

Research Article

Social Resource Variations Among LGBT Middle-Aged and Older Adults: The Intersections of Sociodemographic Characteristics

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Abstract

Background and Objectives: Understanding the influence of social resources on health is crucial in gerontological research. However, access to social resources may differ by one's particular lesbian, gay, bisexual, and transgender (LGBT) identity and the intersection of LGBT identity with other sociodemographic characteristics, including age.

Research Design and Methods: Using 2010 data from *Caring and Aging With Pride* ($N = 2,536$), this study examined how access to social resources varied by LGBT identity and whether the effect of LGBT identity was modified by additional sociodemographic characteristics among LGBT adults aged 50–95 years.

Results: Lesbian respondents had larger social networks than gay male respondents, and gay male respondents had smaller networks than transgender respondents. Lesbian respondents reported more social support and community belonging than other identity groups. Bisexual male respondents and transgender respondents had less support than gay male respondents, and bisexual male respondents reported less community belonging than gay male respondents. Age and education moderated the association between LGBT identity and social support.

Discussion and Implications: This study demonstrated differences in access to social resources according to environmental circumstances that can intersect and govern access to social resources. Findings highlight the importance of considering social support separately from social network size; thus, large social networks do not necessarily provide ample social support. LGBT older adults had different perceptions of social support than their middle-aged counterparts. Health and human service professionals should not only consider the sexual and gender identity of their LGBT clients, but also education and age when assessing access to social resources.

Keywords: Caring and aging with pride, Community belonging, Social network, Social support

Understanding the influence of social resources on the health of older adults is crucial in gerontological research. Social networks, social support, and community belonging are indicators of social resources that have been theoretically and empirically examined as protective factors of health and well-being (Cornwell & Waite, 2009; Gray, 2009; Litwin & Shiovitz-Ezra, 2011). While these concepts are interrelated, they all measure distinct aspects of social resources. For example, an individual's social network can be defined by the number of the individual's social ties (Zunzunegui et al., 2003), and studies have shown that older adults who have frequent contacts within larger social networks exhibit better cognitive health (Holtzman et al., 2004; Zunzunegui et al., 2003). Social support describes the emotional concern, instrumental aid, information, and appraisal exchanged between the social ties in an individual's social networks (Murata et al., 2019), and research demonstrates that lacking social support increases the risk of mortality, morbidity, suicidal ideation, and stress among older adults (Rowe et al., 2006). Community belonging is the sense of being connected with other individuals in their surrounding environment, which may promote social support, mutual respect, and the development of social ties (Hagerty et al., 1992). Perception of community belonging has also been found to be associated with suicide ideation and depression (Bailey & McLaren, 2005).

Social Resources of LGBT Middle-Aged and Older Adults

Studies suggest that the nature of lesbian, gay, bisexual, and transgender (LGBT) middle-aged and older adults' social resources generally differs from their heterosexual and cisgender counterparts. For example, the social networks of LGBT older adults often consist of non-kin sources (e.g., friends, former partners), commonly referred to as families of choice who are specifically selected based on shared experience and oftentimes rejection from biological families (Bradford et al., 2016; Brennan-Ing et al., 2014; Grant, 2010; Heaphy, 2009).

There is some indication of social network size variation among LGBT subgroups. For example, findings from a large community-based study of LGBT older adults showed positive associations of social network size with female identity and transgender identity (Erosheva et al., 2016). Fredriksen-Goldsen et al. (2014) also found that transgender participants had larger social networks than LGB participants; yet they had less social support (Fredriksen-Goldsen et al., 2011) and experienced more isolation, possibly as a result of forging a new life to accommodate their newly acquired identity (Cook-Daniels, 2006).

As LGBT individuals age, their peer-based families of choice whom they tend to rely on for caregiving and other forms of support, ultimately reduce in size, as peers may shift their focus to navigating their own aging-related challenges or pass away (Fredriksen-Goldsen et al., 2011;

MetLife, 2010). While this may also be the case for older individuals in the general population, data from LGBT populations suggest that many LGBT people are single, live alone, and do not have children (Fredriksen-Goldsen et al., 2011; MetLife, 2010), which may put them at a greater disadvantage than their heterosexual and cisgender counterparts who are generally more able to rely on their children or grandchildren as they advance in age (McPherson et al., 2006).

Few studies have examined the effects of social network size on the lives of LGBT middle-aged and older adults. For example, one study found an association between larger social networks and better-perceived health among a sample of LGBT older individuals (Ramirez-Valles et al., 2014). Another study (Kim, Fredriksen-Goldsen et al., 2017) found that respondents with limited social ties and low frequency of contact had poorer mental health than those with more social ties and more frequency of contact.

