LGBTQ+ Resilience in Community: Towards Strategies for Preventing and Managing Sexual Minority Women's Mental and Behavioral Health Concerns Together

By

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Abstract

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Background: Research on the wellbeing and resilience of LGBTQ+ people including sexual minority women (SMW; whose who identify as women and have a sexual orientation other than heterosexual) is currently of paramount importance given recent challenges spurred by the global COVID-19 pandemic, increased social and political polarization around race, gender, and sexuality, and rising anti-LGBTQ+ rhetoric and policies in the USA. Even prior to these contemporary stressors, SMW have experienced about twice the rates of depression, anxiety, and alcohol use disorder compared to heterosexual women, and there is concern that the pandemic may have exacerbated these disparities. Given SMW's elevated pre-pandemic health concerns, there is a need to clearly characterize how SMW enact resilience, receive the support needed to stay well, and maintain wellbeing in this rapidly changing, stressful world.

Methods: The present study examines these topics though a series of three inter-related research manuscripts that build on each other. First is a quantitative analysis of the protective nature of resilience against depression, anxiety, and alcohol use disorder in a racially diverse sample of SMW (N=520) reported in a quantitative public health-style analysis. The second examines the relationship between resilience and a key factor underlying it – social support –using intersectional quantitative methods to determine the most protective types of social support and to elucidate potential within-SMW differences by race, sexual orientation, and their intersections. Lastly, these research foci were applied to the current social context using qualitative phenomenological methodology to characterize shifts in social support, and mental and behavioral health for a sub-set of SMW (n=17) at the onset of the COVID-19 pandemic.

Results: Higher levels of resilience were associated with lower adjusted odds of depression, anxiety, and alcohol use disorder. SMW who were older and those with higher household income reported the highest levels of resilience. When considering the role of social support in resilience, higher levels of social support were associated with higher levels of resilience, which was consistent across SMW of all demographics. Few within-group differences in this relationship were found by race, sexual orientation, and their intersections. Social support from family, friends, significant others, and especially the LGBTQ+ community were each predictive of greater resilience. Participant interviews shed further light on how changes in social support

occurred in at the pandemic's onset and were at times related to changes in mental and behavioral health.

Implications: This work has implications for social work practice, intervention research, and policy advocacy. Since resilience and social support appear protective against the most common mental and behavioral health concerns in SMW, multi-level interventions that increase access to social support and strengthen resources for resilience are needed, as they have the potential to ameliorate persistent health disparities. This could include individual, couple, family, or group therapy; peer support; and case management tailored to SMW's specific life experiences and needs. Interventions drawing on social ecological and strengths-based approaches that consider how individual-level outcomes are impacted by broader societal factors like sexism, heterosexism, and racism are needed. Policy advocacy is also needed to ensure that LGBTQ+ community spaces and organizations, which facilitate access to protective LGBTQ+ support, can remain open and financially viable ongoing.

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Dedication

This dissertation is dedicated to my wife, Ava Agree. If we could get through being in a PhD program and law school at the same time, we can get through anything. Thank you for providing the love and support that has enabled me to stay well despite the world we live in.

Acknowledgements

While the papers that follow are my own, they were completed in partnership and consultation with a larger academic community that has supported my work since its inception. I would like to acknowledge those whose support made this possible. In no particular order:

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Abstract

Greater Resilience Associated with Lower Odds of Depression, Anxiety, and Alcohol Use Disorder in an Ethno-Racially Diverse Sample of Urban Sexual Minority Women

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Background: Sexual minority women (SMW) experience anxiety, depression, alcohol use disorder, and co-occurring depression and alcohol use disorder at higher rates than their heterosexual peers. Despite the presence of minority-related stressors thought to increase risk, the majority of SMW do not experience these conditions. While there is some indication that higher levels of resilience are protective against mental and behavioral health concerns in the general population, scant research on resilience in SMW has been conducted to date.

Methods: A secondary data analysis of validated self-report measures of mental and behavioral health and resilience of 525 SMW from a longitudinal study, including many lower-income Black and Latina women, was conducted. Simple linear regression was used to explore the relationship between resilience and race, income, age, sexual orientation, and relationship status to identify potential confounders. Multiple logistic regression was used to explore the relationships between resilience and anxiety, depression, alcohol use disorder, and co-occurring depression and alcohol use disorder to determine whether resilience is protective against these conditions, controlling for demographic factors.

Results: Older age and higher household income were associated with greater resilience, whereas being single, bisexual, or separated from one's partner were associated with lower resilience. Higher levels of resilience were associated with lower adjusted odds of past year depression, current depression, past year anxiety, and alcohol use disorder (AUD).

Implications: Resilience appeared protective against several mental and behavioral health conditions that disproportionally impact SMW. Further research is needed on the specific pillars of resilience (self-identity and worldview, social support, and coping skills) that are most salient for SMW wellbeing. This work is vital for developing resilience-promoting interventions for LGBTQ+ people.

Introduction

Sexual minority women (SMW; e.g., those who identify as a woman and bisexual, lesbian, queer, or otherwise non-heterosexual) experience a disproportionate burden of mental and behavioral health challenges such as depression, anxiety, and alcohol use disorder (AUD) compared to their heterosexual peers (Institute of Medicine of the National Academies, 2012; National Academies of Sciences, Engineering, and Medicine, 2020). SMW are approximately two times as likely to experience major depressive disorder than heterosexual women (Bostwick et al., 2010; Gonzales & Henning-Smith, 2017; Kerridge et al., 2017; McGeough et al., 2021; Meyer, 2003). Anxiety is also a significant concern, as a recent review and meta-analysis found that a combined sample of lesbian, bisexual, and gay people had 61% higher odds of current anxiety compared to their heterosexual counterparts (Ross et al., 2018). Generalized anxiety disorder, in particular, appears to be more common in SMW than heterosexual women (Cochran et al., 2003; Kerridge et al., 2017; Meyer, 2003), with some studies showing about 50% higher odds (Kerridge et al., 2017). Alcohol use disorder (AUD) is also of note, as SMW are about twice as likely to experience this condition as heterosexual women (Kerridge et al., 2017; McGeough et al., 2021).

These three conditions—depression, anxiety, and alcohol use disorder—also co-occur among SMW more frequently than among heterosexual women (Institute of Medicine of the National Academies, 2012; Mereish et al., 2015; Plöderl & Tremblay, 2015). SMW with an alcohol use disorder are more likely to have a co-occurring mood disorder (e.g., major depressive disorder) or anxiety disorder compared to heterosexuals, evidencing 2 to 2.5 greater odds of this comorbidity (Pakula et al., 2016). These mental and behavioral health inequities have been documented for several decades and are clear and persistent to the degree that the U.S. Department of Health and Human Services and the National Institutes of Health (NIH) have classified LGBTQ+ people as an "at risk" population that experiences barriers to health equity (Cerezo & Renteria, 2021).

Several theories have been used to hypothesize why SMW experience higher rates of these conditions compared to their heterosexual peers. Rather than focusing on perceived individual deficits (e.g., considering depression to be a sign of weak character or resolve), many of these theories take a broader approach that considers the impact of an individual's social-ecological context on their wellbeing. In particular, minority stress theory (Meyer, 2003) is arguably the most commonly referenced psycho-social theory that attempts to explain LGBTQ+ mental and behavioral health disparities (Frost, 2017). Minority stress theory posits that stressors in the social environments of LGBTQ+ people – such as anti-LGBTQ+ prejudice, discrimination, identity concealment, and internalized rejection – compound everyday general stressors to create excessive and chronic stress that can lead to stress-induced negative health outcomes (Meyer, 2003). While helpful in its focus on social and structural determinants of health for LGBTQ+ people, minority stress theory has been criticized as inadvertently and inaccurately portraying a monolithic, deterministic story of victimization and struggle wherein all LGBTQ+ people experience harmful levels of minority stressors that inevitably lead to mental and behavioral health challenges if they are unable to heroically cope (Frost, 2017).

Resilience in LGBTQ+ People and SMW

While there is a robust body of literature describing risk factors for negative mental and behavioral health outcomes like depression, anxiety, and alcohol use disorder—and their co-occurrence in LGBTQ+ people and SMW based on minority stress theory and related lines of thinking, much less is known about why the majority of SMW *do not* develop or sustain these conditions even in the presence of general and minority-specific stressors. Thus, there is a need to understand protective factors – such as resilience – that may reduce odds of negative health outcomes. To date, there has been limited literature on the associations between resilience and mental and behavioral health in diverse groups of LGBTQ+ people (especially compared to research on risk factors) and there are consistent calls for work in this under-researched area (Bartoș & Langdridge, 2019; Goldbach et al., 2020; Gonzalez et al., 2021; Harkness et al., 2020; Krueger & Upchurch, 2020; Roberts & Christens, 2020; Salerno et al., 2020; Schnarrs et al., 2020).

Resilience – the ability to harness resources and supports to adaptively respond to life's challenges and cultivate wellbeing despite the presence of stressors – in LGBTQ+ people is generally conceptualized as the combination of three domains of protective factors. The recent literature has described these general domains as: (1) self-identity and worldview (e.g. personal psychological traits and character strengths like self-image, self-efficacy, and self-worth), (2) social support (e.g., romantic partners, biological families, chosen or created families, spiritual or religious communities) and (3) specific coping skills (e.g. emotional detachment or mindfulness) (American Psychological Association, 2020; Colpitts & Gahagan, 2016; Hill & Gunderson, 2015; Kaysen et al., 2014; Szymanski et al., 2014; Szymanski & Owens, 2008). Social support and resources for coping – two pillars of resilience – are especially salient for SMW given that support and resources are unequally distributed in society due to racism, classism, sexism, and other forms of social oppression affecting this diverse group.

While one's self-identity and worldview are certainly factors that contribute to resilience, critical health equity scholars (e.g., Bowleg, 2021) caution against over-emphasizing individual personality traits and health behaviors (e.g., whether a person is persistent or easily deterred in the face of obstacles) at the expense of an analysis of the systemic, structural barriers that make it harder for some people (e.g. SMW of color) to achieve good health and wellbeing. A thematic meta-synthesis of qualitative studies on LGBTQ+ resilience similarly noted that much of the existing research is overly individualistic given the degree of systemic oppression that LGBTQ+ people face and that scholars should resist viewing individuals' degree of resilience as a personal success or failure (Bartoș & Langdridge, 2019). A recent discourse analysis on the concept of resilience in the social work literature highlighted the disconnect between the tendency to acknowledge that structural inequalities and systemic risk factors create the conditions under which resilience is required of marginalized peoples, yet simultaneously treat resilience as a "Sisyphean task" demanded of the individual (Park et al., 2020, p. 166). In this way, a socially just conceptualization of resilience in SMW should center the social-ecological interactions among individual, interpersonal, and societal conditions and resources that enable or hinder health and wellbeing (Follins et al., 2014; Fraser et al., 1999).

Despite these cautions, resilience is an emerging and promising area of research that can aid the development of strategies to reduce sexual orientation-related health disparities given that studies of individuals in the general population indicate that having a higher level of resilience is associated with better mental and behavioral health (Schnarrs et al., 2020; Shilo et al., 2015). Unfortunately, much of the empirical research to date uses psychometric measures of resilience

that have been validated on western, educated, middle to upper class, and majority White samples of research participants, indicating a need to further study resilience using validated measures (e.g. the Brief Resilience Scale) with diverse LGBTQ+ populations (Cerezo & Renteria, 2021). Much of the existing resilience research has been conducted in the HIV/AIDS field and, as such, has heavily focused on the wellbeing of sexual minority men and transgender women who have sex with men (Frost, 2017; National Institutes of Health, 2020). As a result, relatively little attention has been paid to how SMW experience and achieve resilience, as they may have different stressors and access to resources due to their unique intersection of gender and sexual orientation, compared to sexual minority men (Bartoș & Langdridge, 2019). Further research on the associations between resilience and mental and behavioral health outcomes for SMW is needed, especially research that considers social and structural factors alongside individual factors, as this may illuminate novel strategies for improving SMW's health.

Associations between resilience and mental and behavioral health outcomes among SMW

Depression. A small number of studies have explored the relationship between resilience and depression among SMW, generally finding a negative relationship between the two (Garrett-Walker & Longmire-Avital, 2018; McNair & Bush, 2016; Walker & Longmire-Avital, 2013; Wang et al., 2022). For example, in McNair and Bush's (2016) survey-based study of 1,628 same-sex attracted Australian women, over half reported past year depression. Resilience, as measured by the Brief Resilience Scale, was negatively associated with depression, and depression was also associated with lower levels of resilience, showing a bi-directional relationship (McNair & Bush, 2016). Similarly, Walker and Longmire-Avital's (2013) survey of 175 Black LGB emerging adults (ages 18-25) identified a negative relationship between depression and resiliency, although these results were not disaggregated by gender. This study notably framed resiliency as the outcome of interest and considered the potential impacts of depression on resiliency rather than of resiliency on depression, a more common focus. This team additionally surveyed 216 Black LGB emerging adults (ages 18-29) in 2018 and again found that higher levels of resilience were associated with lower levels of depression (Garrett-Walker & Longmire-Avital, 2018). Greater social support from friends was associated with higher levels of resilience, consistent with the literature positioning social support as a key pillar of resilience. In this sample, younger participants reported higher levels of depression than older participants, supporting the need to examine the role of age in the relationship between depression and resilience. Similarly, Wang and colleagues (2022) analyzed the relationship between depression and resilience in 301 Chinese LGBTQ+ adults (ages 18-42) who completed an online survey, though only about a quarter of the sample were women. Resilience was negatively associated with depression in this sample; specifically, both resilience and family support moderated the relationship between sexual minority stigma and depression (Wang et al., 2022). This potentially protective nature of family support highlights the need to consider SMW's relationships and access to social support when examining the association between resilience and depression.

Resilience may also be protective against suicidality for bisexual people experiencing depression (Miceli et al., 2019). Specifically, for those with a mental health condition, the relationship between minority stressors and suicidality decreased as a function of resilience, as measured by the Brief Resilience Scale. However, higher levels of resilience were not protective against suicidality for those without a mental health diagnosis (Miceli et al., 2019). In addition to

these quantitative studies, limited qualitative research has been completed. In an interview study focused on family rejection and resilience with 21 Australian gay men and lesbians, some participants who experienced family rejection felt that this led to mental health challenges – often depression (Carastathis et al., 2017). Some participant accounts described a process of experiencing family rejection, developing depression due to this stressor, then building resilience through the process of overcoming these challenges with the support of LGBTQ+ community, leading to better coping skills, a greater sense of self, and personal growth over the long term (Carastathis et al., 2017). However, Carastathis and colleagues, McNair and Bush, and Miceli and colleagues' studies all had a strong majority of White participants, limiting generalizability to other ethno-racial groups (Carastathis et al., 2017; McNair & Bush, 2016; Miceli et al., 2019). Additionally, despite the known occurrence of both depression and alcohol use disorder in SMW at higher rates than heterosexual women (Hughes et al., 2014), no studies were identified that examined resilience in relationship to co-occurring depression and AUD.

Anxiety. Few studies have investigated the relationship between resilience and experiences of anxiety for SMW, though the completed studies to date indicate that greater resilience may be protective against anxiety. McNair and Bush's (2016) study of the mental health help seeking patterns of 1,628 same-sex attracted Australian women found that higher anxiety was associated with lower resilience, and lower resilience was associated with higher likelihood of seeking professional help, which may in turn increase access to resources for wellbeing (McNair & Bush, 2016). Similarly, in an online study of Black LGB emerging adults (ages 18-25), Walker and Longmire-Avital (2013) identified a significant negative association between anxiety and resiliency, such that anxiety predicted nearly a quarter of variance in resilience when controlling for a range of covariates. This sample included those of all genders and did not analyze gender differences in the relationship between resilience and anxiety. Additionally, in a study on 220 LGBTQ+ adults' wellbeing during the COVID pandemic, Goldbach and colleagues' (2020) found that the presence of higher levels of resilience buffered the negative effects of pandemic concerns on generalized anxiety (Goldbach et al., 2020). The indirect effects of pandemic concerns on anxiety were reduced in the presence of higher levels of resilience. This sample was relatively diverse, with most assigned female sex at birth (75%) and including communities traditionally under-represented in research like transgender or gender non-binary respondents (51%), queer (42%) and bisexual (26%) respondents, and those making less than $50,000 per year (69%).

Alcohol Use Disorder. Despite the growing number of studies of alcohol use issues in LGBTQ+ people and SMW over the past decade, few have explored the relationship between resilience and alcohol use disorder. Hughes and colleagues' (2020) global scoping review of research on alcohol and other drug use in SMW notes an overall lack of research studies that incorporate an explicit focus on resilience, though some studies were found to speak to specific sub-factors that underlie resilience, such as family support (Hughes et al., 2020). Nearly all studies included in this review focused on risk factors for negative outcomes rather than on resilience and the potential for positive outcomes. As Hughes and colleagues note, there is a need for more research in this area since developing foundational understandings of SMW resilience to risks for alcohol use issues is a key step in developing prevention and early intervention programs (Hughes et al., 2020).

Two qualitative studies on sub-populations of SMW have focused on resilience and alcohol use challenges (Elm et al., 2016; Rowan & Butler, 2014). Rowan and Butler's (2014) study of older lesbians (ages 50-70) in recovery from alcoholism identified resiliency as one key theme,

as all participants reported some ability to bounce back from adverse experiences. Participants noted that challenges they experienced in the past (e.g., getting arrested in a gay bar raid in the 1970s, coming out as a lesbian during military service) led them to find greater life meaning, increased connection and mutual recovery support, and contributed to their overall resilience (Rowan & Butler, 2014). However, this sample was overwhelmingly White (95%), educated (65% with master's or doctoral degree), and partnered (70%), potentially reflecting the experiences of a more socially privileged sub-population of SMW.

Elm and colleagues' (2016) qualitative study similarly examined alcohol use, resilience, and recovery among 11 two spirit Native American women (defined in the study as lesbian, bisexual, and women-loving indigenous women) through in-depth interviews in a national health study (Elm et al., 2016). Many participants described their stories of experiencing trauma and its residual effects, recovering from mental health challenges, and quitting drinking alcohol. This study highlighted accounts of resilience and collective resources for managing alcohol use and other mental and behavioral health concerns. Elm et al. (2016) developed a braided resiliency framework, or a multi-level conceptualization of resilience from these stories, describing the 3 areas of individual resilience (the mind; key turning points), collective resilience (the body; family and community resilience), and cultural resilience (the spirit; Indigeneity).

Research Questions

Given the persistent inequities in depression, anxiety, alcohol use disorder, and co-occurring depression and AUD in SMW and the relatively limited literature on protective factors for this population, the current study aims to clarify the relationship between resilience and these conditions in a diverse sample of SMW. This study also aims to add to the literature on differences in SMW's resilience by demographic factors to identify potential confounders in the relationship between resilience and these health outcomes. The following exploratory research questions will be examined: (1) How are race, income, education, age, sexual orientation, or relationship status associated with differences in resilience? And (2) What are the associations between resilience and a) current depression or past year depression, b) anxiety, c) AUD, or d) co-occurring depression and AUD?

Methods

The current project uses existing data from Chicago Health and Life Experiences of Women (CHLEW). The CHLEW study, which began recruiting its initial participant panel in 2000, is one of the longest running and most comprehensive studies of the health and wellbeing of SMW nationally and internationally. Wave 4 of the CHLEW was funded by the National Institute on Alcohol Abuse and Alcoholism (NIAAA) in 2016 (3R01 AA013328-14). Study protocols and materials for CHLEW Wave 4 were approved by both the University of Illinois at Chicago and Columbia University's Institutional Review Boards since the CHLEW PI moved to Columbia University. The secondary data analysis protocol was approved by the UC Berkeley's Committee for the Protection of Human Subjects (protocol # 2022-07-15507). CHLEW Wave 4 aimed to examine risk and protective factors at the individual, interpersonal, and structural levels for hazardous drinking and drinking-related health consequences among SMW. Information about the parent study's methods and findings to date have been published (e.g., see Hughes et al., 2021).

CHLEW Recruitment

The original CHLEW sample (*N* = 447) was recruited in 2000-20002 from the greater Chicago Metropolitan Area through targeted outreach to LGBTQ+ community organizations and informal social groups of SMW (Hughes et al, 2021). Potential study participants were prompted to call the study line to complete an eligibility screening. Eligibility criteria included being over 18 years old, proficient in English, residing in the greater Chicago Metropolitan Area, identifying as a lesbian, and consenting to study enrollment.

The supplemental CHLEW sample (*N*= 372) was added to the study in wave 3 (2010-2012) to increase sample diversity in age, race, and sexual orientation. Recruitment occurred through a modified version of respondent-driven sampling (RDS; Hughes et al., 2021). First, study staff contacted Chicago area organizations serving SMW and requested help identifying SMW with large social networks. The women identified were each given three numbered recruitment coupons to provide to other SMW in their social networks and were paid $20 for each eligible recruit. The same telephone screening and eligibility protocol was used in wave 3, except both lesbian and bisexual women were eligible. New recruits were enrolled, interviewed, and given three coupons to recruit other SMW in their networks. Later, all enrolled CHLEW participants were invited to recruit new participants using this method due to lower than desired recruitment from the first round of RDS. Compared to those in the original sample, participants in the Wave 3 supplemental sample were more likely to be younger (57.6% vs. 5.1% under 30 years old), African American/Black (44.1% vs. 27.1%), Hispanic/Latinx (30.3% vs. 15.5%), and bisexual (37% vs. 12.5%).

Wave 4 Recruitment

Between April 2017 and July 2019, all participants enrolled in the CHLEW study were re-contacted and invited to participate in wave 4. Two participant sub-samples were contacted at that time: those recruited at wave 1 (original sample) and the supplemental sample of participants recruited at wave 3. Eligibility criteria included being an enrolled CHLEW study participant and consenting to study enrollment. Of the original sample recruited in 2000-2002 (N=447), 73% (*n*=297) were retained and re-interviewed in wave 4. Of the supplemental sample recruited in 2010-2012, (*N* = 372), 62% (*n*=228) were retained and re-interviewed in wave 4, for a total sample of 525 participants.

Data Collection

After confirming their eligibility for wave 4, participants reviewed and signed a consent form approved by the Columbia University Irving Medical Center Institutional Review Board (IRB). Study staff, who completed a two-day training on the CHLEW study and interviewing protocols, led computer-assisted telephone interviews (CATI) with participants. Interviews lasted an average of 111 minutes and consisted of up to 467 questions. Participants received $40 for their participation in the telephone interview and $20 for completing an online supplemental survey (not analyzed here).

Measures

The following measures from the CHLEW wave 4 survey were included in the analyses: (a) demographics (age, race/ethnicity, household income, sexual orientation, and relationship status), (b) resilience, (c) mental and behavioral health indicators (e.g., depression, anxiety, alcohol use disorder, and co-occurring depression and AUD).

Demographics. To assess sexual orientation, participants were asked, "Recognizing that sexual identity is only one part of your identity how do you define your sexual identity? Would you say that you are..." with answer options of only lesbian/gay, mostly lesbian/gay, bisexual, mostly heterosexual/straight, only heterosexual/straight, or asexual or ace". Study staff recoded these categories into lesbian, bisexual, and other; heterosexual women were excluded from the analyses. In terms of race, participants were asked, "What do you consider to be your race?", with answer options including White, Black / African American, Asian or Pacific Islander, American Indian or Alaska Native, Biracial or Multi-racial, or another racial/ethnic group. This was combined with data on Hispanic/Latina ethnicity to create a four-category race variable (White, Black, Hispanic, other). In terms of relationship status, participants were asked whether they were living with a partner in a committed relationship, in a committed relationship but not living with a partner, separated from their partner, divorced/widowed, and/or not in a committed relationship.

Resilience. Resilience was measured using the six-item Brief Resilience Scale (Smith et al., 2008). This measure assesses the overall degree to which an individual enacts resilience, including statements such as, "I tend to bounce back quickly after hard times" and "It does not take me long to recover from a stressful event". Response options ranged from 1 = "strongly disagree", to 5 = "strongly agree". Three items were reverse coded. Sub-item scores were averaged to calculate an overall score ranging 1 to 5. Cronbach's alpha ranged from 0.80-0.91 in previous studies, indicating satisfactory to high internal reliability (Smith et al., 2008).

