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Psychometric Assessment of a Homophobia Management Scale Among Cisgender Sexual Minority Men in Midlife and Older Adulthood

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Abstract

Interpersonal management of homophobic stigma (e.g., selectively constructing one's social network; confronting stigma) is an understudied area of resilience among sexual minority people. Among a sample of cisgender sexual minority men (SMM; $N = 798$) in midlife and older adulthood, we assessed the psychometric properties and characterized the sociodemographic differences of our newly developed, theory-informed homophobia management scale. Data come from the Healthy Aging substudy of the Multicenter AIDS Cohort Study, which is a prospective longitudinal study implemented to evaluate the natural trajectories of HIV risk and treatment among sexual minority men. Guided by the proactive coping processes model, the Healthy Aging team proposed eight items to measure homophobia management, which were included at four waves of survey data collection completed at semiannual study visits. Using factor analyses and linear regressions, we assessed our scale's construct validity, convergent validity,

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and internal consistency, and characterized scores by age, race/ethnicity, sexual orientation, and HIV status. Factor analyses yielded a six-item scale with adequate construct validity and acceptable internal consistency (Cronbach's alpha = .69). Our final scale exhibited convergent validity given its statistically significant inverse association with internalized homophobia and positive association with psychological connections to the gay community. Bivariate differences in homophobia management emerged by age, race/ethnicity, and sexual orientation but were not statistically significant in multivariable analyses. Our study provides a validated, unidimensional scale to assess homophobia management among SMM in midlife and older adulthood. We provide recommendations to improve the implementation of our scale in future surveillance.

Keywords

aging; gay and bisexual men; stigma; resilience; scale development

Accepting attitudes toward sexual minority people (SMP) continue to increase in the United States (Flores, 2019; Poushter & Kent, 2020; Roberts, 2019). Despite this trend, SMP remain susceptible to homophobic stigma over the life course (Meanley et al., 2021; Rice et al., 2021). Homophobic stigma includes negative attitudes, fears, and aggressive behaviors toward people who are, or are perceived to be, attracted to those of the same sex (Cheval et al., 2016) and has implications for long-term health (Austin et al., 2017; Frost et al., 2015; Jeffries et al., 2021; Meanley, Stall, et al., 2020; Meyer & Frost, 2013). Homophobic incidents are positively associated with psychosocial stress, serve as barriers to accessing health care, and exacerbate health disparities (e.g., mental health, substance use, and HIV/sexually transmitted infections) that burden SMP compared with heterosexual people (Hatzenbuehler et al., 2013; Williams & Mann, 2017). Therefore, researchers must identify and enhance factors that mitigate or prevent adverse health outcomes linked to homophobia.

Numerous studies have underscored the contributions of health-promotive factors (e.g., self-acceptance and social support) toward building resilience in SMP when confronted by social adversity (Woodward et al., 2017). Resilience includes internal assets and social resources that prevent or attenuate health risk trajectories linked to adverse experiences (Zimmerman et al., 2013). A comprehensive understanding of the health-promotive factors that exist within communities of SMP may assist health researchers and providers leverage resiliencies into health promotion strategies (Herrick et al., 2011; Herrick et al., 2014). Building on the existing strengths within these communities permits a shift from the pervasive risk- or deficit-focused approach to health care, which can be disempowering and further perpetuate stigma, to a focus on individuals' resilience in overcoming homophobic victimization (Vaughan & Rodriguez, 2014).

Homophobia management is an understudied aspect of resilience that describes how SMP regulate social interactions in which others express, are anticipated to express, or act on homophobic beliefs and remarks (Herrick et al., 2014). It is closely related to stigma competence, which focuses on managing homophobia at a psychological level (e.g., disengaging from the stressor, positive reframing; Bruce et al., 2015; Levitt et al.,

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2016; Slater et al., 2015). Homophobia management is also closely related to rejection sensitivity, which describes a disposition or personality trait centered on anticipating forms of rejection, like mistreatment, prejudice, discrimination, and exclusion, that arise from direct or vicarious experiences of oppression an (Bäck et al., 2019; Feinstein, 2020). Rejection sensitivity has been applied outside the contexts of homophobia (e.g., racism and gender-based discrimination; Casad et al., 2019; Tapia et al., 2022). Homophobia management, however, includes sociobehavioral strategies enacted by SMP specifically to minimize or overcome stress attributed to interpersonal experiences of homophobia, such as social avoidance or confronting perpetrators (Herrick et al., 2014). To our knowledge, there are no validated instruments to measure homophobia management. A tool to measure homophobia management skills among SMP will offer health researchers and service providers a means to monitor interpersonal coping processes among those who have experienced homophobic stigma.

Scale Development

Our research team developed a homophobia management scale specifically for the Healthy Aging substudy of the Multicenter AIDS Cohort study (MACS), which aimed to identify multilevel resiliencies among sexual minority men (SMM) in the United States. Research team members included university faculty and community health research scientists with content expertise in HIV, stigma, sexual orientation, and psychosocial health. We used the proactive coping processes model as a theoretical guide for scale development (Aspinwall, 2012). Proactive coping occurs when individuals monitor for potential stressors and act in a way to preempt the stressor from manifesting or to minimize its impact (Aspinwall, 2012). Researchers have applied this theory to contextualize coping with racism, HIV stigma, and weight-related stigma in general population studies (Mallett & Swim, 2009; Meanley et al., 2019). There are two types of proactive coping. First, prevention-focused coping includes stress-preemptive efforts such as stigma avoidance, prevention of harm to oneself, and self-regulatory behaviors that minimize confirming a stereotype. Second, promotion-focused coping includes confrontational efforts such defending oneself and educating perpetrators about the stressor.

