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Disparities in Mental Health Quality of Life Between Hispanic and Non-Hispanic White LGB Midlife and Older Adults and the Influence of Lifetime Discrimination, Social Connectedness, Socioeconomic Status, and Perceived Stress

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Abstract

We assessed factors contributing to ethnic and racial disparities in mental health quality of life (MHQOL) among lesbian, gay, and bisexual (LGB) midlife and older adults. We utilized cross-sectional survey data from a sample of non-Hispanic White and Hispanic LGB adults aged 50 and older. Structural equation modeling was used to test the indirect effect of ethnicity/race on MHQOL via explanatory factors including social connectedness, lifetime discrimination, socioeconomic status (SES), and perceived stress. Hispanics reported significantly lower levels of MHQOL, compared to non-Hispanic Whites. In the final model, the association between ethnicity/race and MHQOL was explained by higher levels of perceived stress related to lower

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SES, higher frequency of lifetime discrimination, and lack of social connectedness among Hispanic LGB adults. This study suggests that perceived stress related to social disadvantage and marginalization plays an important role in MHQOL disparities among Hispanic LGB midlife and older adults.

Keywords

lesbian, gay, and bisexual, the elderly, Hispanic, mental health quality of life, social stress, aging

Introduction

In the United States, the population of midlife and older adults is changing rapidly in terms of increased size and growing diversity (Vincent & Velkoff, 2010). By 2050, Hispanic older adults will be the largest ethnic and racial minority group, representing almost 20% of the older adult population (Vincent & Velkoff, 2010). Additionally, according to recent population-based studies, 2–4% of Hispanic adults aged 18 and older identify as lesbian, gay, or bisexual (LGB; Gates, 2014). With the rapid aging of the Hispanic adult population, the number of Hispanic LGB midlife and older adults will likely increase significantly in the near future as well, creating a large population potentially marginalized by both their ethnicity/race and sexual identity. Despite the dramatic growth, there has been a dearth of research about the health and well-being of Hispanic LGB midlife and older adults (Institute of Medicine, 2011).

According to the Centers for Disease Control and Prevention (CDC)'s Behavioral Risk Factor Surveillance System, Hispanics aged 50 and older are more likely to report poor mental health when compared to non-Hispanic Whites of similar age (Centers for Disease Control and Prevention [CDC] & National Association of Chronic Disease Directors, 2008). In addition, disparities in mental health among LGB midlife and older adults compared to their heterosexual counterparts are well documented (Fredriksen-Goldsen, Kim, Barkan, Muraco, & Hoy-Ellis, 2013; Wallace, Cochran, Durazo, & Ford, 2011). However, studying disparities separately by ethnicity/race and by sexual identity is not sufficient to understand mental health among Hispanic LGB midlife and older adults. Hispanic LGB midlife and older adults' social positions are at the intersection of ethnic and sexual minority identities. Intersectionality theory postulates that individuals experience various social positions synchronously rather than independently (McCall, 2005).

McCall (2005) suggests that a within-group comparison approach is one way to understand the relationship between intersecting identities and health inequality. This article focuses on ethnic and racial diversity among LGB midlife and older adults. We examine the association between mental health quality of life (MHQOL) and ethnicity/race (Hispanic and non-Hispanic White) among LGB midlife and older adults and key explanatory factors contributing to ethnic and racial disparities in MHQOL.

Hispanic LGB individuals may face elevated adverse experiences related to their dual disadvantaged status in society (Zea, Reisen, & Diaz, 2003). Family and community networks are particularly strong among Hispanic communities, and social support from these ties seems to mitigate the negative influence of adverse experiences on mental health (Pascoe & Richman, 2009). However, according to Zea, Reisen, and Diaz (2003), LGB adults in many Hispanic communities may not receive such beneficial support from their families and communities. Self-identifying as LGB is often viewed as individualistic, and undesirable and same-sex relationships are often considered "against nature" in the dominant Hispanic culture (Arreola, Ayala, Diaz, & Kral, 2013) as well as being a potential source of hurt or embarrassment to families (Diaz & Ayala, 2001). According to the National Hispanic Council on Aging (2013), due to multiple disadvantaged statuses (i.e., being both Latino and a sexual or gender minority), Hispanic LGB and transgender older adults undergo heightened burdens of discrimination, particularly job-related discrimination, that in turn leads to financial constraints and lack of social support.

There is a dearth of research regarding health disparities among Hispanic LGB midlife and older adults. Studies of predominantly young adult samples indicate that Hispanic sexual minorities experience the risks of psychological distress due to social discrimination related to ethnicity/race, sexual identity, and financial constraints (Diaz, Ayala, Bein, Henne, & Marin, 2001; Velez, Moradi, & DeBlaere, 2015). While we would expect these findings to translate to older populations as well, no empirical research, to our knowledge, has examined mental health disparities and their explanatory factors among Hispanic LGB midlife and older adults. This lack of research may result from the fact that most large population-based studies and aging surveys do not inquire about sexual orientation.

Even when studies do measure sexual orientation, they often fail to secure a sufficient sample of LGB individuals of color in part because of their low response rates (Kim & Fredriksen-Goldsen, 2013). Consequently, many existing empirical studies (Cochran, Mays, Alegria, Ortega, & Takeuchi, 2007; Kertzner, Meyer, Frost, & Stirratt, 2009) collapse Hispanics and other

ethnic and racial minority groups into a single category and fail to identify distinctive health-related needs and strengths of specific ethnic and racial groups among LGB midlife and older adults. However, this deeper examination is necessary if we hope to better understand the nuanced relationships among positive and negative influences on mental health in the diverse and growing Hispanic population.

It is necessary to begin exploring intersecting identities based on sexuality and ethnicity/race as well as their influences on health to better promote health equity across heterogeneous groups within LGB midlife and older adult communities (Fredriksen-Goldsen et al., 2014). Health disparity research of LGB Hispanics in the United States, especially in older age, is limited and still in its formative stages. Additional research is needed to determine whether Hispanic LGB midlife and older adults experience elevated risks of poor mental health and, if so, to identify associated risk and protective factors and pathways to guide the development of culturally tailored interventions.