Mental and Behavioral Health. Depression was measured two ways: (1) the presence of depressive episode(s) in the past year, and (2) current depression. Past year depression was assessed through the Diagnostic Interview Schedule (Radloff, 1977), then a follow-up question asking when the most recent episode of depression was, for those endorsing one or more episodes. Responses were re-coded by study staff as 1 = the presence of one or more depressive episodes in the past year or 0 = no episodes. Current depression was measured by asking when this most recent episode ended, "or is it not over yet?" and recoded as 1= not yet over or current episode. Anxiety severity was assessed by asking, "how much has nervousness or anxiety interfered with your everyday life or activities?" over the past year, with answer options ranging from 1 = "not at all" to 5 = "a great deal". Responses were re-coded with answers 4 and 5 (above the midpoint) indicating significant anxiety-related impairment.

Alcohol Use Disorder (AUD) was measured with a set of eleven questions assessing for DSM 5 AUD criteria over the past year. Questions included the number of drinks and types consumed on various timescales and the following areas that align with the DSM-5 AUD criteria: escalation in drinking quantities; frequency of getting drunk; time dedicated to drinking; success setting limits, cutting down on, or abstaining from drinking; cravings; alcohol tolerance; withdrawal symptoms; emotional and physical problems due to drinking; impairment of life activities; physical endangerment when drinking; legal troubles due to drinking. For analytic purposes, 2+ AUD criteria was coded as a binary variable indicating the presence of AUD (any severity level). A binary variable for the presence of co-occurring depression and AUD was created combining (a) presence of a current depressive episode (b) presence of any severity of AUD.

Data Analysis

Descriptive statistics, linear regression, and logistic regression were used to examine the relationships between resilience, mental and behavioral health indicators, and demographic

factors. First, descriptive statistics were calculated to describe the degree of resilience and anxiety, depression, alcohol use disorder, and co-occurring depression and alcohol use disorder in the sample. Linear regression was used to explore associations between each demographic variable (race, income, age, sexual orientation, and relationship status) and resilience to determine whether any demographic factors were directly associated with differences in resilience, acting as potential covariates. Next, five logistic regression models were executed to explore the associations between resilience and (a) current depression, (b) past year depression, (c) anxiety, (d) alcohol use disorder, and (e) co-occurring depression and alcohol use disorder. To account for demographic covariates, a final set of regression analyses were run to examine the relationship between resilience and each outcome, controlling for income, age, sexual orientation, and relationship status. Race was not added as a covariate in the final model as it was not significantly associated with resilience.

Results

Participant demographics are described in Table 1. Most participants were 31-50 (48.5%, *n*=255) or 51-70 years old (36.4%, *n*=191). In terms of race, 42% (*n*=220) identified as White, 30.7% (*n*= 161) as African American/Black, 23.1% (*n*=121*)* Hispanic/Latinx, and 4.2% (*n*=22) as multiracial or "other". Nearly half (44%, *n*=231) had a household income under $50,000 per year. In terms of sexual orientation, the majority (70.9%, *n*=372) identified as lesbian and 22.3% (*n*=117) as bisexual or pansexual. Less than 1 in 10 (6.9%, *n*=36) had another identity such as "queer." Just under half (48.1%, *n*=252) of participants were in a committed relationship or legally married and cohabitating with their partner. Over a third (33.8%, *n*=177) were single, 13.2% (*n*=69) were in a committed relationship without cohabitation, and 4.9% (*n*=26) were widowed, separated, or divorced.

Table 2 presents the burden of depression, anxiety, alcohol use disorder, and co-occurring depression and AUD in the sample. Nearly a fifth (18.5%, *n* = 95) of SMW reported experiencing a depressive episode in the past year and nearly a tenth (9.7%, *n*=51) reported currently experiencing a depressive episode. Most participants (60.5%, *n*=316) reported that nervousness or anxiety interfered with their everyday life or activities to a moderate degree in the past year, compared to nearly a third (32%, *n*=167) of participants who reported that it did not at all and less than a tenth (7.5%, *n*=39) reported a great deal of interference. In terms of alcohol use disorder, 85.7% (*n*=444) did not met 2+ DSM 5 criteria for AUD and 14.3% (*n*=74) of the sample did meet AUD criteria at any level of severity. About a tenth of the sample had mild AUD (*n*=47, 9.1%) and about 3% had moderate AUD (*n*=15, 2.9%) or severe AUD (*n*=12, 2.3%), respectively. Nearly a quarter (23.5%, *n*=12) of those experiencing a current depressive episode also had AUD, or 2.3% of the full sample.

Table 3 presents the results of the linear regression models with resilience and each individual demographic factor. Older age (Coeff=.008, *p*=.002) and higher household income (Coeff=.02, *p*<.001) were associated with greater resilience. Bisexual women (Coeff= -.30, *p*<.001) reported lower levels of resilience than lesbians. Participants who were separated from their partner (Coeff= -.49, *p*=.008) or single (Coeff= -.17, *p*=.026) reported less resilience than those in a committed, cohabitating relationship. There was not a significant relationship between resilience and race.

Table 1

Participant demographics (N=525)

Demographic	*n*	%
Age		
18-30	53	10.1
31-50	255	48.6
51-70	191	36.4
71+	26	4.9
Income		
< $50,000	231	44
> $50,000	294	56
Race		
African American/Black	161	30.7
Hispanic/Latinx	121	23.1
White	220	42.0
Multiracial/other	22	4.2
Relationship Status		
In a committed relationship, living with partner	252	48.1
In a committed relationship, not living with partner	69	13.2
Separated/divorced	20	3.8
Widowed	6	1.1
Not in a committed relationship, single	177	33.8
Sexual Orientation		
Lesbian	372	70.9
Bisexual, pansexual/fluid	117	22.3
Other (including Queer)	36	6.9

Table 2

Mental and behavioral health status (N=525)

Indicator	*n*	*%*
Depressive episode in past year	95	18.5
Depressive episode currently	51	9.7
Anxiety-related interference in past year		
None	167	32.0
Moderate	316	60.5
Great Deal	39	7.5
Alcohol Use Disorder		
None	444	85.7
Mild (2-3 criteria)	47	9.1
Moderate (4-5 criteria)	15	2.9
Severe (6+ criteria)	12	2.3
Any severity AUD (2+ criteria)	74	14.3
Alcohol Use Disorder & Current depression	12	2.3

Table 3

Bivariate associations between demographic factors and resilience

Independent variable	Coefficient (*SE*)	95% CI	*P*	R^2
Age	0.008 (0.003)	0.003-0.013	0.002*	0.018
Income	0.020 (0.006)	0.009-0.031	<0.001*	0.024
Race[1]			0.582	0.004
Hispanic	0.004 (0.090)	-0.174-0.181	0.968	
Black	0.021 (0.083)	-0.142-0.183	0.803	
Other / multi-racial	0.247 (0.179)	-0.104-0.598	0.168	
Relationship Status[2]			0.030*	0.021
In a committed relationship, not cohab.	-0.155 (0.108)	-0.366-0.60	0.149	
Separated	-0.492 (0.184)	-0.853- -0.131	0.008*	
Widowed	-0.084 (0.327)	-0.726-0.558	0.797	
Single	-0.173 (0.078)	-0.327- -0.021	0.026*	
Sexual Orientation[3]			0.002*	0.024
Bisexual	-0.298 (0.839)	-0.426- -0.133	<0.001*	
Other	-0.156 (0.138)	-0.427-0.114	0.257	

Note: Calculated as a series of simple linear regression models with one independent variable and resilience as dependent variable. Statistically significant values ($p<0.05$) are starred. [1:] White as reference group. [2]: In a committed, cohabitating relationship as reference group. [3]: Lesbian as reference group

Tables 4-8 present results from multivariate logistic regression models examining the relationship between resilience and each outcome, adjusting for all demographic covariates (except race, as this was not significantly associated with resilience and thus not included in the final models). The mean resilience score was 3.6 (95% *CI* 3.5-3.63), or roughly the midpoint on the scale from 1-5 and the results were normally distributed. There were significant relationships between resilience and current depression (*OR*=.4, $p<.001$), past year depression (*OR*=.52, $p<.001$), past year anxiety-related functional impairment (*OR*=.49, $p<.001$), and AUD (*OR*=.61, $p=.003$) when controlling for age, sexual orientation, household income, and relationship status. There was not a significant relationship between resilience and co-occurring AUD and current depression ($p=.10$). Each one-point increase in resilience (e.g., score of 4 vs. 3) was associated with a 46.4% decrease in the adjusted odds of current depression and a 48.5% decrease in the adjusted odds of past year depression, controlling for age, sexual orientation, income, and relationship status. Each one-point increase in resilience was associated with a 50.6% decrease in the adjusted odds of anxiety-related functional impairment and a 39.1% decrease in the odds of AUD, controlling for age, sexual orientation, income, and relationship status.

Table 4

Odds of current depression as a function of resilience

Current Depression	Odds Ratio (*SE*)	95% *CI*	*P*
Resilience	0.536 (0.102)	0.369-0.779	0.001*
Age	1.011 (0.012)	0.988-1.035	0.363
Income	0.988 (0.026)	0.939-1.041	0.653
Relationship status[1]			
In a committed relationship, not cohab.	0.611 (0.359)	0.193-1.934	0.402
Separated	2.813 (1.697)	0.862-9.177	0.086
Widowed	10.540 (9.609)	1.765-62.932	0.010*
Single	1.230 (0.460)	0.590-2.561	0.580
Sexual Orientation[2]			
Bisexual	1.155 (0.440)	0.547-2.438	0.706
Other	1.592 (0.854)	0.556-4.557	0.387

Note: Calculated as a saturated logistic regression model controlling for age, sexual orientation, income, and relationship status. Odds ratios represent the estimated change in odds of the outcome for each 1 unit increase in resilience. Statistically significant values ($p<0.05$) are starred. [1:] In a committed, cohabitating relationship as reference group. [2]: Lesbian as reference group.

Table 5

Odds of past year depression as a function of resilience

Past Year Depression	Odds Ratio (*SE*)	95% *CI*	*P*
Resilience	0.515 (0.080)	0.381-0.698	<0.001*
Age	0.972 (0.010)	0.953-0.992	0.006*
Income	0.984 (0.022)	0.943-1.028	0.475
Relationship status[1]			
In a committed relationship, not cohab.	0.913 (0.374)	0.409-2.039	0.824
Separated	2.895 (1.534)	1.025-8.177	0.045*
Widowed	19.26 (19.032)	2.777-133.598	0.003*
Single	1.472 (0.447)	0.811-2.670	0.203
Sexual Orientation[2]			
Bisexual	1.616 (0.466)	0.919-2.844	0.096
Other	2.556 (1.069)	1.126-5.801	0.025*

Note: Calculated as a saturated logistic regression model controlling for age, sexual orientation, income, and relationship status. Odds ratios represent the estimated change in odds of the outcome for each 1 unit increase in resilience. Statistically significant values (p<0.05) are starred. [1:] In a committed, cohabitating relationship as reference group. [2]: Lesbian as reference group.

Table 6

Odds of anxiety-related functional impairment as a function of resilience

Anxiety Impairment	Odds Ratio (*SE*)	95% *CI*	*P*
Resilience	0.494 (0.739)	0.369-0.663	<0.001*
Age	0.971 (0.009)	0.953-0.990	0.002*
Income	0.973 (0.020)	0.935-1.013	0.182
Relationship status[1]			
In a committed relationship, not cohab.	0.698 (0.267)	0.330-1.476	0.346
Separated	1.085 (0.604)	0.364-3.232	0.884
Widowed	0.675 (0.824)	0.0615-7.401	0.747
Single	0.897 (0.259)	0.509-1.580	0.706
Sexual Orientation[2]			
Bisexual	1.961 (0.528)	1.157-3.323	0.012*
Other	1.452 (0.653)	0.602-3.503	0.407

Note: Calculated as a saturated logistic regression model controlling for age, race, sexual orientation, income, and relationship status. Odds ratios represent the estimated change in odds of the outcome for each 1 unit increase in resilience. Statistically significant values ($p<0.05$) are starred. [1:] In a committed, cohabitating relationship as reference group. [2]: Lesbian as reference group.

Table 7

Odds of Alcohol Use Disorder as a function of resilience

Alcohol Use Disorder	Odds Ratio (*SE*)	95% *CI*	*P*
Resilience	0.609 (0.100)	0.442-0.840	0.003*
Age	0.958 (0.011)	0.937-0.980	<0.001*
Income	0.983 (0.023)	0.939-1.029	0.456
Relationship status[1]			
In a committed relationship, not cohab.	1.126 (0.459)	0.506-2.504	0.772
Separated	1.944 (1.130)	0.622-6.075	0.253
Widowed	2.303 (2.800)	0.213-24.992	0.493
Single	1.198 (0.388)	0.634-2.261	0.578
Sexual Orientation[2]			
Bisexual	1.195 (0.367)	0.655-2.180	0.561
Other	0.827 (0.446)	0.288-2.377	0.725

Note: Calculated as a saturated logistic regression model controlling for age, race, sexual orientation, income, and relationship status. Odds ratios represent the estimated change in odds of the outcome for each 1 unit increase in resilience. Statistically significant values ($p<0.05$) are starred. [1:] In a committed, cohabitating relationship as reference group. [2]: Lesbian as reference group.

Table 8

Odds of current AUD and depression as a function of resilience

AUD and Depression	Odds Ratio (*SE*)	95% *CI*	*P*
Resilience	0.534 (0.203)	0.253-1.127	0.100
Age	1.004 (0.023)	0.960-1.050	0.872
Income	0.921 (0.041)	0.844-1.006	0.067
Relationship status[1]			
In a committed relationship, not cohab.	0.762 (0.905)	0.074-7.814	0.819
Separated	8.25 (7.839)	1.280-53.141	0.026*
Widowed	-	-	-
Single	1.408 (1.098)	0.305-6.487	0.661
Sexual Orientation[2]			
Bisexual	0.836 (0.594)	0.208-3.366	0.801
Other	-	-	-

Note: Calculated as a saturated logistic regression model controlling for age, race, sexual orientation, income, and relationship status. Odds ratios represent the estimated change in odds of the outcome for each 1 unit increase in resilience. Statistically significant values ($p<0.05$) are starred. [1:] In a committed, cohabitating relationship as reference group. [2]: Lesbian as reference group.

Discussion

This study contributes to the existing literature on resilience and the most common mental and behavioral health concerns in SMW by exploring the association between degree of resilience and adjusted odds of depression, anxiety, alcohol use disorder, and co-occurring depression and alcohol use disorder. Since there is limited research to date on resilience in a diverse population of SMW, and even less on how resilience may buffer against risk of these conditions (Frost, 2017; National Institutes of Health, 2020), the present study notably fills a gap in the literature. Study results indicated that greater resilience was associated with lower adjusted odds of depression, anxiety, and alcohol use disorder in this diverse sample of SMW, which is generally consistent with the extant literature noting the protectiveness of resilience for the general population (Schnarrs et al., 2020; Shilo et al., 2015). Most findings did align with previously published studies in the general population, though others highlighted phenomena that may be specific to SMW.

For example, older age was associated with greater resilience, potentially indicating that resilience may be developed or enhanced across the lifespan. This is consistent with two previous studies on older lesbians and LGBTQ+ people respectively, which found that challenges earlier in life contributed to resilience later in life (Carastathis et al., 2017; Rowan & Butler, 2014). However, SMW who were separated or widowed reported less resilience than those who were partnered. Since the odds of being separated or widowed from a partner increase across the lifespan, it is not clear how age and partnership status may interact to shape capacity for resilience among older and separated or widowed SMW, particularly as this has been minimally addressed in the extant literature. Higher household income was also associated with greater resilience, which is understandable given that using coping skills and accessing social support often require free time and financial resources. Since financial status has been minimally discussed in the resilience literature, there is a need for research that examines the role of financial resources in how SMW cope with life stressors and manage risks for mental and behavioral health concerns. Bisexual women also reported lower levels of resilience than lesbians; further research is needed to understand the reasons behind these sexual orientation-related differences, as this has not been adequately documented and explored despite the persistence of mental and behavioral health inequities for bisexual women.

Resilience was not associated with race, indicating that SMW's degree of resilience is determined by a more complex interplay of personal and social-ecological factors. This finding contributes to the foundational literature on racial differences and similarities in SMW's resilience since most of the studies to date have used sampled only SMW of one race (Elm et al., 2016; Garrett-Walker & Longmire-Avital, 2018; Walker & Longmire-Avital's, 2013) or have mostly White samples (Carastathis et al., 2017; McNair & Bush, 2016; Miceli et al., 2019), preventing racial group comparisons. The independence of race from resilience may also mean that those who have experienced one or more forms of systemic disadvantage and oppression (e.g., racism, poverty, ageism, mono-sexism) do not inherently have lower chances of experiencing resilience or of seeing the potential health benefits of having a high level of resilience than those with more social privilege. In other words, those who experience greater personal and systemic risk factors for negative mental and behavioral health outcomes, such as young bisexual women of color, are not predetermined to experience these outcomes and may be able to counteract these risks if provided access to the resources and supports that are known contributors to resilience. This is consistent with recent theorizing on resilience emphasizing the systemically determined nature of resilience over viewing it as solely determined or driven by

the individual (Bartoș & Langdridge, 2019; Park et al., 2020). With that said, structural and political interventions are also needed to decrease LGBTQ+ minority stressors and systemic oppressions that contribute to negative health outcomes so that individual SMW are not expected to individually cope or acclimate to unjust social conditions that are beyond their control and should be remedied to promote social justice.

Consistent with the literature (Garrett-Walker & Longmire-Avital, 2018; McNair & Bush, 2016; Walker & Longmire-Avital, 2013; Wang et al., 2022), those with higher resilience scores were less likely to report current or past year depressive episodes. This represents a substantial decrease in depression risk, which is especially promising since greater resilience is potentially attainable for those who strive for it through counseling, increasing social supports, using positive coping strategies, and other evidence-informed means. As documented in previous research (Goldbach et al., 2020; McNair & Bush, 2016), higher levels of resilience were also associated with lower adjusted odds of anxiety-related impairment. Perhaps having greater resilience could help an individual feel less worried about their current challenges or the future.

Additionally, those endorsing a higher level of resilience were less likely to meet criteria for Alcohol Use Disorder, indicating that resilience may be protective against AUD in this sample. Adjusted odds of AUD dropped by about 50% for each unit increase in resilience, or by nearly 100% when moving from average to high resilience, indicating that increasing one's resilience could greatly reduce risk of AUD. This finding is an addition to the literature, which has consisted of mostly qualitive inquiry on the association between resilience and AUD (Elm et al., 2016; Rowan & Butler, 2014). However, despite both depression and alcohol use disorder being independently associated with resilience, the co-occurrence of current depression and AUD were not significant, perhaps due to small sample size (n=12) reporting this co-occurring condition. Further research on co-occurring depression and alcohol use disorder in larger samples of SMW is needed to characterize the relationship between this condition and resilience.

Limitations

While the present study had many strengths, including its relatively large, racially diverse sample of women who completed validated survey measures on the outcomes of interest, findings should be considered in the context of study limitations and delimitations. Since the study used a non-probability sample of study participants who mostly lived in the Chicago metropolitan area, findings may not be generalizable to all SMW, who may have different experiences of these conditions and access to treatment based on geographic location. Findings may not be generalizable to transgender sexual minority women or the LGBTQ+ community as whole, as study participants were nearly all cisgender (non-transgender) women. Despite the relatively large sample size of SMW compared to similar studies, this sample was not large enough to draw strong conclusions on the relationship between resilience and frequently co-occurring combinations of conditions, such as anxiety and depression. There is a particularly strong need for further large sample research on the association between resilience and co-occurring depression and AUD, as there has been scant research in this area and the statistical power of the current analysis was limited by the modest number of individuals in this sample (3.5%, n=12) with both conditions.

The Brief Resilience Scale, a 6-item measure of current self-perceived resilience was used; the brief length of this measure does not allow for more nuanced analyses of the specific mechanisms underlying resilience, such as the availability and quality of social supports or access to positive coping behaviors. Instead, one's overall resilience was measured as an

outcome or process, rather than as a combination of specific protective factors. Thus, there is a need for research that analyzes the specific mechanisms that underlie resilience, as this is a complex and academically contested concept that requires simultaneous consideration of multiple contributors. It is also worth noting that this analysis used a single-item measure of anxiety-related functional interference or impairment rather than anxiety disorder diagnostic criteria, so this result describes how much anxiety interferes with daily life, not how much anxiety is present. As such, it is unable to capture whether a participant has anxiety that is considered of clinical significance or warranting a diagnosis of an anxiety disorder. Finally, since all measures analyzed were self-reported, there is the possibility of respondent desirability bias impacting validity.

Conclusion

Despite these limitations, this study's results contribute to the foundational literature on the utility of the concept of resilience in mental and behavioral health research on SMW. The finding that higher levels of resilience is associated with lower levels of depression, anxiety-related functional impairment, and alcohol use disorder for SMW highlight the possibility of intervening at the clinical, community, and structural levels to enhance resilience as a potential means of decreasing these outcomes in SMW or the overall LGBTQ+ community. Thus, there is a need for research on the specific types of social support, coping skills, and cognitive factors that can be mobilized, gained, or strengthened to promote an overall sense of resilience. Additionally, there is a need for research on the connections between resilience and resistance in LGBTQ+ people, simultaneously considering how individuals can be resilient despite the presence of persistent social injustice and how collective resistance can be used to improve the social conditions that produce mental and behavioral health risk.

Furthermore, study results provide indication that some sub-groups of SMW may experience greater barriers to achieving resilience compared to others and require additional support to maintain good mental and behavioral health in the context of risk factors. For example, SMW who were widowed or separated reported less resilience than those who were partnered or single, as did bisexual women as compared to lesbians. SMW who had lower household income also reported less resilience than their wealthier counterparts. These findings highlight the need to center these SMW in further research and to ensure that resilience-enhancing interventions are accessible and responsive to their needs.

Given the relative dearth of counseling-based interventions (e.g., individual, family, or group therapy) specifically aimed at assessing and strengthening resilience, there is a need for clinical intervention development that translates research findings on LGBTQ+ and SMW's resilience into practice, for both these specific sub-populations of SMW and for the broader LGBTQ+ community. These interventions could help bolster the underlying mechanisms of resilience, including self-identity and worldview, and access to and use of social supports and coping behaviors. Since strengthening resilience can potentially benefit SMW in multiple areas of life, beyond preventing the occurrence or maintenance of mental and behavioral health concerns, resilience-enhancing interventions can potentially reduce health disparities while being of broad benefit to those who engage in them.

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Bridging Statement

Given findings in the previous study that SMW who had higher self-reported levels of resilience had lower adjusted odds of the most commonly occurring behavioral health conditions in this population (depression, anxiety, and alcohol use disorder), it appears that resilience may protect or buffer against mental health and behavioral health risks in the context of stress and trauma. However, it remains unclear what specific mechanisms or factors most strongly underlie resilience for SMW, as it is a definitionally contested construct within the fields of social work, mental health, behavioral health, and public health. This highlights the need for further research looking more deeply into the factors that are considered the pillars of resilience – social support, worldview or mindset, and coping strategies.

In the paper that follows, resilience is examined through a social ecological perspective that considers the contributions of social support and broader social contexts to resilient outcomes. This analysis also includes an intersectional perspective by examining differences in the relationship between social support and resilience by race, sexual identity, and their intersections. This analysis can help determine whether social support is equally protective for all SMW or whether some SMW experience social support and its contributions to resilience in different ways than others. This also contributes to the literature on the resilience of SMW of color, who have been inadequately included in the literature to date and whose unique experiences have been obscured within general samples. Study findings have implications for the development of social support and resilience-building interventions, especially those that meet the specific needs of multiply marginalized SMW.

Abstract

Resilience Through Social Support: An Intersectional Analysis of Sexual Minority Women's Social Resources for Wellbeing

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Background: Depression, anxiety and alcohol use disorder occur in sexual minority women (SMW; e.g., lesbian, bisexual, queer, pansexual) at about twice the rate of heterosexual women. Resilience is one lens for understanding how some SMW, especially those who experience multiple simultaneous forms of disadvantage, can maintain good mental and behavioral health in the presence of factors that increase risk for these conditions. Social ecological models of resilience, which examine individual health outcomes in the context of social and political environments that enable or hinder wellbeing, can elucidate the types of social support that are associated with resilient outcomes for SMW.

