made.

**Conclusion**

Internalized gay ageism has a relationship with sexual satisfaction when mediated by body image. Additionally, body image and relationships are associated with sexual satisfaction. These findings tell us that body image is critical when examining sexual satisfaction among older gay men, and is driven by internalized gay ageism. Efforts should be made at the micro and macro levels to decrease internalized gay ageism and negative body image. In terms of micro settings, interventions where a geriatric social worker aimed to help gay men successfully age may be beneficial. For macro practice settings, advocacy regarding interventions to reduce internalized gay ageism and negative body image in LGBTQIA2S+ spaces may be beneficial. Future studies should explore internalized gay ageism and sexual satisfaction among older gay men and the variable of relationship satisfaction.

**Table 4.1**

*Descriptive Characteristics of Midwestern Gay Men 50 or Older (n = 181)*[1]

| Variable | *n* | % |
|---|---|---|
| **Sociodemographic Characteristics** | | |
| **Age (M/SD)** | 176 | 65.2909, 9.322 |
| Missing | 5 | |
| **Education** | | |
| Community College or Below | 35 | 19.3 |
| Undergraduate degree | 63 | 34.8 |
| Graduate degree | 83 | 45.9 |
| Missing | 0 | |
| **Race/Ethnicity** | | |
| Black | 15 | 8.3 |
| White | 155 | 85.6 |
| Other/Multiple races or ethnicities | 11 | 6.1 |
| Missing | 0 | |
| **Income** | | |
| Don't know/Not sure | 4 | 2.2 |
| Less than $25,000 | 18 | 9.9 |
| $25,000 less than $35,000 | 20 | 11.0 |
| $35,000 less than $50,000 | 26 | 14.4 |
| $50,000 less than $75,000 | 27 | 14.9 |

**Table 4.1 (cont'd)**

| | | |
|---|---|---|
| $75,000 or more | 86 | 47.5 |
| Missing | 0 | |
| **Relationship Type** | | |
| Single or Widowed | 91 | 50.6 |
| Monogamy | 34 | 18.9 |
| Monogamish | 26 | 14.4 |
| Open | 29 | 16.1 |
| Missing | 1 | .6 |
| **Residence** | | |
| Urban | | |
| Suburban | | |
| Small City | | |
| Rural | | |
| Missing | | |
| **Health Status** | | |
| HIV Status | | |
| Positive | 33 | 18.3 |
| Negative | 147 | 81.2 |
| Missing | 1 | .6 |
| **Sexual Factors** | | |
| Sexual Satisfaction[1] | 181 | 30.9503, 9.29054 |
| Missing | | |

**Table 4.1 (cont'd)**

| | | |
|---|---|---|
| **Social Factors** | | |
| Internalized Gay Ageism[2] | 181 | 2.2118, .55106 |
| Missing | | |
| Experienced Ageism[3] | 181 | 1.0608, 1.49505 |
| Missing | | |
| Internalized Homophobia[4] | 177 | 1.4113, .61412 |
| Missing | 4 | |
| Body Image[5] | 179 | 3.5816, .88682 |
| Missing | 2 | |

[1]Sexual satisfaction was assessed from the New Sexual Satisfaction Scale (Štulhofer et al., 2010) ego subscale. Participants were asked 10 statements regarding their sexual satisfaction and were given a 5-point Likert scale to describe their satisfaction. The Likert scale ranged from 1 (*not at all satisfied*) to 5 (*extremely satisfied*). Scores were summed across all items. Higher scores indicated more sexual satisfaction.

[2]Internalized gay ageism was assessed from the Internalized Gay Ageism Scale (Wight et al., 2015) using six items on a 4-point scale ranging from *strongly disagree* to *strongly agree*. Three items were reverse coded. The scale was computed by averaging each item. Higher scores indicated higher levels of internalized gay ageism.