LGBT older adults are a heterogeneous group of individuals with varying degrees of social support from their families of choice and biological families (Almack et al., 2010). Like older adults in the general population, LGBT middle-aged and older adults benefit from the function of support as they age, but seeking social support can also function as a coping mechanism in dealing specifically with discrimination and other minority stressors related to their sexual orientation and gender identity (D'Augelli & Grossman, 2001). For example, one study found that social support is associated with better mental health and decreased internalized stigma (Masini & Berrett, 2008).

The LGBT community is a social collective or symbolic, united force of people with a shared experience (e.g., struggles related to discrimination and stigma) founded on a common culture that celebrates pride, individuality, and activism (Ferris, 2006). Since the 1960s, LGBT people and their allies have fought politically at the national level and through local community for equality and to counter prevailing societal norms such as heterosexism. The LGBT community is important to the lives of most LGBT individuals, and there is evidence that increased LGB community connection is related to the psychological well-being of gay men (Kertzner et al., 2009) and lower levels of internalized homophobia (Grossman et al., 2001).

Conceptual Frameworks: Minority Stress and Intersectionality

Minority stress theory (Brooks, 1981; Meyer, 1995, 2003), a widely accepted theory addressing the health and well-being of LGBT people, postulates that LGBT individuals often experience exorbitant stressors related to the discrimination and prejudice they face as a result of their LGBT identities. The theory also prescribes that an individual's environmental circumstances and their sexual minority status, as well as sociodemographic characteristics (e.g., race/ethnicity), govern their exposure to stress

but also coping resources such as social resources, which can buffer the influence of stress on health (Meyer, 2015; Van Wagenen et al., 2013). For example, LGBT community belonging, and LGBT services and supports, can provide affirmation to validate those who are typically stigmatized by the dominant culture (Meyer, 2003).

Importantly, the ability to benefit from social resources rests on access to such resources, and there is evidence that LGBT individuals may have varied access to social resources given their particular LGBT identity and other background characteristics (Masini & Barrett, 2008; Poon & Saewyc, 2008). For example, in regard to social network size, gay men are less likely than lesbian and bisexual women to have children and more likely to have lost significant portions of their social networks over their life course as a result of the HIV/AIDS epidemic (Fredriksen-Goldsen et al., 2011; Halkitis, 2014; Karpiak et al., 2006). This disparity might also be attributed to gender alone, as evidence suggests that women generally have larger social networks than their male counterparts (Cornwell et al., 2008; Erosheva et al., 2016; McLaughlin et al., 2010). However, bisexual women's gender, and therefore the tendency to have larger social networks, may be overshadowed to some degree by the noted discrimination or personal lack of comfort they experience in both the heterosexual and LGBT communities (Dodge et al., 2012; Schick et al., 2012). There is also evidence of subgroup differences in LGBT community belonging, which suggests that older transgender and bisexual individuals face discrimination within the LGBT community and therefore have less access (Herek, 2002; Israel & Tarver, 1997; McLean, 2008).

Intersectionality theory posits that individuals with multiple minority identities are subject to greater levels of disempowerment and marginalization, based on the interaction of the inequalities one acquires due to their multiple identities—not the accumulation of inequalities (Cronin & King, 2010). There is an indication that LGBT middle-aged and older adults' sociodemographic characteristics also account for access to social resources. For example, prior research suggests that African American and Latino LGB individuals have smaller social networks than their White counterparts (Kim & Fredriksen-Goldsen, 2017; Meyer et al., 2008; Ramirez-Valles et al., 2014), and that LGBT people with lower socioeconomic status (SES) feel less connected to the LGBT community than those with higher SES (Barrett & Pollack, 2005; Taylor, 2009). Anecdotes from prior research suggest that LGBT people of color also feel less connected to the LGBT community than their White counterparts (Binnie & Skeggs, 2004; Mays et al., 1998). Age is also a factor, with evidence suggesting that LGBT older people often have a limited connection to LGBT communities that are often youth-focused (Beauchamp et al., 2003; Brotman et al., 2003). Kim, Fredriksen-Goldsen et al. (2017) tested the intersectional influence of race/ethnicity and sexual orientation on social connectedness in a sample of LGB middle-aged and older adults. Compared

to non-Hispanic Whites, Hispanic LGB middle-aged and older adults had less social connectedness, which in turn had a negative effect on their mental health. Another study also found that African American and Hispanic LGB older adults had lower levels of social support than their White counterparts (Kim, Jen et al., 2017), which was negatively associated with physical and psychological health-related quality of life.

Study Aims and Hypotheses

In addition to social resources being evinced as a protective factor of health and well-being generally, minority stress theory's assertion that social resources can buffer the effect of minority stress on health and well-being makes LGBT middle-aged and older individuals' access to social resources a salient area of research worthy of further investigation. Additionally, given minority stress theory and intersectionality theory's claim that LGBT individuals may have varied access to social resources given their particular LGBT identity and other background characteristics, we investigated the effect of LGBT identity as well as the interaction effect of additional sociodemographic characteristics (i.e., race/ethnicity, education, age) on LGBT middle-aged and older adults' access to social resources (i.e., social network size, social support, LGBT community belonging).