Methods: SMW (*N*=520) completed a telephone-based survey about their own perceived resilience and social support from family, significant others, friends, and the LGBTQ+ community. The relationship between social support and resilience was analyzed using multiple regression and the relationship for sub-groups of SMW was analyzed intersectionally using multiple regression with interaction terms including race and sexual identity.

Results: Higher levels of social support was associated with higher levels of resilience in the full sample, with age and income as significant positive covariates. Greater levels of social support from family, friends, significant others, and particularly the LGBTQ+ community were each associated with greater resilience. When sub-group differences and similarities were examined, there were few differences in the relationship between social support and resilience by race, sexual orientation, and their intersections.

Implications: Multi-level interventions that increase social support (e.g., family and relationship counseling or psychotherapy, peer support groups, mutual aid networks, and LGBTQ+ community spaces) have the potential to increase resilience and decrease mental and behavioral health risks for SMW, particularly so for multiply marginalized SMW who may be at higher risk due to added levels of minority stress. Policies that invest in building and strengthening means of social connection for SMW and other LGBTQ+ people can potentially decrease persistent behavioral health disparities.

Introduction

Background

Sexual minority women (SMW) – those who consider themselves women and identify as lesbian, bisexual, queer, pansexual, or something other than heterosexual – are known to have substantially higher rates of behavioral health concerns, such as depression, anxiety, and alcohol use disorder, compared to heterosexual women (Gonzales & Henning-Smith, 2017; Hughes et al., 2020; Kerridge et al., 2017). For example, one study found that lesbian women had nearly two times higher odds and bisexual women had over three times higher odds of depression compared to heterosexual women, controlling for a range of demographic factors (Gonzales & Henning-Smith, 2017). Generalized anxiety is also a notable concern for SMW, with some studies showing about 50% higher odds for SMW than heterosexual women (Kerridge et al., 2017). Mental distress – a broad term encompassing psychological concerns like depression, stress, and emotional problems – is also more common in SMW than heterosexual women, with lesbians showing 50% higher odds and bisexuals showing two times higher odds compared to heterosexual women, controlling for several demographic factors (Gonzales & Henning-Smith, 2017). Furthermore, SMW have higher rates of alcohol use, hazardous drinking (e.g., heavy drinking, binge drinking), alcohol dependence, illicit substance use, and substance use disorder compared to heterosexual women (Hughes et al., 2020). This literature review noted that SMW had three to seven times higher odds of alcohol dependence compared to heterosexual women when controlling for demographic factors (Hughes et al., 2020). Given these disparities and gaps in the literature on SMW, there is a need for work that identifies potential inroads to decreasing the prevalence and burden of these concerns.

Towards a social ecological understanding of SMW resilience

Despite SMW having higher odds of depression, anxiety, and alcohol use disorder compared to heterosexual women, the majority of SMW do not have these challenges. Since some people at risk develop these conditions and others do not, behavioral health scholars have considered the concept of resilience to explain these differences in outcomes. Resilience is generally conceptualized as an individual's ability to access and use resources and supports to successfully respond to life challenges and achieve wellbeing despite the presence of life stressors and traumas that increase risk of negative outcomes (American Psychological Association, 2020). The factors that enable resilience include 1) mindset and worldview, such as being optimistic about the future, 2) specific coping strategies such as exercising or spending time on hobbies, and 3) social support, such as talking to a trusted friend (American Psychological Association, 2020; Colpitts & Gahagan, 2016). Previous research on resilience and behavioral health among SMW has found that greater resilience is generally associated with lower depression (Garrett-Walker & Longmire-Avital, 2018; McNair & Bush, 2016; Wang et al., 2022), anxiety (Goldbach et al., 2020; McNair & Bush, 2016; Walker & Longmire-Avital, 2013) and alcohol use disorder (Elm et al., 2016; Hughes et al., 2020; Rowan & Butler, 2014), highlighting the protective nature of resilience for SMW.

Early research and theorizing on resilience, popularized starting in the 1980s, primarily had an individual-level focus on these factors, such as analyzing an individual's personality traits like psychological hardiness, self-esteem, or optimism (Greene et al., 2022; Ungar, 2012). More recently, conceptualizations of resilience as an individual-level psychological phenomenon have been critiqued as overly reductionistic and incompatible with the person in environment

perspective maintained by the field of social work (Ungar, 2012). Conceptualizing resilience as not solely occurring inside the individual accounts for the ways that broader structural and political factors dictate an individual's access to resources needed for resilience (Bowleg, 2021). For example, SMW who lack substantial social support, stable and safe living conditions, and sufficient income cannot reasonably be expected to cope with life stressors as resiliently as those who have resources readily available. Considering the social contexts that LGBTQ+ people live in – especially those with multiple marginalized identities who have less access to necessary resources and support – is essential to a socially just conceptualization of resilience.

Resulting from such critiques, there has been a more recent shift towards social ecological conceptualizations of resilience, or ways of understanding an individual's interactions with their environments that hinder or enable wellbeing (Ungar, 2011; Ungar & Liebenberg, 2009). As Ungar (2009), a social worker and resilience researcher explains, "In the context of exposure to significant adversity, whether psychological, environmental, or both, resilience is both the capacity of individuals to navigate their way to health-sustaining resources, including opportunity to experience feelings of well-being, and a condition of the individual's family, community, and culture to provide these health resources and experiences in culturally meaningful ways" (Ungar & Liebenberg, 2009, p. 6). Three components are implicated here: 1) the process of individuals navigating to resources for wellbeing, 2) the capacity of their environment to provide these resources, and 3) the capacity for resources to be shared in culturally meaningful ways (Ungar, 2011). In other words, resilience can be considered a dynamic social process by which interactions between an individual and their environments (e.g. families, communities, service providers), which contain the resources needed for personal growth, can enable or hinder capacity for resilience in the context of risk (Ungar, 2011). Resilience is thus a relational process, as individuals must navigate towards resources, at times negotiating for support and tangible resources from "those who are openly hostile to their existence" (Ungar, 2012, p. 325).

Social ecological models of resilience for SMW can both help explain the reasons for the disparities in depression, anxiety, and alcohol use disorder observed and identify clear pathways for multi-level intervention to promote behavioral health equity (Ungar & Liebenberg, 2009). Social ecological approaches to promoting resilience include identifying strengths, capacities, and resources within the individual and environment that promote wellbeing; these areas can then be reinforced or strengthened through individual counseling, group and community work, and policy advocacy (Ungar & Liebenberg, 2009). Understanding the specific social environmental factors that are protective for SMW can help inform prevention efforts and treatment development (Hughes et al., 2020). Other factors that increase risk or decrease capacity for wellbeing can also be addressed simultaneously, such as interpersonal violence towards SMW and social policies that limit the social and legal rights of LGBTQ+ people.

Social supports underlying resilience

Within a social ecological model of resilience, emphasis is placed on social relationships in the individual's ecology or environment that are potentially protective or enabling of wellbeing. Social networks contain the material, educational, and psychological resources needed for individuals to cope with life's challenges (Southwick, 2011). SMW's networks contain social supports such as family of origin, friends, significant other(s), and LGBTQ+ people. Some SMW additionally receive support from sources like their workplaces, faith

communities, neighbors, and professional service providers like therapists, social workers, or case managers (Hill & Gunderson, 2015).

Previous research has shown that strong social relationships are key to mental wellbeing for LGBTQ+ people (Dickinson & Adams, 2014), especially social supports that affirm one's LGB identity (Kwon, 2013). Social support can help SMW cope with prejudice, discrimination, stigma, and other LGBTQ+ minority stressors (Kwon, 2013; Mink et al., 2014). Since exposure to sexual minority stressors are associated with shame, poorer relationships, loneliness, and psychological distress, access to strong social supports may buffer the negative effects of minority stress (Frost et al., 2016; Mereish & Poteat, 2015). Social support has been found to mediate the relationship between LGBTQ+ identity and depression for adolescents, women who have experienced intimate partner violence, and bisexual survivors of sexual assault (Argyriou et al., 2021). Similarly, one study found that for bisexual people of all genders, loneliness mediated the relationship between minority stressors and psychological distress, indicating that greater social connection may be protective in this context (Mereish et al., 2017).

However, research to date on the association between social support and resilience in SMW is limited, especially as it relates to within-group differences by demographics (e.g., race, sexual orientation, age, social class, relationship status). The literature lacks sufficient studies to determine whether demographic differences interact with social support in ways that meaningfully shape their relationship with resilience, or whether the relationship between social support and resilience is a more of a global phenomenon not particularly variable demographically. Further research with diverse groups of SMW is needed to identify whether social support is equally associated with resilience and wellbeing across all SMW or whether there are differences by race, sexual orientation, or other demographic characteristics (Kwon, 2013). There is also a need for further research with bisexual and other non-heterosexual women other than lesbians, as they are under-represented in LGBTQ+ research despite generally having worse behavioral health outcomes than lesbians (Bostwick et al., 2015).

Family support. Each individual holds a different definition of family, which can include family of origin (e.g., mother, father, siblings), extended family (e.g. grandparents, aunts, uncles, cousins), and non-blood related chosen or created family (e.g. significant others, children) (Harris et al., 2018). People typically spend more of their time with family over their life course compared to other support people (e.g., faith leaders or therapists), making them a key source of potential support. Most LGBTQ+ people are open with family members about their sexual orientation, an initial step in seeking family support (Harris et al., 2018). However, Latina, Black, and SMW of other ethno-racial identities are less likely to be out to their parents compared to White SMW (Harris et al., 2018). Being "closeted" to family can be considered a minority stressor that can negatively impact mental health (Salerno et al., 2020). Young Latina SMW are also more likely to live with parents or relatives than their White peers, which is notable given the lower rates of being out to parents (Balsam et al., 2015). Black SMW similarly have higher odds of living with parents or relatives, as well as having children in the home (Balsam et al., 2015).

For SMW who are out to family as LGBTQ+, parental rejection is associated with depression, whereas perceived closeness with parents and support from family is protective, especially for sexual minority girls (Argyriou et al., 2021). Family rejection increases risk of depression for young LGBTQ+ people by six times and risk of suicide attempts by eight times (Salerno et al., 2020). Alternately, acceptance, connection, and support from one's family of origin can improve an individual's optimism, self-esteem, and appraisal of their life

circumstances (Zimmerman et al., 2015). For SMW who lack the support and acceptance of their family of origin, especially around sexual orientation, chosen or created family can alternatively provide support (Dickinson & Adams, 2014). This is particularly salient for bisexuals, who generally report less family support and more family stressors than heterosexual, gay, or lesbians (Kwon, 2013).

Significant others. Intimate partner relationships are a source of social support for sexual minority women in relationships, partnerships, and/or marriages. There is indication that sexual minority people in strong, committed same-sex relationships may be more resilient to the potentially negative effects of heterosexism than those lacking this support (Rice et al., 2020). In terms of alcohol use issues, single SMW have higher rates of heavy drinking and symptoms of potential alcohol dependence than their partnered and cohabitating SMW peers, showing protective effects of committed partnerships (Veldhuis et al., 2020). Highlighting differences by residential status, those in committed non-cohabitating relationships were also more likely to report consequences of heavy alcohol use and have symptoms of potential alcohol dependence than their partnered and cohabitating SMW peers (Veldhuis et al., 2019). The gender of SMW's partners also appears to be related to behavioral health outcomes, as SMW in one study who had a single male partner had greater depressive symptoms and alcohol use consequences than those with a single female partner (Molina et al., 2015). Number of significant others may also be a factor, as this study also found that SMW with multiple partners of any gender had more depression symptoms and greater alcohol-related consequences than those with one partner (Molina et al., 2015). However, further research is needed to disentangle the effects of sexual orientation and relationship status for SMW.

Friends. Additionally, friends are a key source of social support for LGBTQ+ people, especially mutual support, wherein the individual receives benefits from both providing and receiving support (Dickinson & Adams, 2014). Friends frequently provide support to same-sex couples, compared to how much support couples receive from other sources (Frost et al., 2017). Previous qualitative research on friendship have shown that these forms of social connection are a strong focus for many LGBTQ+ people, including those experiencing social marginalization and disadvantage (Dickinson & Adams, 2014). For example, bisexual women have emphasized the importance of social support from friends over other sources (Doan Van et al., 2019). For older (60+) LGB individuals, friendships are a key source of social support, often more so than family members (Frost et al., 2017). In fact, in some studies, greater support from friends was associated with better mental health for older LGB people, whereas greater support from family was not (Frost et al., 2017). The central roles of family and friends in the lives of SMW may differ from that of heterosexual women, necessitating LGBTQ+ and SMW specific analysis of social support.

LGBTQ+ Community. Participation in LGBTQ+ community – such as attending support groups or spaces for LGBTQ+ people, volunteering for pro-LGBTQ causes, or having LGBTQ+ friends – has been shown to help some sexual minority individuals cope with LGBTQ+ related stressors (de Lira & de Morais, 2018; Doan Van et al., 2019). Across a range of studies, those with a greater sense of LGBTQ+ community connectedness generally had better mental health, especially less depression, compared to those who were less connected (Frost & Meyer, 2012). This may be because LGBTQ+ community connection provides the support and solidarity from others that is needed to cope with minority stressors (Dickinson & Adams, 2014; Frost & Meyer, 2012). For example, LGBTQ+ community connection has been found to moderate the relationship between sexual minority stress and depression by decreasing

internalized heterosexism (Frost & Meyer, 2012; McLaren & Castillo, 2021). Similarly, social support from LGBTQ+ community, especially support for one's identity, can buffer against depression and anxiety for young SMW (Boyle & Omoto, 2014). However, being in community is not without challenges, as increased anxiety and depression have been reported by SMW who perceive they are failing to live up to lesbian community ideal standards (Boyle & Omoto, 2014).

Understanding differences in LGBTQ+ community connection across the diverse population of SMW is crucial since not all LGBTQ+ people feel connected to or accepted by other LGBTQ+ people or a broader LGBTQ+ community (Frost & Meyer, 2012). For example, racial/ethnic minority group members may feel less connected to LGBTQ+ community due to mainstream LGBTQ+ culture centering representations and desires of White gay men (Frost & Meyer, 2012). Some LGBTQ+ people of color report feeling invisible, excluded, and disempowered within majority-white LGBTQ+ community settings, limiting their access to this form of support (Parmenter et al., 2021).

There is also indication that LGBTQ+ community connectedness differs by sexual orientation, with bisexual women reporting less positive connections than lesbians or gay men (Frost & Meyer, 2012; Kwon, 2013; McLaren & Castillo, 2021). For example, young bisexual people of color with greater social support appear to have lower depression and anxiety than those with less support; however, those with greater connection to the LGBTQ+ community are also exposed to greater bi-negativity (anti-bisexual beliefs that can increase risk of depression and anxiety) than those with less LGBTQ+ connection (Flanders et al., 2019). Further, research on SMW's social support often stems from studies of LGBTQ+ people as an overarching group, providing limited results on specific sub-groups by race, sexual orientation, age, class, and other key characteristics. Insights on experiences of social support across the full, diverse population of SMW are limited. There is a need for further nuance in this area of research to best understand the experience of multiply marginalized and socially disadvantaged SMW.

Incorporating Intersectionality

Since much of the research to date on LGBTQ+ social support and its role in resilience has not been disaggregated by race, gender, sexual orientation, and/or class – often combining smaller sub-groups in analysis and drawing conclusions across them – it risks obscuring key differences. Research on LGBTQ+ behavioral health also tends to center one area of identity, such as race or sexual orientation, rather than considering these as simultaneously present (e.g., Black bisexual women holding simultaneous minoritized race, gender, and sexual orientations) (Doan Van et al., 2019). This focus may prioritize describing the experiences and needs of the most privileged group members, such as white women, over that of women of color (Crenshaw, 1989). While existing research provides some helpful insights about social support for distinct groups, such as Black SMW or bisexual women, conclusions cannot be extrapolated for Black bisexual women, or others at the intersection of two or more such analytical categories (Calabrese et al., 2015).

Intersectionality is a useful theoretical framework for considering the unique experience and needs of sexual minority women who experience racism, classism, ageism, and other forms of oppression in addition to heterosexism. Starting as early as the 1960's, Black feminist scholars and activists (e.g. Beale, Bambara, the Combahee River Collective, Crenshaw, and hooks) have recognized the inextricable, indivisible, intersecting nature of women's multiple identities around race, gender, class, and other characteristics, calling this "intersectionality" (Bostwick et al., 2019; Cerezo & Renteria, 2021; Murphy et al., 2009). The term was officially coined by law

professor Kimberle Crenshaw in 1989, applying and expanding on concepts from Black feminism and critical race theory (Carbado & Crenshaw, 2013; Crenshaw, 1989). Crenshaw urges the reader not to treat race and gender as two separate, unrelated categories of identity but to instead focus on the intersections of these identities or characteristics (Crenshaw, 1989). Instead, an intersectional approach conceptualizes the struggles of women of color as "greater than the sum of racism and sexism" (Crenshaw, 1989, p. 140) and argues that an additive view of identity does not adequately capture the experience of those with intersecting marginalized identities.

Furthermore, a intersectional lens encourages researchers to not merely describe disparities or in equities between groups but also "seeks to resist and dismantle intersecting systems of power that (re)produce unjust social relations" (Morrow & Malcoe, 2017, p. 447). Within research, this can include contextualizing within-group differences identified within broader contexts of power, privilege, and oppression; for example, one might note that differences in how much social support SMW of color receive compared to White SMW may be related to individual and systemic forms of racism.

Research Questions

In light of the gaps in the literature and calls for work in these areas, the present study asks the following research questions:

1) What is the relationship between social support and resilience for this diverse sample of SMW? Hypothesis: Social support will be positively associated with resilience, such that higher levels of social support are associated with greater resilience.
2) Which sources of social support (family, friends, significant others, or LGBTQ+ community) are most strongly associated with resilience? Hypothesis: Support from family will be more positively associated with resilience than that of other sources of support, as most individuals spend more time across the life course with family than the other support sources.
3) Is social support equally as promoting of resilience for SMW of all races and sexual orientations, or are there differences in this association by race, sexual orientation, and the intersection of race and sexual orientation? Hypothesis: People of color, bisexuals or those with "other" sexual orientations, and people of color who are bisexual or have another sexual orientation will have a stronger association between social support and resilience than those with fewer marginalized identities.

Methods

A secondary analysis was conducted using data from the Chicago Health and Life Experiences of Women (CHLEW) study. CHLEW, the longest running study of SMW wellbeing nationally and internationally, began recruiting a panel of respondents in 2000 and has subsequently collected five waves of data. The present study uses Wave 4 of the CHLEW study, which was funded by the National Institute on Alcohol Abuse and Alcoholism (3R01 AA013328-14) to examine risk and protective factors for hazardous drinking and drinking-related health problems for SMW across individual, interpersonal, and structural levels. CHLEW Wave 4 study protocols and materials were approved by both the University of Illinois at Chicago and Columbia University's Institutional Review Boards since the CHLEW PI moved to Columbia University during the study. The protocol for the secondary data analysis was

approved by the UC Berkeley Committee for the Protection of Human Subjects (protocol # 2022-07-15507).

CHLEW Recruitment

The original sample (*N*=297) was recruited in 2000-20002 through targeted outreach in the greater Chicago metropolitan area at venues including LGBTQ+ community organizations and informal social groups of SMW (Hughes et al., 2021). At that time, prospective participants called the study phone number for an eligibility screening; eligibility criteria included being over 18 years old, proficient in English, residing in the greater Chicago Metropolitan Area, identifying as a lesbian, and consenting to participate.

The supplemental sample (*N*= 372) was recruited during wave 3 to increase the diversity of the CHLEW panel in terms of younger age, bisexual and non-lesbian sexual orientation, and non-White race as compared to the original sample. A modified version of respondent-driven sampling (RDS) was used (Hughes et al., 2021). Study staff contacted several Chicago area organizations serving the LGBTQ+ community and gained assistance identifying SMW with large social networks who could act as recruitment seeds. Each of these SMW was given three recruitment vouchers to provide other SMW in their networks and received $20 for each eligible study recruit. After these potential participants completed a telephone screening and were deemed eligible – using the same criteria as wave 1, except both lesbians and bisexuals were now eligible – they were enrolled in the study and given three vouchers to recruit other SMW in their networks. Later in wave 3, all CHLEW participants were invited to recruit new participants using RDS to meet the study's enrollment goals. Compared to those in the original sample, participants in the Wave 3 supplemental sample were more likely to be younger (57.6% vs. 5.1% under 30 years old), African American/Black (44.1% vs. 27.1%), Hispanic/Latinx (30.3% vs. 15.5%), and Bisexual (37% vs. 12.5%).

Wave 4 Recruitment

Between April 2017 and July 2019, all participants from earlier waves of the CHLEW study were contacted by study staff and invited to participate in wave 4. Participants in the fourth wave of CHLEW include the original sample, recruited in wave 1 (2000-2002) and a supplemental sample recruited in wave 3 (2010-2012). Of the original sample recruited in 2000-2002, 73% (*n*=297) were retained and re-interviewed in wave 4. Of the supplemental sample recruited in 2010-2012 (*N*= 372), 62% (*n*=228) were retained and re-interviewed in wave 4, for a total sample of 525 participants. Five participants who identified as women at study enrollment and reported being transgender men in wave 4 were excluded from the current sample of SMW (*N*=520).

Data Collection

All Wave 4 participants received a copy of a consent form that was approved by the Columbia University Irving Medical Center Institutional Review Board, which outlined study procedures, risks and benefits, compensation, and other details. Participants who agreed to participate in the study completed computer-assisted telephone interviews conducted by trained study staff. Interviews had up to 467 questions and were an average of 111 minutes long. Each participant received $40 for completing these interviews. Further details about the CHLEW study's methodology and finding over its 20+ year history have been published in depth elsewhere (Hughes et al., 2021).

Measures

The following measures from CHLEW Wave 4 were used for this analysis: demographics (age, race, household income, sexual orientation, and relationship status) and protective factors (e.g., resilience and social support).

Demographics. Sexual orientation was assessed by asking participants, "Recognizing that sexual identity is only one part of your identity how do you define your sexual identity? Would you say that you are..." with answer options of only lesbian/gay, mostly lesbian/gay, bisexual, mostly heterosexual/straight, only heterosexual/straight, or asexual or ace". CHLEW Study staff recoded these categories into 1=lesbian, 2=bisexual, pansexual/fluid, 3=other. In terms of race, participants were asked, "What do you consider to be your race?", with answer options including White, Black / African American, Asian or Pacific Islander, American Indian or Alaska Native, Biracial or Multi-racial, or another racial/ethnic group. Participants were also asked if they considered themselves to be Hispanic / Latina. These questions were recoded by study staff to create 4 categories: Black, White, Latina, and other. In terms of relationship status, participants were asked their current relationship status: living with a partner in a committed relationship, in a committed relationship but not living with a partner, separated from partner, partner died/widowed, and/or not in a committed relationship. Age was measured continuously. Income was measured categorically in $10,000 increments (e.g., $40,000-$49,000).

Protective factors. Resilience was measured using the six-item Brief Resilience Scale (Smith et al., 2008). This measure assesses the overall degree to which an individual enacts resilience in the presence of stress and traumatic experiences, including statements such as, "I tend to bounce back quickly after hard times" and "It does not take me long to recover from a stressful event". Response options ranged from 1 = "strongly disagree", to 5 = "strongly agree". Two items were reverse coded during analysis. Sub-item scores were averaged to calculate an overall score, ranging 1 to 5.

Social support was measured using the 12-item Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988). The MSPSS has three sub-domains: support from (a) significant others, (b) family, and (c) friends, with four questions each. For example, participants responded to the statement, "I can talk about my problems with my family". All subdomains used the same response options: 1 = "very strongly disagree" to 7 = "very strongly agree". A mean social support score was calculated across all items, with a range of 1 to 7. Mean scores for each sub-scale (significant others, family, and friends) were also calculated. A trichotomized score was calculated, indicating low, medium, or high overall social support relative to the overall sample (University of Miami, 2023).

LGBTQ+ community support – a separate construct from the previous measure of general social support – was measured using the Community sub-scale (5 items) of the Positive Identity Measure (PIM; Riggle et al., 2014). Degree of feeling (a) supported, (b) visible, (c) included, (d) connected, and (e) positively networked into the LGBT community were measured. For example, participants were responded to the statement, "I find positive networking opportunities in the LGBT community." Answer options included 1 = "very strongly disagree" to 7 = "very strongly agree". Sub-item scores were averages to calculate an overall LGBTQ+ community support score, ranging 1 to 7.