Conceptual Framework

The social stress model (Pearlin, 1989) is utilized as a guiding framework to test specified explanatory factors that may account for disparities in MHQOL among Hispanic LGB midlife and older adults. The social stress model has been applied to diverse types of samples, including those with ethnic, racial, and sexual orientation diversity (Cox, Berghe, Dewaele, & Vincke, 2010; Teasdale & Bradley-Engen, 2010). The model suggests that exposure to chronic stressful experiences associated with a disadvantaged social status will result in higher levels of perceived stress and subsequent poor mental health. Perceived stress, the subjective appraisal of life stressors and the ability to manage stressors (Lavoie & Douglas, 2012), is found to be a predictor of poor mental health (Bovier, Chamot, & Perneger, 2004). Hispanic LGB midlife and older adults may experience poorer MHQOL due to a heightened level of perceived stress associated with stressors such as experiences of discrimination, low socioeconomic status (SES), and lack of social connectedness.

Experience of discrimination. The impact of interpersonal and structural discrimination on mental health outcomes has been documented among ethnic and racial minorities (Williams & Mohammed, 2009). One extension of the social stress model, the minority stress model (Meyer, 2003), suggests that sexual minority–related stressors are associated with poor mental health

among LGB individuals. An empirical study found that lifetime experiences of discrimination and victimization are significant risk factors for mental health problems, such as depression, among LGB midlife and older adults (Fredriksen-Goldsen, Emlet, et al., 2013). It has been posited that LGB people of color are more likely to be exposed to such adverse life experiences due to ethnic and racial discrimination within sexual minority communities, sexual orientation–related discrimination within their ethnic and racial communities, and oppression within the dominant society (Harper, Jernewall, & Zea, 2004). However, empirical studies investigating cumulative marginalization effects among LGB midlife and older adults of color are limited, although a recent community-based study report reveals that Hispanic LGB midlife and older adults experience higher rates of lifetime victimization and discrimination compared with their non-Hispanic White counterparts (Fredriksen-Goldsen et al., 2011). As the social stress model suggests, we expect that the association between multiple disadvantaged social statuses and poor MHQOL may be explained by the heightened level of perceived stress resulting from cumulative exposure to discrimination.

SES-related risk. Disadvantage in SES has also been identified as a fundamental cause of health inequalities (Hudson, 2005; Robert et al., 2009). According to Adler and Newman (2002), people with low SES have elevated risks of morbidity and mortality that are partially explained by their elevated chronic stress, and studies have consistently found that low SES accounts for variability in poor mental health, such as depressive symptoms (Almeida et al., 2012). SES has also been found to partially account for ethnic and racial health disparities in mental health (Villa, Wallace, Bagdasaryan, & Aranda, 2012). Significant disadvantages in SES among Hispanic older adults have been well documented (DeNavas-Walt, Proctor, & Smith, 2013). Based on data from the 2010 American Community Survey, Hispanic same-sex couples report higher poverty rates (Badgett, Durso, & Schneebaum, 2013) and lower levels of educational attainment (Cianciotto, 2005) than their non-Hispanic counterparts. This literature suggests that in addition to experiences of marginalization, both income and education should be taken into account when examining risk factors for perceived stress and mental health outcomes among LGB Hispanic midlife and older adults.

Lack of social connectedness. Social connectedness is conceptualized as a protective mediator in the relationship between marginalized social positions and stress (Pearlin, 1989). Social network size and perceived social support are commonly measured characteristics of social connectedness; lack of

social connectedness is associated with heightened risks of depressive symptomatology among older adults (Fiori, Antonucci, & Cortina, 2006) as well as poorer overall mental and physical health (Cornwell & Waite, 2009). Social support is also negatively associated with depressive symptomatology among Latino lesbians and gay men (Zea, Reisen, & Poppen, 1999). Perceived stress is found to mediate the positive impact of social support on mental health among young adults (Bovier et al., 2004).

Sense of belonging to a social identity group is another important element of social connectedness especially among minority populations. Positive evaluation of belonging to a sexual minority community has been associated with increased LGB community connectedness among lesbian and bisexual young adult women (Zimmerman, Darnell, Rhew, Lee, & Kaysen, 2015) as well as better mental health among LGB youth, even after controlling for social support (Detrie & Lease, 2007). Since LGB midlife and older adults may have experienced exclusion from their families and others as well as the dominant society, positive sense of belonging to LGB communities may be important to promote their social connectedness. One study found that Black and Latino LGB adults had smaller social networks than White LGB adults, although the degree of connectedness to the LGB community did not differ between them (Meyer, Schwartz, & Frost, 2008). However, to our knowledge, ethnic and racial differences in social connectedness and their contribution to MHQOL among LGB midlife and older adults have not been empirically examined.

The objectives of the present study are to test for significant differences in MHQOL between Hispanic and non-Hispanic White midlife and older LGB adults and, if there are differences, to investigate the explanatory factors that account for them. We examined these relationships using structural equation modeling (SEM) to better understand the direct and indirect effects of explanatory factors on MHQOL.

In this article, we test three hypotheses based on the social stress model and literature review:

Hypothesis 1: We hypothesize that being Hispanic is associated with poorer MHQOL among LGB midlife and older adults after controlling for age and gender.

Hypothesis 2: We expect that stressors related to lifetime discrimination, lack of social connectedness, and lower SES partially mediate the association between Hispanic identity and perceived stress among LGB midlife and older adults.

Hypothesis 3: We hypothesize that the association between Hispanics and poorer MHQOL is explained in part by higher lifetime discrimination, lack of social connectedness, lower SES, and heightened perceived stress, and perceived stress partially mediates the relationship between the stressors and MHQOL.

The goal of this article is to increase our understanding of the factors related to MHQOL among Hispanic LGB midlife and older adults. Such findings have the potential to generate needed information to develop culturally sensitive interventions to improve well-being among Hispanic LGB midlife and older adults.