[3]Experienced ageism was assessed from the created Ageism Scale (Wight et al., 2015). Experienced ageism scoring was a count of seven items with scores ranging from 0 to 7. Higher scores indicated more experienced ageism.

**Table 4.1 (cont'd)**

[4]Internalized homophobia was computed by summing the responses to each item and dividing by the total number of items. Higher scores indicated more negative self-attitudes.

[5]Body image was assessed by using the Body Appreciation Scale-2 (Tylka & Wood-Barcalow, 2015). Participants were asked 10 statements regarding their body image and asked to state how true they were on a scale from 1 (*never*) to 5 (*always*). The average of all 10 items were conducted to achieve a score.

**Table 4.2**

*Bivariate Analyses of Sexual Satisfaction Among Midwestern Gay Men 50 or Older (n = 181)*

| Variable | | n | M[1] | F[2]/t[3] | p |
|---|---|---|---|---|---|
| Sociodemographic Characteristics | | | | | |
| Education | Community College or Below | 35 | 28.8286 | 2.449 | .089 |
| | Undergraduate Degree | 63 | 30.0476 | | |
| | Graduate Degree | 83 | 32.5301 | | |
| | Total | 181 | | | |
| Race/Ethnicity | Black | 15 | 33.6667 | 2.332 | .100 |
| | White | 155 | 30.3613 | | |

**Table 4.2 (cont'd)**

| | | | | | |
|---|---|---|---|---|---|
| | Other/Multiracial or Multiethnicities | 11 | 35.5455 | | |
| | Total | 181 | | | |
| Income | Don't know/Not Sure | 4 | 27.2500 | 2.085 | .069 |
| | Less than 25,000 | 18 | 32.3889 | | |
| | 25,000-35,000 | 20 | 25.6000 | | |
| | 35,000 less than 50,000 | 26 | 29.8846 | | |
| | 50,000 less than 75,000 | 27 | 30.9259 | | |
| | 75,000 or more | 86 | 32.3953 | | |
| | Total | | | | |
| **Relationship Type** | **Single/Widowed** | **91** | **28.8462** | **6.628** | **<.001** |
| | **Monogamy** | **34** | **29.6471** | | |
| | **Monogamish** | **26** | **33.7692** | | |
| | **Open** | **29** | **36.5517** | | |
| | **Total** | | | | |
| Residence | Urban | 87 | | 1.730 | .630 |
| | Suburban | 63 | | | |

**Table 4.2 (cont'd)**

| | | | | | |
|---|---|---|---|---|---|
| | Small City | 21 | | | |
| | Rural | 9 | | | |
| | Total | 180 | | | |
| Health Variables | | | | | |
| HIV Status | Positive | 33 | | 2419.00 | .981 |
| | Negative | 147 | | | |
| | Total | | | | |
| | | r[4] | p | | |
| Age | | -.109 | .151 | | |
| **Internalized Gay** | | **.254** | **<.001** | | |
| **Ageism** | | | | | |
| Experienced | | -.090 | .229 | | |
| Ageism | | | | | |
| **Internalized** | | **-.175** | **.020** | | |
| **Homophobia** | | | | | |
| **Body Image** | | **.510** | **<.001** | | |

[1]Mean

[2]F Statistic

[3]t Statistic

[4]Pearson's/Spearman's

**Table 4.3**

*Mediation Analysis of Internalized Gay Ageism and Frequency of Sex and Seeking Out Sex With Midwestern Gay Men 50 or Older (n = 181)*