Data Analysis

Quantitative intersectional methods were used to examine the association between social support and resilience for SMW, focusing particularly on the experiences of SMW of color (e.g.,

Black, Hispanic) of various sexual orientations (lesbian, bisexual, and other). Intersectional methods are a natural match for this task since they can illuminate differences in lived experiences for those in seemingly homogenous groups (e.g. lesbians) and situate descriptions of differences in the context of power, privilege, and oppression (Else-Quest & Hyde, 2016). Relatively little has been published on best practices for intersectional research using traditional quantitative statistical methods, as most intersectional analyzes to date have used qualitative methods (Else-Quest & Hyde, 2016; Rouhani, 2014). The methods used were informed by Rouhani's methodological primer, which was developed by the Institute for Intersectionality Research and Policy (Rouhani, 2014). This uses an intercategorical approach, or one that compares the outcomes of multiple intersectional researcher-generated categories of people, such as Black bisexual women and White lesbian women with varying levels of social support (Murphy et al., 2009).

First, descriptive statistics on resilience and social support were calculated for the overall sample and demographic sub-groups (e.g., bisexuals, Black/African American women). To answer the first research question of the relationship between social support and resilience, an adjusted regression model was developed. Using multiple linear regression, resilience was regressed on an overall measure of social support. Race, sexual orientation, age, relationship status, and household income were included as covariates. This was the baseline model that the intersectional models were compared to in research question three.

To answer the second research question regarding which sources of social support (e.g., family, friends, significant others, and LGBTQ+ community) were most strongly associated with resilience, a series of five linear regression models were run. For the first four models, resilience was regressed on each type of social support, controlling for race, sexual orientation, age, relationship status, and household income. Then, each type of social support that was significantly associated with resilience was included in a simultaneous regression model with control variables to identify which had the strongest relationship with resilience.

To answer the third research question regarding whether social support was equally promoting of resilience for SMW of all races and sexual identities, two intersectional linear regression models were developed. The first model regressed resilience on an interaction term of social support (3 categories; high, medium, and low) x race (4 categories), controlling for sexual identity, age, relationship status, and household income. The second model regressed resilience on an interaction term of social support (3 categories) x race (4 categories) x sexual orientation (3 categories) and its lower order terms, controlling for age, relationship status, and household income. Joint Wald tests were run for each set of interaction terms. The R^2 of these two models were compared with the base model from research question one to determine the model that best explained variability in the data. Model parameters were interpreted for the best fitting model. Intersectional quantitative analysis calls for an interpretation of results through a critical lens focused on how power and inequality operate at specific intersections of identity (Else-Quest & Hyde, 2016; Rouhani, 2014). Rather than considering race, sexual orientation, and other demographic categories as simply attributes of diversity, an intersectional analysis requires contextualization of these categories within an analysis of societal power inequities and systems of oppression (Murphy et al., 2009). The discussion interprets and frames the results in the context of social hierarchies experienced by some SMW (e.g., racism and biphobia).

Results

Descriptive Statistics

Participant demographics are described in table 1. All participants identified as women. Mean participant age was 48 (range 24-85). Annual household income ranged from under $1,000 per year to over $200,000 per year, with over half (57.3%, *n*=291) reporting income over $50,000. The sample consisted of a majority women of color, as 41.6% (*n*=216) of participants were White, 31% (*n*=161) Black or African American, 23.1% (*n*=120) were Hispanic, and 4.2% (*n*=22) were of another race or multiple races. Most participants (71.4%, *n*=371) identified as lesbian, about a fifth (22.1%, *n*=115) as bisexual, and a minority (6.5%, *n*=34) as another sexual identity, such as queer. Nearly half (48%, *n*=249) of participants were in a committed relationship and living with their partner. About a third (33.9%, *n*=176) were not in a committed relationship, and a minority were separated or divorced (3.8%, *n*=20) or widowed (1.2%, *n*=6).

The mean resilience score for the full sample was 3.57 (95% CI 3.50-3.64, SE=0.03, range 1-5). See Table 2 for descriptive statistics. Middle age (*M*=3.65) and older SMWs (*M*=3.62) had the highest resilience scores, followed by younger adults (*M*=3.44). Participants with a household income over $50,000 per year reported higher resilience (*M*=3.69) than those with less income (*M*=3.42). Black, White, and Latina SMW had similar mean resilience scores, and those classified as another race (including those from other racial groups and multi-racial SMW) had the highest mean score (*M*=3.80). Bisexual individual reported lower resilience (*M*=3.34) compared to lesbians (*M*=3.64) and those with another sexual orientation (*M*=3.57). Those in committed, cohabitating relationships (*M*=3.67) had the highest resilience scores followed by those who were widowed (*M*=3.58), in a committed non-cohabitating relationship (*M*=3.54), not in a committed relationship (*M*=3.50), and those who were separated from their partner (M=3.18).

The mean social support score for the full sample was 5.42 (95% CI 5.33-5.51, SE 0.05, Range 1-7). See table 3 for descriptive statistics. Younger (*M*=5.52) and middle aged SMW (*M*=5.51) had greater overall social support than older adults (*M*=5.30). Participants with annual household incomes of over $50,000 reported greater support (*M*=5.71) than those with lower incomes (*M*=5.04) Black participants reported the lowest social support (*M*=5.02) compared to Hispanic (*M*=5.48), White (*M*=5.66), and participants of other races (*M*=5.74). Those in committed relationships, either cohabitating (*M*=5.76) or non-cohabitating (*M*=5.55) had the highest support scores, followed by those who were not in a committed relationship (*M*=5.00), those separated from their partner (*M*=4.83), and those widowed (*M*=4.71). Social support was lower for bisexual participants (*M*=5.20) compared to lesbians (*M*=5.48) and participants with another sexual orientation (*M*=5.53). See figure 1 for differences in social support at the intersection of race and sexual orientation.

Table 1

Participant demographics (*N*=520)

Demographic	*N*	%
Age (mean)	48	-
Under 40 years old	171	32.9
40-59 years old	230	44.2
Over 60 years old	119	22.9
Annual Household Income		
< $50,000	217	42.7
> $50,000	291	57.3
Race		
African American/Black	161	31.0
Hispanic/Latinx	120	23.1
White	216	41.6
Other / multiracial	22	4.2
Relationship Status		
In a committed relationship, living with partner	249	48.0
In a committed relationship, not living with partner	68	13.1
Separated/divorced	20	3.8
Single / not in a committed relationship	176	33.9
Widowed	6	1.2
Sexual Orientation		
Lesbian	371	71.4
Bisexual, pansexual/fluid	115	22.1
Other (including Queer)	34	6.5

Table 2

Descriptive Statistics - Resilience (N=519)

Characteristic	**Mean Resilience (*SE*)**	**95% *CI***
Overall sample	3.57 (0.03)	3.50-3.64
Age		
Under 40 (Younger)	3.44 (0.06)	3.32-3.56
40-59 (Middle Age)	3.65 (0.05)	3.55-3.75
60+ (Older)	3.61 (0.70)	3.47-3.75
Annual Household Income		
Under $50,000	3.42 (0.55)	3.31-3.53
Over $50,000	3.69 (0.44)	3.60-3.78
Race		
Black	3.57 (0.06)	3.45-3.68
Hispanic	3.57 (0.08)	3.42-3.72
White	3.55 (0.54)	3.45-3.66
Other / Multiracial	3.80 (0.17)	3.47-4.12
Relationship Status		
Committed cohabitating relationship	3.67 (0.05)	3.57-3.76
Non-cohabitating committed relationship	3.54 (0.09)	3.36-3.73
Not in a committed relationship	3.50 (0.06)	3.38-3.62
Separated	3.12 (0.19)	2.80-3.55
Widowed	3.58 (0.41)	2.78-4.39
Sexual Orientation		
Bisexual	3.34 (0.76)	3.19-3.49
Lesbian	3.64 (0.04)	3.56-3.72
Other	3.57 (0.14)	3.30-3.85

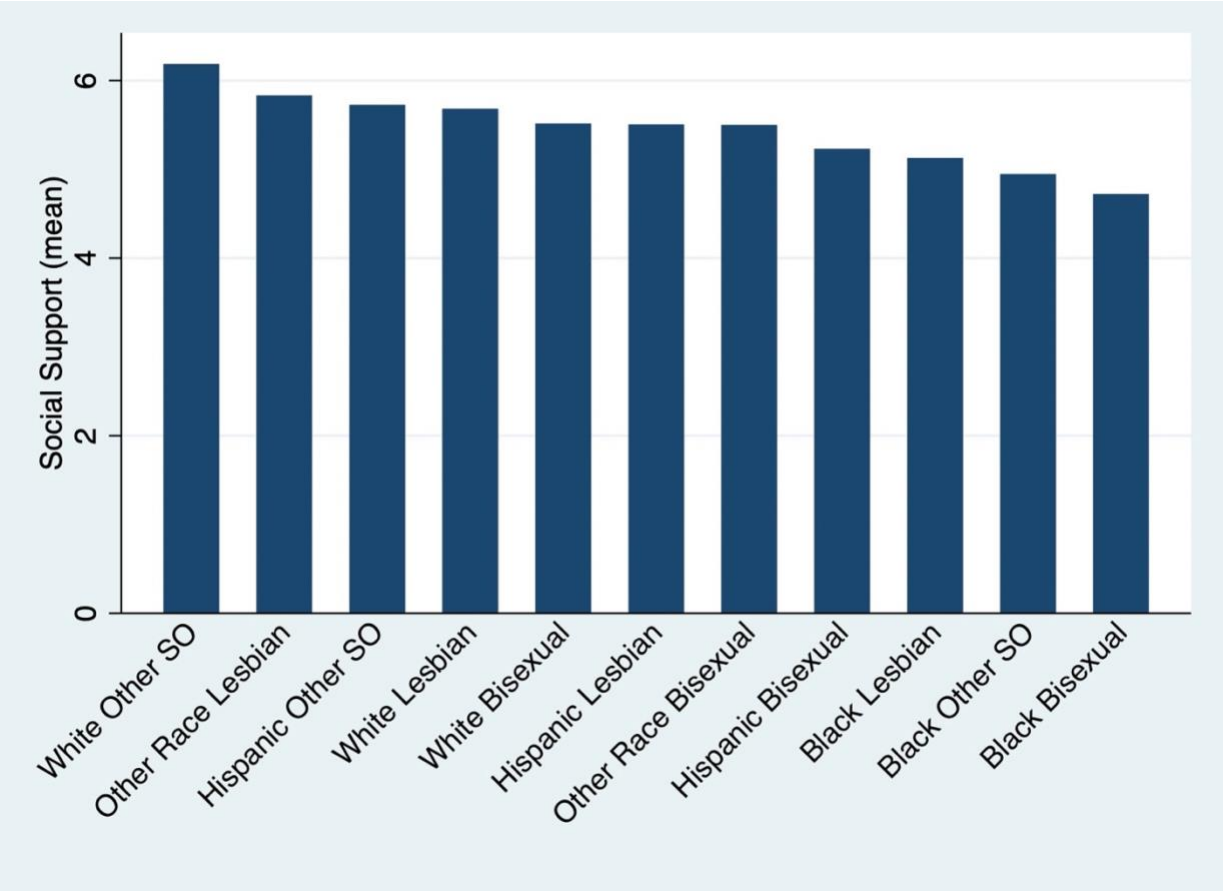
Table 3

Descriptive Statistics – Social Support (N=515)

Characteristic	Social Support (mean, SE)	Family Support	Friend Support	LGBTQ+ Community Support	Significant Other Support
Overall sample	5.42 (0.05)	5.24 (0.05)	5.57 (0.05)	5.15 (0.06)	5.46 (0.05)
Age					
Under 40 (Younger)	5.51 (0.08)	5.37 (0.09)	5.62 (0.08)	5.17 (0.09)	5.51 (0.08)
40-59 (Middle Age)	5.51 (0.07)	5.26 (0.08)	5.60 (0.07)	5.14 (0.09)	5.51 (0.07)
60+ (Older)	5.30 (0.11)	5.01 (0.11)	5.44 (0.09)	5.16 (0.13)	5.30 (0.11)
Annual Household Income					
Under $50,000	5.04 (0.08)	4.85 (0.09)	5.21 (0.77)	5.11 (0.10)	5.05 (0.08)
Over $50,000	5.71 (0.05)	5.53 (0.06)	5.85 (0.05)	5.2 (0.07)	5.76 (0.06)
Race					
Black	5.02 (0.09)	4.86 (0.10)	5.18 (0.09)	5.12 (0.11)	5.02 (0.09)
Hispanic	5.48 (0.09)	5.33 (0.11)	5.61 (0.09)	5.18 (0.14)	5.49 (0.10)
White	5.66 (0.07)	5.45 (0.07)	5.80 (0.07)	5.11 (0.09)	5.74 (0.07)
Other / Multiracial	5.74 (0.19)	5.55 (0.22)	5.95 (0.18)	5.61 (0.26)	5.73 (0.20)
Relationship Status					
Committed cohabitating relationship	5.76 (0.06)	5.50 (0.07)	5.91 (0.05)	5.29 (0.08)	5.86 (0.06)
Non-cohabitating committed relationship	5.55 (0.11)	5.37 (0.14)	5.72 (0.11)	5.18 (0.17)	5.56 (0.12)
Not in a committed relationship	5.00 (0.08)	4.91 (0.09)	5.14 (0.09)	4.96 (0.11)	4.96 (0.09)
Separated	4.83 (0.23)	4.72 (0.27)	4.94 (0.21)	4.94 (0.29)	4.83 (0.24)
Widowed	4.71 (0.52)	4.75 (0.51)	4.79 (0.51)	5.52 (0.45)	4.58 (0.57)
Sexual Orientation					
Bisexual	5.20 (0.10)	5.04 (0.11)	5.38 (0.10)	4.83 (0.11)	5.2 (0.10)
Lesbian	5.48 (0.05)	5.29 (0.06)	5.62 (0.05)	5.29 (0.07)	5.53 (0.06)
Other	5.53 (0.23)	5.38 (0.26)	5.65 (0.22)	4.69 (0.30)	5.55 (0.24)

Figure 1

Social Support by Race and Sexual Orientation



Relationship between Social Support and Resilience

Social support was significantly associated with resilience, such that greater social support was associated with greater resilience (p<0.001, coef. =0.16, Std. Err, 0.04, 95% CI 0.08-0.23), controlling for age, race, sexual orientation, household income, and relationship status. See table 4 and figure 2. Black race (p=0.16) and age (p=0.005) were significant in this model. However, in post-hoc joint categories testing, race was not significant (p=0.07). This model accounted for 10.86% of variance in resilience (R^2= 0.1086). These findings support the first research question's hypothesis that there would be a significant positive association between social support and resilience.

In terms of sub-types of social support, higher levels of family support (p=0.001), friend support (p<0.001), significant other support (p<0.001), and LGBTQ+ community support (p<0.001) were all associated with greater resilience, controlling for age, race, sexual orientation, household income, and relationship status. Age was positively associated with resilience in the models with support from family (p=0.006), friends (p=0.005), significant others (p=0.005), and the LGBTQ+ community (p=0.01). Household income was positively associated with resilience in the models for support from friends (p=0.04) and the LGBTQ+ community (p=0.006). Black race was significantly associated with resilience in all models, though race was not significant overall in post-hoc joint categories testing for any models. About 10-12% variation in resilience was explained by each of these adjusted models: 9.6% for family support, 10.84% for friend support, 11.21% for significant other support, and 11.58% for LGBTQ+ community support.

Comparing the four sources of social support, LGBTQ+ community support was most strongly associated with resilience (p<0.001, coef. =0.11, Std. Err. 0.03, 95% CI 0.05-0.16). See table 5 and figure 3. Age (p=0.008), Black race (p=0.02), and income (p=0.02) were positively associated with resilience. In post-hoc joint categories testing, race was not statistically significantly different (p=0.09). Hypothesis two was not supported, as LGBTQ+ community support was more strongly associated with resilience than family support.

Table 4

Resilience as a Function of Social Support

Resilience	Coefficient *B* (*SE*)	95% *CI*	*P*
Social Support	0.16 (0.04)	0.08-0.23	<0.001*
Age	0.01 (0.001)	0.002-0.01	0.005*
Household Income	0.01 (0.01)	-0.001-0.03	0.069
Race[1]			
Black	0.21 (0.09)	0.04-0.39	0.02*
Hispanic	0.10 (0.09)	-0.08-0.28	0.27
Other	0.26 (0.17)	-0.08-0.59	0.14
Relationship Status[2]			
Non-cohabitating committed relationship	-0.06 (0.11)	-0.28-0.15	0.57
Not in a committed relationship	-0.52 (0.09)	-0.23-0.12	0.56
Separated	-0.26 (0.18)	-0.63-0.10	0.15
Widowed	0.45 (0.32)	-0.59-0.68	0.89
Sexual Orientation[3]			
Bisexual	-0.15 (0.09)	-0.32-0.03	0.10
Other	-0.06 (0.15)	-0.35-0.22	0.66

Note: *= $p<0.05$. All reference groups are the categories with the highest frequencies. [1:] White as reference group. [2]: In a committed relationship and living with partner as reference group. [3]: Lesbian as reference group.

Figure 2

Resilience as a Function of Social Support

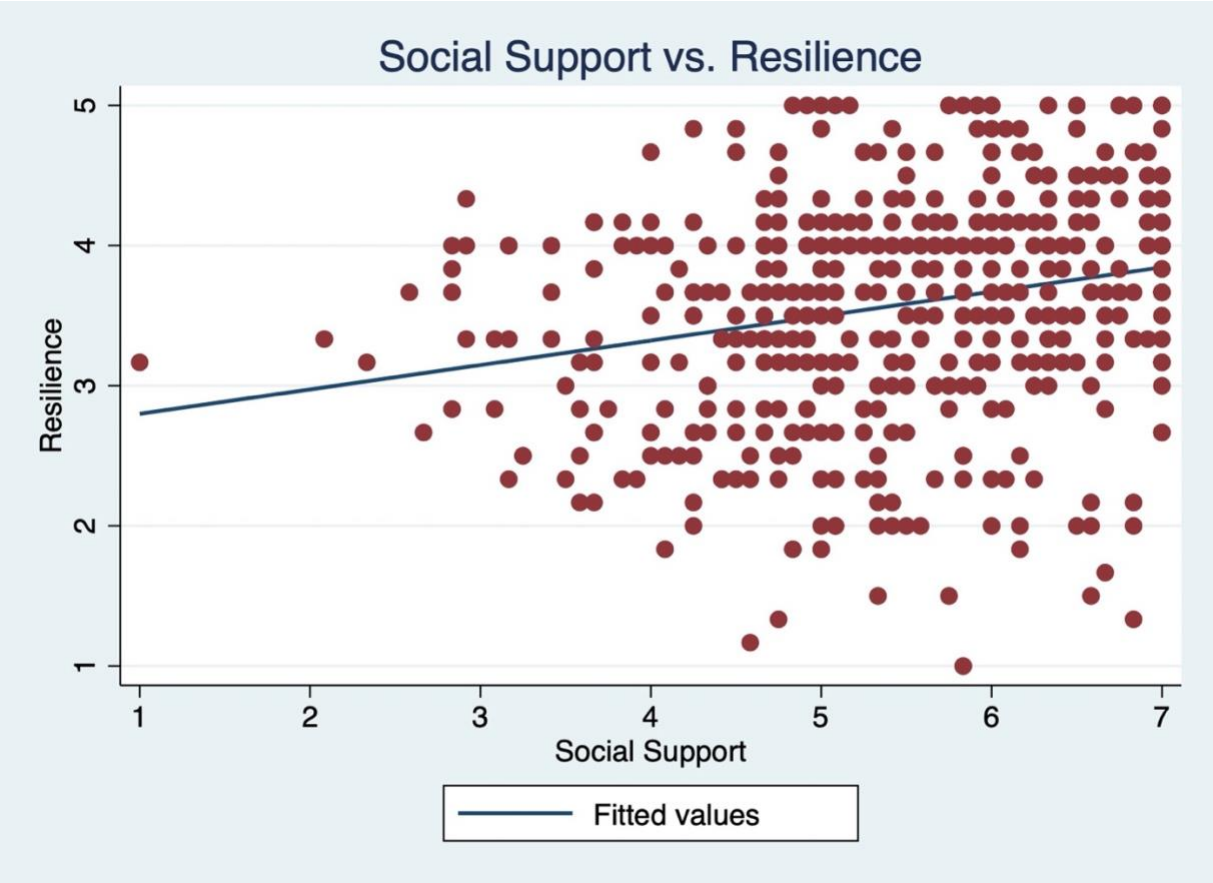


Table 5

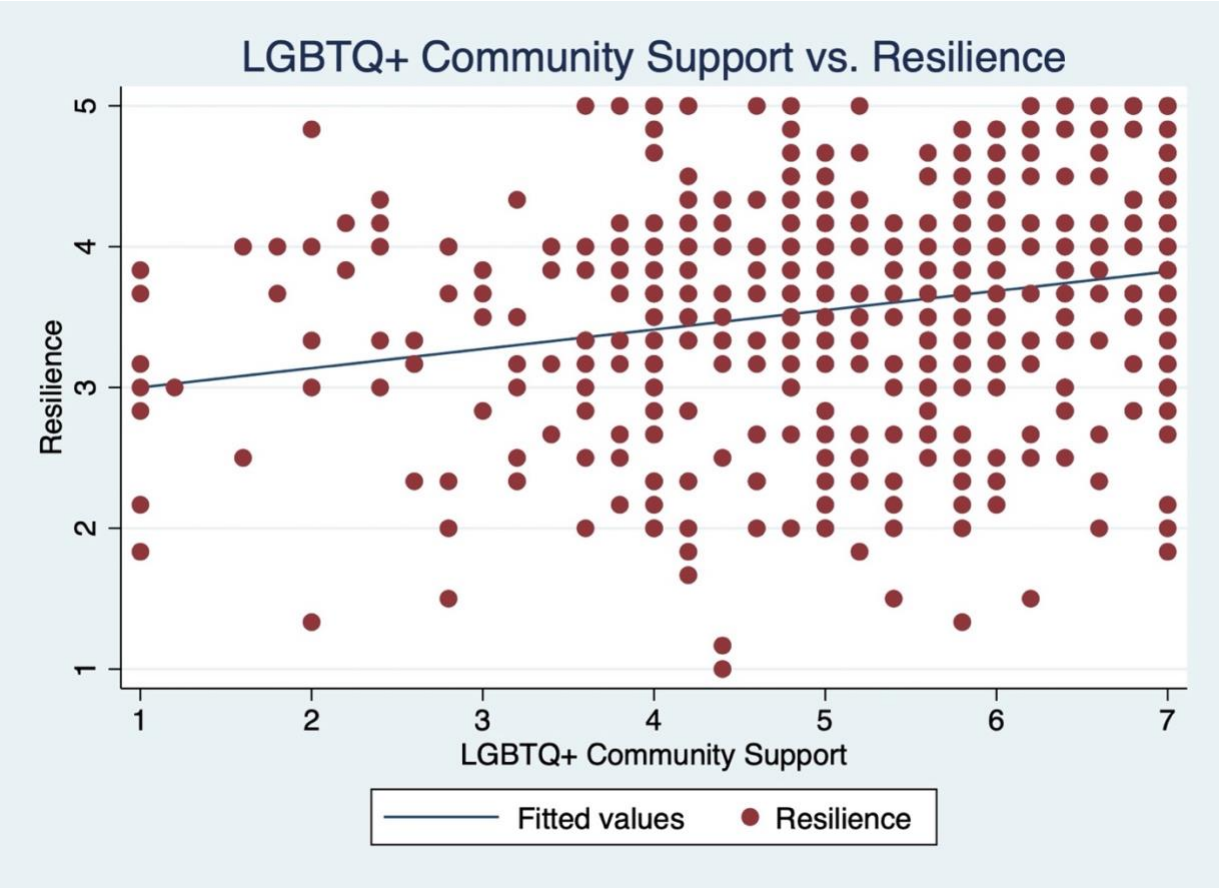
Relationship between sub-types of social support and resilience

Resilience	Coefficient *B* (*SE*)	95% *CI*	*P*
Social Support			
Family support	-0.06 (0.06)	-0.17-0.05	0.31
Friend support	0.07 (0.08)	-0.09-0.23	0.37
LGBTQ+ community support	0.11 (0.03)	0.05-0.16	<0.001*
Significant other support	0.11 (0.08)	-0.04-0.27	0.15
Age	0.01 (0.003)	0.002-0.01	0.008*
Household Income	0.02 (0.01)	0.003-0.03	0.02*
Race[1]			
Black	0.21 (0.09)	0.04-0.39	0.02*
Hispanic	0.10 (0.09)	-0.08-0.28	0.27
Other	0.21 (0.17)	-0.13-0.54	0.23
Relationship Status[2]			
Non-cohabitating committed relationship	-0.03 (0.11)	-0.25-0.19	0.78
Not in a committed relationship	-0.002 (0.09)	-0.18-0.18	0.98
Separated	-0.23 (0.18)	-0.60-0.13	0.20
Widowed	0.05 (0.35)	-0.64-0.73	0.89
Sexual Orientation[3]			
Bisexual	-0.10 (0.09)	-0.27-0.08	0.28
Other	-0.01 (0.15)	-0.31-0.28	0.93

Note: *= $p<0.05$. All reference groups are the categories with the highest frequencies. [1:] White as reference group. [2]: In a committed relationship and living with partner as reference group. [3]: Lesbian as reference group.