Method

In 2010, Caring and Aging With Pride: National Health, Aging, Sexuality and Gender Study collected a total of 2,201 mail surveys and 359 online surveys completed by LGB and transgender adults aged 50 and older. The self-administered questionnaires were designed to examine the health and quality of life of LGB and transgender older adults. Surveys were distributed through collaborations with 11 agencies serving older adults across the United States. Agencies mailed or e-mailed invitation letters and questionnaires to their agency contact lists from June to November 2010. Two reminder letters were sent as follow-ups to potential participants in 2-week intervals. The final sample of 2,560 represented a response rate of 63%. All study procedures were reviewed and approved by the institutional review board of University of Washington. For the present study, we narrowed the sample to LGB midlife and older adults who self-identified as Hispanic or non-Hispanic White for a sample size of 2,138, including 102 Hispanic and 2,036 non-Hispanic White participants.

The age of the participants ranged from 50 to 95 with an average age of 67.03 ($SD = 9.10$). Compared to non-Hispanic Whites ($M = 67.15$; $SD = 9.11$), Hispanics ($M = 64.71$; $SD = 8.74$) were significantly younger ($t = 2.61$; $p < .01$). Nearly 65% of the participants were men, and there was no significant difference in the gender distribution by ethnicity/race. A small proportion of the participants (5.19%) were bisexual, while most were gay or lesbian. Fewer than half (45.46%) were partnered or married and about a fifth (22.15%) had one or more children. Almost all the participants (97.07%) were living in an urban area. There were no significant differences in relationship status, having children, or living in an urban versus nonurban area between Hispanics and non-Hispanic Whites.

Measures

Lifetime discrimination. We modified the 9-item lifetime discrimination scale from the MacArthur Foundation National Survey of Midlife Development in the United States (Inter-University Consortium for Political and Social Research, 2010) to make the items applicable to sexual minority experiences. We asked participants how many times in their lives they had experienced specific types of discrimination related to their sexual orientation or gender identity, such as being denied a job, being fired from job, being denied or provided inferior health care, and being prevented from living in a particular neighborhood (0 = *never,* 1 = *once,* 2 = *twice,* 3 = *three or more times*). The range of the summed scores was 0–27, with higher scores indicating higher frequency of lifetime discrimination experiences (Cronbach's $\alpha = .77$).

SES. Indicator variables of an SES latent variable included household income and education. The measure of household income before taxes for the past year included six categories: less than US$20,000, US$20,000–US$24,999, US$25,000–US$34,999, US$35,000–US$49,999, US$50,000–US$74,999, and US$75,000 or more. For education, participants were asked, "What is the highest grade or year of school you completed?" The categories were "never attended school or only attended kindergarten," "grades 1 through 8," "grades 9 through 11," "grade 12 or GED," "college 1 year to 3 years," and "college 4 years or more."

Social connectedness. Indicator variables of the social connectedness latent variable included social network size, social support, and sense of LGB community belonging. To measure social network size, we asked participants "How many different lesbian, gay, bisexual, transgender, or straight people (such as your friends, family members, colleagues, neighbors) have you interacted with (including talked to, visited with, exchanged phone calls or e-mails with) in a typical month?" Participants were asked about the size of their social networks by sexual orientation and gender identity as well as by age (50 and older and younger than 50). We summed their networks to calculate the total social network size and categorized by quartiles to eliminate potential outlier effects, with 1 indicating *a small social network* (bottom 25%) and 4 indicating *large social network* (top 25%). To measure the degree of perceived social support, we utilized the 4-item Social Support Scale (Sherbourne & Stewart, 1991), which asks whether participants have someone they can turn to for instrumental (e.g., "to help with daily chores if you were sick") and emotional support (e.g., "to do something enjoyable

with"). The summarized mean scores ranged 1–4, with higher scores indicating greater degrees of social support (Cronbach's $\alpha = .85$). Sense of LGB community belonging was assessed by asking to what extent participants agree or disagree with "I'm glad I belong to the lesbian, gay, bisexual or transgender community" and "I feel good about belonging to the lesbian, gay, bisexual or transgender community." A 4-point Likert-type scale was applied, and the summarized mean of the 2 items ranged 1–4, with higher scores indicating a more positive sense of LGB community belonging. The correlation of the 2 items was .90 ($p < .001$).

Perceived stress. We measured perceived stress using the 4-item Perceived Stress Scale (Cohen, Kamarck, & Mermelstein, 1983), which assesses the extent to which participants evaluate the events and situations in their lives as stressful during the last month. A 5-point Likert-type scale was used, and the range of the summarized mean scores was 0–4, with higher scores indicating greater perceived stress (Cronbach's $\alpha = .77$).

MHQOL. The mental health component of the SF-8 Health Survey was used to measure MHQOL. The mental health component assesses vitality, social functioning, mental health, and role limitations due to emotional problems in the past 4 weeks (Ware, Kosinski, Dewey, & Gandek, 2001). Each item was measured using a 5-point Likert-type scale, and the range of the summarized mean scores was 0–100, with higher scores indicating better MHQOL (Cronbach's $\alpha = .86$).

Statistical Analyses

Pearson correlations were computed between main study variables, and distributions of study variables by ethnicity/race were examined. The relationships between ethnicity/race (*Hispanic* = 1; *non-Hispanic White* = 0) and study variables, including MHQOL (Hypothesis 1), were tested using linear regression analyses, controlling for age and gender. Next, we tested the hypothesized structural path model (Hypotheses 2 and 3) using SEM with Stata/MP, Version 13.1 (StataCorp, 2013). Because age and gender were significantly correlated with many of the study variables in the model, we controlled for those variables to obtain better estimations.

The model included two latent variables: social connectedness (observed variables: social network size, social support, and sense of LGB community belonging) and SES (observed variables: household income and education). In the model, we constrained the paths from social connectedness to social

Table 1. Correlations Among Measured Variables.