In light of these theories, as well as previous empirical evidence, we approached this study with several hypotheses. Regarding differences in access to social resources by LGBT identity, we expected that lesbians would have larger social networks and access to more social support than gay male respondents. However, how lesbians compared to gay men in terms of LGBT community belonging was less predictable, given the limited data to reference, and therefore was exploratory. We predicted that lesbians would have larger social networks and more social support than bisexual men, solely based on gender, and more LGBT community belonging given the adverse experiences (i.e., feeling invisible, socially isolated, marginalized) and personal discomfort, reported by bisexual men and women in the LGBT community in previous research (Dodge et al., 2012; Schick et al., 2012). The difference in social network size and support between cisgender lesbian and transgender respondents was also exploratory, given the mixed research findings that suggest that transgender people may have larger networks and more support given their propensity to have children, but also the possibility that they may have had to start new lives according to their identity and therefore sacrifice their networks and support. However, we anticipated that lesbians would report more LGBT community belonging than transgender participants, given the recognized marginalization of transgender people who have historically struggled with discrimination in and exclusion from the LGBT community.

We also expected that respondents with a racial/ethnic minority background (vs. non-Hispanic White), who were

older (vs. middle-aged) and who had a high school level education or less (vs. some college or more), would have less access to social resources. Furthermore, we expected these sociodemographic characteristics to interact with LGBT identity; thus, White lesbians would have even larger social networks and more social support than gay men, than lesbians with a racial/ethnic background, for example.

Research Design and Methods

Data

This study is a secondary data analysis of *Caring and Aging With Pride* data, the first federally funded project on LGBT aging and health. Data were collected with a self-administered online and mail survey questionnaire conducted in collaboration with 11 community-based aging agencies serving LGBT older adults dispersed throughout the United States (Fredriksen-Goldsen et al., 2011). Relying on the agencies' contact lists, paper and electronic surveys, along with cover letters, were distributed between June and November 2010, and two follow-up reminder letters were sent 2 and 4 weeks after the initial distribution. In addition, the study tested utilizing social network clustering to ensure those not represented or served by agencies were included in the sample. The incentive for participation included entering participants into a raffle drawing for the chance to win three \$500 Visa gift certificates. Participants were eligible if they self-identified as lesbian, gay, bisexual, or transgender or sexual or gender diverse or had been in a romantic relationship with someone of the same sex or gender, and were at least aged 50 or older. Study materials were only available in English. The University of Washington Institutional Review Board reviewed and approved all study materials and procedures.

Of the 4,650 hardcopy surveys distributed, 2,201 usable surveys were returned for a response rate of 63%. In addition, 359 electronic surveys were obtained for a total study of 2,560. The goal of this study's sampling plan was to obtain a demographically diverse sample and to ensure the inclusion of hard-to-reach subgroups. The research team conducted a power analysis to develop a stratified sampling plan to ensure heterogeneity of the sample by age, gender, sexual orientation, gender identity, race/ethnicity, and geographic location, to meet the sampling goal for each subgroup. In addition to the large sample size, the diversity of the sample permits subgroup analyses of the heterogeneous nature of the population of LGBT middle-aged and older adults. Excluding 24 participants who had missing data on key variables (i.e., sexual orientation, transgender identity), we analyzed 2,536 participants for this study.

Measures

LGBT identity

LGBT identity was assessed with three survey questions. The first item asked respondents what they considered their sexual identity to be. Available responses included gay/lesbian,

bisexual, heterosexual, or straight, and not listed above (please specify). We also took into consideration respondents' sex (i.e., female, male) to create four dichotomous variables of sexual orientation (i.e., lesbian, gay male, bisexual male, bisexual female), which allows for more specific subgroup comparisons. Female respondents who identified as gay were recoded as lesbian. Bisexual respondents who identified as female were placed into a bisexual female category, while those who identified as male were placed into a bisexual male category. Respondents who identified as not listed above or heterosexual for sexual orientation were excluded from the sexual orientation analysis. For the purposes of this analysis, transgender identity, from the transgender identity question (*yes* or *no*), was categorized as a separate subgroup of LGBT identity. Thus, combining sexual identity, sex, and transgender, we compared five LGBT identity categories, including four cisgender categories (i.e., lesbian, gay man, bisexual woman, bisexual man) and transgender.

Sociodemographic Characteristics

Race/ethnicity was measured by asking respondents to select their race/ethnicity from the following categories: (a) non-Hispanic White, (b) non-Hispanic Black or African American, (c) non-Hispanic Asian, (d) non-Hispanic Native Hawaiian or other Pacific Islander, (e) non-Hispanic American Indian or Alaskan Native, (f) non-Hispanic not listed above, (g) non-Hispanic multiracial, and (h) Hispanic. Given the insufficient number of respondents in several ethnicity categories needed for meaningful statistical analyses, we compared the experiences of non-Hispanic White respondents versus all other respondents with a racial/ethnic minority background with a dichotomous White versus racial/ethnic minority variable (0 = *non-Hispanic White*, 1 = *racial/ethnic minority*).