With SMM-specific populations, researchers have used qualitative methods to describe proactive coping when faced with racism and homophobia and advocated for a better understanding of how these behaviors may serve as a mechanism for resilience (Bogart et al., 2017; Choi et al., 2011; Dewaele et al., 2013; Goode-Cross & Tager, 2011). In these studies, prevention-focused coping included sexual orientation concealment or selective disclosure and avoiding or disassociating oneself from stigmatizing social environments. Promotion-focused coping manifested as confrontational self-advocacy and seeking out identity-affirming support. Draft items were iteratively circulated, discussed, and revised among the research team to ensure that they were theoretically relevant and would be clearly understood by participants. The final draft scale included eight items inspired by proactive coping processes model (Aspinwall, 2012).

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Current Study

The current article describes a secondary data analysis with the objective of assessing the psychometric properties of a newly developed homophobia management scale with a community-based cohort of cisgender sexual minority men (SMM) in midlife and older adulthood. Though midlife and older adult SMP face ongoing and unique social, economic, and health disparities, they remain an understudied population (Bower et al., 2021; Emlet, 2016; Choi & Meyer, 2016; Fredriksen-Goldsen et al., 2017). Many SMM in midlife and older adulthood came of age under limited sexual orientation–specific, antidiscrimination protections, and widespread, public endorsements of homophobic stigma (Meanley, et al., 2021; Yarns et al., 2016). Homophobic stigma was also exacerbated by the proliferating HIV epidemic in the 1980s that disproportionately affected SMM (Meanley, Stall, et al., 2020). Furthermore, prior studies suggest SMM have experienced greater susceptibility to verbal and physical forms of homophobic stigma across the life course compared with cisgender sexual minority women (Bridge et al., 2019). Given this generation's lifetime vulnerability to homophobic stigma, many of these cisgender men exhibit high levels of resilience (Fredriksen-Goldsen et al., 2017), providing a critical opportunity for developing a homophobia management scale.

Method

Multicenter AIDS Cohort Study

Our study's data came from the Multicenter AIDS Cohort Study (MACS) Healthy Aging substudy. The MACS originated in 1984 to evaluate the trajectory of the HIV epidemic among SMM residing in the Baltimore, MD; Washington, DC; Chicago, IL; Pittsburgh, PA; and Los Angeles, CA, metro areas. The cohort had 2,283 actively enrolled cisgender SMM at the start of the Healthy Aging substudy. Substudy participation occurred during routine semiannual MACS visits, wherein participants completed a battery of physiological examinations and health surveys. The MACS design is detailed in prior publications (Kaslow et al., 1987), and only methods for the current analysis are described. Study instruments as well as the protocol for accessing available study data can be found at http://aidscohortstudy.org/.

The Healthy Aging substudy included six data collection waves at 6-month intervals from April 2016 to March 2019. Participants enrolled at their respective MACS sites after being screened by program staff (Egan et al., 2021). Participation eligibility included (a) being 40+ years old by the first data collection wave, (b) having attended one or more semiannual MACS visit in the 2 years prior to the first data collection wave, and (c) being a cisgender man who has had sex with a man since enrolling in the MACS. The lower-age cutoff is consistent with definitions of midlife used in prior mental health and aging studies involving SMM (Jacobs & Kane, 2012). All participants provided written informed consent. We collected data via self-administered paper and tablet-delivered surveys at participants' homes or during their study visits. On average, participants completed surveys in 30 to 35 min and were compensated $35 per survey across each data collection wave (up to $210). Data were uploaded to a secure system accessible only to the research team. Paper surveys were programmed into survey software, double-checked by team members to ensure

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accuracy, uploaded to the secure data management system, and subsequently destroyed. Study procedures were approved by the Institutional Review Boards at each MACS site.

Data Analysis

Missing Data—Of the 1,294 participants, 124 (9.6%) provided incomplete responses to homophobia management items and were subsequently excluded. Item-specific missingness ranged from 7.5% to 15.1% ("*I avoid settings where people are likely to express homophobic opinions*"). Little's MCAR test indicated that missing responses were not completely at random ($\chi^2_{406} = 557.39$, $p < .001$). Participants with missing homophobia management items were disproportionately non-Hispanic Black ($\chi_3{}^2 = 22.80$, $p < .001$) and living with HIV ($\chi^2_1 = 12.18$, $p < .001$). We used recommended practices with cross-sectional data to minimize missingness among all other study variables (Hawthorne & Elliott, 2005), using person-mean substitution for Likert-formatted items among those who provided responses for at least half of the items within each scale. We removed 372 participants (28.7%) from our analytic sample because of a less than 50% response rate to items within our other scales of interest. Excluded participants were mostly non-Hispanic Black ($\chi_3{}^2 = 31.99$, $p < .001$) and living with HIV ($\chi^2_1 = 10.38$, $p = .001$) compared with included participants. Our final analytic sample included 798 SMM in midlife and older adulthood (61.7% of unique participants).