Figure 3

Resilience as a Function of LGBTQ+ Community Support



Racial and sexual orientation differences

To identify whether social support was equally associated with resilience for all sexual minority women, two intersectional models were run by adding a series of two- and three-way interaction variables to the base model. The first model added an interaction term of Social Support x Race and its lower order terms of Social Support and Race. Social Support x Race was positively associated with resilience ($p<0.001$), controlling for age, sexual orientation, household income, and relationship status. See table 6. The joint Wald test of Social Support x Race was not significant ($p=0.82$). Greater age (coef.=.01, $p=0.01$) was associated with greater resilience. Lower social support (coef. =-0.37, $p=0.01$) was associated with less resilience compared to those with relatively high social support. Household income approached but did not meet the threshold for significance ($p=0.06$). There were no within-group differences by race x social support. The model accounted for 10.89% of variance in resilience ($R^2= 0.1089$), a slight increase over the base model.

The second model added the interaction term of Social Support x Race x Sexual Orientation and its lower order terms to the base model. Social Support x Race x Sexual Orientation was significantly associated with resilience ($p<0.001$), such that greater social support was associated with greater resilience, controlling for household income, age, and relationship status. See table 7 and figure 3. The joint Wald tests of Social Support x Race ($p=0.85$), Social Support x Sexual Orientation ($p=0.43$), and Race x Sexual Orientation ($p=0.30$) were not significant, and Social Support x Race x Sexual Orientation approached significance ($p=0.08$). Greater age (coef. =0.006, $p=0.04$) was associated with greater resilience compared to younger age. Low social support was associated with lower resilience (coef. =-0.37, $p=0.03$) when compared to high social support. There were few statistically significant differences by race, sexual orientation, and their intersection. Social support was less associated with resilience (coef. =-2.55, $p=0.002$) for Hispanic women with another sexual orientation and medium support compared to White lesbians with high social support. This model accounted for 15.16% of variance in resilience ($R^2= 0.1516$), an increase from the previous two models. See table 8 for comparisons across the three models. This finding did not support the third research question's hypothesis that those with more marginalized social positions (e.g., having a less common sexual orientation and non-White race) would evidence a stronger association between social support and resilience than those with less marginalized positions.

Table 6

Intersectional Model including Social Support x Race and lower order terms

Resilience	Coefficient *B* (*SE*)	95% *CI*	*P*
Social Support[1]			
Low	-0.37 (0.15)	-0.66- -0.08	0.01*
Medium	-0.08 (0.12)	-0.32-0.15	0.49
Age	0.01 (0.003)	0.002-0.01	0.01*
Household Income	0.01 (0.01)	-0.001-0.03	0.06^
Race[2]			
Black	0.23 (0.16)	-0.08-0.54	0.14
Hispanic	0.22 (0.14)	-0.05-0.50	0.12
Other Race	0.30 (0.24)	-0.02-0.76	0.21
Relationship Status[3]			
Non-cohabitating committed relationship	-0.05 (0.11)	-0.27-0.17	0.65
Not in a committed relationship	-0.05 (0.09)	-0.23-0.13	0.58
Separated	-0.25 (0.19)	-0.62-0.12	0.18
Widowed	0.04 (0.33)	-0.62-0.69	0.91
Sexual Orientation[4]			
Bisexual	-0.14 (0.09)	-0.32-0.03	0.11
Other	-0.08 (0.15)	-0.37-0.21	0.58
Social Support x Race[5]			0.82
Black with low support	0.03 (0.21)	-0.39-0.45	0.90
Black with medium support	-0.13 (0.21)	-0.55-0.29	0.54
Hispanic with low support	-0.10 (0.23)	-0.54-0.35	0.67
Hispanic with medium support	-0.32 (0.21)	-0.72-0.08	0.12
Other Race with low support	0.10 (0.47)	-0.82-1.02	0.83
Other Race with medium support	-0.26 (0.40)	-1.06-0.53	0.51

Note: *= p<0.05. ^= approaching significance; p=0.051-0.10. Reference groups are the categories with the highest social status or privilege. [1]: Highest social support as reference group. [2:] White as reference group. [3:] In a committed relationship and living with partner as reference group. [4]: Lesbian as reference group. [5:] White and with higher social support as reference groups. Joint Wald test p-value.

Table 7

Intersectional Model including Social Support x Race x Sexual Orientation and lower order terms

Resilience	Coefficient *B* (*SE*)	95% *CI*	*P*
Social Support[1]			
Low	-0.37 (0.17)	-0.70- -0.03	0.03*
Medium	-0.06 (0.14)	-0.33-0.22	0.68
Age	0.01 (0.01)	0.001-0.01	0.04*
Household Income	0.01 (0.01)	-0.002-0.03	0.10^
Race[2]			
Black	0.17 (0.18)	-0.19-0.52	0.36
Hispanic	0.15 (0.16)	-0.15-0.46	0.33
Other Race	0.32 (0.26)	-0.18-0.83	0.21
Relationship Status[3]			
Non-cohabitating committed relationship	-0.06 (0.11)	-0.28-0.16	0.58
Not in a committed relationship	-0.09 (0.09)	-0.27-0.09	0.31
Separated	-0.30 (0.19)	-0.68-0.09	0.13
Widowed	-0.01 (0.34)	-0.67-0.66	0.99
Sexual Orientation[4]			
Bisexual	-0.18 (0.22)	-0.61-0.03	0.40
Other	-0.51 (0.39)	-1.28-0.27	0.20
Social Support x Race[5]			0.85
Black with low support	-0.02 (0.25)	-0.51-0.47	0.95
Black with medium support	-0.11 (0.24)	-0.58-0.38	0.68
Hispanic with low support	-0.14 (0.26)	-0.66-0.38	0.60
Hispanic with medium support	-0.12 (0.24)	-0.59-0.35	0.61
Other Race with low support	0.17 (0.54)	-0.89-1.22	0.76
Other Race with medium support	-0.70 (0.52)	-1.72-0.33	0.18
Social Support x Sexual Orientation[6]			0.43
Bisexual with low support	-0.01 (0.33)	-0.67-0.64	0.97
Bisexual with medium support	-0.21 (0.30)	-0.80-0.37	0.48
Other sexual orientation with low support	0.70 (0.54)	-0.37-1.76	0.20

Resilience	Coefficient *B* (*SE*)	95% *CI*	*P*
Other sexual orientation with medium support	0.71 (0.60)	-0.47-1.89	0.24
Sexual Orientation x Race[7]			0.30
Black bisexual	0.41 (0.43)	-0.44-1.26	0.35
Black other sexual orientation	0.30 (0.57)	-0.82-1.42	0.60
Hispanic bisexual	-0.23 (0.46)	-1.13-0.67	0.61
Hispanic other sexual orientation	1.01 (0.54)	-0.05-2.07	0.06^
Other race bisexual	-0.35 (0.63)	-1.58-0.88	0.58
Social Support x Race x Sexual Orientation[8]			0.08^
Black bisexual with low support	-0.16 (0.54)	-1.22-0.89	0.76
Black bisexual with medium support	-0.19 (0.57)	-1.31-0.93	0.74
Black other sexual orientation with medium support	-0.57 (0.86)	-2.25-1.12	0.51
Hispanic bisexual with low support	0.56 (0.61)	-0.63-1.75	0.36
Hispanic bisexual with medium support	0.24 (0.58)	-0.90-1.38	0.68
Hispanic other sexual orientation with low support	-0.94 (0.87)	-2.65-0.77	0.28
Hispanic other sexual orientation with medium support	-2.55 (0.82)	-4.16- -0.94	0.002*
Other race bisexual with low support	-0.06 (1.11)	-2.24-2.13	0.96
Other race bisexual with medium support	1.34 (0.91)	-0.44-3.12	0.14

Note: *= p<0.05. ^= approaching significance; p=0.051-0.10. Reference groups are the categories with the highest social status or privilege. [1]: Highest social support as reference group. [2:] White as reference group. [3:] In a committed relationship and living with partner as reference group. [4]: Lesbian as reference group. [5:] White and with higher social support as reference groups. Joint Wald test p-value. [6:] Lesbian and with higher social support as reference groups. Joint Wald test p-value. [7:] Lesbian and White as reference groups. No participants who are Other Race Other Sexual Orientation. Joint Wald test p-value. [8:] Lesbian, White, and with higher social support as reference groups. Joint Wald test p-value. No participants were Black and Other Sexual Orientation with low support, Other Race and Other Sexual Orientation with low support, nor Other Race and Other Sexual Orientation with medium support.

Figure 4

Resilience as a Function of Social Support, by Race x Sexual Orientation

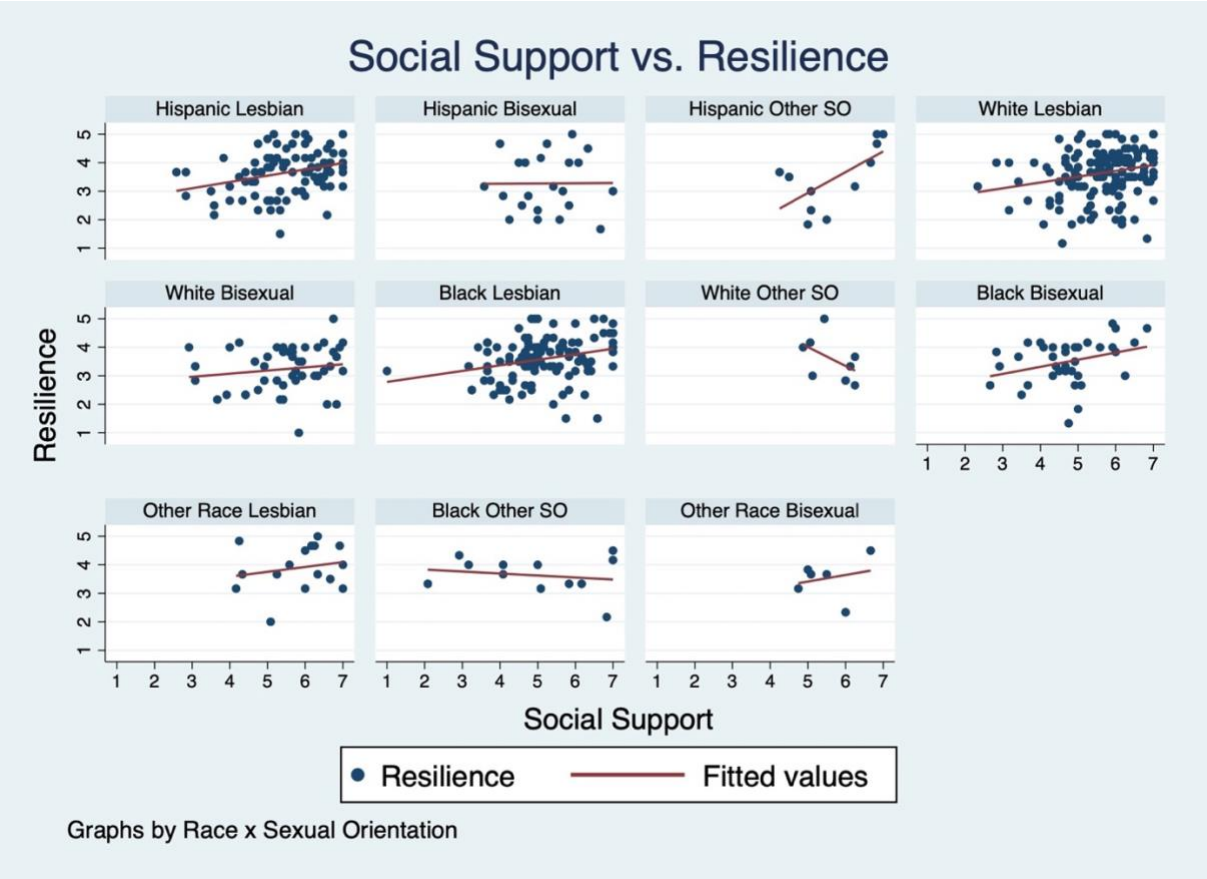


Table 8

Model Comparison – Non-Intersectional vs. Intersectional Models

Model	*DF*	*F*	*P*	R^2
Model 1 Base (non-intersectional) model	12	4.95	<0.001	0.1086
Model 2 Base model with two-way interaction and lower order terms	19	3.09	<0.001	0.1089
Model 3 Base model with three-way interaction, two-way interactions, and lower order terms	37	2.24	<0.001	0.1516

Discussion

This study examined experiences of social support and resilience for sexual minority women, aiming to elucidate which types of support were most associated with resilience and for whom this relationship was strongest. This study adds to the limited quantitative literature on SMW's experiences of resilience, especially as related to SMW within-group differences and similarities. This is notable given that most research on LGBTQ+ resilience to date has been conducted on sexual minority men and transgender women who have sex with men (Frost, 2017; National Institutes of Health, 2020). For example, our study found that SMW who were older, wealthier, partnered, and lesbian reported greater resilience than those who were younger, less wealthy, bisexual, and separated or single, respectively. Considered through a lens of power inequity and inequal access to resources for resilience (e.g., psychotherapy and self-care activities), it makes sense that those with less social privilege related to age, class, sexual orientation, and relationship status might have less access to the resources and social supports required for resilience. Viewed from a social ecological framework of resilience (Ungar, 2011), these results suggest that increasing access to resources and support (e.g., affordable and culturally appropriate psychotherapy, mutual aid programs linking people in need with those who can provide support, or universal basic income) for SMW reporting low resilience (e.g., younger, less wealthy, bisexual, or non-partnered SMW) could be beneficial.

Few differences in resilience were found by race; SMW of all races appeared to be similarly resilient when all else was held equal. This finding is of note given that studies of resilience in SMW have generally not drawn comparisons across races for reasons including having single-race samples (Elm et al., 2016; Garrett-Walker & Longmire-Avital, 2018; Shilo et al., 2015; Walker & Longmire-Avital, 2013), lacking sufficient sample size of non-White SMW to analyze results for other specific races (Rowan and Butler, 2014; Zimmerman et al., 2015) or choosing not to perform within-group analyses for other reasons. This finding also highlights the need for future research to use more complex regression models with more variables that could potentially explain greater variance in resilience than the basic demographics in the present models, such as self-reported race. For example, neighborhood of residence, educational attainment, nativity (U.S. vs. other country of birth), religious or spiritual affiliation, or family composition, which were not included in the present analysis, may be more salient to resilience than self-reported race.

There was notable variation in how much social support SMW reported receiving overall, most of which has not been clearly reported in previous research on SMW given the relative lack of within-group comparative analyses. For example, older SMW, Black women, bisexual women, SMW with lower household income, and SMW who were separated from their partner or widowed all reported less overall social support than their more privileged peers. Perhaps racism, heterosexism, ageism, and other related forms of oppression negatively impact the way that multiply marginalized SMW's social networks interact with them and the degree to which they are offered support. Given that those reporting lower resilience and social support were generally of marginalized social positions within the LGBTQ+ community, these findings highlight the need to develop means of increasing support for those who may need it most (e.g., Black bisexual women with low income), rather than more general interventions that may not reach those in the most need.

All types of social support – from family, friends, significant others, and LGBTQ+ community – were associated with greater resilience in the study sample, which is generally

consistent with the extant literature on SMW (Dickinson & Adams, 2014; Kwon, 2013). These findings suggest that social support is a key aspect of resilience for SMW, consistent with prior theorizing that considers social support one of three pillars of resilience (American Psychological Association, 2020; Colpitts & Gahagan, 2016). Greater LGBTQ+ community support was more strongly associated with resilience than the other sources of support. This did not support the second research question's hypothesis that family support would be most strongly associated with resilience and contrasts with previous literature that has often found significant others (Molina et al., 2015; Rice et al., 2020) and friends (Doan Van et al., 2019; Frost et al., 2016) to be highly influential on SMW wellbeing. Perhaps there is greater variation in the quality of social support from sources like family than from the LGBTQ+ community, which arguably strives to be supportive of LGBTQ+ people in ways that even the most supportive family members may not be. Furthermore, there is some indication that SMW's experiences of family support or lack thereof may differ based on degree of being open as an LGBTQ+ person (Harris et al., 2018; Salerno et al., 2020) and whether one lives with their family (Balsam et al., 2015), highlighting unmeasured constructs in the present study. Increases in access to LGBTQ+ community support via social media and the internet over the past decade or two may have also shifted how much support and of what quality SMW receive from each source. Given these findings, there is a need for qualitative research that provides further insights on the aspects of LGBTQ+ community support that are most protective for SMW so that these forms of support can be enhanced, particularly for those lacking support from other sources, such as family. Further, there is a need for continued work towards understanding and addressing the challenges some SMW experience to seeking and receiving LGBTQ+ community support, such as feelings of being unwelcome, experiencing racism from other LGBTQ+ people, or other deterrents within LGBTQ+ spaces (Paramenter et al., 2021).

There were few differences in the relationship between social support and resilience by demographic factors such as race, sexual orientation, and the intersection of race and sexual orientation. Rather, social support appeared to be a key component of resilience for the full sample of SMW, rather than being differentially associated for some sub-groups of SMW. This finding was not consistent with the question three hypothesis that SMW of color, bisexuals and SMW with non-lesbian sexual orientations (and people of color who are bisexual or another sexual orientation) would evidence a stronger association between social support and resilience compared to their more socially privileged peers. Given that social support is just one of the three pillars of resilience (American Psychological Association, 2020), it appears that coping skills and worldview or mindset may be equally or more salient to SMW of color's capacity to achieve resilience. The one significant intersectional finding was that social support was less associated with resilience for Hispanic women with another sexual orientation (e.g., queer) and medium support compared to White lesbians with high social support. In other words, social support was less predictive of resilience for this group compared to White lesbian women with high levels of support. However, there were only twelve Hispanic women with another sexual orientation, so this finding should be interpreted cautiously due to the small sample size. Further large sample research with SMW of color who have sexual orientations other than lesbian or bisexual is needed to clarify potential differences in social support and resilience at the intersection of race and sexual orientation.

Limitations

Study findings should be interpreted in the context of several study limitations related to conceptualization, measurement, and sample size. In terms of the conceptualization of resilience, the present study used the six-item Brief Resilience Scale, which measured the overall degree to which one experiences resilience in the presence of trauma and stressors. This brief measure does not consider the extent of trauma and stressors that one needs to be resilient to, which varies by individual, and does not consider the specific mechanisms underlying resilience (e.g., mindset, coping skills, and social support). Further research on resilience in SMW is needed with more robust measures of resilience that better align with social-ecological conceptualizations of resilience.

In terms of how social support was measured, is worth noting that the LGBTQ+ community support items were not from the same measure as the other sub-types. Items on family, friend, and significant other support were collected from the Multidimensional Scale of Perceived Social Support (MSPSS), whereas the items on LGBTQ+ community support were collected from the Community sub-scale of the Positive Identity Measure (PIM). While both asked about perceived social support and used the same scale, these two measures are not fully comparable, as the PIM asked about the degree of feeling supported, visible, included, connected, and positively networked into the LGBT community, whereas the MSPSS asked about social support in more general terms. As these are similar but not identical ways of measuring support, findings about which sources of support are most strongly associated with resilience should be interpreted with caution. Additionally, this measure does not capture ethno-racial specific forms of social support, such as support from/to LGBTQ+ communities of color or communities of a shared ethnic group, potentially missing these domains. There is a need for stronger measures of LGBTQ+ social support, or LGBTQ+ specific social support scales that include LGBTQ+ community and racial or ethnic community as measured sources of support alongside family, friends, and significant others to help address these limitations.

Furthermore, intersectional quantitative research requires that participant samples are relatively large and diverse in terms of the characteristics studied (e.g., race and sexual orientation) so that within-group differences are statistically detectable. The smaller sample sizes of some sub-groups of SMW naturally limits the statistical conclusions that can be drawn from this data. Although the CHLEW study oversampled SMW of color and has taken great efforts to maintain a diverse participant panel compared to other studies in the field, there remain limitations in terms of sample size and statistical power. For example, there are several smaller sub-groups in the study, such SMW who are not lesbian or bisexual, but instead have a sexual orientation classified by study staff as “other”, who are represented in relatively small numbers. There were also relatively few SMW in the sample who did not identify as solely White, Black, or Hispanic and were thus categorized as “other” race by study staff, which included both those who were multiracial and those of another race not listed. When modeling the relationship between social support and resilience using interaction terms, this created small sample sizes for some SMW of more rare intersections of characteristics, as well as unintended aggregation across potentially different SMW, leading to limited interpretability of results. For this reason, significant results about small sub-groups of SMW (e.g., the 12 Hispanic women with another sexual orientation) should be interpreted cautiously. There is a clear need for further large sample size research with diverse populations of SMW to transcend the limitations inherent in doing intersectional research with smaller datasets.

Conclusion

Despite these limitations, study findings have notable implications for direct practice with SMW, social welfare policy, and future research. In terms of social work and counseling implications, there is a need for the development and implementation of individual and interpersonal interventions that increase the availability of social support for the most socially marginalized and disadvantaged SMW. Some of the SMW who report less social support than others - notably bisexuals, older adults, Black women, those with lower income, and separated or widowed women - are also disproportionally affected by mental and behavioral health concerns due to shared common risk factors. Since greater social support is associated with greater resilience and lowered odds of these conditions, increasing social support for affected individuals is one means of improving population health. Counseling or social work interventions to increase social support can occur on an individual level (e.g., skills training on making new friends or resolving interpersonal conflicts), couple level (e.g., resolving persistent relationship conflicts that trigger instability, or promoting social opportunities for LGBTQ+ singles), family level (e.g., opportunities to express support for family members who are LGBTQ+, or to work through persistent family conflicts), and interpersonal or friend level (e.g., support groups providing opportunities for mutual emotional support). Furthermore, interventions that specifically aim to strengthen the capacity for resilience among SMW at the highest risk for mental and behavioral health challenges may be helpful. There are currently few interventions that explicitly hold this focus, and even fewer so that are culturally adapted or specifically designed for LGBTQ+ people, highlighting the need for intervention research and development in this area.

Other interventions on the broader community, society, and policy levels might also be useful. For example, national or community level interventions, such as ensuring consistent state or federal funding for LGBTQ+ community centers offering social support groups and behavioral health support could help decrease isolation and address associated behavioral health disparities. Additionally, community-based mutual aid efforts could be useful for linking individuals in need of emotional support or tangible resources to others with the capacity to provide. These interventions should be developed by and for the most socially marginalized LGBTQ+ people to ensure they are accessible, welcoming, and culturally appropriate for those whose needs and preferences have historically been sidelined within the mainstream LGBTQ+ community. Further research is needed into the types of community-level interventions that are most needed and protective of the diverse population of SMW.

On a policy level, there is a clear need for additional social policies that explicitly protect and promote the rights and wellbeing of the most socially marginalized LGBTQ+ people, some of whom are not fully covered under existing anti-discrimination policies. For example, transgender sexual minority women (those who were assigned male sex at birth and have grown to become women who are not heterosexual) in some states do not have the same levels of protection against discrimination in the workplace and in other social settings compared to cisgender SMW. Similarly, SMW who are also people of color, disabled, widowed, undocumented, or of other disadvantaged social positions would benefit from other, non-LGBTQ+ social policies that provide the social legitimacy, legal protections, and tangible resources needed for resilience and wellbeing. Given the complexity and persistence of the behavioral health disparities affecting SMW, multi-level interventions that incorporate both individual and systemic level factors appear most promising.