Education was measured by asking participants to report their highest level of education completed, ranging from never attending school or only kindergarten to 4 years of college or greater. We operationalized education with a dichotomous variable that collapsed the NHAS (Aging with Pride: National Health, Aging, and Sexuality/Gender Study) response categories as follows: 1–4 or more years of college (0 = *some college or more*) and grades 1–12 or GED (1 = *high school or less*).

Age was originally calculated as a numeric value based on the participants' reported year of birth at the time of the survey, but respondents aged 80 and older were collapsed into a single age category to protect confidentiality. The current study was particularly interested in the experiences of middle-aged adults (i.e., aged 50–64) and older adults (i.e., aged 65 and older), respectively, and therefore, assessed age with a dichotomous variable (0 = *middle-aged adult*, 1 = *older adult*).

Social Resources

To measure *social network size*, respondents were asked to report how many different lesbian, gay, bisexual, transgender,

or straight people (e.g., friends, family members, colleagues, neighbors) they had interacted with (e.g., talked to, visited with, exchanged phone calls or emails with) in a typical month. The sum of reported people that respondents had interacted with in a typical month was used for analysis.

Social support was measured using the four-item Social Support Instrument, including perceived instrumental and emotional support (e.g., help with daily chores, help dealing with a personal problem). This brief scale was adapted from the Medical Outcome Survey (Sherbourne & Stewart, 1991), a 19-item social support survey that measures multiple dimensions (i.e., emotional, tangible, affectionate, positive social interaction) of social support. The brief scale was tested and utilized by the NHAS team (Fredriksen-Goldsen et al., 2013, 2014). The response was rated on a 4-point Likert scale (1 = *never* to 4 = *always*), and a mean of the four items was calculated with higher scores indicating more social support ($\alpha = 0.85$). Respondents with two or more missing items were marked as missing.

Community belonging was assessed by asking respondents to rate the degree in which they agreed with the following statements: “I feel good about belonging to the lesbian, gay, bisexual or transgender community” and “I’m glad I belong to the lesbian, gay, bisexual or transgender community,” rated on a 4-point Likert scale (1 = *strongly disagree* to 4 = *strongly agree*; Fredriksen-Goldsen et al., 2011). A mean of the two items was calculated with higher scores indicating more community belonging ($\rho = 0.95$; Eisinga et al., 2013).

Analytic Strategy

Analysis was conducted using Stata Version 15 (StataCorp, 2017). To examine differences in access to social resources by LGBT identity, we first looked at bivariate differences, using one-way analysis of variance tests and the Bonferroni correction for the pairwise comparisons. And then, we estimated multivariate ordinary least squares regression models for three social resource outcomes to test the main effect of LGBT identity on social resources, while adjusting for three sociodemographics (race/ethnicity, education, age).

Next, to address intersections of LGBT identity and other characteristics in social resources, we examined interaction effects by including interaction terms of LGBT identity with race/ethnicity, education, and age, respectively, in separate regression models (testing each of interactions with these sociodemographics). We verified significance with an omnibus test of the interaction. Heteroskedasticity of all three social resource outcomes was affirmed with significant Breusch–Pagan tests and therefore, multivariate and interaction models included robust standard errors.

Results

Table 1 presents characteristics of the 2,536 LGBT middle-aged and older adults included in the study sample.

Table 1. Descriptive Sample Characteristics

Variables	% (<i>n</i>)	<i>M</i> (<i>SD</i>)
LGBT identity		
Cisgender: Lesbian	30.2 (773)	
Cisgender: Gay man	57.1 (1,462)	
Cisgender: Bisexual woman	2.3 (59)	
Cisgender: Bisexual man	2.7 (68)	
Transgender	6.8 (174)	
Sociodemographics		
Racial/ethnic minority	13.5 (343)	
High school education or less	7.9 (201)	
Older age (65+)	55.6 (1,423)	
Social resources		
Social network size ^a		63.80 (97.31)
Perceived social support ^b		3.09 (0.79)
LGBT community belonging ^c		3.42 (0.76)

Notes: LGBT = lesbian, gay, bisexual, and transgender. *N* = 2,536.

^aNumber of network members that participants had interacted with in a typical month.

^bMean of four items rated 1 = *never* to 4 = *always*.

^cMean of two items rated 1 = *strongly disagree* to 4 = *strongly agree*.