| Variable | **C** | SE | 95% CI | *p* |
|---|---|---|---|---|
| IGA (X) | | | | |
| Body Image (M) | | | | |
| Sexual Satisfaction (Y) | | | | |
| Total Direct Effect | -4.4737 | 1.3314 | -7.1027 -1.8448 | .0010 |
| Direct Effect | .3440 | 1.3729 | -2.3671 3.0552 | .8025 |
| Indirect Effect | -4.8177 | 1.0103 | -6.9254 -3.0319 | |
| Body Image | | | | |
| Constant | 5.0426 | .5413 | 3.9737 6.1116 | <.001 |
| IGA | -.8455 | .1103 | -1.0634 -.6276 | <.001 |
| Single/Widowed (ref.) | | | | |
| Monogamy | .0146 | .1544 | -.2902 .3194 | .9249 |
| Monogamish | .2597 | .1702 | -.0764 .5957 | .1290 |
| Open | .2919 | .1604 | -.0248 .6086 | .0706 |
| Internalized Homophobia | .1238 | .0938 | -.0613 .3090 | .1885 |

**Table 4.3 (cont'd)**

| | | | | |
|---|---|---|---|---|
| Age | .0021 | .0062 | -.0101 .0143 | .7307 |
| Sexual Satisfaction | | | | |
| Constant | 18.6514 | 7.1493 | 4.5336 32.7692 | .0099 |
| IGA | .3440 | 1.3729 | -2.3671 3.0552 | .8025 |
| Body Image | 5.6982 | .8357 | 4.0480 7.3484 | <.001 |
| Single/Widowed (ref.) | | | | |
| Monogamy | -.7410 | 1.6469 | -3.9931 2.5112 | .6534 |
| Monogamish | 1.1496 | 1.8285 | -2.4613 4.7604 | .5304 |
| Open | 5.1544 | 1.7284 | 1.7412 8.5675 | .003 |
| Internalized Homophobia | -1.1791 | 1.0058 | -3.1653 .8072 | .2428 |
| Age | -.1282 | .0660 | -.2586 .0022 | .0539 |

*Note.* C = Coefficient, SE = standard error, p = p value.

# CHAPTER 5: OVERVIEW OF MAJOR FINDINGS, LIMITATIONS, IMPLICATIONS, AND CONCLUSIONS

## Overview of Major Findings

Overall, the current study found novel information related to the sexual health of older gay men who live in the Midwestern United States. Variables that were consistently important throughout all three manuscripts were mostly related to participants' sociodemographic characteristics. It should be noted that only one of the three main studies' hypotheses between internalized gay ageism and sexual health outcomes was significant. While the hypothesis of internalized gay ageism being associated with erectile dysfunction (ED) and frequency of sex was not significant, there was a relationship with sexual satisfaction. The last manuscript suggests a relationship between internalized gay ageism and sexual satisfaction when body image is a mediator. This finding suggests that internalized gay ageism may influence other sexual health outcomes mediated by other socially constructed variables (besides body image), like relationship satisfaction, that should be tested.

While the relationships between all three sexual health outcomes were not tested in the current study, an argument can be made that each may be related based on previous empirical evidence. For example, we know from previous research among general populations that erectile function is related to frequency of sex (Potts et al., 2006) and sexual satisfaction (Bravi et al., 2022; Gomes et al., 2017). Additionally, frequency of sex and sexual satisfaction are known to be related (Smith et al., 2011). Thus, future studies should aim to explore these overlapping outcomes among older gay men and test how these may be potentially different older heterosexual men and younger gay men.

More importantly, the running theme of all three papers was the significance of the descriptive characteristics. In terms of ED, our findings solidify previous work among older populations that suggest age predicts ED (Mulhall et al., 2016). Relationship type and income were found to be associated with frequency of sex in the second study. This is especially important as older gay men often have varying sexual types than the typical heteronormative relationship of monogamy. Additionally, relationship type was significant with sexual satisfaction in the third study, which suggests that open relationships may be more beneficial to one's sexual satisfaction among older gay men. The significance of the descriptive characteristics provides us not only with more information regarding older gay men's sexual health but an opportunity for providers who work with older gay men to be more comprehensive during treatment. Thus, it is critical for clinicians, educators, primary care physicians, and other health professionals to expand the routine questions to be more culturally competent for different subgroups of marginalized communities.