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Bridging Statement

Given that higher levels of social support from family, friends, significant others, and especially the LGBTQ+ community were associated with higher levels of resilience, it appears that social support is indeed a notable factor underling resilience for SMW. There did not appear to be notable demographic differences in the relationship between social support and resilience by race, sexual orientation, or their intersection, suggesting that social support is likely a global contributor to resilience. However, the data these findings are based on were collected prior to the COVID-19 pandemic. Decreases or disruptions in social support that occurred during the pandemic could potentially impact the ability of SMW to enact resilience during an era characterized by increased stress and demands. Further research is needed to characterize shifts in social life and social support during the pandemic, as this may have implications for SMW's wellbeing, such as risk of developing new or escalating mental or behavioral health concerns.

In the paper that follows, the lines of inquiry from the first and second paper are applied to a contemporary social context. Shifts in social support during the early COVID pandemic are described using qualitative phenomenological methods, which provide additional nuance to this building story. Study participants describe in their own words how their experiences of giving and receiving social support changed in the early pandemic days, highlighting six key changes across all levels of the social ecological model (e.g., individual, family, neighborhood, LGBTQ+ community). Study findings have implications for the development of interventions to support SMW's behavioral health during the transition out of the pandemic as they can provide clinicians and intervention developers a deeper understanding what has occurred during this time.

Abstract

Giving and Receiving Social Support During the COVID-19 Pandemic: A Descriptive Phenomenological Study of African American, Latinx, and White Sexual Minority Women

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Background: The COVID pandemic rapidly spurred unprecedented changes in social life due to shelter-in-place orders, public health guidance to socially isolate, and the temporary closure of businesses and community spaces. These shifts potentially impacted sexual minority women's (SMW) access to social support, which is known to promote resilience in the presence of excess stress and decrease risk of mental and behavioral health concerns such as depression, anxiety, and alcohol use disorder. Given the elevated rates of these conditions in SMW pre-pandemic compared to heterosexual women and concerns about disproportional negative impacts of pandemic conditions on minority communities, there is a need to characterize shifts in social support that occurred and associated changes in the mental and behavioral health of SMW. This can help identify multi-level interventions to support SMW's wellbeing in the context of a changing world.

Methods: Seventeen sexual minority women, mostly Black and Latina, were recruited from a broader longitudinal study of SMW's health and wellbeing (Chicago Health and Life Experiences of Women; CHLEW) and completed semi-structured in-depth telephone interviews during the summer of 2020. Interviews solicited narratives of SMW's experiences during the initial months of the COVID pandemic, including information about changes in social support and connections with family, friends, partners, neighbors, colleagues, and broader LGBTQ+ community. Interview audio and transcripts were analyzed using inductive phenomenological methods to describe and make meaning of lived experiences.

Results: Six broad themes were identified across the narratives: 1) Shifting political and social contexts around social support and social safety; 2) Online and digital socializing; 3) Chosen pandemic families; 4) Challenges and opportunities in dating and relationships; 5) Supportive and stressful workplaces; 6) Mutual aid and support. Some SMW reported both changing or decreased social support and heightened depression, anxiety, isolation, and/or alcohol use.

Implications: Study findings highlight the importance of social connections and mutual support for SMW's wellbeing and ability to enact resilience to stress both within the COVID pandemic context and ongoing. Given the pandemic-driven disruptions in many SMW's social networks, providing additional support and resources for LGBTQ+ wellbeing during this transitional time may help prevent the escalation of behavioral health disparities.

Introduction

The COVID-19 pandemic has been a rapidly unfolding global phenomenon with widespread impacts across nearly every aspect of human life. By March 2020 when caution about this new deadly virus was widespread, the world looked notably different than just six months prior, before the first COVID cases were identified. Many national borders shut down, travel out of one's home region was discouraged, and thousands of flights were cancelled. This restricted movement also came with restricted opportunities for seeing other people when businesses, community centers, and other spaces for social life shuttered indefinitely. Schools and universities shut down and sent students home, childcare centers closed, and offices laid off employees or sent them to work from home. The public was instructed to socially distance, or keep at least six feet from others, when leaving the home was necessary. The consumer goods supply chain was disrupted and there were lines around the block to enter grocery stores and pharmacies whose shelves were intermittently empty of essentials like baby formula, toilet paper, and cold medicines. Even more, COVID pandemic's toll on human life was profound; over 104 million people in the United States of America have contracted COVID-19 and over 1.1 million people have died from the virus as of April 2023, making it the deadliest pandemic in recent history (Centers for Disease Control and Prevention, 2023).

The pandemic era can be characterized as a major stressor (e.g., economic, health, social, relational) in the context of greatly decreased access to resources (e.g., social spaces, in-person mental health support, employment income) needed to successfully cope. Stressors stemming from the pandemic have had profound impacts on population-level mental and behavioral health. Research to date has documented increases in stress (Charles et al., 2021; Robillard et al., 2020; Shanahan et al., 2022; Varma et al., 2021), anxiety (Vahratian et al. 2021; Varma et al., 2021), depression (Vahratian et al. 2021; Varma et al., 2021), and alcohol use (Avery et al., 2020; Charles et al., 2021; Rodriguez et al., 2020; Wardell et al., 2020) during the peak years of the COVID pandemic compared to beforehand. Furthermore, contracting the virus has been found to increase risk for new onset anxiety disorders and other psychiatric disorders in those without previous psychiatric history (Taquet et al., 2020), highlighting additional biological risks.

For LGBTQ+ people in particular, pandemic-spurred stressors were arguably heightened compared to the general public due to pre-existing social determinants of health and mental health that placed many LGBTQ+ people at a disadvantage before the pandemic even began (Bernardini et al., 2021). For example, sexual and gender minority people were more likely to lose their jobs and experience financial instability during the pandemic than cisgender and heterosexual people (Drabble & Eliason, 2021), in part because about 40% of LGBTQ+ people work in the service industry, which experienced mass layoffs (Abreu et al., 2021). Sexual minority women – who are more likely to be raising children than sexual minority men (Badgett et al., 2019) were disproportionally impacted by the closure of childcare centers and schools and increasing caregiving responsibilities at home. Some LGBTQ+ people, including bisexual women, are more likely to be living near or under the poverty line than heterosexuals of any gender (Badgett et al., 2019), showing increased risk of escalated financial problems during the pandemic. When considering the impact of the COVID pandemic on LGBTQ+ people, it is essential to consider the role of such social determinants of health that were recognized before the pandemic began (Bernardini et al., 2021).

It is also worth noting that sexual minority women (SMW) started the pandemic era with higher rates of several pre-existing mental and behavioral health concerns compared to their

heterosexual peers. For example, sexual minority women have persistently shown about twice the rates of depression (Gonzales & Henning-Smith, 2017; Kerridge et al., 2017; McGeough et al., 2021; Pyra et al., 2014), anxiety (Bostwick et al., 2010; Cochran et al., 2003; Ross et al., 2018), and alcohol use disorder (Kerridge et al., 2017; McGeough et al., 2021) as heterosexual women since first documented in the 2000s. The high burden of these conditions for SMW pre-pandemic arguably increased risk for escalation of these behavioral health challenges in the presence of an additional global stressor, the COVID pandemic. Furthermore, the impacts of the pandemic on SMW who experience additional forms of oppression and marginalization (e.g., SMW of color, younger SMW) are of particular concern (Salerno et al., 2020), as pandemic conditions potentially amplified existing disparities (Slemon et al., 2022). Given stark mental and behavioral health disparities that existed prior to the pandemic, particular attention is needed to how SMW experienced the COVID pandemic and any associated escalations in mental and behavioral health concerns during this time. This can help inform public health, social work, and psychological interventions to help SMW stay well despite the emergence of pandemic-spurred conditions that may have increased risk of negative outcomes.

LGBTQ+ and SMW behavioral health during the COVID pandemic

Some research to date has examined the mental and behavioral health of LGBTQ+ people during the COVID pandemic, mapping pandemic era changes to shifts in wellbeing. Most of this research includes combined samples of LGBTQ+ people and only a portion of these studies provide specific results for SMW. For example, in a comparative study of over 2,300 adults, wellbeing declined for all respondents during the pandemic, but especially so for sexual and gender minority (SGM) people compared to those who were not SGM (Buspavanich et al., 2021). The pandemic appears to have similarly had disproportionate mental health impacts on LGBTQ+ youth and emerging adults (ages 13-23) compared to their peers (Mitchell et al., 2021; Salerno et al., 2020).

Depression, anxiety, and alcohol use disorder appear to have increased during the pandemic for LGBTQ+ people to a greater degree than heterosexual cisgender people (Akré et al., 2021; Moore et al., 2021; Slemon et al., 2022; Wardell et al., 2020), likely due to higher pre-pandemic levels of these conditions and greater presence of factors that increase risk. For example, a study of over 3,200 adults living in US major metropolitan cities found that LGBTQ+ people were more likely than heterosexual cisgender people to report that their problems with depression, anxiety, and alcohol use were more than usual or pre-pandemic (Akré et al., 2021). A national study of 1,300 adults similarly found that LGBTQ+ people experienced greater escalation of depression and anxiety during the pandemic compared to their heterosexual and cisgender peers (Moore et al., 2021). Similarly, in a Canadian longitudinal study comparing over 6,000 adults, SGM people reported worse impacts of the pandemic on mental health and substance use than non-SGM people (Slemon et al., 2022). Increases in suicidal ideation, thoughts of self-harm, alcohol use, marijuana use, and the use of substances to cope were also present in SMW in this sample (Slemon et al., 2022). Some of these findings mirror that of the general population, which also experienced heightened depression and increases in drinking to cope with the pandemic (Wardell et al., 2020).

A much smaller group of studies have focused these inquiries specifically on sexual minority women, acknowledging that people who identify as LGBTQ+ have a wide range of intersecting identities and characteristics, necessitating research that centers those who experience multiple types of disadvantages (e.g., heterosexism, sexism, and racism). One such

national study of nearly 3,000 adults found that LGBTQ+ people experienced greater declines in mental health, quality of life, stress, and psychological distress compared to heterosexuals (Fish et al., 2021). Among women, those who identified as bisexual or another sexual orientation (e.g., queer) experienced poorer mental health and quality of life both pre-and post-pandemic onset compared to heterosexuals and lesbians, illuminating sexual orientation-specific differences (Fish et al., 2021). Another study that examined depression and negative impacts of the COVID pandemic amongst 695 LGBTQ+ young adults (ages 18-29) found that sexual minority women experienced greater negative impacts of the pandemic than sexual minority men, and that greater self-reported negative impacts were associated with higher levels of depression (Chang et al., 2021).

A few studies have examined changes in SMW's alcohol and substance use during the COVID pandemic, often in tandem with other behavioral health indicators like depression and anxiety. One such study, which analyzed data from the same set of interviews as the present study, described the ways that changes in SMW's use of alcohol and marijuana were related to pandemic circumstances. Changes in routines and attempts to create new routines, desires for recreation and relief, means of shifting social connections, and self-monitoring of alcohol and marijuana use boundaries were noted (Bochicchio et al., 2021). This study also highlighted some SMW's concerns about their own of alcohol and marijuana use (e.g., changing extent of use, boundaries around use) and that of friends, especially other SMW (Bochicchio et al., 2021).

Increases in depression and anxiety have also been linked with increases in alcohol and cannabis use frequency and quantity for young adult SMW (ages 18-25) during the pandemic (Dyar et al., 2021). Increases in anxiety and depression in the study population were associated with concurrent increases in substance use (Dyar et al., 2021). Increases in solitary drinking to cope with the pandemic were also noted, as was increased use of alcohol and cannabis use with romantic partners (Dyar et al., 2021). Given these increases in SMW's behavioral health concerns during the COVID pandemic and limited research that considers the specific experiences of SMW as compared to the general population or LGBTQ+ people more broadly, there is a need for further research that characterizes these experiences in depth.

LGBTQ+ and SMW social support during the COVID pandemic

One way that some individuals are able to achieve and/or maintain good mental and behavioral health in the context of elevated pandemic-related stressors and risks for decreased wellbeing is through enacting resilience. As Ungar, a resilience researcher and social worker describes, resilience occurs when individuals experience positive outcomes (e.g., developmental outcomes, behavioral health outcomes) despite the presence of adversity, trauma, and other risk factors for negative outcomes (Ungar, 2011). In other words, resilience is the dynamic process by which individuals seek and attain the resources in their social environments that are needed to become or stay well (Ungar, 2011). While the construct of resilience remains definitionally contested and there is no clear consensus on a unifying conceptualization of resilience, there is some agreement among researchers about the protective factors that promote resilience. The American Psychological Association delineates three broad factors underlying resilience that map with the extant literature: social supports, coping strategies, and mindset or worldview (American Psychological Association, 2020).

The availability and quality of social supports are of particular importance when considering the mental and behavioral health of SMW because of the ways that social life appears to have changed with the onset of the COVID pandemic. Since social support is

considered a pillar of resilience, which is associated with lower rates of depression (Garrett-Walker & Longmire-Avital, 2018; McNair & Bush, 2016), anxiety (Goldbach et al., 2020; McNair & Bush, 2016), and alcohol use disorder in SMW (Elm et al., 2016; Hughes et al., 2020; Rowan & Butler, 2014), changes in the availability and quality of social support likely have implications for the these behavioral health concerns. For example, SMW may experience greater challenges enacting resilience in the absence of access to sufficient social supports during the pandemic, perhaps increasing risk of depression, anxiety, and alcohol use disorder. Given the connections between the most commonly occurring behavioral health conditions for SMW, the protective nature of resilience, and social support as a key factor underlying resilience capacity, there is a need to clearly describe the shifts SMW experienced in social support since the pandemic's onset. This can help illuminate potential areas of intervention to reduce behavioral health disparities by increasing protective factors that can help SMW effectively maintain wellbeing in the context of elevated stressors, risk, and trauma.

A few studies to date have examined changes in LGBTQ+ people's experiences of social support during the COVID pandemic and fewer have done sub-group analyses by gender or focused solely on the experiences of SMW. Generally, the literature on LGBTQ+ people's social support and wellbeing during the pandemic indicates that greater levels of social support were protective against the escalation of psychological distress stemming from pandemic conditions (Moore et al., 2021; Scroggs et al., 2020). Having a low level of social support appears to be an amplifying factor for the mental and behavioral health disparities observed (Moore et al., 2021). Several pandemic-driven circumstances appear to have decreased or shifted some LGBTQ+ people's sense of social support, such as social distancing (Scroggs et al., 2020), closure of LGTBQ+ community spaces (Abreu et al., 2021; Drabble & Eliason, 2021; Slemon et al., 2022), and closure of universities and return of students to home (Kamal et al., 2021; Salerno et al., 2020). Increased of online means of socializing (Bochicchio et al., 2021; Cerezo et al., 2021; Salerno et al., 2021) and increases in mutual aid and community organizing efforts have also been documented (Abreu et al., 2021; Gonzalez et al., 2021; Spade, 2020).

For example, a study of the effects of social distancing policies on the wellbeing of nearly 2,000 LGBTQ+ emerging adults noted decreased sense of connection to the LGBTQ+ community after social distancing measures were initiated as compared to before (Scroggs et al., 2020). Social distancing was also associated with higher levels of alcohol use and lower levels of hope for the future. These findings raise concerns since minority group members need a sense of belonging, connection, and social support from their minority group to stay well during times of increased stress, yet study participants reported decreases in this due to social distancing (Scroggs et al., 2020).

LGBTQ+ community spaces were also indefinitely shuttered in the early pandemic, leading to a loss of this vital source of social support for LGBTQ+ people who used these spaces to connect with others and meet personal needs (Drabble & Eliason, 2021; Slemon et al., 2022). The closure of these spaces in Canada were associated with decreased social support and a decreased sense of connection to the LGBTQ+ community, both of which are considered protective factors (Slemon et al., 2022). Other studies have identified impacts of reduced LGBTQ+ support, finding that reduced support was associated with increased psychological distress for transgender women and gender non-binary people, some of whom would consider themselves SMW (Kidd et al., 2021). In addition to facilitating social connections, LGBTQ+ community spaces and similar community resource hubs became less able to meet mental health and subsistence needs they previously supported (Abreu et al., 2021). There is concern about the

ability of these spaces to sustainably re-open after pandemic conditions evolve, leading some scholars to call for additional financial support for LGBTQ+ community organizations and networks as a means of supporting population health (Drabble & Eliason, 2021).

LGBTQ+ young adults also appear uniquely impacted by the closure of universities and institutions for higher education, as many students returned to shelter-in-place with their family of origin (Salerno et al., 2020). For students whose families support their LGBTQ+ identities, returning home could increase their social support, whereas those with un-affirming or hostile family members may have had decreases in support. For example, in a study comparing the experiences of nearly 1,0000 young adults (ages 18-30) by sexual orientation, degree of family support during the pandemic predicted mental health outcomes, highlighting the salience of family support for LGBTQ+ young adults' wellbeing (Kamal et al., 2021). University closures also led to an abrupt termination of on-campus services and supports for LGBTQ+ identity and wellbeing for those who utilized them (Salerno et al., 2020). In these ways, LGBTQ+ college students may have experienced increased risk for loss of social support compared to their heterosexual and cisgender peers who did not rely on university resources to meet their needs as minoritized people.

Along with the closure of in person spaces came the shift towards online and digital forms of social contact and socializing, such as social media, text messaging, and video chat. The few studies highlighting SMW's experience of this shift have generally documented an uptick in these technologies to maintain social connections (Bochicchio et al., 2021; Cerezo et al., 2021; Salerno et al., 2021). Some of these shifts are arguably positive, such as continuity of support services that were previously provided in person (Salerno et al, 2020) and others less so. For example, in a qualitative study of sexual minority gender expansive college women, social media was used to connect with other LGBTQ+ community members and LGBTQ+ content during shelter-in-place (Cerezo et al., 2021). The shift from in-person towards online and digital means of socializing may also have implications for SMW's alcohol use behaviors. Social drinking on digital platforms increased during this time, with some SMW reportedly hoping to decrease their sense of isolation, boredom, and stress during this time (Cerezo et al., 2021). Online drinking events such as digital happy hours and virtual parties reportedly facilitated increased frequency and quantity of alcohol use for some SMW (Bochicchio et al., 2021).

Several studies have also documented LGBTQ+ mutual aid and activism during the COVID pandemic, generally focusing on the LGBTQ+ community as a whole rather than including insights on sub-groups such as SMW. Mutual aid can be considered a form of community-based social support in that those engaging in mutual aid projects work together to meet the survival needs of community members who live under conditions that do not enable their wellbeing (e.g., racism, sexism, heterosexism, cissexism), while advocating for a world that does (Spade, 2020). Two recent studies (Abreu et al., 2021; Gonzalez et al., 2021) describe the role of LGBTQ+ mutual aid and social support to others in the COVID pandemic, highlighting the ways mutual aid supports both the givers and receivers of support, whose roles blend. For example, in a qualitative study of 129 LGBTQ+ people, the theme of resilience through providing support to others and building community was highlighted (Gonzalez et al., 2021). Providing support to other LGBTQ+ people and building greater LGBTQ+ community were seen as acts of resistance that participants valued. Similarly, another qualitative study reported that community activism – both for or on behalf of the LGBTQ+ community and other minority communities – was a way that participants enacted strengths and resilience during the pandemic (Abreu et al., 2021). These activities were described as aligned with the LGBTQ+ community

values of supporting and advocating for others who are marginalized (Abreu et al., 2021). LGBTQ+ people's ways of giving and receiving social support took a variety of forms during the COVID pandemic, some more mutual and others more one-sided or transactional.

Some of the insights on LGBTQ+ people's experiences of social support during the COVID pandemic may be applicable to sexual minority women, as they are one group under the LGBTQ+ umbrella and are often sampled in the studies described. However, SMW's specific perspectives and experiences remain marginally represented in the extant pandemic literature, as there are few studies that specifically survey SMW compared to other populations (e.g., sexual minority men, transgender and gender non-binary people, college students, young adults). Further, most studies on this topic had majority White samples, limiting insights on the experiences and needs of SMW of color. This gap is notable because many SMW have multiple minoritized identities associated with sexism, racism, heterosexism, classism, and other forms of oppression that may confer additional mental and behavioral health risks during times of increased stress and decreased social support, compared to more socially privileged LGBTQ+ people. Further details on the experiences and wellbeing of multiply marginalized SMW – such as SMW of color, older SMW, SMW of lower socio-economic class – are greatly needed to accurately characterize the positive and negative impact of the COVID pandemic on the wellbeing of all LGBTQ+ people.

Research Questions

The present study answers two research questions: 1) How did sexual minority women experience changes in social support during the early COVID-19 pandemic? and 2) How did these changes relate to mental and behavioral health, and wellbeing? Data pertaining to these questions will be simultaneously analyzed and the results will be presented in an integrated, contextualized manner.

Methods

All study protocols, including recruitment and data collection methods, were approved by the Columbia University Irving Medical Center's Institutional Review Board (IRB-AAA-S3577, Y01M02) in July 2020. The secondary data analysis plan was approved by the University of California, Berkeley's Committee for the Protection of Human Subjects (Protocol # 2022-07-15507) in August 2022.

CHLEW Recruitment

All participants in the current study were enrolled in the Chicago Health and Life Experiences of Women (CHLEW), a longitudinal study of sexual minority women's health and wellbeing (Hughes et al., 2021). This includes two groups of participants: those recruited at the CHLEW study's initiation and those recruited during wave 3 of data collection. Participants in the original CHLEW sample (N=153) were recruited in the greater Chicago Metropolitan Area from 2000-2002. Targeted outreach to LGBTQ+ community organizations and SMW's informal social networks was used to identify potential participants (Hughes et al., 2021). SMW interested in participating were prompted to call the CHLEW study line to complete an eligibility screening. Eligibility criteria included being over 18 years old, a self-identified lesbian, proficient in English, residing in the greater Chicago metropolitan area, and consenting to study enrollment.

The wave 3 supplemental CHLEW sample (*N*=372) was recruited in 2010-2012 through a modified version of respondent-driven sampling (Hughes et al., 2021). To ensure diversity in the CHLEW study, women who were young (ages 18-25), bisexual (rather than lesbian), and Black or Latina were purposively oversampled. Study staff conducted outreach to organizations in the Chicago area that served SMW and requested assistance identifying a diverse group of SMW with large social networks who could serve as recruitment seeds. The women identified by these organizations were each given three recruitment coupons to provide to SMW in their social networks. They were paid a $20 incentive for each eligible recruit that enrolled in the study. Later, to meet study enrollment needs, all enrolled CHLEW participants were invited to recruit new participants using this method. The same telephone eligibility screening and eligibility criteria were the same for the wave 3 supplemental sample as in wave 1, except that SMW who were bisexual were also eligible for wave 3. Further details on the study's use of respondent-driven sampling methods have been reported elsewhere (Hughes et al., 2021).

All participants enrolled in the CHLEW study were contacted in 2017-2019 and invited to participate in wave 4 of data collection. Of the original sample recruited in 2000-2002, 73% (*n*=297) agreed to be re-interviewed at this time. Of the supplemental sample recruited in 2010-2012, 62% (*n*=228) were re-interviewed.

Qualitative Interview Recruitment

Study staff purposively selected a sub-sample of 17 SMW from CHLEW wave 4 to invite to participate in supplemental, qualitative phone interviews about their experiences during the COVID pandemic. Since the parent study aimed to uplift the experiences of a racially diverse group of SMW, the majority of participants selected were Latinx or African American. Participants with a range of ages, educational attainment, and relationship statuses were selected by the lead researcher to ensure a demographically diverse sample. Given the parent study's focus on SMW's mental and behavioral health and alcohol use during the early days of the pandemic, all participants reported drinking an average of at least one alcoholic drink per day in the wave 4 survey.