Randomization—The psychometric assessment of our homophobia management scale started with randomizing participants into two roughly equal groups, Group A ($n = 405$, 50.8%) and Group B ($n = 393$, 49.2%), using a random number generator in SPSS Version 27.0 (IBM Corp., 2020). With Group A, we conducted a principal component analysis (PCA) and exploratory factor analysis (EFA) to assess the scale's factor structure. With Group B, we conducted a confirmatory factor analysis (CFA) to test the scale's construct validity. With both groups, we assessed the convergent validity of the homophobia management scale with theoretically relevant variables and characterized their scores by age, race/ethnicity, sexual orientation, and HIV serostatus.

Factor Analysis—Our data exceeded sample size criteria to conduct a factor analysis based on the number of items and parameters required (Mundfrom et al., 2005; Weston & Gore, 2006). Based on common best practices, we conducted PCAs and EFAs on the original eight items using SPSS Version 27.0 (IBM Corp., 2020), the PCA to identify the number of potential factors, and the EFA to better understand the latent structure/rotation of factors (Jain & Shandliya, 2013; Worthington & Whittaker, 2006). We used principal axis factoring as the extraction method to identify latent factors and *direct oblimin* as the rotation method. Scale reduction was determined by examining eigenvalues (≥1), a subjective scree test, and standardized factor loadings (≥.35) (Boateng et al., 2018; Kim et al., 2021). Given the small number of items, we specified the PCA and EFA for one- and two-factor solutions to ensure a minimum of three items in a resulting factor (Carpenter, 2018). Poorly and cross-loaded items were removed. We calculated the scale's internal consistency, designating acceptability cutoffs at Cronbach's alpha ≥.60 given the early-stage development of the scale (Mayordomo et al., 2020; Ursachi et al., 2015) and the potential, limiting impact of low number response options (Lozano et al., 2008; Vaske et al., 2017).

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Informed by the PCA and EFA, we conducted a CFA in Stata Version 15 (StataCorp., 2017) with Group B to determine whether the hypothesized structure for the homophobia management scale was adequately identified. We used standard cutoffs for assessing adequate construct validity using the following goodness-of-fit indices (Schreiber et al., 2006): χ^2 test ($p > .05$); root mean square error of approximation (RMSEA < .08); standardized root mean residual (SRMR < .08); comparative fit index (CFI > .90); and Tucker Lewis Index (TLI ≥ .95). We reviewed modification indices to identify any potential and appropriate correlated errors, reran the CFA based on these indices, and assessed the adequacy of the final model using the same goodness-of-fit cutoffs.

Convergent Validity and Scale Characterization—We used bivariate and multivariable linear regressions to examine the associations between homophobia management scores and three theoretically related psychosocial variables among the full sample (Groups A and B combined): internalized homophobia, psychological resilience, and psychological attachment to the gay community. To further characterize homophobia management scores, we examined differences by age, race/ethnicity, sexual orientation, and HIV serostatus. Multivariable analyses adjusted for participants' MACS enrollment wave to account for potential cohort effects (Friedman et al., 2014).

Internalized homophobia has implications for how SMM integrate homophobic stigma into their self-concept (Chazin & Klugman, 2014). MACS researchers have previously observed many midlife and older SMM to have resolved their internalized homophobia, which may be related to how these cisgender men have avoided or confronted homophobic stigma over time (Herrick et al., 2013). Homophobia management may also be an extension of psychological resilience (Woodford et al., 2018). Psychological resilience refers to an individual's ability to adapt to social adversity, such as stigma (Wagnild, 2009). Psychological attachments to the gay community may be linked to homophobia management. As a proxy for community participation, the gay community may be a critical resource for peer-based social support when faced with homophobic stigma (Herrick et al., 2014; Meyer, 2010). We hypothesized that homophobia management would be negatively associated with internalized homophobia and positively associated with psychological resilience and attachment to the gay community.

Measures

We collected homophobia management items at four waves (Visits 66, 67, 69, and 70). All other study variables were extracted across all substudy waves (Visits 65–70). For each unique participant ($N = 1,294$), we analyzed scale items from their earliest data participation wave for convergent validity and scale characterization procedures; therefore, analyzed data may derive from different waves between participants (i.e., we analyzed participants' data from Vis-its 66–70 if they did not have available data from Visit 65).

Homophobia Management—Our team drafted eight items (see Table 1) that gauge SMM's perceived capabilities to enact homophobia management accounting for social avoidance, selective social network construction, and stigma confrontation. These items were intended to capture prevention-focused (e.g., "I avoid settings where people are likely

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to express homophobic opinions") and promotion-focused (e.g., "If I am in a setting where people express homophobic opinions, I am capable of letting them know that I disagree") homophobia management. Participants were offered five response options (1 = always true; 2 = sometimes true; 3 = not true at all; 4 = do not know; and 5 = prefer not to answer). *Do not know* and *prefer not to answer* responses were treated as missing.