Participants were diverse in many ways. In regard to sexual orientation, 30% identified as cisgender lesbian women, 57% as cisgender gay men, 2% as cisgender bisexual women, and 3% as cisgender bisexual men. Based on gender identity (i.e., transgender vs. cisgender), 7% of participants were identified as transgender; 8% of respondents had a high school level education or less; 14% were racial/ethnic minorities, including those who identified as Hispanic (4.4%), non-Hispanic Black (3.5%), non-Hispanic multi-racial (2.4%), non-Hispanic Asian (1.6%), non-Hispanic other races (1.4%), Indian or Alaskan Native (0.2%), and Pacific Islander (0.04%). Respondents ranged in age from 50 to 95 years; slightly more than half of the participants were aged 65 and older. In regard to social resources, on average, participants interacted with 64 network members in a typical month (range = 0–1,210). Participants reported an average score of 3.09 (*SD* = 0.79) for social support and 3.42 (*SD* = 0.76) for LGBT community belonging, which ranged from 1 to 4.

Access to Social Resources by LGBT Identity

Descriptive statistics of social resources by LGBT identity and the bivariate differences are presented in Table 2. Multivariate regression results for three social resource indicators are presented in Table 3. Lesbian respondents generally had more access to social resources than the other LGBT identity groups; they had significantly larger social networks than gay men, and more social support and LGBT community belonging than all other LGBT identity groups (see Supplementary Table 1 for uses of alternative references). Regarding other sociodemographic characteristics, participants with lower education (high

Table 2. Bivariate Differences in Social Resources by LGBT Identity

Variables	Social network size	Social support	LGBT community belonging
	M (SD)	M (SD)	M (SD)
LGBT identity			
1. Lesbian (<i>n</i> = 773)	70.79 (103.71)	3.3 (0.68)	3.54 (0.71)
2. Gay (<i>n</i> = 1,462)	57.35 (92.05)	3.03 (0.81)	3.38 (0.77)
3. Bisexual women (<i>n</i> = 59)	70.45 (113.94)	2.98 (0.82)	3.29 (0.79)
4. Bisexual men (<i>n</i> = 68)	67.43 (76.32)	2.81 (0.84)	3.13 (0.71)
5. Transgender (<i>n</i> = 174)	85.99 (108.35)	2.88 (0.82)	3.3 (0.87)
<i>F</i> (<i>df</i>)	4.36 (4, 2,204)**	21.92 (4, 2,470)***	9.34 (4, 2,447)***
Pairwise comparison ^a	5 > 2; 1 > 2	1 > 2, 3, 4, 5	1 > 2, 4, 5

Notes: LGBT = lesbian, gay, bisexual, and transgender. *N* = 2,536.

^aIndicating significant differences at *p* < .05 (Bonferroni-adjusted).

p* < .01, *p* < .001.

Table 3. Regression Models for Social Resources: Main Effects of LGBT Identity

Variables	Social network size	Social support	LGBT community belonging
	<i>B</i> (SE)	<i>B</i> (SE)	<i>B</i> (SE)
Intercept	70.66*** (10.44)	3.35*** (0.03)	3.58*** (0.03)
LGBT identity			
1. Lesbian (ref)	—	—	—
2. Gay	-13.71** (4.93)	-0.26*** (0.03)	-0.15*** (0.03)
3. Bisexual women	-0.16 (17.16)	-0.32** (0.10)	-0.27** (0.11)
4. Bisexual men	-3.42 (11.05)	-0.51*** (0.11)	-0.40*** (0.10)
5. Transgender	16.21 (9.83)	-0.40*** (0.07)	-0.25** (0.07)
Sociodemographics			
Racial/ethnic minority	1.71 (7.76)	-0.18*** (0.05)	-0.07 (0.05)
High school education or less	-17.94** (6.91)	-0.28*** (0.07)	-0.00 (0.06)
Older age (65+)	2.58 (4.37)	-0.01 (0.03)	-0.06 (0.03)
Adjusted <i>R</i> ²	0.01	0.05	0.02
<i>F</i>	2.94 (7, 2,176)**	18.92 (7, 2,437)***	6.67 (7, 2,415)***

Notes: *N* = 2,536. LGBT = lesbian, gay, bisexual, and transgender; *B* = unstandardized regression coefficients. Pairwise comparisons based on alternative references (see Supplementary Table 1 for detailed model results): social network size (5 > 2), social support (2 > 4, 5), LGBT community belonging (2 > 4).

p* < .01, *p* < .001.

school and less) showed a smaller social network size and a lower level of social support; racial/ethnic minority participants tended to have lower levels of social support. Age was not significantly associated with any of the social resource outcomes.

Intersections of LGBT Identity With Sociodemographic Characteristics in Social Resources

To explore intersections of LGBT identity with sociodemographics regarding three outcomes of social resources, we tested interaction effects of LGBT identity with race/ethnicity, education, and age, respectively. We found significant interaction effects only for social support, whereas we did not find any significant interactions for social network size and community belonging. For social support, LGBT identity showed significant interactions with

education and age (Table 4); interactions of LGBT identity with racial/ethnic minority were not significant for any social resource outcomes.