Variables	1	2	3	6	7	8	9	10
1. Inc	—							
2. Edu	.36***	—						
3. LD	−.18***	−.07**	—					
6. SS	.37***	.14***	−.19***	—				
7. SN	.21***	.14***	.03	.28***	—			
8. CB	.04	.002	−.005	.22***	.20***	—		
9. Str	−.33***	−.15***	.21***	−.39***	−.22***	−.15***	—	
10. MHQOL	.33***	.16***	−.22***	.36***	.24***	.14***	−.72***	—

Note. Inc = household income; Edu = education; LD = lifetime discrimination; SS = social support; SN = social network; CB = community belonging; Str = perceived stress; MHQOL = mental health quality of life.
*$p < .05$. **$p < .01$. ***$p < .001$.

support and from SES to household income by assigning the value of 1, with standardized path coefficients reported to facilitate interpretation of study results. Missing data on the study variables ranged from .05% to 3%, except for network size whose missing rate was 12%.

In order to retain as much data as possible, maximum likelihood with missing values was used as an estimator (Enders & Bandalos, 2001). Model fit was assessed using the comparative fit index (CFI), the Tucker–Lewis index (TLI), and the root mean square error of approximation (RMSEA); the χ^2 statistic was less meaningful in the assessment of model fit since it was greatly influenced by the large sample size. Indicators of acceptable model fit are considered to be CFI and TLI > .90 and RMSEA < .06 (Hooper, Coughlan, & Mullen, 2008).

Results

Background Characteristics

The bivariate correlations among the main study variables are presented in Table 1. Table 2 illustrates the relationship between ethnicity/race and each of the main study variables utilizing linear regressions, controlling for age and gender. We found that being Hispanic, compared to non-Hispanic White, was significantly associated with lower household income, lower education level, higher frequency of lifetime discrimination, lower level of social support, and smaller social network size as well as a higher level of perceived stress. Ethnicity/race was not associated with sense of LGB community

Table 2. Descriptive Statistics of Main Study Variables by Ethnicity.

	Non-Hispanic White	Hispanic	Significance Test
Main Study Variables	*M* (*SD*)	*M* (*SD*)	Standardized Coefficient (β)
Household income	4.09 (1.82)	3.56 (1.98)	−.07**
Education	5.68 (0.63)	5.39 (0.92)	−.10***
Lifetime discrimination	2.15 (3.40)	3.11 (5.07)	.05*
Social support	3.13 (0.77)	2.92 (0.88)	−.06**
Social network size	2.50 (1.10)	2.26 (1.15)	−.05*
Sense of LGB community belonging	3.43 (0.74)	3.41 (0.83)	−.01
Perceived stress	1.20 (0.78)	1.48 (0.82)	.08***
Mental health quality of life	71.93 (20.03)	65.78 (22.27)	−.07**

Note. Main study variables were compared by ethnicity/race utilizing linear regression analyses with non-Hispanic White as the reference group, controlling for age and gender. LGB = lesbian, gay, and bisexual.
*$p < .05$. **$p < .01$. ***$p < .001$.

belonging. As hypothesized, being Hispanic was significantly associated with poorer MHQOL.

Results of SEM

As shown in Figure 1, the hypothesized model demonstrated acceptable fit, $\chi^2(22) = 143.97$; $p < .001$; RMSEA = .051; 90% confidence interval [CI] [.043, .059]; CFI = .965; TLI = .917, controlling for age and gender. Two latent variables were included in the model. The observed measures of social connectedness (latent variable) were social network size, social support, and sense of LGBT community belonging. The observed measures of SES (latent variable) were household income and education. All observed indicators of latent variables loaded significantly on their respective latent factors. The composite proportions of variance of the measured variables that are accounted for by latent variables (squared multiple correlations), social connectedness, and SES, were 0.50 and 0.55, respectively.

The standardized coefficients in Figure 1 demonstrate that Hispanic LGB midlife and older adults, compared to non-Hispanic Whites, had lower SES, higher frequency of lifetime discrimination, and less social connectedness. Lifetime discrimination was positively associated with perceived stress, and

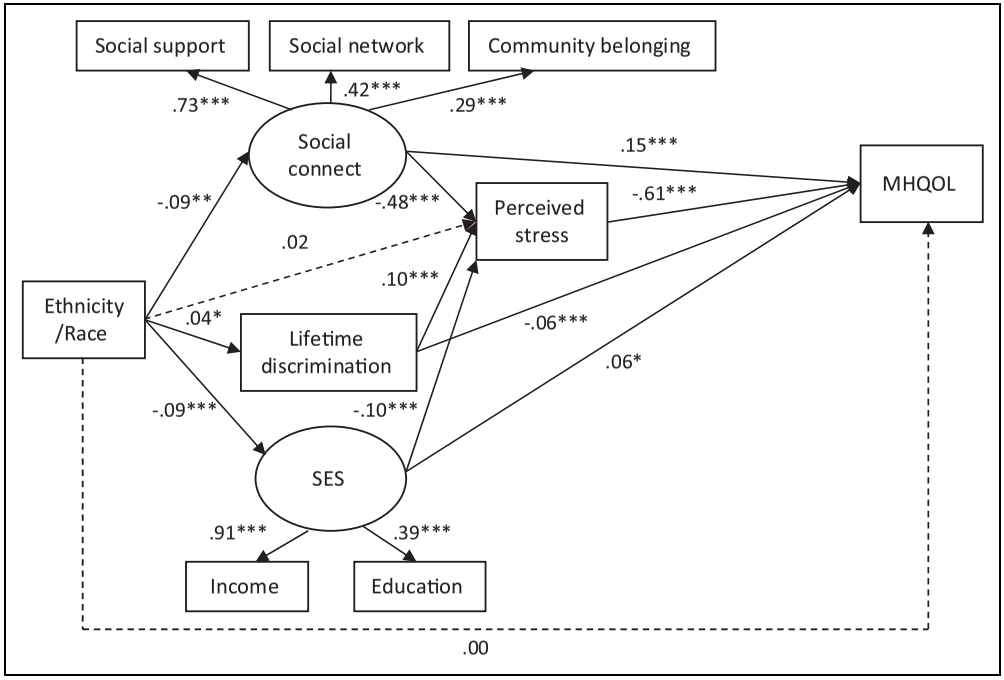

Figure 1. Path model and standardized path coefficients for prediction of mental health quality of life. Controlled for age and gender; comparative fit index = .965; Tucker–Lewis index = .917; root mean square error of approximation = .051; *$p < .05$. **$p < .01$. ***$p < .001$.