Internalized Homophobia—Internalized homophobia was measured with the 10-item Internalized Homophobia Scale (Herek et al., 1998), which has been validated with midlife and older adult MSM (Herrick et al., 2013; Meanley, Haberlen, et al., 2020) and is defined as negative attitudes toward one's own sexual orientation (e.g., "I wish I weren't gay/bisexual"). Items were measured using a five-point Likert scale (0 = *strongly disagree* to 4 = *strongly agree*) and had high internal consistency (Cronbach's alpha = .90). We reverse coded positively worded items and computed sum scores (range = 0–40). Higher scores indicated higher levels of internalized homophobia.

Psychological Resilience—We measured psychological resilience with the 14-item Resilience Scale (Aiena et al., 2015), which defines resilience as a combination of protective factors including equanimity, existential aloneness, life purpose, perseverance, and self-reliance. Together, these domains facilitate individuals' abilities to adapt and overcome in the face of stressors. This scale has been validated with midlife and older adult MSM (Brown et al., 2022; Meanley, Haberlen, et al., 2020). All items were scored on a 7-point Likert scale (0 = *strongly disagree* to 6 = *strongly agree*) and yielded high internal consistency (Cronbach's alpha = .96). We summed the six items to calculate participants' psychological resilience (range = 0–84), with higher scores indicating greater resilience.

Psychological Attachment to the Gay Community—Participants responded to six items from a scale that measured their shared emotional connection with the gay community (e.g., "How much do you feel you can get help from the gay community if you need it"; Proescholdbell et al., 2006) and has been previously validated with midlife and older SMM (Brennan-Ing et al., 2022). Scale items were measured on a 5-point Likert scale (0 = *none* to 4 = *a great deal*) and exhibited high internal consistency (Cronbach's alpha = .93). We summed the six items to compute participants' attachment scores (range = 0–24), with higher scores reflecting greater attachment.

Sociodemographic Characteristics and Other Covariates

Participants self-reported their age, race/ethnicity (0 = non-Hispanic White; 1 = non-Hispanic Black; 2 = other race [accounts for small numbers of Asian, Alaskan Native, Native Hawaiian/Pacific Islander, Native American, Hispanic/Latinx from all races, and multiracial participants]), and their sexual orientation (0 = gay; 1 = bisexual; 2 = other [accounts for small numbers of cisgender men who identified as unsure, do not know, straight, and other]). The Center for Analysis and Management of MACS Data provided participants' current HIV serostatuses (collected prospectively at each visit via an enzyme-linked immunosorbent assay and confirmed by Western blot; 0 = negative; 1 = positive).

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Participant Characteristics—Sample characteristics, including group-stratified data, are provided in Table 2. Participants' mean (*SD*) age was 59.8 (8.7) years. Roughly seven in 10 participants were non-Hispanic White, and most (91.5%) self-reported being gay. Less than half of the participants were living with HIV (46.7%). More than one third of participants enrolled in the MACS after 2001 (34.6%). On average, our sample reported low levels of internalized homophobia (mean [*SD*], 4.9 [6.8]; range, 0–40; skewness = 1.76; kurtosis = 2.97), high levels of psychological resilience (mean [*SD*], 69.1 [16.3]; range, 0–84; skewness = −1.89; kurtosis = 4.26), and moderate connectivity to the gay community (mean [*SD*], 13.6 [6.3]; range, 0–24; skewness = −.34; kurtosis = −.65). Our sample randomization yielded the following group sample sizes: Group A (EFA), $n = 405$ (50.8%); Group B (CFA), $n = 393$ (49.2%). There were no statistically significant differences between both groups by age, race/ethnicity, sexual orientation, HIV serostatus, MACS enrollment wave, or psychosocial variables, suggesting adequate randomization. Participants reported high levels of homophobia management across each item (see Table 2), with most participants indicating either *sometimes* or *always true* across all items. There were no statistically significant differences in responses specific to homophobia management items between Groups A and B.

Results

Factor Analyses and Internal Consistency

With Group A, the PCA and EFA revealed a one-factor solution for our homophobia management items. Two-factor analyses suggested a second factor with only two items, which is insufficient to comprise a disparate factor. The factor loadings for the one-factor EFA ranged from .27 to .66 (see Table 2). Given the exploratory nature of our analysis, adequate factor loadings were set to .35 and above; thus, we removed two items ("*I avoid settings where people are likely to express homophobic opinions"* [HPMAN3] and "*I can work with someone who expresses homophobic opinions and still get my job done*" [HPMAN6]). Together, the six retained items yielded an eigenvalue of 2.56, accounted for 32% of the variance, and demonstrated acceptable internal consistency (Cronbach's alpha = .68).

With Group B, we conducted a CFA on the six items retained from the EFA as a unidimensional model. In the final model (see Figure 1), the factor loadings ranged from .40 to .63 and were all statistically significant ($p < .001$). Our CFA determined that the six-item scale provided adequate model fit statistics accounting for correlated error terms (HPMAN1 was correlated with HPMAN2; HPMAN7 was correlated with HPMAN8), having achieved all preestablished cutoff criteria ($\chi_7^2 = 12.19$, $p = .094$; RMSEA = .04, 90% CI [.01, .08]; CFI = .99; TLI = .98; and SRMR = .03). To minimize adjustments, modifications on potential correlated errors were conducted incrementally. We permitted the evaluation of correlated errors given the similarity in wording of items (Brown, 2015). The unmodified model ($\chi_9^2 = 141.07$, $p < .001$; RMSEA = .19, 90% CI [.17, .22]; CFI = .75; TLI = .58; and SRMR = .13) and the model with correlated errors between HPMAN1 and HPMAN2 only ($\chi_8^2 = 26.63$, $p = .001$; RMSEA = .09, 90% CI [.05, .11]; CFI = .96; TLI = .93; and SRMR

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= .05) yielded poor fit indices, respectively. The retained items achieved acceptable internal consistency (Cronbach's alpha = .69).