**Limitations**

Several limitations should be considered when interpreting the findings. The first limitation is that the study design was cross-sectional. This type of design only captures a moment in time, does not allow for causal inferences, and limits alternative potential mediators. Future research should attempt to conduct longitudinal studies to view sexual health outcomes as older gay men age.

Another limitation regarding the current study is that most participants were White, highly educated, reported a higher socioeconomic status, and lived in urban or suburban locations. Thus, our results are not generalizable to other groups of older gay men in other regions of the United States. Additionally, as the sample was overwhelmingly White, we could

not explore the experiences of other older racial and ethnic gay populations, which is critical, as general literature suggests that older racially and ethnically diverse populations compared to White often report worse health outcomes (Lopez et al., 2021; Pollitt & Mallory, 2021; Zavala et al., 2021).

Additionally, there were limitations regarding the study's instruments. The questionnaire was mostly multiple-choice answers and only a handful of questions had open-text options to allow the participants to elaborate on their answers. Furthermore, the survey was mainly distributed through an online web link, which may have prevented eligible older gay men from taking the survey due to accessibility issues. Also, there were several questions that, in hindsight, should have been reworded as the study expanded to more than one state. For instance, a question on the survey asked about illicit drug use before or during sex and included an example of marijuana. In some states recreational marijuana use is legal and in others it is illegal.

## Implications

### *Implications for Social Work Practice*

Based on the results from the current study, we propose suggestions to inform social work practice. Our findings suggest that current and future clinicians should be educated and aware that sex continues later in life for older gay men. Clinicians who work with older gay men should consider a biopsychosocial approach to sexual health treatment based on this study's results of descriptive characteristics having significance.

Our findings that age and overall health are related to ED among older gay men solidifies what previous research has found about these factors and ED among general populations (Mulhall et al., 2016; Seidman & Roose, 2000; Shiri et al., 2007). Our findings can inform social

work practice by implementing and advocating for programs that promote healthy behaviors later in life among older gay men, as worse health is associated with higher ED.

Our findings suggest that older gay men in open or monogamish relationships compared to single older gay men are engaged in more sex. Clinicians and practitioners should not assume that older gay men are in relationship types similar to those of heterosexual populations. Furthermore, age does not influence the amount of sex or the level of sexual satisfaction an older gay man may engage in or experience. Therefore, clinicians must recognize their own biases and stereotypes around sexuality and aging in order to not dismiss the sexual issues of their clients. This is critical, as older adults often face barriers in health care such as dismissal or not being asked about their sexual health issues (Gott & Hinchliff, 2003; Gott et al., 2004).

Clinicians who work with sexual health and sexual dysfunction should consider the uniqueness of queerness and the intersectionality of aging when discussing sex with older gay men. For instance, clinicians who utilize the PLISSIT model (Annon, 1976), a common sexual dysfunction therapy technique, may want to approach the “Specific Suggestions” level (the level where the clinician provides the client suggestions related to their sexual health) with extra care as this generation has lived through extreme stigmatization.

Furthermore, more tailored therapeutic interventions that are culturally sensitive to the gay community should be utilized to challenge internalized gay ageism and negative body image. For example, researchers recently adapted a technique that is often used to improve body image among general populations, called emotionally focused family therapy (Johnson, 2004), and adapted it to be culturally sensitive to gay men (Smith et al., 2022). This adaption focuses on issues that commonly affect gay men early in their childhood, such as feelings of inadequacy and unacceptance. Issues such as inadequacy and unacceptance may go unaddressed throughout a

gay man's life, thus creating a narrative around their body image that in turns influences their sexual health. An opportunity to adapt evidence-based practices that have been used in younger and heterosexual populations to treat body image with older gay men may also prove to be beneficial.