Interaction Effects of LGBT Identity and Education on Social Support

Table 4 presents social support models for interaction effects of LGBT identity with education and age. Regarding education (see Model 1), with lesbians as the reference, results showed a significant interaction of gay identity with high school education or less (*B* = 0.32, *p* = .033), indicating that when gay male respondents have less education (i.e., high school level or less), their difference in social support from lesbians was less pronounced, compared to gay male respondents with a college education (Figure 1A). There was also a significant interaction of bisexual female identity with less education (*B* = -0.94, *p* = .025), indicating that when bisexual females

Table 4. Regression Models for Social Support: Interaction Effects of LGBT Identity With Education and Age

Variables	Model 1: Moderated by education	Model 2: Moderated by age
	<i>B</i> (<i>SE</i>)	<i>B</i> (<i>SE</i>)
Intercept	3.36*** (0.03)	3.35*** (0.03)
LGBT identity		
1. Lesbian (ref)	—	—
2. Gay	-0.28*** (0.03)	-0.23*** (0.05)
3. Bisexual women	-0.21* (0.10)	-0.51*** (0.14)
4. Bisexual men	-0.48*** (0.11)	-0.51** (0.18)
5. Transgender	-0.42*** (0.07)	-0.48*** (0.08)
Interactions with education		
1. Lesbian (ref) × High school education or less	—	—
2. Gay × High school education or less	0.32* (0.15)	—
3. Bisexual women × High school education or less	-0.94* (0.42)	—
4. Bisexual men × High school education or less	-0.11 (0.39)	—
5. Transgender × High school education or less	0.30 (0.26)	—
Interactions with age		
1. Lesbian (ref) × Older age (65+)	—	—
2. Gay × Older age (65+)	—	-0.05 (0.07)
3. Bisexual women × Older age (65+)	—	0.46* (0.20)
4. Bisexual men × Older age (65+)	—	0.00 (0.22)
5. Transgender × Older age (65+)	—	0.25 (0.14)
Sociodemographics		
Racial/ethnic minority	-0.18*** (0.05)	-0.18*** (0.05)
High school education or less	-0.47*** (0.13)	-0.28*** (0.07)
Older age (65+)	-0.02 (0.03)	-0.01 (0.05)
Adjusted <i>R</i> ²	0.06	0.05
<i>F</i> (11, 2,433)	13.86**	12.98***

Notes: *N* = 2,536. LGBT = lesbian, gay, bisexual, and transgender; *B* = unstandardized regression coefficients. See [Supplementary Tables 2 and 3](#) for model results based on alternative references.

p* < .05, *p* < .01, ****p* < .001.

had a high school level education or less, their difference in social support from lesbians was more pronounced, compared to bisexual females with a college education ([Figure 1B](#)). With gay male respondents as the reference ([Supplementary Table 2](#)), results showed a significant interaction of bisexual female identity with less education ($B = -1.26, p = .002$), suggesting that when bisexual females had a high school level education or less, their difference in social support from gay male respondents was more pronounced, compared to bisexual respondents with a college education ([Supplementary Figure 1A](#)). With transgender respondents as the reference, an interaction of bisexual female identity with less education ($B = -1.24, p = .007$) was significant; thus, the difference in social support between bisexual female and transgender respondents was more pronounced among bisexual females with a high school level education or less, compared to those with a college education ([Supplementary Figure 1B](#)).

Interaction Effects of LGBT Identity and Age on Social Support

As presented in [Table 4](#), an interaction of LGBT identity with age was also found to be significant for social support

(see Model 2). With lesbians as the reference, an interaction of bisexual female identity with older age was significant ($B = 0.46, p = .020$), showing that when bisexual females are older, the difference in social support between them and lesbians was less pronounced, compared to middle-aged bisexual females ([Figure 1C](#)). With gay male respondents as the reference ([Supplementary Table 3](#)), there was also a significant interaction of bisexual female identity with older age ($B = 0.51, p = .009$), indicating that bisexual female older adults, compared to their middle-aged counterparts, have a less pronounced difference in social support than gay male respondents ([Supplementary Figure 1C](#)). A significant interaction of transgender identity with older age was also found ($B = 0.30, p = .034$), suggesting that the difference in social support between gay male and transgender respondents was less pronounced among older adults than among middle-aged adults ([Supplementary Figure 1D](#)).