Convergent Validity and Scale Characterization

Among the full analytic sample of cisgender SMM, mean (*SD*) scores for the six-item scale was 8.84 (2.39; range = 0–12), suggesting moderate to high levels of homophobia management. We observed statistically significant bivariate associations between psychosocial variables and levels of homophobia management (see Table 3). Internalized homophobia was negatively associated (β = −.33, $p < .001$) and psychological resilience (β = .18, $p < .001$) and connection to the gay community (β = .26, $p < .001$) were positively associated with homophobia management. At the bivariate level, age was positively associated (β = .12, $p = .001$) with homophobia management. Participants who identified as non-Hispanic Black (β = −.10, $p = .004$) and other race (β = −.10, $p = .007$) exhibited lower levels of homophobia management, respectively, compared with non-Hispanic White participants. Bisexual (β = −.11, $p = .001$) and other-identified (β = −.08, $p = .028$) participants had lower mean homophobia management scores compared with gay participants. There were no bivariate differences in homophobia management by HIV serostatus. In the multivariable model, internalized homophobia (β = −.26, $p < .001$) remained negatively associated and psychological connection to the gay community (β = .16, $p < .001$) remained positively associated with homophobia management after adjusting for all sociodemographic and other covariates. We observed no other statistically significant associations in the multivariable model.

Discussion

Our study assessed the psychometric properties of a newly developed scale evaluating homophobia management with a large, community-based cohort of cisgender SMM in midlife and older adulthood. Homophobia management reflects a critical area of resilience and may assist in minimizing the detrimental health consequences imposed by stigma among SMM (Herrick et al., 2014). To our knowledge, we are the first to develop a measurement tool for this construct. MACS participants provided our team with a unique and ideal opportunity to develop a homophobia management scale. These cisgender men have decades of experience responding to Likert-scaled items for psychosocial constructs and, through the years, have learned to conceptualize their own experiences of stigma, self-regulatory behaviors, and self-advocacy—thereby facilitating their ability to answer questions about homophobia management.

Using factor analyses, we identified a unidimensional scale, including six of eight originally proposed items. The single factor yielded adequate internal consistency for a scale in development and acceptable model fit statistics (Ursachi et al., 2015). The two unretained items, though related, address social contexts in which close relationships may not be present (e.g., workplace or unclear or unspecified social space). Grounded with the proactive coping processes model (Aspinwall, 2012), we developed a sophisticatedly conceptualized measure to assess SMM in midlife and older adulthood's confidence to exercise homophobia management behaviors. Our final measurement model reflected prevention- and promotion-

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focused coping factors (e.g., selective social network construction and stigma confrontation). Given that the scale was developed with the intention of being concise for practical implementation into a large, multicomponent survey, additional research efforts may further illuminate common prevention- and promotion-focused homophobia management behaviors that should be developed into new items. New items should be tested through cognitive interviews (Knafl et al., 2007) and considered for revised or expanded versions of our newly-developed scale.

Based on prior research (Chazin & Klugman, 2014; Herrick et al., 2013; Herrick et al., 2014; Meyer, 2010; Wagnild, 2009; Woodford et al., 2018), we hypothesized homophobia management to have positive associations with psychological resilience and psychological attachments to the gay community and a negative association with internalized homophobia. Homophobia management's associations with internalized homophobia and psychological connection to the gay community provide evidence for our scale's convergent validity. These findings are unsurprising given the central relevance of participants' sexual orientations to experiences of internalized homophobia, attachment to the broader gay community, and homophobia management. Over the life course, prior experiences with homophobia may raise stigma consciousness (i.e., awareness of their stigmatized status) among SMM around their sexual orientation, contributing to internalized homophobia, gay community attachments, and coping behaviors (Galupo & Bauerband, 2016; Nouvilas-Pallejà et al., 2018). Furthermore, our findings suggest homophobia management may inform SMM's capacity to overcome experiences of internalized homophobia and may be bolstered by their connections to the community (Chazin & Klugman, 2014; Herrick et al., 2014; Meyer, 2010). These interpretations should be explored through future qualitative and longitudinal studies.