Table 3. Indirect Effects of Ethnicity on Perceived Stress and MHQOL.

Indirect Pathway	β	*Z*
Perceived stress		
Effect of ethnicity/race via social connectedness, lifetime discrimination, and SES	.06	3.72***
MHQOL		
Effect of ethnicity/race via social connectedness, lifetime discrimination, SES, and perceived stress	−.07	−4.16***
Effect of SES via perceived stress	.06	2.76**
Effect of lifetime discrimination via perceived stress	−.06	−4.53***
Effect of social connectedness via perceived stress	.29	9.05***

Note. SES = socioeconomic status; MHQOL = mental health quality of life.
**$p < .01$. ***$p < .001$.

SES and social connectedness were negatively associated with perceived stress. The level of perceived stress was negatively associated with MHQOL. The model also suggests that SES, lifetime discrimination, and social connectedness have direct effects on MHQOL. The direct effects of ethnicity/race on perceived stress and MHQOL were not statistically significant in the model. We tested an alternate structural model after trimming the nonsignificant paths (ethnicity/race to perceived stress and ethnicity/race to MHQOL). The model fit, $\chi^2(24) = 144.87$; $p < .001$; RMSEA = .048; 90% CI [.041, .056]; CFI = .965; TLI = .924, was very similar to the hypothesized model, and the results remained the same.

According to Table 3, the indirect effects indicate that SES, lifetime discrimination, and social connectedness fully mediate the relationship between ethnicity/race and perceived stress, and SES, lifetime discrimination, and social connectedness have a significant influence on MHQOL via perceived stress. That is, poorer MHQOL among Hispanic participants is explained by a higher level of perceived stress, which is associated with lower SES, higher frequency of lifetime discrimination, and lack of social connectedness.

Discussion

Population-based studies have found that both Hispanic (CDC, 2008) and LGB midlife and older adults (Fredriksen-Goldsen, Kim, et al., 2013) are at an elevated risk of poor mental health and well-being. Given the aging of the population and the increase in diversity in this country, it is critical to

understand the ethnic and racial diversity of LGB midlife and older adults. This study provides preliminary findings indicating the presence of poorer MHQOL among Hispanic LGB midlife and older adults compared to their non-Hispanic LGB counterparts. To our knowledge, this is the first study to investigate explanatory factors that are associated with the ethnic and racial disparities in MHQOL among LGB midlife and older adults. Consistent with our hypothesized model, we found that among LGB midlife and older adults, being Hispanic was associated with lower SES, higher frequency of lifetime discrimination related to sexual orientation, and lack of social connectedness. These factors were related to a heightened level of perceived stress, which in turn was associated with poorer MHQOL.

When life stressors, embedded in both life events and life circumstances, are accumulated and repeated, the likelihood of poor mental health increases (Pearlin, Schieman, Fazio, & Meersman, 2005; Thoits, 2010). In this study, Hispanic LGB midlife and older adults, when compared to non-Hispanic Whites, faced heightened risks of life stressors, which may reflect cumulative disadvantage associated with multiple minority identities. In addition, the relationship between stressors and MHQOL was found to be mediated by perceived stress, suggesting the importance of understanding the life stressors associated with decrease in MHQOL among Hispanic LGB midlife and older adults as well as to what extent they appraise their life stressors as uncontrollable.

The effect of SES on health disparities among Hispanic midlife and older adults has been documented in previous studies (Villa et al., 2012), and a similar pattern was observed among LGB midlife and older adults in this study. Hispanic LGB midlife and older adults reported lower household income and lower educational levels when compared to non-Hispanic White LGB midlife and older adults. Although we conceptualized SES as playing a significant role in determining the mental health of Hispanic LGB midlife and older adults, in other studies, SES is often treated as a control variable; and therefore, its impact on health disparities is rarely addressed in the study of LGB health. This study suggests that Hispanic LGB midlife and older adults' disadvantages in SES and associated stress significantly account, in part, for their disparities in MHQOL. This is consistent with studies of other populations in which those with socioeconomically disadvantaged status have increased likelihood of stressful life events, including poverty-related stress, which results in poor psychological health (Santiago, Wadsworth, & Stump, 2011).

In addition to lower SES among Hispanic LGB midlife and older adults in this study, higher frequency of lifetime discrimination related to sexual

orientation is associated with observed disparities in MHQOL. Based on their multiple minority statuses, we would expect that Hispanic LGB midlife and older adults may be more likely to experience discrimination than non-Hispanic White LGB midlife and older adults due to their disadvantaged status within White-dominant LGB communities as well as within Hispanic communities. Evidence indicates that ethnic and racial minority LGB individuals, including Latinos, report greater exposure to discrimination (Meyer et al., 2008), but whether a similar pattern is observed among Hispanic LGB midlife and older adults has not been previously investigated. Our data reveal that Hispanic LGB midlife and older adults do report a higher frequency of lifetime discrimination than non-Hispanic White LGB peers of similar age. The measures of lifetime discrimination in this study only asked about lifetime discrimination related to sexual orientation or gender identity and not ethnicity/race, and only overt types of discriminations were assessed. Although sexual minority stressors might play a larger role than race-related stress among sexual minorities of color (Chen & Tryon, 2012), this study does not fully capture discrimination experiences associated with multiple disadvantaged statuses of Hispanic LGB midlife and older adults. Future research needs to be conducted to further test the cumulative risk perspective using the measures including ethnicity/race-related discrimination experiences as well as more covert types of discrimination, such as microaggression (Woodford et al, 2015). Still, it is important to note that Hispanic LGB midlife and older adults face heightened likelihood of sexual identity–related lifetime discrimination, which is linked to higher levels of perceived stress and lower levels of MHQOL.