Discussion and Implications

Previous studies have examined the influence of LGBT identity, as well the intersection of LGBT identity as a whole, and race/ethnicity on access to social resources. To

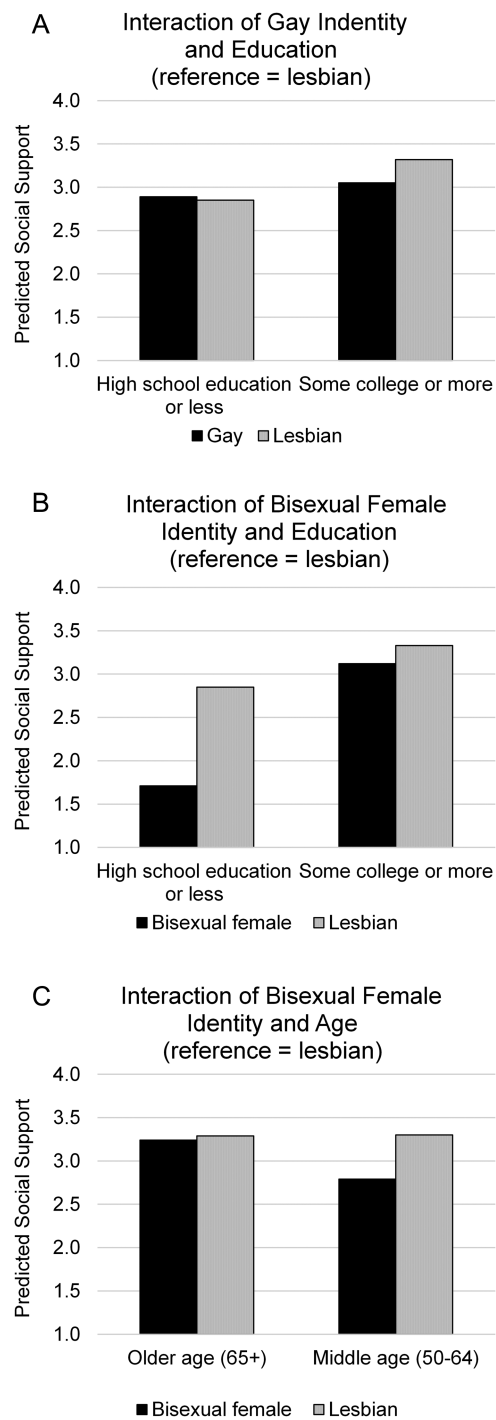


Figure 1. Interaction effects of LGBT identity with education and age for social support. LGBT = lesbian, gay, bisexual, and transgender.

our knowledge, our study is the first to empirically test differences in access to social network size, social support, and LGBT community belonging among lesbian, gay, bisexual, and transgender respondents separately. Our study also expands prior intersectionality research, by examining the intersecting influence of LGBT identity and education, as well as age, on access to social resources.

Social Resources According to LGBT Identity

According to minority stress theory, an individual's environmental circumstances involve advantages and disadvantages related to their status, which can include their sexual and gender minority status, and socioeconomic status (Meyer, 2003). Minority identities govern exposure to stressors, but can also buffer effects in the stress process. Our findings lent support to this claim, as access to social resources was shown to vary according to LGBT identity. As expected, and as evidenced in a prior study (Erosheva et al., 2016), our study found lesbian participants had larger social networks than gay male participants. A positive association between gender and social network size among women in the general population has been observed in previous research (Cornwell et al., 2008; McLaughlin et al., 2010). The network size disparity revealed in our study could be based solely on the respondents' status of being a woman, but sexual orientation may also be a factor. For example, lesbians may have larger social networks than gay respondents because gay men are less likely than lesbians to be partnered and have children and more likely to have lost significant portions of their social networks to the HIV/AIDS epidemic (Fredriksen-Goldsen et al., 2011; Halkitis, 2014; Karpiak et al., 2006).

Interestingly, while lesbians only had significantly larger social networks than gay male respondents, they reported significantly more social support than all of the other LGBT identity groups. These results highlight that social support and social network size are not necessarily always related and emphasize the importance of considering social support separately than social network size with the understanding that large social networks do not necessarily amount to a lot of social support. Previous studies (Almack et al., 2010; Zians, 2011) have also demonstrated a disconnect between having a social network of people and actually feeling support from that network among samples of LGBT older adults.

Lesbian respondents also reported more LGBT community belonging than the other LGBT identity groups. These findings were in line with prior research that found bisexual and transgender individuals face discrimination and exclusion from the LGBT community (Friedman et al., 2014; Goldsen et al., 2017; Herek, 2002). We explored the difference in LGBT community belonging between lesbian and gay male respondents without any expectation. While there is no known research regarding differences in LGBT community belonging among lesbian and gay males to compare our study findings, we suppose the difference may be attributed to ageism that has been noted in the LGBT community (Beauchamp et al., 2003; Brotman et al., 2003). Prior data suggest that youthfulness is particularly revered by gay older men, and that the overlap of internalized ageism and internalized homophobia experienced by some gay older men can generate internalized gay ageism (Wight et al., 2015).

Social Resources According to the Intersection of LGBT Identity and Sociodemographics

Minority stress theory and intersectionality theory assert that in addition to one's sexual and gender minority identity, other contextual factors (i.e., education, age) intertwine with one's LGBT identity. Together, these environmental factors might amplify disadvantages, but may also mitigate disadvantages. For example, one aspect of an individual's identity may foster access to social resources, another aspect might obstruct access. As predicted by minority stress theory and intersectionality theory, results from our study showed that two additional contextual factors, education and age, interacted and influenced one's perception of social support availability.