Homophobia management scores differed by age, race/ethnicity, and sexual orientation at the bivariate level; however, these differences were not independent of one another in the multivariable model. These null findings should be interpreted cautiously. Our results are susceptible to type II error arising from excluding participants with missing data. Consistent with prior studies, a higher proportion of participants with missing responses to homophobia management items self-reported being non-Hispanic Black and living with HIV compared with their respective counterparts, reflecting ongoing challenges with participant recruitment and study completion in these communities (Castillo-Mancilla et al., 2014; Grov et al., 2019; White et al., 2019). These issues may limit our understanding of the variation in how homophobia management manifests among these communities. Small numbers of participants in some race, ethnicity, and sexual orientation groups also limited our statistical power to identify between-group differences. Recruitment for MACS participants has been conducted through convenience sampling using advertisements at venues frequented by SMM and outreach through community organizations. Historically, participant retention has been a challenge with cisgender men of color (Dudley et al., 1995). Though there have been limited recent evaluations on participant retention in the MACS, it remains critical to identify factors that may limit retention in communities of color (e.g., racism in research contexts, cultural incongruence of marketing recruitment strategies, and efforts to maximize trust in providers and research staff). Researchers should replicate our analyses with prioritized recruitment efforts among communities of color and those who have

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nonmonosexual orientations (e.g., bisexual, pansexual). This suggestion is pertinent given cultural factors, such as hegemonic masculinity and rigid, conservative religious beliefs regarding sexual orientation that have historically shaped vulnerability to homophobic stigma in communities of color (Choi et al., 2011; Harris et al., 2013). Additionally, overcoming shame related to one's same-sex attractions, accepting one's sexual orientation, and navigating how to disclose one's sexual orientation may differ between SMM with monosexual and nonmonosexual orientations. These differences may inform the types of social support resources that SMM seek to overcome health consequences attributed to homophobic stigma (Gonzalez et al., 2017; Wang & Feinstein, 2022).

Study Limitations

Our study has several limitations. Our scale relied on the correlation of error variances for two sets of items to approach and achieve acceptable model fit indices. Researchers have suggested that correlating errors should be conducted on a limited basis and must be theoretically justifiable (Brown, 2015; Hermida, 2015). We argue that the correlated errors may be attributed to similarity in both thematic content and item wording between HPMAN1 ("*I am capable of ending a friendship with someone who will not change their homophobic opinions*") and HPMAN2 ("*I am capable of ending a relationship with a family member who will not change their homophobic opinions*") and between HPMAN7 ("*I live in a neighborhood where I do not have to worry about experiencing homophobia*") and HPMAN8 ("*I have a group of friends who do not have homophobic attitudes*"). These modifications imply a need for ongoing scale development to assess whether combining the items with correlated error variances is appropriate, to include additional theoretically relevant items, and to cross-validate with other samples.

The scale's internal consistency may be underestimated given the small number of Likert-item response categories provided to participants. We excluded *refuse to answer* and *do not know* responses as missing, thereby measuring items along three ordinal categories. Measurement experts have suggested the optimal number of response categories for Likert-formatted scale items lies between four and seven to maximize potential in measurement precision and reliability (Lozano et al., 2008; Vaske et al., 2017). Implementing our homophobia management scale in future surveillance may benefit from increasing the number of categories based on this recommendation. Furthermore, future implementation of our scale may necessitate the inclusion of a neutral category option given that the scale was developed based on participants' perceptions of their hypothetical and likely context-dependent (e.g., personal vs professional life) homophobia management capabilities (Chard et al., 2015; Moors, 2008).

On average, our sample exhibited low internalized homophobia, which is consistent with prior MACS analyses that have exhibited substantial decreases in internalized homophobia across the life course and low levels of internalized homophobia in older adulthood. Decreases in internalized homophobia have been attributed to a lifetime of developing, putting into place, and tapping into protective, sexual orientation-affirming resources (Herrick et al., 2013). Furthermore, our sample reported high levels of psychological resilience and moderately high homophobia management, suggesting study participants

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reflect a well-adjusted sample. The scale's psychometric properties may not be generalizable to SMM communities that are more psychosocially diverse or different than the current study sample. Additionally, participants' psychosocial scores may be related to social factors or beyond homophobia management that are not captured within our analysis and must be contextualized by alternative, co-occurring risk and resilience factors. This will allow for greater precision in identifying participants who may benefit the most from behavioral homophobia management skills.

Though informative for scale development, the cohort's decades-long participation in HIV behavioral health surveys may facilitate an ease to respond to newly-developed items, also compromising the generalizability of our findings. Finally, our homophobia management scale was developed to ascertain the perceived capability of SMM in midlife and older adulthood to enact homophobia management behaviors instead of their enacted behaviors. This distinction may provide greater insight into SMM's psychosocial well-being in midlife and older adulthood.

Future Research Implications

Our study offers implications for future research. Given the inverse association between internalized homophobia and homophobia management, future studies should aim to assess how our scale performs in the context of other sexual minority stressors (e.g., sexuality-related discrimination and violent victimization; Meyer, 2015) among SMM in midlife and older adulthood. Homophobia management may attenuate the associations that these stressors have with health conditions that disproportionately affect SMM (e.g., mental health, polydrug use, HIV/sexually transmitted infection burden, medication adherence, and viral suppression; Hatzenbuehler et al., 2017; Valdiserri et al., 2019). Researchers should also consider adapting our scale for cisgender, sexual minority women, transgender, and gender-diverse populations (e.g., transphobia or cis-sexism management), given the variations in lifetime susceptibility to specific types of minority stress that are more prevalent in these communities (Bridge et al., 2019).

Finally, the sociobehavioral and emotional capacity to overcome homophobic instances may vary across the life course, demanding a need to explore homophobia management at critical developmental periods, such as young adulthood, that are characterized by increased risk-taking. High levels of homophobia management in our sample may be attributed to SMM in midlife and older adulthood successfully navigating stigma while coming of age when community homophobia was much more pervasive and accepted than in current social climates (Brennan-Ing et al., 2013; Yarns et al., 2016). Future studies should explore how, when, and in what interpersonal contexts homophobia management develops among SMP, and whether there are factors (e.g., severity of homophobic stressors) that shape decisions to enact prevention- and promotion-focused coping behaviors. These findings may inform interventions that assist SMM to safely confront or exercise health-promotive coping behaviors when faced with homophobia over the life course.