Lack of social connections has a negative influence on health-related quality of life among older adults (Hawton et al., 2011) as well as among Hispanic LGB adults in particular (Zea et al., 1999). Our finding suggests that Hispanic LGB midlife and older adults, compared to non-Hispanic White LGB midlife and older adults, may experience lower levels of MHQOL, in part, due to lower levels of social connectedness in terms of social network size and social support. LGB midlife and older adults have established distinct types of social connectedness, largely made up of unmarried partners and friends of similar sexual orientations (Fredriksen-Goldsen, 2007). However, Hispanic LGB midlife and older adults seem to experience additional marginalization within the non-Hispanic White-dominant LGB communities, so that their social connectedness is more constricted even within this subculture.

Hispanic LGB adults may instead construct communities based on both of their marginalized identities. For instance, one study found that Hispanic

lesbians often construct an environment where they can build supportive ties with other Hispanic lesbians, creating a space where they can safely share their unique experiences and challenges as both an ethnic and racial minority and a sexual minority (Acosta, 2008). In future research, it will be important to further examine the nature of social networks and social relations, in which Hispanic LGB midlife and older adults build social support ties in order to identify possible social resources that can promote MHQOL.

Although this study is a first step toward understanding ethnic and racial disparities in MHQOL among LGB midlife and older adults, there are several limitations. Since this study utilized a nonprobability sampling approach and data are cross sectional, generalizability and causal inferences are restricted. Longitudinal research is needed to support further work in the future. Also, the questionnaire was available only in English. It is possible that Hispanic LGB midlife and older adults who are monolingual Spanish-speaking and those who are first-generation immigrants may have different experiences related to discrimination, social resources, socioeconomic disadvantages, and MHQOL. The current data also do not provide information related to immigration or acculturation, which may be important factors in understanding how social identities relate to MHQOL (Diaz et al., 2001).

The Hispanic sample was disproportionately smaller than the non-Hispanic White sample. Securing a larger Hispanic sample is necessary to improve the precision of the analyses. In addition, due to insufficient sample size, bisexual participants were not analyzed separately from lesbians and gay men. According to a previous study, Hispanic bisexual adults experience heightened risks of mental distress possibly due to further isolation from sexual minority communities (Kim & Fredriksen-Goldsen, 2011). In order to develop more comprehensive interventions for more socially disconnected populations, future models need to be expanded to investigate the potential role of personal resources, such as sense of mastery and coping skills. As Meyer (2010) argues, it is important to investigate to what extent ethnic and racial minorities within LGB communities have developed capacities to cope with stressful environments and buffer against the influence of stressors on MHQOL.

Conclusion

The present study provides timely and important information on disparities in MHQOL among Hispanic LGB midlife and older adults. The findings demonstrate that lower SES, sexual identity–related lifetime discrimination, and lack of social connectedness are associated with poorer MHQOL,

through perceived stress, among Hispanic LGB midlife and older adults compared to their non-Hispanic White counterparts. These findings illuminate the importance of cultural and ethnic and racial heterogeneity among LGB midlife and older adults and contribute to a small, but growing body of literature revealing health disparities by both sexual orientation and race and ethnicity. To promote the quality of life and health in this population, macro-level interventions are needed to reduce and eliminate social status–related stressors among culturally and ethnically diverse LGB midlife and older adults. Family- and community-level interventions may also strengthen the protective role of social networks and the support they provide to LGB midlife and older adults.

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References

Acosta, K. L. (2008). Lesbianas in the borderlands—Shifting identities and imagined communities. *Gender & Society*, 639–659. doi:10.1177/0891243208321169

Adler, N. E., & Newman, K. (2002). Socioeconomic disparities in health: Pathways and policies. *Health Affairs*, *21*, 60–76. doi:10.1377/hlthaff.21.2.60

Almeida, O. P., Pirkis, J., Kerse, N., Sim, M., Flicker, L., Snowdon, J., . . . Pfaff, J. J. (2012). Socioeconomic disadvantage increases risk of prevalent and persistent depression in later life. *Journal of Affective Disorders*, *138*, 322–331. doi:10.1016/j.jad.2012.01.021

Arreola, S. G., Ayala, G., Diaz, R. M., & Kral, A. H. (2013). Structure, agency, and sexual development of Latino gay men. *The Journal of Sex Research*, *50*, 392–400.

Badgett, M. V. L., Durso, L. E., & Schneebaum, A. (2013). *New patterns of poverty in the lesbian, gay, and bisexual community*. Williams Institute, UCLA School of Law. Retrieved from http://williamsinstitute.law.ucla.edu/wp-content/uploads/LGB-Poverty-Update-Jun-2013.pdf

Bovier, P. A., Chamot, E., & Perneger, T. V. (2004). Perceived stress, internal resources, and social support as determinants of mental health among young adults. *Quality of Life Research*, *13*, 161–170.

Centers for Disease Control and Prevention & National Association of Chronic Disease Directors. (2008). *The state of mental health and aging in america issue brief 1: What do the data tell us?* Atlanta, GA: National Association of Chronic Disease Directors. Retrieved from http://www.cdc.gov/aging/pdf/mental_health.pdf

Chen, Y. C., & Tryon, G. S. (2012). Dual minority stress and Asian American gay men's psychological distress. *Journal of Community Psychology*, *40*, 539–554. doi:10.1002/Jcop.21481

Cianciotto, J. (2005). *Hispanic and Latino same-sex couple households in the United States: A report from the 2000 census*. New York, NY: National Gay and Lesbian Task Force Policy Institute and the National Latino/a Coalition for Justice. Retrieved from http://www.thetaskforce.org/downloads/reports/reports/HispanicLatinoHouseholdsUS.pdf

Cochran, S. D., Mays, V. M., Alegria, M., Ortega, A. N., & Takeuchi, D. (2007). Mental health and substance use disorders among Latino and Asian American lesbian, gay, and bisexual adults. *Journal of Consulting and Clinical Psychology*, *75*, 785–794. doi:10.1037/0022-006X.75.5.785

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of Health and Social Behavior*, *24*, 385–396. doi:10.2307/2136404

Cornwell, E., & Waite, L. (2009). Social disconnectedness, perceived isolation, and health among older adults. *Journal of Health and Social Behavior*, *50*, 31–48. doi:10.1177/002214650905000103