Data Collection

In the summer of 2020, this researcher conducted several one-on-one participant interviews, along with other trained interviewers on the project. Prospective participants were provided information about the study and a consent form via phone, email, or text message. All participants completed the consent form. Interviews occurred on Zoom or via phone call (based on participant preference, typically phone) and used a semi-structured interview guide with 20 questions (see Appendix A). Interviews lasted an average of 54 minutes with a range of 42 to 68 minutes. Interviews were audio recorded and transcribed by a professional service. Each participant received an electronic $25 gift card in recognition of their participation. The interviewer manual included a protocol for handling psychologically distressed participants to ensure their safety; none required the use of this protocol.

Measures

As presented in Appendix A, a semi-structured interview guide was used during the interviews. The interview guide consisted of 20 questions that invited participants to discuss their experiences, thoughts, and feelings across seven topical areas about their lives during the pandemic: (1) work, (2) relationships, (3) community, (4) identity disclosure, concealment, and

safety, (5) experiences of prejudice, (6) coping, and (7) alcohol use. Each question included optional probes to elicit further information. The full interview transcripts were analyzed for the current study, as participants were prompted to discuss various forms of social support (e.g., partners, family, friends, co-workers, neighbors, and the LGBTQ+ community) and behavioral health (e.g., alcohol use, smoking) at several points in the interviews. Though focused primarily on participant responses to the questions that follow, other participant statements were thematically coded if related to social connections, social support, or behavioral health and wellbeing in the context of social support.

Social relationships. Participants were asked about social connections with others, including family, caregiving relationships, friends, neighbors, and community. For example, participants were asked, "Would you share with us how you feel your relationships have changed during the pandemic? Have they been disrupted or strengthened? If so, how?". This question elicited responses that were related to all types of social support, depending on the people that respondents discussed.

Partners. Similar questions were asked about changes in romantic relationships, starting with key information: "Would you mind telling me about your relationship status?" and inquiring whether they live with a partner. Later, interviewers stated, "I'd like to ask you a few questions about yourself and your primary relationship. There is a lot of different stress right now - would you share with me how you are feeling about your relationship? Are you feeling more or less stress in your relationship since the pandemic? What do you attribute this change to?". Next, information about relationship conflicts were elicited: "Crises can create strains or conflict in relationships. What, if any, relationship strains or conflict have you noticed in your primary relationship? And in what way do you think issues related to the pandemic contributed to this?".

Co-workers and employers. Questions were asked about employers and co-workers: "Some people feel like their experiences at work, at least some of their experiences, are supportive. How much support do you feel at work? How has that changed during the pandemic?". Participants were also asked if they had experienced additional discrimination, prejudice, or unfair treatment at work since the beginning of the pandemic.

LGBTQ+ and general community. Information on participants' community connections were also elicited: "How has the pandemic, and changes in your life related to the pandemic, impacted your sense of connectedness or sense of being part of a community?". Interviewers asked about participants' sense of isolation, belonging, and connection to others. Participants were prompted to specifically discuss the LGBTQ+ community if they did not bring it up on their own: whether they felt isolated from the LGBTQ+ community, who within the LGBTQ+ community they connected with, and the ways they stayed connected to LGBTQ+ people.

Data Analysis

Inductive, phenomenological qualitative methods were used to characterize the ways that SMW's social support from significant others, family, friends, and the LGBT community changed during the COVID-19 pandemic. Interpretive phenomenology methods aim to describe and make meaning of the lived experiences of study participants (Peoples, 2021). A phenomenological analysis of the interview data provides an in-depth understanding of the ways SMW's social support may have shifted during the pandemic, shedding light on potential impacts of these changes. Applying Bronfenbrenner's social-ecological model, results are

mapped to the social-ecological levels on which they occur, such as individual, family, or community (Bronfenbrenner, 1977).

Following Peoples' recommended process of hermeneutic phenomenological analysis for dissertation research, the following steps of qualitative data analysis were completed (Peoples, 2021). First, this researcher listened to the full audio of each interview and drafted a descriptive memo. A brief journal entry on the researcher's personal biases and judgements was written for each interview. Next, the researcher read the full interview transcript and highlighted passages of text that were relevant to the research questions. Next, preliminary meaning units, or descriptions of the spoken content's ideas, were identified and tagged alongside the interview text. For example, a preliminary meaning unit might be "geographic isolation", "loneliness", or "supportive co-workers". Given the focus on changes in social support during the pandemic, preliminary meaning units focus on social support and the relationship between social support and SMW's wellbeing. Preliminary meaning units were classified as occurring on the individual, relationship, community, and/or societal levels (Bronfenbrenner, 1977). Using an iterative process of refinement called the hermeneutic circle, each interview's meaning units were then reviewed alongside the corresponding memos and journal entries. For each interview, up to five preliminary themes were defined by focusing on the whole (memos and journal entries), parts (preliminary meaning units), and then analyzing the parts to make sense of the whole. For each preliminary broad theme, exemplary participant quotes were identified. All seventeen interviews were coded in this manner to ensure thematic saturation.

As an external audit, these preliminary meaning units and broad themes were reviewed by one of the original interviewers who served as a qualitative analyst on a prior study using this data and who has expertise in the study population, substantive area, and qualitative methodology. Minor modifications to preliminary meaning units and broad themes stemming from this process were logged. After this process was completed for each of the seventeen interviews, general narratives or broad themes were synthesized across all interviews, again using the hermeneutic circle to consider each interview, and each interview as a part of the overarching whole. Broad themes were initially grouped thematically and then further consolidated into fewer cross-cutting themes. Six themes were identified that each contained two or three sub-themes. Participant experiences were described in a table of themes and sub-themes, noting alignment with levels of the social ecological model. Saturation of each theme across the interviews was also calculated. The table of themes were then reviewed by the external auditor who previously reviewed the preliminary meaning units and broader themes. No concerns were identified in this audit. In the final step, these broad themes were described within the paper's results section and exemplary quotes provided to create situated narratives.

Results

Participant age ranged from 33 to 71, with a mean age of 52.5 (SD=11.7). A majority of the 17 participants were women of color, with 47.1% identifying as Black/African American, 35.3% as Hispanic/Latina, and 17.6% white. Nearly all identified as women, with one participant (5.9%) reporting a non-binary gender. The majority (52.9%) described themselves as only lesbian/gay, followed by mostly lesbian/gay (23.5%), queer (11.8%), mostly heterosexual/bisexual (5.9%), or another identity (5.9%; this participant stated that her sexual orientation was based on the gender of her current partner). Most participants (58.8%) were in committed and cohabitating relationships, followed by single (23.5%), separated (11.8%), or in a

committed and non-cohabitating relationship (5.9%). The majority had received a high school diploma (41.2%), and the same proportions reported not having received a high school diploma (29.4%) or attending only some college (29.4%). Annual household income was most commonly $50,000-$99,999 (47.1%), followed by over $100,000 (29.4%), and under $49,999 (23.5%). See table 1 for participant demographic information.

Table 1

Participant Demographics (N=17)

Demographic Characteristic	% (*n*)
Age	
> 30	0% (0)
31-50	47.1% (8)
51-70	47.1% (8)
< 71	5.8% (1)
Annual Household Income	
< $49,999	23.5% (4)
$50,000-$99,999	47.1% (8)
> $100,000	29.4% (5)
Education	
Less than a high school diploma	29.4% (5)
High school diploma	41.2% (7)
Some college	29.4% (5)
College diploma	0% (0)
Gender	
Binary Gender (woman)	94.1% (16)
Non-Binary Gender	5.9% (1)
Race	
African American/Black	47.1% (8)
Hispanic/Latinx	35.3% (6)
White	17.6% (3)
Relationship Status	
In a committed, cohabitating relationship	58.8% (10)
In a committed, non-cohabitating relationship	5.9% (1)
Separated from partner	11.8% (2)
Single	23.5% (4)
Sexual Orientation	
Only heterosexual/straight[1]	5.9% (1)
Mostly heterosexual/bisexual	5.9% (1)
Mostly lesbian/gay	23.5% (4)
Only lesbian/gay	52.9% (9)
Queer	11.8% (2)

[1:] Participant met criteria to enroll in this study for sexual minority women and reported that she defines her sexual orientation based on the gender of her current partner

Six broad themes describing shifts in social support during the COVID pandemic and impacts on mental and behavioral health were identified, spanning all levels of the social ecological model. See table 2 for themes and sub-themes. Themes included: 1) Shifting political and social contexts around social support and social safety; 2) Online and digital socializing; 3) Chosen pandemic families; 4) Challenges and opportunities in dating and relationships; 5) Supportive and stressful workplaces; 6) Mutual aid and peer support. Each theme is described phenomenologically, or with an eye to understanding the phenomena as described in participants' own words. When participants explicitly tied their experiences of social support to insights on their behavioral health and wellbeing, these statements are integrated into their narratives to contextualize and ground these themes.

Table 2

Themes and Sub-Themes

Theme and description	Sub-themes	SEM levels
1. Shifting political and social contexts around social support and social safety *Rapid, deep-cutting changes in the COVID era political and social climate shifted aspects of social life. This generally included a decreased sense of connection to other people, increased sense of loneliness, higher levels of social tension, and decreased trust in strangers.*	1A. Increased isolation and loneliness 1B. Widespread social tensions negatively impact interactions 1C. Increasing fear of strangers harming self and loved ones	Individual Neighborhood Society
2. Online and digital socializing *Given shelter-in-place ordinances and pandemic-related reasons for social distancing, most opportunities for social connection became online and digital. Opportunities for in-person connection decreased. This shift created a mix of benefits and challenges, as some maintained a strong level of social connection and others saw a decrease.*	2A. Changing means of connection to church 2B. Maintained connections with friends and non-local family through online and digital means 2C. LGBTQ+ social contact shifts from physical spaces to online	Family Friends Church LGBTQ+ community
3. Chosen pandemic families *Due to the necessity of limiting contacts for public health reasons, social support structures were built and formalized by determining one's chosen pandemic family (often a non-nuclear family configuration including a partner, family of origin living locally, and close friends). In-person contact was prioritized with members of one's chosen pandemic family, especially older adults and young children.*	3A. Narrowing down and hunkering down together in pods and clusters, similar to chosen families 3B. Prioritizing in-person contact with chosen family members, especially older and younger family members	Partners Family Friends
4. Challenges and opportunities in dating and relationships *Single LGBTQ+ people wanting to date and seek new partnerships during the pandemic experienced challenges forming connections, as opportunities for meeting others in person were limited. Alternatively, cohabitating couples experienced opportunities for mutual adaptation and growth through pandemic-spurred challenges.*	4A. Challenges for single LGBTQ+ people 4B. Opportunities for adaptation and growth with partner	Partners LGBTQ+ community

5. Supportive and stressful workplaces *Co-workers played key social roles, often serving as a main source of social support. However, this occurred within the context of emerging workplace stressors stemming from the COVID pandemic social and political environment.*	5A. Co-workers as key source of social support 5B. Emerging workplace stressors related to social and political environment	Workplace Friends LGBTQ+ community Society
6. Mutual aid and peer support *There were increased opportunities to provide and receive support from friends and neighbors through formalized mutual aid organizations and informal exchanges of aid. Some opportunities for in-person community efforts that existed pre-pandemic ended due to shelter-in-place orders and the shift to online interactions.*	6A. Friendships becoming more mutually supportive 6B. Disrupted pre-pandemic mutual supports and neighborhood connections 6C. New opportunities for neighborhood mutual aid	Friends Neighbors Society

Theme 1: Shifting political and social contexts around social support and social safety

Rapid, deep-cutting changes in the COVID era political and social climate shifted aspects of social life for sexual minority women after shelter-in-place ordinances were enacted and non-essential businesses shuttered. This generally included a decreased sense of connection to other people, increased sense of loneliness, higher levels of social tension, and decreased trust in the safety and good intentions of strangers.

Reports of *increased isolation and loneliness* were common, especially among those who lived alone and were single. For some, this was discussed alongside reports of increased alcohol use to cope with challenging emotions. As one participant described, "I've become very isolated within my own environment. I talk to my sister and mom, and as long as I talk to them, I feel like I've talked to anybody that I'm supposed to… It has kind of furthered my loner-ship" (African American single lesbian woman in her 60s). She reported that she was not interacting with her Facebook friends as much and that she often chose not to return calls from friends, a change from pre-pandemic. Another woman contrasted feelings of separation from isolation, stating that she doesn't feel **"**separate from the community, but it feels a bit isolating because we can't hang out…I think the overall feeling is that people feel isolated" (Hispanic separated mostly lesbian woman in her 40s). She went on to report of her SMW friends, "I think people are using more drugs and alcohol to deal with the isolation", describing her perception of the impacts of social isolation on behavioral health.

Widespread social tensions had negative impacts on interactions between some participants and those they encountered socially. Participants described co-occurring political and social events perceived to escalate the impacts of the U.S. COVID pandemic, or "the perfect storm of everything gone wrong" (Hispanic partnered lesbian woman in her 60s). Social contexts mentioned across the interviews included the contested 2020 presidential election, rise of neo-Nazism, extreme weather events, highly publicized killings of Black citizens by the police, the Black Lives Matter movement, and related urban protests. Some reported that the heightened political and social atmosphere exposed them to a greater degree of racism and homophobia in their social interactions with others. As one woman described of the shifts she experienced, "Of course, homophobia has always been there, too. But I don't know why it felt louder, or more pronounced now than before. So again, I don't know if that's Trump or that's COVID" (Hispanic partnered queer woman in her 30s). Several participants sought to make sense of the broader social shifts that they witnessed during the COVID pandemic, at times uncertain of the specific sources of increased social tensions they felt.

Some who described these broader shifts did so alongside narratives of *increasing fear of strangers harming self and loved ones.* These concerns were particularly salient among Black women, such as one who stated "I noticed that there's been race riots and so forth, but this is a new era. It's sometimes just scary… you are just extra cautious… I don't want to be afraid, but sometimes I find myself a little afraid" (African American partnered lesbian woman in her 60s). Concerns were also noted among partners of Black women: "I felt afraid for my wife, not only because of her being African American but also because she is a very feminine lesbian and when people find out I feel afraid that they may do something or say something to her" (Hispanic partnered lesbian woman in her 60s). As summarized by a woman who was greatly concerned about violence from strangers and home invasions and learned how to shoot a gun during the pandemic, "I think I'm less afraid of COVID than I am with the unrest of the world" (African American partnered woman in her 40s). Fears of strangers harming oneself and loved ones were generally contextualized alongside the previously mentioned social tensions.

Theme 2: Online and digital socializing

Given widespread shelter-in-place ordinances and recommendations for social distancing, most opportunities for social connection became online or digital (e.g., cellphones, social media, video chat). Opportunities for in-person connection greatly decreased. This shift created a mix of benefits and challenges; some maintained a strong level of social connection and others saw a decrease.

Participants who were active in faith communities pre-pandemic described *changing means of connection to church*. Several participants reported feeling supported by their church community and faith leaders during the pandemic, often streaming services online or attempting to gather outdoors when the weather allowed. One participant whose church community included many LGBTQ+ people reported that she and her wife livestreamed services weekly but that the lack of in person services "makes you feel like you're not really connected to the community like you were when you were in town and going to classes and seeing people and they were seeing you" (White partnered lesbian woman in her 50s). Although connections to church communities continued for participants, they changed due to no longer centering around regularly scheduled in-person gatherings.

Nearly all participants *maintained connections with friends and non-local family through online and digital means* during the early pandemic months. Email, text message, video call (e.g., Facetime and Zoom), and social media (e.g., Facebook) were the primary means of providing and receiving digital social support; types of contact included one-on-one conversations, family gatherings, and zoom parties centered around drinking together. The higher volume of digital communication caused fatigue for some: "It feels like I'm on the phone forever" (African American single mostly lesbian woman in her 70s). Digital means of communication did work well for some, including a woman who increased her Facetime contact with her elderly parents for their sake: "when you can visually talk to each other and see each other, communicate, that's really important and key for feeling like you have more human contact… [my parents] need to feel like they're still having human contact" (Hispanic partnered lesbian woman in her 40s). Others reported increased contact and a sense of closeness with friends who they were out of contact with before the pandemic.

Similarly, *LGBTQ+ social contact shifted from physical spaces to online* for some participants, or sometimes ceased altogether. This was a notable shift for those who typically connected with other LGBTQ+ people at social events, such as a woman who reported, "during Pride Month, there was no parade, there was no events, there's no socials, there's no concerts, there's no festivals", limiting contact with LGBTQ+ people she would otherwise see in person (Hispanic partnered lesbian woman in her 60s). This lack of in-person LGBTQ+ social events "has impacted a lot of people's psyche", as one woman described of her close lesbian and bisexual friends (African American separated bisexual woman in her 50s). However, new opportunities emerged for digital LGBTQ+ socializing, such as one woman who became part of an LGBTQ+ group at work and stated, "I'm initiating social activities via Zoom with the group, so that I am meeting new people, again meeting via Zoom, new people and developing those relationships, but it's been an effort. It's much harder than it would be in person" (Hispanic single/dating mostly lesbian woman in her 60s). Some others, particularly those who primarily socialized with others online or via phone, reported few changes in their sense of connection to other LGBTQ+ people during this time.

Theme 3: Chosen pandemic families

Due to the necessity of limiting the number of social contacts during the COVID pandemic for public health reasons, social support structures were at times formalized into chosen pandemic families. This often involved narrowing down one's inner social circle to a non-nuclear family configuration including a partner, family of origin living locally, and close friends. In-person contact was generally prioritized with members of one's chosen pandemic family, especially older adults and young children, over other people.

Most participants went through a process of *narrowing down their social circles and hunkering down together in pods and clusters, similar to chosen families,* to limit one's number of social contacts and reduce COVID infection risk. Those who lived with multiple family members before the pandemic often expressed gratitude to have them in their inner circles, such as one woman living with her girlfriend and mother: "I am glad [my mother] is here with me because my father passed away about 12 years ago, so I am glad I will see her face every day" (African American mostly lesbian partnered woman in her 30s). For others, this process required making decisions about who to prioritize contact with: "we probably tightened it up a little bit. So if we had 12 people that we would see throughout the year, we probably narrowed it down the four that we're going to see" (Hispanic partnered lesbian woman in her 40s). This process contributed to a greater sense of closeness and interdependence for some: "I feel like I moreso can count on them through this time. And I also feel like they probably need us too, more than ever, now" (Hispanic partnered lesbian woman in her 40s). Pandemic chosen families were described as key social centers of participant's lives, as they provided consistent social contact and reduced concerns of isolation.

Since public health guidance encouraged individuals to narrow down their social circles, participants faced hard decisions about who to see, *generally prioritizing in-person contact with chosen family members, especially older and younger family members*. Several participants chose to limit their exposure to other people so that they could visit these family members with a lower risk of spreading COVID. For example, one woman who lived alone reported that she was no longer attending in-person parties with her extended family for this reason: " I try to be cautious as my mom is 95… Whenever I do go over to my mom's, I wear a mask to be very protective of her, and her age, and who comes around her" (African American single lesbian woman in her 60s). Similarly, others visited a smaller group of family less often than usual, as a woman who saw her family daily before the pandemic did: "Little ones and older folks, I just don't want to be around them like that, to expose them to anything if I had anything…I don't have any negative feelings about it. We are just trying to protect each other" (African American single lesbian woman in her 40s). Participant narratives reflected this balance of wanting to see loved ones and wanting to keep them safe from COVID.

Theme 4: Challenges and opportunities in dating and relationships

Single LGBTQ+ people wanting to date and seek new partnerships during the pandemic experienced challenges forming connections, as opportunities for meeting others in person were severely limited. Alternatively, those living with a romantic partner experienced their own pandemic-spurred challenges and associated opportunities for adaptation and growth.

Unique challenges for single LGBTQ+ people were reported by both single people and those concerned about their single friends. These challenges included a limited ability to meet in person after establishing a digital connection, decreased motivation to meet new potential partners, and greater isolation compared to partnered friends. As one woman described of trying

to date during the pandemic, "it's hard… it's kind of stressful… not being able to look, physically see someone. The phone is okay, but sometimes you just want to be able to sit down face to face with someone and converse" (African American single lesbian woman in her 40s). For other single women, the pandemic lowered their motivation to date altogether: "I don't want to meet nobody. I don't want to see nobody. I don't want to be with nobody… I feel that the pandemic has had an influence on that" (African American single lesbian woman in her 60s). Partnered women also expressed concerns about single LGBTQ+ friends who were lonely and had an "underlying sadness now that they can't meet anybody" (Hispanic partnered lesbian woman in her 60s). She reflected that her single LGBTQ+ friends were 'feeling depressed or some anxiety or sadness and so forth" due to lack of opportunities to date and receive support from partner(s).

Women in committed partnerships experienced their own challenges, which came along with *opportunities for adaptation and growth with their partner*. For those who lived together, there was a period of adjustment to spending more time together at home, or as one participant described of her wife, "not only is this who I'm married to, but it's my work colleague, office colleague, all of that, friend…" (Hispanic partnered lesbian woman in her 40s). Most cohabitating couples described successfully adapting because of their relationship's strengths and the lessons learned from obstacles they previously overcame together. However, several couples experienced escalating tensions related to one or both members' increased use of alcohol and/or marijuana. For example, one married woman reported drinking about two to three times as much as she did before the pandemic, prompting worried comments from her wife, who does not drink: "My partner has always supported me in every aspect except for my wine. That's the only thing, she doesn't like it, and she says I drink too much. Everything else is fine; she supports me in every way" (Hispanic partnered lesbian woman in her 60s). A woman who worked as a hospital nurse reported that her relationship had "been a lot more stressful in some ways" since her partner was furloughed from work, experiencing anxiety and depression, and often drank during the day. She described these tensions: "I've gotten frustrated with her drinking when I come home and things aren't done around the house, and I'm just like 'what are you doing?'. But I know it's her depression, too, but things like that have been really stressful" (Hispanic partnered queer woman in her 30s). The wife's drinking habits, which impacted the couple's ability to have quality interactions after the participant returned home from work daily, fortunately began to resolve when she returned to work later in the pandemic.

Theme 5: Supportive and stressful workplaces

Colleagues played key social roles in the lives of participants, often serving as a main source of mutual social support. However, this support from colleagues occurred within the context of emerging workplace stressors stemming from the COVID pandemic.

Co-workers were a key source of social support for many women who worked during the pandemic, especially for those who were single, older, or living alone. A woman who was initially furloughed from her job at a graphic printer and then brought back as an essential worker at her job at a graphic printer described her workplace as "very supportive" and accepting of her as a lesbian. She noted of her personal connection with colleagues, "I have a lot of friends at work who can talk about our lives and what's going on and stuff. I enjoy going to work. I feel connected with people there" (White single lesbian woman in her 60s). A hospital nurse described her colleagues as "more of a support system" during the pandemic than prior, stating "I think [the pandemic] did bring the nurses actually together a little bit more because we saw what

our risk was" for contracting COVID at work (Hispanic partnered queer woman in her 30s). Another healthcare worker stated that her colleagues were a source of "hope for a better future" (African American separated bisexual woman in her 50s). This sense of connection with colleagues occurred across differing types of workplaces. Relatively few participants did not report having a positive relationship with colleagues.

In contrast with the support received from colleagues, some participants additionally reported *emerging workplace stressors related to the social and political environment*. For example, despite feeling supported by colleagues, the hospital nurse reported feeling like "the administration doesn't have our back, doesn't care about our lives" since the nurses had to "fight tooth and nail" to get personal protective equipment (Hispanic partnered queer woman in her 30s). A child welfare system worker reported that racism, discrimination, and homophobia were always present at her work but that they escalated during the pandemic: "Unfortunately the political arena that we are in is giving more permission to be straight out racist or homophobic. It's just crazy. I've never experienced such disrespect" (Hispanic partnered lesbian woman in her 60s). She reported that there was a high level of worker turnover once shelter-in-place orders began since a part of the job is home visits, and some workers were not willing to do this. Other pandemic-related workplace stressors were more subtle, such as one remote worker who stated, "I'm in the process of always coming out, not just about my sexual orientation but about my person of color status, that I'm Latina, then, about my age", describing her efforts of being visible to colleagues (Hispanic dating mostly lesbian woman in her 60s). She continued, "coming out via Zoom is different than coming out in person…my sense is that had I been in the office, I wouldn't have to be coming out all the time. It would be very clear" and described how she would have visual cues of her identities in the office that would decrease the need to repeatedly come out, which she described as fatiguing.

Theme 6: Mutual aid and peer support

There were increased opportunities to provide and receive support from friends and neighbors through formalized mutual aid organizations and informal exchanges of aid during the COVID pandemic. However, some opportunities for in-person community efforts that existed pre-pandemic ended due to shelter-in place-orders and the shift to online interactions.