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Conclusions

Designing effective, resilience-focused interventions for SMP requires measurement tools that elucidate how SMP overcome social adversity like homophobia. Our study team developed a brief, theory-informed homophobia management scale that may be used to identify and support coping mechanisms that interrupt negative health trajectories linked to homophobic stigma. With a cohort of SMM in midlife and older adulthood, our items exhibited adequate internal consistency and convergent validity given the scale's associations with internalized homophobia, psychological resilience, and psychological connection to the broader gay community. Our newly developed scale offers health care researchers and providers a means for incorporating homophobia management into nuanced assessments of resilience among SMM. Researchers interested in adapting our scale may benefit from incorporating our recommendations for its implementation in future surveillance.

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Public Significance Statement

The present study advocates for assessments of homophobia management (i.e., coping behaviors to minimize exposure or consequences of homophobia) to inform resilience among sexual minority people in midlife and older adulthood. Upon psychometric testing with a large community cohort of midlife and older adult cisgender sexual minority men, the study's findings offer a unique and acceptable instrument to measure sexual minority people's capacity to enact homophobia management when faced with instances of homophobic stigma.

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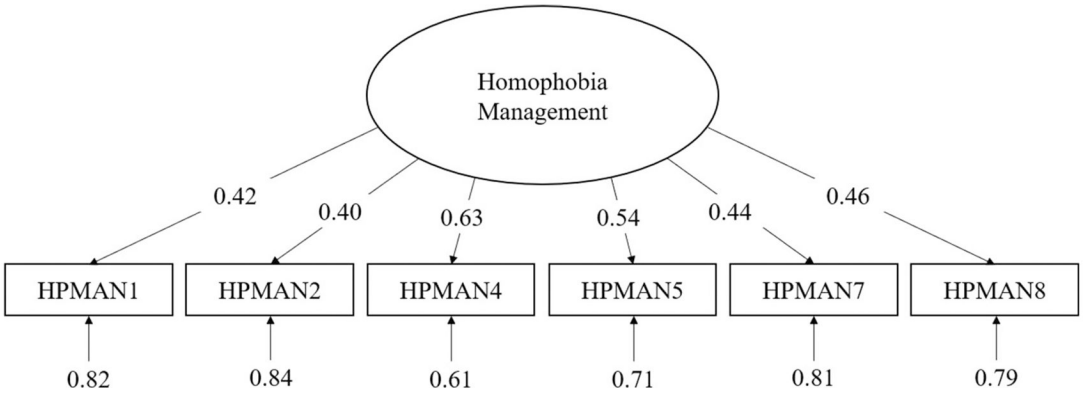

Figure 1. Group B Path Diagram of Confirmatory Factor Analysis for Homophobia Management (n = 393)

Note. The latent variable is represented by an ellipse. Measured variables are represented by rectangles. Numbers within down-facing arrows are item factor loadings. Numbers below upward-facing arrows are error variances. Error covariances between HPMAN1 and HPMAN2 (0.67) and between HPMAN7 and HPMAN8 (0.25) are not shown. Fit statistics: $\chi^2 = 12.19$; $p = .094$, RMSEA = 0.04, 90% CI [0.01, 0.08], CFI = 0.99, and TLI = 0.98.

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Table 1

Frequencies of Responses on Homophobia Management Scale, N = 798

Item	Item	Full sample	Group A	Group B	χ^2	*p*	Group A—EFA factor loadings
HPMAN 1	I am capable of ending a friendship with someone who won't change their homophobic opinions.				0.13	.938	0.66
	Not true at all	45 (5.6)	24 (5.9)	21 (5.3)			
	Sometimes true	200 (25.1)	101 (24.9)	99 (25.2)			
	Always true	553 (69.3)	280 (69.1)	273 (69.5)			
HPMAN2	I am capable of ending a relationship with a family member who won't change their homophobic opinions.				0.09	.955	0.65
	Not true at all	88 (11.0)	46 (11.4)	42 (10.7)			
	Sometimes true	237 (29.7)	120 (29.6)	117 (29.8)			
	Always true	473 (59.3)	239 (59.0)	234 (59.5)			
HPMAN 3*	I avoid settings where people are likely to express homophobic opinions.				1.51	.471	0.28
	Not true at all	137 (17.2)	63 (15.6)	74 (18.8)			
	Sometimes true	349 (43.7)	181 (44.7)	168 (42.7)			
	Always true	312 (39.1)	161 (39.8)	151 (38.4)			
HPMAN 4	If I am in a setting where people express homophobic opinions, I am capable of letting them know that I disagree.				2.80	.247	0.55
	Not true at all	80 (10.0)	36 (8.9)	44 (11.2)			
	Sometimes true	394 (49.4)	194 (47.9)	200 (50.9)			
	Always true	324 (40.6)	175 (43.2)	149 (37.9)			
HPMAN 5	If I am in a setting where people express homophobic opinions, I can get through the encounter without having it ruin my day.				0.55	.761	0.42
	Not true at all	97 (12.2)	48 (11.9)	49 (12.5)			
	Sometimes true	382 (47.9)	190 (46.9)	192 (48.9)			
	Always true	319 (40.0)	167 (41.2)	152 (38.7)			
HPMAN 6*	I can work with someone who expresses homophobic opinions and still get my job done.				1.33	.514	0.27
	Not true at all	128 (16.0)	70(17.3)	58 (14.8)			
	Sometimes true	368 (46.1)	188 (46.4)	180 (45.8)			
	Always true	302 (37.8)	147 (36.3)	155 (39.4)			
HPMAN 7	I live in a neighborhood where I don't have to worry about experiencing homophobia.				0.65	.721	0.35
	Not true at all	101 (12.7)	51 (12.6)	50 (12.7)			