Cox, N., Berghe, W. V., Dewaele, A., & Vincke, J. (2010). Acculturation strategies and mental health in gay, lesbian, and bisexual youth. *Journal of Youth and Adolescence*, *39*, 1199–1210. doi:10.1007/s10964-009-9435-7

DeNavas-Walt, C., Proctor, B. D., & Smith, J. C. (2013). *Income, poverty, and health insurance coverage in the United States: 2012* (U.S. Census Bureau, Current Population Reports, 60-245). Washington, DC: U.S. Government Printing Office. Retrieved from http://www.census.gov/prod/2013pubs/p60-245.pdf

Detrie, P. M., & Lease, S. H. (2007). The relation of social support, connectedness, and collective self-esteem to the psychological wellbeing of lesbian, gay, and bisexual youth. *Journal of Homosexuality*, *53*, 173–199. doi:10.1080/00918360802103449

Diaz, R. M., & Ayala, G. (2001). *Social discrimination and health: The case of Latino gay men and HIV risk*. New York, NY: Policy Institute of the National Gay and Lesbian Task Force. Retrieved from http://www.thetaskforce.org/static_html/downloads/reports/reports/SocialDiscriminationAndHealth.pdf

Diaz, R. M., Ayala, G., Bein, E., Henne, J., & Marin, B. V. (2001). The impact of homophobia, poverty, and racism on the mental health of gay and bisexual Latino men: Findings from 3 US cities. *American Journal of Public Health*, *91*, 927–932. doi:10.2105/AJPH.91.6.927

Enders, C. K., & Bandalos, D. L. (2001). The relative performance of full information maximum likelihood estimation for missing data in structural equation models. *Structural Equation Modeling-a Multidisciplinary Journal*, *8*, 430–457. doi:10.1207/S15328007sem0803_5

Fiori, K. L., Antonucci, T. C., & Cortina, K. S. (2006). Social network typologies and mental health among older adults. *Journal of Gerontology, Series B: Psychological Sciences and Social Sciences*, *61*, P25–P32.

Fredriksen-Goldsen, K. I. (2007). *Caregiving with pride*. Binghamton, NY: Haworth Press.

Fredriksen-Goldsen, K. I., Emlet, C. A., Kim, H. J., Muraco, A., Erosheva, E. A., Goldsen, J., & Hoy-Ellis, C. P. (2013). The physical and mental health of lesbian, gay male, and bisexual (LGB) older adults: The role of key health indicators and risk and protective factors. *The Gerontologist*, *53*, 664–675. doi:10.1093/geront/gns123

Fredriksen-Goldsen, K. I., Kim, H.-J., Barkan, S. E., Muraco, A., & Hoy-Ellis, C. P. (2013). Health disparities among lesbian, gay male, and bisexual older adults: Results from a population-based study. *American Journal of Public Health*, *103*, 1802–1809. doi:10.2105/AJPH.2012.301110

Fredriksen-Goldsen, K. I., Kim, H.-J., Emlet, C. A., Muraco, A., Erosheva, E. A., Hoy-Ellis, C. P., . . . Petry, H. (2011). *The aging and health report: Disparities and resilience among lesbian, gay, bisexual, and transgender older adults*. Seattle, WA: Institute for Multigenerational Health. Retrieved from http://depts.washington.edu/agepride/wordpress/wp-content/uploads/2012/10/Full-report10-25-12.pdf

Fredriksen-Goldsen, K. I., Simoni, J. M., Kim, H. J., Lehavot, K., Walters, K. L., Yang, J., . . . Muraco, A. (2014). The health equity promotion model: Reconceptualization of lesbian, gay, bisexual, and transgender (LGBT) health disparities. *American Journal of Orthopsychiatry*, *84*, 653–663. doi:10.1037/ort0000030

Gates, G. J. (2014). *LGB/T demographics: Comparisons among population-based surveys*. Williams Institute, UCLA School of Law. Retrieved from http://williamsinstitute.law.ucla.edu/wp-content/uploads/lgbt-demogs-sep-2014.pdf

Harper, G., Jernewall, N., & Zea, M. (2004). Giving voice to emerging science and theory for lesbian, gay, and bisexual people of color. *Cultural Diversity & Ethnic Minority Psychology*, *10*, 187–199. doi:10.1037/1099-9809.10.3.187

Hawton, A., Green, C., Dickens, A. P., Richards, S. H., Taylor, R. S., Edwards, R., . . . Campbell, J. L. (2011). The impact of social isolation on the health status

and health-related quality of life of older people. *Quality of Life Research*, *20*, 57–67. doi:10.1007/s11136-010-9717-2

Hooper, D., Coughlan, J., & Mullen, M. R. (2008). Structural equation modeling: Guidelines for determining model fit. *Electronic Journal of Business Research Methods*, *6*, 53–60.

Hudson, C. G. (2005). Socioeconomic status and mental illness: Tests of the social causation and selection hypotheses. *American Journal of Orthopsychiatry*, *75*, 3–18. doi:10.1037/0002-9432.75.1.3

Institute of Medicine. (2011). *The health of lesbian, gay, bisexual, and transgender people: Building a foundation for better understanding*. Washington, DC: The National Academies Press.