Findings evidenced intersectionality with two significant interactions predicting social support: the first being between LGBT identity and education and the second between LGBT identity and age. As expected, the interaction of LGBT identity and lower education had a negative effect on the social support of bisexual women. However, the positive interaction effect of gay identity with lower education, suggesting that the disparity in social support between gay male and lesbian respondents was less pronounced among gay male respondents with a high school level education or less, compared to gay male respondents with a college education, is less explicable. One possible explanation for this finding could be that college-educated male respondents may not rely on or seek social support to the degree that their counterparts with less education do and therefore do not perceive the social support available to them. The positive interaction of bisexual female identity with older age was not expected. It may be that, even though there was no difference in network size, older lesbian respondents may perceive more social support than middle-aged bisexual respondents as a result of shifting preferences from having social interactions with several people who are not necessarily close emotionally, to focusing on fewer more meaningful social interactions, notions outlined by socioemotional selectivity theory (Carstensen, 1992, 1993).

Limitations and Future Directions

Caring and Aging with Pride, the first national data set of older LGBT people, allowed us to examine within-group differences by LGBT identities and sociodemographic characteristics. Although our study highlights novel findings regarding LGBT older adults' access to social resources, including the influence of age and education, additional sociodemographic characteristics (e.g., disability status, geographic location) should be examined in future research, as the influence of intersecting identities on access to social resources may be evidenced even more so. We dichotomized age, which limited our ability to understand within-group differences that likely exist in the middle-aged (50–64) and older age (65+) groups. In our analysis, we mainly focused on two-way interactions, but given that multiple characteristics could intersect with LGBT identity, we

further examined interactions of multiple demographics with identity simultaneously. However, we did not find significant higher-order interactions. It should be acknowledged that the significant interaction effect of bisexual female identity with less education may have been extrapolated given the small sample sizes in each of these categories. We did not account for relationship status when examining access to social resources, which may contribute to the discrepancy found between gay male and lesbian respondents.

Additionally, the sample primarily consisted of individuals who were recruited from the contact lists of community-based agencies, and therefore service users may be overrepresented. It can be assumed that those who were reached via these networks already had a sense of community connectedness and social resources, possibly to a greater extent than those not connected to organizations that provide LGBT-related services. However, it is possible that individuals on the agencies' contact lists may have had little or no actual contact with the agencies, and in fact, findings from this study indicate that even LGBT service users do not have equitable access to social resources. Furthermore, collaborating agencies were primarily located in urban areas, resulting in an underrepresentation of rural-residing LGBT people, and the study materials were only available in English; therefore, individuals with limited English proficiency would be excluded from participating.

The study tested social network clustering to ensure those not represented or served by agencies were also included in the sample. Such innovative research methods are needed to reach those who are the least connected, to provide more representative samples of LGBT older people. It is also important to acknowledge that this study primarily included individuals who self-identified as lesbian, gay, or bisexual, and less so of those who engage in sexual behavior with others who are of the same sex or both sexes but do not identify as LGB. Incorporating inclusive sexual orientation, gender identity, and sexual behavior measures in aging-related studies would likely permit larger, more representative, samples of this population. While the study stratified the sample to reach hard-to-reach populations and ensure a demographically diverse sample, the research design and sampling procedures used limit the generalizability of the findings and do not necessarily represent estimates of the background characteristics of the population, such as by gender. In addition, in this study, we relied on self-report data, which are based on respondents' perceptions and interpretations rather than behaviors and do not replace objective measures of the variables under study. Finally, data for our study are cross-sectional in nature, which only allowed us to examine access to social resources at a single point in time. Future studies using longitudinal data would bolster our knowledge of LGBT middle-aged and older adults' access to social resources over the life course, how access to social resources might change and how these changes over time may influence health and well-being as people age.

Conclusion

Findings from this study demonstrated that LGBT middle-aged and older adults have varied access to social resources given their particular LGBT identity, education, and age. Findings suggest that while the social network size of LGBT people may not vary, there are significant differences in social support. These insights may guide the work of organizations dedicated to improving the lives of LGBT older adults and who provide evidence-based cultural competency trainings to educate health and human service professionals on how to best service older LGBT clients. For example, professionals can be trained to assess whether their LGBT older clients are receiving an adequate amount of social support, regardless of the size of their social network. We also found subgroup differences in LGBT community belonging, which may partly be accounted for by ageism. LGBT community centers can be trained to prioritize inclusivity of all sexual and gender minority groups. Findings also indicate that along with LGBT identity, education and age have an effect on access to social resources. Training materials should note the importance of accounting for clients' other sociodemographic characteristics that can also affect their access to social support.

Supplementary Material

Supplementary data are available at *The Gerontologist* online.

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Conflict of Interest

None declared.

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