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Item	Item	Full sample	Group A	Group B	χ^2	*p*	Group A—EFA factor loadings
	Sometimes true	282 (35.3)	138 (34.1)	144 (36.6)			
	Always true	415 (52.0)	216 (53.3)	199 (50.6)			
HPMAN 8	I have a group of friends who don't have homophobic attitudes.				0.23	.893	0.50
	Not true at all	30 (3.8)	16 (4.0)	14 (3.6)			
	Sometimes true	146 (18.3)	76 (18.8)	70 (17.8)			
	Always true	622 (77.9)	313 (77.3)	309 (78.6)			
Eigenvalue							2.56
% variance							32.0
Cronbach's α							0.68

Note. Extraction method: principal axis factoring. Rotation method: direct oblimin.

*Items excluded in the confirmatory factor analysis.

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Psychol Sex Orientat Gend Divers. Author manuscript; available in PMC 2024 September 06.

Table 2

Participant Characteristics of Sexual Minority Men From the MACS Healthy Aging Substudy

Variable	Full sample (*N* = 798)	Group A—EFA (*n* = 405) (50.8%)	Group B—CFA (*n* = 393) (49.2%)	*t*	χ^2	*p*
Age, mean (*SD*)	59.8 (8.7)	59.5 (8.9)	60.0 (8.4)	−0.85		.395
Race/ethnicity, *n* (%)					2.13	.344
Non-Hispanic White	558 (69.9)	271 (66.9)	287 (73.0)			
Non-Hispanic Black	141 (17.7)	75 (18.5)	66 (16.8)			
Other *	99 (12.4)	59 (14.5)	40 (10.2)			
Sexual orientation, *n* (%)					0.76	.685
Gay	730 (91.5)	368 (90.9)	362 (92.1)			
Bisexual	29 (3.6)	17 (4.2)	12 (3.1)			
Other #	39 (4.9)	20 (4.9)	19 (4.8)			
HIV serostatus, *n* (%)					0.15	.702
Negative	425 (53.3)	213 (52.6)	212 (53.9)			
Positive	373 (46.7)	192 (47.4)	181 (46.1)			
MACS enrollment wave, *n* (%)					0.19	.663
1984 to 1987	522 (65.4)	262 (64.7)	260 (66.2)			
2001 to 2010	276 (34.6)	143 (35.3)	133 (33.8)			
Psychosocial variables, mean (*SD*)						
Internalized homophobia	4.9 (6.8)	4.7 (6.6)	5.1 (7.0)	−0.89		.395
Psychological resilience	69.1 (16.3)	69.7 (15.7)	68.5 (16.8)	1.05		.377
Psychological connection to the gay community	13.6 (6.3)	13.7 (6.2)	13.6 (6.3)	0.18		.857

Note. CFA = confirmatory factor analysis; EFA = exploratory factor analysis.

#Group A other = 2.0% heterosexual/straight; 1.7% other (not identified); .2% unsure; 1.0% prefer not to say; Group B: other = 1.8% heterosexual/straight; 2.0% other (not identified); .5% unsure; .5% prefer not to say.

*Group A: other = 9.6% Hispanic/Latino (all races); .2% American Indian or Alaskan Native; .5% Asian/Pacific Islander; .5% other (not identified); and 3.7% multiracial; Group B: other = 7.6% Hispanic/Latino (all races); .3% Asian/Pacific Islander; .8% other (not identified); 1.5% multiracial.

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Table 3

Bivariate and Multivariable Regression Results for Homophobia Management Among Sexual Minority Men in Midlife and Older Adulthood, N = 798

	Bivariate		Multivariable	
Variable	**β**	***p***	**β**	***p***
Psychosocial variables				
Internalized homophobia	−0.33	<.001	−0.26	<.001
Psychological resilience	0.18	<.001	0.06	.091
Psychological connection to the gay community	0.26	<.001	0.16	<.001
Age	0.12	.001	0.06	.160
Race/ethnicity				
Non-Hispanic White	REF		REF	
Non-Hispanic Black	−0.10	.004	−0.01	.899
Other race	−0.10	.007	−0.06	.088
Sexual orientation				
Gay	REF		REF	
Bisexual	−0.11	.001	−0.05	.128
Other	−0.08	.028	0.05	.178
HIV serostatus				
Negative	REF		REF	
Positive	−0.04	.301	0.04	.268

Note. β values are standardized. Multivariable models are adjusted for MACS enrollment wave.