Inter-University Consortium for Political and Social Research. (2010). National survey of midlife development in the United States (MIDUS II), 2004-2006: Documentation of psychosocial constructs and composite variables in MIDUS II project 1. Retrieved from http://www.icpsr.umich.edu/cgi-bin/file?comp=none&study=4652&ds=1&file_id=1047483

Kertzner, R. M., Meyer, I. H., Frost, D. M., & Stirratt, M. J. (2009). Social and psychological well-being in lesbians, gay men, and bisexuals: The effects of race, gender, age, and sexual identity. *American Journal of Orthopsychiatry*, *79*, 500–510. doi:10.1037/a0016848

Kim, H.-J., & Fredriksen-Goldsen, K. I. (2011). Hispanic lesbians and bisexual women at heightened risk for health disparities. *American Journal of Public Health*, *102*, e9–e15. doi:10.2105/AJPH.2011.300378

Kim, H. J., & Fredriksen-Goldsen, K. I. (2013). Nonresponse to a question on self-identified sexual orientation in a public health survey and its relationship to race and ethnicity. *American Journal of Public Health*, *103*, 67–69. doi:10.2105/AJPH.2012.300835

Lavoie, J. A. A., & Douglas, K. S. (2012). The perceived stress scale: Evaluating configural, metric and scalar invariance across mental health status and gender. *Journal of Psychopathology and Behavioral Assessment*, *34*, 48–57. doi:10.1007/s10862-011-9266-1

McCall, L. (2005). The complexity of intersectionality. *Signs*, *30*, 1771–1800. doi:10.1086/426800

Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin*, *129*, 674–697. doi: 10.1037/0033-2909.129.5.674

Meyer, I. H. (2010). Identity, stress, and resilience in lesbians, gay men, and bisexuals of color. *Counseling Psychologist*, *38*, 442–454. doi:10.1177/0011000009351601

Meyer, I. H., Schwartz, S., & Frost, D. M. (2008). Social patterning of stress and coping: Does disadvantaged social statuses confer more stress and fewer coping

resources? *Social Science & Medicine*, *67*, 368–379. doi:10.1016/j.socscimed.2008.03.012

National Hispanic Council on Aging. (2013). *Hispanic LGBT older adult needs assessment*. Retrieved from http://www.nhcoa.org/wp-content/uploads/2014/02/NHCOA-Hispanic-LGBT-Older-Adult-Needs-Assessment-In-Their-Own-Words.pdf

Pascoe, E. A., & Richman, L. S. (2009). Perceived discrimination and health: A meta-analytic review. *Psychological Bulletin*, *135*, 531–554. doi:10.1037/a0016059

Pearlin, L. I. (1989). The sociological study of stress. *Journal of Health and Social Behavior*, *30*, 241–256. doi:10.2307/2136956

Pearlin, L. I., Schieman, S., Fazio, E. M., & Meersman, S. C. (2005). Stress, health, and the life course: Some conceptual perspectives. *Journal of Health and Social Behavior*, *46*, 205–219. doi:10.1177/002214650504600206

Robert, S. A., Cherepanov, D., Palta, M., Dunham, N. C., Feeny, D., & Fryback, D. G. (2009). Socioeconomic status and age variations in health-related quality of life: Results from the National Health Measurement Study. *Journals of Gerontology Series B-Psychological Sciences and Social Sciences*, *64*, 378–389. doi:10.1093/geronb/gbp012

Santiago, C. D., Wadsworth, M. E., & Stump, J. (2011). Socioeconomic status, neighborhood disadvantage, and poverty-related stress: Prospective effects on psychological syndromes among diverse low-income families. *Journal of Economic Psychology*, *32*, 218–230. doi:10.1016/j.joep.2009.10.008

Sherbourne, C. D., & Stewart, A. L. (1991). The MOS social support survey. *Social Science & Medicine*, *32*, 705–714. doi:10.1016/0277-9536(91)90150-B

StataCorp. (2013). *Stata statistical software: Release 13*. College Station, TX: StataCorp LP.

Teasdale, B., & Bradley-Engen, M. S. (2010). Adolescent same-sex attraction and mental health: The role of stress and support. *Journal of Homosexuality*, *57*, 287–309. doi:10.1080/00918360903489127

Thoits, P. A. (2010). Stress and health: Major findings and policy implications. *Journal of Health and Social Behavior*, *51*, S41–S53. doi:10.1177/0022146510383499

Velez, B. L., Moradi, B., & DeBlaere, C. (2015). Multiple oppressions and the mental health of sexual minortiy Latina/o individuals. *The Counselling Psychologist*, *43*, 7–38.doi:10.1177/0011000014542836

Villa, V. M., Wallace, S. P., Bagdasaryan, S., & Aranda, M. P. (2012). Hispanic baby boomers: Health inequities likely to persist in old age. *The Gerontologist*, *52*, 166–176. doi:10.1093/geront/gns002

Vincent, G. K., & Velkoff, V. A. (2010). *The next four decades, the older population in the United States: 2010 to 2050* (Current Population Reports, 25-1138).

Washington, DC: U.S. Census Bureau. Retrieved from https://www.census.gov/prod/2010pubs/p25-1138.pdf

Wallace, S. P., Cochran, S. D., Durazo, E. M., & Ford, C. L. (2011). The health of aging lesbian, gay and bisexual adults in California. *Policy Brief UCLA Center for Health Policy Research*, PB2011-2, 1–8.

Ware, J. E., Kosinski, M., Dewey, J. E., & Gandek, B. (2001). *A manual for users of the SF-8 health survey*. Lincoln, RI: QualityMetric.

Williams, D., & Mohammed, S. (2009). Discrimination and racial disparities in health: Evidence and needed research. *Journal of Behavioral Medicine*, *32*, 20–47. doi:10.1007/s10865-008-9185-0

Woodford, M. R., Chonody, J. M., Kulick, A., Brennan, D. J., & Renn, K. (2015). The LGBT Microaggressions on Campus Scale: A scale development and validation study. *Journal of Homosexuality*, *62*, 1660–1687. doi: 10.1080/00918369.2015.1078205

Zea, M. C., Reisen, C. A., & Diaz, R. M. (2003). Methdological issues in research on sexual behavior with Latino gay and bisexual men. *American Journal of Community Psychology*, *31*, 281–291. doi:10.1023/A:1023962805064

Zea, M. C., Reisen, C. A., & Poppen, P. J. (1999). Psychological well-being among Latino lesbians and gay men. *Cultural Diversity and Ethnic Minority Psychology*, *5*, 371–379. doi:10.1037/1099-9809.5.4.371

Zimmerman, L., Darnell, D. A., Rhew, I. C., Lee, C. M., & Kaysen, D. (2015). Resilience in community: A social ecological development model for young adult sexual minority women. *American Journal of Community Psychology*, *55*, 179–190. Retrieved from http://dx.doi.org/10.1007/s10464-015-9702-6

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