For many, *friendships became more mutually supportive* after the beginning of the COVID pandemic. This included increased commitment to maintaining friendships, frequency of contact to check in on each other, and offers of support. Several participants reported that they came to value their friendships more after the pandemic began: "I think now I value spending time with other people more, or I take it for granted less than I did" (White partnered lesbian woman in her 30s). She described her increased willingness to make time to see friends compared to before the pandemic began: "Before I was always like, 'Oh I wish I could hang out with my friends, but I have to work.' Now I'm making the time because I have felt a little bit of the loneliness and isolation and boredom". Others reached out regularly to provide support to friends that were single or more isolated than those living with partners: "I've been contacting my friends who I call on a regular basis now, who are by themselves or who are alone or single… I think people appreciate it." (Hispanic partnered lesbian woman in her 60s). She went on to describe responses she has received from friends who do not receive many calls otherwise: "I always hear from people who say, 'thanks for calling me', that 'you've made my day' or 'you're the only one that calls me' or 'it's so great to talk to you' or something". These relationships with friends were described as mutually supportive and valuable for all parties.

Some women who were involved in their local communities experienced *disrupted pre-pandemic mutual supports and neighborhood connections.* This included local volunteer positions held by retired women and caretaking positions that ceased to exist when shelter-in-place orders began, and informal neighborhood connections weakened. For example, one woman reported that she previously had a "sense of belonging" in her neighborhood because she biked her grandchildren to their nearby school daily, where she socialized with teachers and parents regularly (Hispanic partnered lesbian woman in her 60s). After school moved online and these in-person exchanges stopped, this mutually beneficial connection was no longer possible. Similarly, some women with local volunteer positions before the pandemic noted how much they missed these connections after in-person volunteer shifts ceased. An older woman who tutored in the public schools twice a week missed this position once schools shuttered and considered whether she would tutor online if the opportunity became available, stating "I do miss the connection with the kids. I guess I am willing to see how that might work, both to give me something fulfilling in my life and just help out because I know the kids really need it", highlighting the mutuality of volunteer work (African American single mostly lesbian woman in her 70s).

While there were some disruptions in social connections and opportunities to provide and receive support, *new opportunities for neighborhood mutual aid* also emerged. Many participants reported making extra efforts to make sure their neighbors were safe, supported, and had essential goods and supplies, reporting that this became a greater priority they could dedicate more time to than pre-pandemic. Some of this effort occurred through organized mutual aid groups (e.g., food distribution centers and non-profit programs) and others were through informal contact with neighbors (e.g., bringing in the mail or delivering groceries to elders). Some women who found themselves with more free time during the pandemic used the opportunity to become more involved locally. One woman both volunteered weekly at a food and supply distribution group run by non-profit organizations and received goods her household needed there. Both supporting this program and receiving benefits from it were open to all. She described, "We kind of sell these boxes of food, like produce, PPE, a lot of produce, grains, and meat like chicken, frozen chicken and stuff… they had all these resources and everything" (African American partnered non-binary queer person in their 40s). Others became involved in mutual aid work through their existing connections to their churches and neighborhoods. As one woman described of her local Black community and church, "There's a group of us, rather supportive of each other. We look out for each other, always necessarily we say, and we take this thing [pandemic] very seriously and that's because there are older people in the group and in my community" (African American partnered woman in her 40s). In addition to benefitting those she supported through these efforts, she also reported personal benefits: "I've been trying to be the one that keeps everybody safe and checks in with everybody…That's been really good for me", highlighting the mutuality of these interactions.

Discussion

This study described perceived shifts in the social lives and social support structures of SMW that occurred at the beginning of the COVID pandemic. Some of these changes mirrored those of the general population, such as the shift from in-person to online and digital social contact, and others illuminated LGBTQ+ and SMW-specific experiences, such as challenges "coming out" as an LGBTQ+ person in a fully remote work environment. Participant narratives,

considered in tandem with insights from the pandemic literature, highlight some areas that may have health and wellbeing implications moving forward.

For example, pandemic conditions appeared to increase the use of online and digital forms of social connection to replace in-person modes of connection that were no longer available. Although many SMW engaged in digital communication at least occasionally before the pandemic, digital and online socializing was reported to increase greatly, mirroring what has been found in the general population and in LGBTQ+ populations (Bochicchio et al., 2021; Cerezo et al., 2021; Salerno et al., 2021). These shifts towards socializing from a distance also raise questions of whether online platforms will remain a primary way that SMW continue to connect, especially for those who do not live in proximity to LGBTQ+ spaces such as community centers, meeting places, and bars. If there is a lasting shift towards digital forms of LGBTQ+ connection over gathering in physical LGBTQ+ spaces, it may become increasingly hard for LGBTQ+ spaces to stay funded and open. Financial resources such as state and local grants are likely needed to ensure that spaces historically serving LGBTQ+ people can re-open and remain resources to the community ongoing (Drabble & Eliason, 2021; Slemon et al., 2022).

The shift towards digital social outlets also raises questions of ongoing equity of access to LGBTQ+ social life. Although SMW in the present study reported having the technology and proficiency needed to connect with others digitally, some LGBTQ+ people may have less access, such as older adults, those without disposable income to spend on technology, and those with disabilities that limit their ability to engage online or via cellphone. Further, some SMW described having a harder time meeting and connecting with others online compared to in physical spaces, which has also been noted in the general population. There is a need for further research that identifies whether all SMW have relatively equitable access to online and digital forms of LGBTQ+ community, or whether some sub-groups have not been as able to experience the benefits of these emerging modes of communication.

Notably, this study highlighted the extent of SMW's participation in mutual aid and peer support activities during the COVID pandemic, which has been minimally discussed in the extant literature. Since the general pandemic literature has noted the rise of mutual aid and peer support activities during this time and mutual aid is considered an aspect of LGBTQ+ community that has been used in previous crises like the HIV/AIDS pandemic (Abreu et al., 2021; Gonzalez et al., 2021; Spade, 2020), these findings provide a more detailed understanding of SMW's participation in these activities. Participants noted a growing ethic of care and interdependence in themselves that was spurred by pandemic conditions. They enacted these values through activities ranging from highly professionalized (e.g., volunteering with a non-profit run food distribution center) to quite informal (agreeing to provide certain types of support for an elderly neighbor), highlighting the range of ways SMW chose to engage.

It is also notable that SMW who engaged in mutual aid or peer support described these connections as mutually beneficial and supportive on an emotional or interpersonal level, even in situations where their efforts weren't rewarded in a traditional sense. This mutuality is in contrast with the way that social support is commonly discussed as more transactional or one-sided, in which one person seeks and receives support from another party who does not personally benefit from the interaction. Mutual aid work is arguably one way that SMW are resilient in the face of crisis, both as individuals and as members of a greater LGBTQ+ community (Abreu et al., 2021; Gonzalez et al., 2021). Perhaps lessons learned about how LGBTQ+ people currently and historically have mobilized community resources to meet emerging needs will be helpful as future crises inevitably occur.

Some, but not all, participants explicitly drew connections between experiences of social support (or lack thereof) and mental or behavioral health concerns like depression, anxiety, and heavy alcohol or marijuana use. This included both descriptions of one's own wellbeing and that of partners and housemates with whom study participants lived. Reports of depression and anxiety were common, which is consistent with prior pandemic research on these conditions (Akré et al., 2021; Moore et al., 2021; Slemon et al., 2022; Wardell et al., 2020). Alcohol and marijuana use were also reported to increase for some participants early in the pandemic, which has also been documented in previous research (Slemon et al., 2022; Wardell et al., 2020). Some participants stated that the frequency and volume of use declined to pre-pandemic baseline levels within a few months and others did not note any changes over time, potentially indicating continued elevated levels of use. Given the heightened levels of psychological distress noted in this sample and the extant literature, there is need for longitudinal research to identify whether these behavioral health concerns persist at pandemic levels or resolve over time, as this has implications for the long-term mental health and substance use service needs of SMW.

Furthermore, in some couples where one member had an increase in alcohol use and the other did not, these changes in use appeared to be a point of disagreement and major relational stressor. Some partners of those with escalating challenges showed a high level of empathy and understanding of their partners' behavior, for example, showing an awareness that a partner's increase in alcohol use was due to anxiety related to the pandemic, whereas others reported greater interpersonal dysfunction as a result. These diverging trajectories of substance use and mental health concerns within some couples have been minimally documented and raise novel concerns of escalating couple's issues during the COVID pandemic. In addition to research on the behavioral health trajectories of LGBTQ+ individuals during the pandemic and in the months that follow, there is a need for research on the wellbeing and needs of LGBTQ+ couples, who may have different stressors and experiences than single people.

Limitations

Study findings should be considered in the light of several limitations related to study design, participant sampling, and data analysis methodology. This study uses phenomenological, descriptive qualitative research methods to describe the experiences and perceptions of SMW from their own perspectives. Phenomenological methods are a good match for characterizing emerging, unprecedented phenomena and are descriptive, not causal. It cannot be determined from the data whether the changes in social support described were directly caused by the COVID pandemic or other circumstances. Other personal factors (e.g., changing jobs or relationship status), interpersonal factors (e.g., how other people in participants' networks experienced the pandemic), and broader societal and political factors (e.g., the extent that participants experienced racism within social settings) may have been associated with the changes in social support, rather than the COVID pandemic itself. As such, longitudinal quantitative research is needed to determine how SMW's circumstances changed as the pandemic progressed, what factors these shifts were attributable to, and whether changes noted here were maintained or evolved over time. This would help characterize what pandemic conditions were most associated with negative health outcomes, such that care can be taken to mitigate the harm of these circumstances for those continuing to suffer from pandemic impacts and during future crises.

Furthermore, this study took a purposive sample of sexual minority women which included higher numbers of multiply marginalized SMW such as those who were Black or

Latina, low-income, with lower educational attainment, and those who regularly drank alcohol. This was intentional as to highlight the experiences of people who are much less represented in the COVID pandemic literature to date. As such, the experiences of SMW in the present study are not generalizable to all SMW or LGBTQ+ people, though they provide insights on the types of experiences some sub-groups of LGBT+ people and SMW likely had during the COVID pandemic. Additionally, the present study analyzed previously collected interviews that inquired about a range of topics and experiences beyond that of the current research questions. Other interview questions may have guided participants to bring up or emphasize topics that they may not have mentioned if only asked about their experiences of social support during the interviews.

Conclusion

Despite these limitations, the present study adds useful insights to the literature on how LGBTQ+ people – especially SMW of color – may have experienced the COVID pandemic and shifts in social support that occurred. In addition to the research implications that have been noted, these documented shifts in social support and changes in mental and behavioral health concerns (e.g., loneliness, isolation, and depression) also have implications for social work and public health practice, and policy advocacy.

The present study notes that some SMW reported shifts or increases in depression, anxiety, alcohol use during the pandemic. While this uptick may have naturally resolved for some SMW, others may need additional support from social workers and behavioral health professionals to return to their pre-pandemic level of functioning. This could include support navigating to and enrolling in individual, couples, or family therapy, peer support groups addressing substance use and/or mental health, or other support services. For families or couples where one or both members experienced persistent escalated substance use and associated relationship problems during the pandemic, couples counseling focused on improving relationship quality and increasing social support for all parties may be helpful. Furthermore, there was indication that some SMW who were single may have had less social support during the pandemic (and in general) than those who were partnered. Encouraging the use of support groups and other community resources where single individuals can get support and connect with new people in similar situations could also be a useful prevention and intervention strategy. Individuals who lack sufficient social support and have concerns about their ability to meet others may also benefit from social skills training, perhaps in a psychoeducational peer support group format that normalizes and destigmatizes social challenges.

These research findings also have implications for social policy advocacy related to LGBTQ+ affirmative workplaces and community spaces. Comprehensive LGBTQ+ employment anti-discrimination and equitable treatment policies are crucial since workplaces were a primary place of social interaction during the pandemic and colleagues were key sources of support for many SMW. Since the degree of protections for LGBTQ+ expression and identity can vary greatly by state and locale, especially in terms of gender expression, SMW in some places and with some identities are at a higher risk of mistreatment in the workplace than others. For example, gender non-binary or transgender SMW are at risk for adverse workplace experiences in states that are beginning to re-criminalize non-normative gender presentation (e.g., cross-dressing, gender ambiguity or transition). There is a need to ensure that all workplaces are safe and affirming for LGBTQ+ people, both to serve as a source of social support, and because the full inclusion and fair treatment of all people in the workplace is a social justice issue.

Similarly, the shifts from in-person LGBTQ+ social life to online means of connecting during the COVID pandemic may have lasting impacts on the ability of in-person spaces to remain financially viable and open to SMW. These spaces closed early in the pandemic and the long-term impacts of closures and loss of revenue during the pandemic years remains to be seen. Since LGBTQ+ community centers and in-person spaces are vital hubs for LGBTQ+ community connection and social support, which is associated with greater wellbeing, these spaces warrant stable funding from local, state, and federal funders of health and wellbeing resources. Furthermore, given the context of heightened opposition to LGBTQ+ rights by several state legislators, LGBTQ+ spaces (e.g., LGBTQ+ centers) and events (e.g., LGBTQ+ pride parades and festivals) in these states will arguably become increasingly important for LGBTQ+ connection and wellbeing in the context of stigma, marginalization, and political oppression.

These suggested multi-level interventions and others have the potential to increase social support for some of the most marginalized SMW, such as SMW of color, single SMW, older SMW, and bisexual, queer and non-lesbian identified SMW. This social support is needed to enact resilience and maintain wellbeing in the face of trauma and stressors; while the acute stress and trauma of the COVID pandemic is arguably over, these supports will be essential to coping with the next crises that cannot be anticipated but will inevitably occur.

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Concluding Statement

A multitude of changes in social support occurred for SMW at the onset of the COVID pandemic across a range of relationship types (e.g., partners, neighbors) and settings (e.g., workplace, church). While some of these changes were similar to what has been documented in the general population, other changes appeared specific to LGBTQ+ people or SMW, such as the escalation of sexual minority stressors in social interactions in addition to general stressors and pandemic-spurred stressors. Study findings re-center the experiences of multiply marginalized sexual minority women, adding to the literature about LGBTQ+ people who have been less studied during the COVID pandemic.

Some SMW explicitly linked shifts in their social support systems to changes in mental and behavioral health in themselves and others, highlighting the importance of research on minority health that considers the social and political context individuals live within. Perhaps some of these changes have resolved or naturally returned to a baseline state as the pandemic continued, and others may have endured after the acute phase of the pandemic was over. The long-term impacts of the COVID pandemic on SMW's social support, resilience, and mental and behavioral health remains unclear due to the lack of longitudinal research on the topic, which is sorely needed. Given that social support appears to enable resilience for SMW, which in turn decreases odds of several behavioral health conditions which disproportionally burden SMW, this work can help illuminate areas of increased concern and potential avenues for intervention.

Appendix A: Interview Guide for Paper 3

Interview Guide for CHLEW COVID-19

INTRODUCTION

Thanks for taking time to talk with me today. First, I want to acknowledge that these are stressful and uncertain times for all of us – and we are still in the middle of the pandemic. At the same time, each of us is different; we each have different life experiences, stressors, concerns and ways of coping or dealing with our situations. The overall purpose of this interview is to ask you to share your stories and experiences related to the COVID-19 pandemic. We are especially interested in how things like sex or gender, sexual identity, race/ethnicity, and age have influenced your perspectives about your experience. As mentioned in the consent form, we will be interviewing 20 to 30 people participants in the CHLEW study.

I would like to talk with you today about your experiences and perceptions about how the COVID-19 pandemic has impacted you, your life, and your relationships. I am going to ask you a series of questions to facilitate a conversation. Please just tell me what comes to mind, don't be afraid to think out loud, and please feel free to share any stories that you feel comfortable sharing with me. If you have questions or concerns as we talk, please feel free to bring those up at any time.

[we know you have been sheltering in place so you may not have had some experiences]

BACKGROUND

1. First, it would help to have some background information. Would you mind telling me about your relationship status?

    - Do you live with your [*partner/girlfriend/boyfriend/wife/husband; use P's terms*]?

2. We know that some people may have had a change in their living situation recently. Has your living situation recently changed; Who do you currently live with?

- If you live with other people, what is their relationship to you? [*partner, parents, friends, children etc*].

3. So that I can be respectful of your identity and how you refer to yourself, what words or phrases do you use describe your sexual orientation?

- How do you describe your gender identity? And what pronouns do you prefer?

WORK

4. We know a lot of people have recently had a change in their employment; would you share with me your employment status? [check on full or part time; new job; working from home; unemployed or furloughed; retired]

5. Has your employment status changed since the pandemic?

- [*If applicable (not retired)]* Can you describe recent changes in your workplace, the place or how you work? How are you feeling at or about your work?

[*Depending on previous answer about work status*] Would you please share with us some of your feelings and thoughts about [being furloughed, change in job, working from home….]

PROBES

- Some people are feeling more stressed about work, and some like their new working conditions. What has changed for you at work? How do you feel or what do you think about that? Is this a source of stress? Or a source of relief?

6. Some people experience additional discrimination or prejudice at work during times of crisis. Do you feel like you have experienced unfair treatment at work? [If yes, to what do you attribute this?]

7. Some people feel like their experiences at work, at least some of their experiences, are supportive. How much support do you feel at work?

How has that changed during the pandemic?

Do you have any other concerns about your job or workplace?

RELATIONSHIPS

[*IF PARTICIPANT IS CURRENTLY IN A RELATIONSHIP*] …I'd like to ask you a few questions about yourself and your primary relationship.

8. There is a lot of different stress right now, would you share with me how you are feeling about your relationship.

Are you feeling more or less stress in your relationship since the pandemic?

What do you attribute this change to?

PROBES

In what way has your partner/? been impacted by the pandemic, in terms of their job or any other impacts?

[*I know you mentioned that you live with X*]. How are you feeling about your current living arrangements? Are you comfortable in your current situation? Feeling more or less stressed? [Would you say more about your comfort/ stress?]

9. Crises can create strains or conflict in relationships. What, if any, relationship strains or conflict have you noticed in your primary relationship?

And in what way do you think issues related to the pandemic contributed to this?

PROBE:

- Has this impacted your feelings of trust or safety in your relationship? If so, how?

How are you coping with those feelings?

10. How has the pandemic has impacted your other relationships?

Probes:

- With your family? Are you engaging in any Care-giving?
- With friends?
- With your neighbors?
- Within your community?
- Would you share with us how you feel your relationships have changed during the pandemic? Have they have been disrupted or strengthened? If so, how?

Do you know people who have tested positive for COVID-19?

Community

The Next Questions Focus on Your Experiences, Feelings, And Interactions With Other People and in Communities That You May Be Part of.

11. How has the pandemic, and changes in your life related to the pandemic, impacted your sense of connectedness or sense of being part of a community?

- Are there places you feel like you belong or don't belong?
  - Has that changed recently?
- Some people may be feeling isolated because of 'shelter at home' restrictions. How have you been feeling? Any feelings of being isolated or separated from your community? [especially the LGBT community if they do not mention it]
- What are the ways you stay connected to others? Who do you connect with?

DISCLOSURE, CONCEALMENT AND SAFETY

The pandemic impacts people in different ways, including how safe we feel or how we interact with others.

12. How has the pandemic impacted when or to whom you disclose your identity as a [lesbian/bisexual/other word], or when or to whom you decide not to disclose your identity?

PROBES

- Are there situations or places in which you feel you need to be careful about disclosing your identity?
- Has the pandemic impacted your sense of safety or support as a lesbian/bisexual woman/person?
- If you had to seek medical care related to COVID-19, what concerns, if any, do you have about how you might be treated because of your identity?

EXPERIENCES OF PREJUDICE

We know we have already asked you about work and your community. We'd like now to ask more broadly about prejudice or unfair treatment that you or others you care about may have experienced.

13. In what ways, if any, do you feel like you, or others that you care about, have been impacted by the pandemic?

- Do you feel like this [unfair treatment/prejudice] is related to the pandemic or made worse by the pandemic?

14. We know that some people have strong feelings about wearing a face covering or mask in public. Would you please share with us how you feel about wearing a mask in public?

- Do you feel like wearing or not wearing a mask makes you more "visible" or more at risk for experiencing discrimination or prejudice? [when/where/who]

COPING

We are getting toward the end of the interview and want to focus on just a couple final topics. First, people deal with stress in a lot of different ways and we are interested in learning about you are dealing with this situation.

15. How do you think other lesbian/bisexual/queer women are experiencing or being impacted by the pandemic? And How you think they are dealing with or coping with the pandemic?

PROBES

- Are any of these ways of dealing or coping similar to your experiences or feelings?

- How are you dealing with or coping with the pandemic?
- What are some of the specific ways that you are coping with stress or changes these days?
- What are some of those strategies? How effective do you think these strategies are for you?

18. Do you [or your partner] smoke? Have your noticed changes in your [your partner's] smoking during the pandemic

Probe: Do you have a sense of how much more you or others are smoking?

USE OF ALCOHOL

We know that people cope or deal with stress or changes in their lives in many ways. One way that some people may deal with stress or changes is to have a drink (alcohol).

16. In what ways have you or people around you used alcohol more or differently to deal with the pandemic (the stresses and changes)?

Probe: What is your sense of how much you or others are drinking?

- Do you [or your partner/ or people around you] drink to "unwind" or relieve stress? From boredom?
- Some people just casually have a drink as part of their day. Would you mind sharing some of your thoughts or experiences related to drinking during the past few months (during the pandemic)?

17. How does your drinking, or other people's drinking impact you? Your relationships?

PROBES

- In what ways, if any, has your or your partner's drinking changed recently?
- Has the need to stay at home impacted your or your partner's drinking?
- In what ways, if any, have you noticed changes in behaviors or feelings when you or your partner are drinking?
- Is there anything else about coping that you'd like to talk about?

Last Questions

I'd like to end with a couple of general questions:

19. We know we are still in the middle of the situation -- What gives you hope, or gives you a sense of meaning, during all these challenges?

20. Are there any other experiences or thoughts that you would like to share with me?

Appendix B: UC Berkeley CPHS Approval

Berkeley
UNIVERSITY OF CALIFORNIA
Committee for Protection of Human Subjects (CPHS)
Office for Protection of Human Subjects (OPHS)

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NOTICE OF APPROVAL FOR HUMAN RESEARCH

DATE:	*August 18, 2022*
TO:	Paul Sterzing Angie Wootton, Dept of Social Welfare
CPHS PROTOCOL NUMBER:	*2022-07-15507*
CPHS PROTOCOL TITLE:	*LGBTQ+ resilience in community context: A mixed-methods analysis of the behavioral health of a racially diverse sample of sexual minority women*
FUNDING SOURCE(S):	*NONE*

A(n) *new* application was submitted for the above-referenced protocol. The Committee for Protection of Human Subjects (CPHS) has reviewed and approved the application on an expedited basis, under Category *5* of the federal regulations.

Effective Date: *August 18, 2022*

Expiration Date: *August 17, 2032*

Continuation/Renewal: Applications for continuation review should be submitted no later than 6 weeks prior to the expiration date of the current approval. *Note: It is the responsibility of the Principal Investigator to submit for renewed approval in a timely manner. If approval expires, all research activity (including data analysis) must cease until re-approval from CPHS has been received.* See Renew (Continue) an Approved Protocol.

Amendments/Modifications: Any change in the design, conduct, or key personnel of this research must be approved by the CPHS ***prior*** to implementation. For more information, see Amend/Modify an Approved Protocol.

For protocols that have been granted approval for more than one year: Certain modifications that increase the level of risk or add FDA oversight may require a continuing review application to be submitted and approved in order for the protocol to continue. If one or more of these changes occur, a Continuing Review application must be submitted and approved in order for the protocol to continue.

Unanticipated Problems and Adverse Events: If any study subject experiences an unanticipated problem involving risks to subjects or others, and/or a serious adverse event, the CPHS must be informed *promptly*. For more information on definitions and reporting requirements related to this topic, see Adverse Event and Unanticipated Problem Reporting.

This approval is issued under University of California, Berkeley Federalwide Assurance #00006252.

If you have any questions about this matter, please contact the OPHS staff at 642-7461 or email ophs@berkeley.edu .

Sincerely,

Committee for Protection of Human Subjects (CPHS)

UC Berkeley