### *Implications for Social Work Policy*

We know from this study that some older gay men continue to be sexually active, as the mean score of frequency of sex was (m = 1.99) on a scale from 0 -5, meaning on average participants were sexually active in some way within the last 12 months. Thus, efforts should be made at the policy level that create community awareness of barriers and strategies for older LGBTQIA2S+ adults to enjoy sex safely later in life. The current sexual health policies among gay men in general in the United States are either discriminatory or focused on reducing risky sexual behaviors and infectious disease transmission (e.g., HIV/AIDs). While HIV/AIDs reduction is important, sexuality is composed of much more than sexual harm reduction. Social workers must advocate to remove sexuality policies that continue to be harmful among gay men, such as conversion therapy and anti-sodomy laws (Alempijevic et al., 2020). Not only will the removal of such harmful policies reduce the potential harm against gay men, but the elimination of such harmful policies may also combat the negative myths about gay men's sexual health by validating their sexual freedom.

In terms of social work policy, social work education lacks courses that address sexuality (Galarza & Anthony, 2015; McCave et al., 2014; McKay, 2015). Thus, the Council on Social Work Education should increase the scope of the required curriculum for bachelor- and master-level social workers to focus on sexual health among historically excluded populations, such as

older gay men. This will better prepare future social work clinicians, educators, advocators, and policy-stakeholders to be culturally competent in sexual health issues.

Moreover, social workers should fight to include language and visibility of older gay men's sexual health. Importantly, this does not mean including only negative aspects of sexual health for older gay men but also positive ones. For instance, in Healthy People 2030, the U.S. government's objectives to improve health and well-being, social workers should advocate to include objectives that describe positive aspects of sexual health for gay men in general (e.g., sexual satisfaction and sexual pleasure) and older gay men (Office of Disease Prevention and Health Promotion, n.d.). To create sound, practical, and constructive sexual health policy change for older gay men, the gay community's perspective on aging and sex must become destigmatized. This starts by creating awareness and discussions on sexual health issues that affect aging gay men. Buy-in from the gay community will be an essential component for advocacy around sexual health and interventions that reduce body image and internalized gay ageism. A previous study explained the importance of gay men's community leadership and advocacy on HIV interventions (Trapence et al., 2012), and this same strategy should be utilized for promoting healthy body image and reducing internalized gay ageism.

As the aging population continues to dramatically increase, issues related to sexual health among older gay adults must be addressed. For instance, older gay men who live in long-term health facilities and assisted living should have policies that safeguard their ability to live free from discrimination. One example of an issue in long-term care facilities and assisted living is the ostracization of  gay individuals (Robinson, 2016). Facilities should be committed to creating a safe space for older LGBTQIA2S+ populations to live and socialize, including the ability to have intimate relationships.

### *Implications for Future Research*

Future research should continue to examine the sexual health and well-being of older gay men through longitudinal study design. Body image was a factor in the pathway of internalized gay ageism and sexual satisfaction. Thus, studies should consider delving deeper into the relationship between body image and sexual satisfaction, as previous studies and the current study have found that negative body image is hurtful among older gay men (Slevin, 2008; Slevin & Linneman, 2010; Tiggemann et al., 2007). Additionally, as mentioned earlier, researchers should develop interventions related to both internalized gay ageism and body image among older gay men, in turn creating a sex-positive discourse around aging.

Future research should expand sexual health knowledge among older gay men in different regions of the country, not just the Midwest. Additionally, researchers should create longitudinal studies to determine patterns over time, increase the sample size, and use qualitative methodology to further explain the relationships found in this current study.

## Conclusions

Through mediation analysis, this dissertation sought to examine the relationship between internalized gay ageism and ED, frequency of sex, and sexual satisfaction. From the findings, we can understand the relationship of sociodemographic characteristics and sexual health outcomes of older gay men. More importantly, we now know there is a relationship between internalized gay ageism and sexual satisfaction through body image, which may be useful for future interventions to reduce ageism and negative body image among older gay men. Future research should continue to explore sexual health and well-being among older gay men and consider internalized gay ageism and body image when examining other sexual health outcomes.

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