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Iridescent Life Course: LGBTQ Aging Research and Blueprint for the Future – A Systematic Review

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Abstract
Background: LGBTQ* (lesbian, gay, bisexual, trans, and queer) older adults are demographically diverse and growing populations. In an earlier 25-year review of the literature on sexual orientation and aging, we identified four waves of research that addressed dispelling negative stereotypes, psychosocial adjustment to aging, identity development, and social and community-based support in the lives of LGBTQ older adults. ***Objectives:*** The current review was designed to develop an evidence base for the field of LGBTQ aging as well as to assess the strengths and limitations of the existing research and to articulate a blueprint for future research. ***Methods:*** Using a life course framework, we applied a systematic narrative analysis of research on LGBTQ aging. The review included 66 empirical peer-reviewed journal articles (2009–2016) focusing on LGBTQ adults aged 50 years and older, as well as age-based comparisons (50 years and older with those younger). ***Results:*** A recent wave of research on the health and well-being of LGBTQ older adults was identified. Since the prior review, the field has grown rapidly. Several findings were salient, including the increased application of theory (with critical theories most often used) and more varied research designs and methods. While existing life course theory provided a structure for the investigation of the social dimensions of LGBTQ aging, it was limited in its attention to intersectionality and the psychological, behavioral, and biological work emerging in the field. There were few studies addressing the oldest in these communities, bisexuals, gender non-binary older adults, intersex, older adults of color, and those living in poverty.

This paper was originally presented at the 21st International Association of Gerontology and Geriatrics World Congress, July 2017, San Francisco, CA, USA. LGBTQ* is used as it reflects the state of the terms used in the literature, which connotes lesbian (L), gay (G), bisexual (B), trans/transgender (T, as an umbrella term to include trans, transgender, gender diverse, and gender non-binary), and queer (Q, as an umbrella term to include queer, sexual diverse, and non-binary). Cisgender is used to "refer to individuals who have a match between the gender they were assigned at birth, their bodies, and their personal identity" [1]. Heteronormative is used in the literature to connote the assumption of heterosexuality as normative and naturally occurring according to heterosexual attraction between two differently sexed and gendered bodies and that organizes societal systems [1].

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Conclusions: The Iridescent Life Course framework highlights the interplay of light and environment, creating dynamic and fluid colors as perceived from different angles and perspectives over time. Such an approach incorporates both *queering* and *trans-forming* the life course, capturing intersectionality, fluidity over time, and the psychological, behavioral, and biological as well as social dimensions of LGBTQ aging. Work is needed that investigates trauma, differing configurations of risks and resources over the life course, inequities and opportunities in representation and capital as LGBTQ adults age, and greater attention to subgroups that remain largely invisible in existing research. More depth than breadth is imperative for the field, and multilevel, longitudinal, and global initiatives are needed.

Introduction

Mirroring rapid changes in policies related to same-sex marriage, there has been a significant increase in public attention to lesbian, gay, bisexual, transgender, and queer (LGBTQ*) issues across the globe. For example, between 2001 and 2016, public support in the USA for same-sex marriage grew steadily from 35 to 55% [2], culminating in the 2015 *Obergefell v. Hodges* Supreme Court decision giving same-sex couples the constitutional right to marry. Despite increasingly positive societal discourse regarding LGBTQ people in many parts of the world, those in older adulthood remain largely invisible. The Institute of Medicine [3] identified LGBT older adults as an underserved and understudied population, calling for more research to address their distinct needs.

The proportion of older adults continues to grow faster than any other segment of the population worldwide, and the USA is no exception, with the population 65 years and older expected to more than double in size from 40.2 to 88.5 million between 2010 and 2050 [4]. The older adult population is also increasingly diverse by race and ethnicity [5], as well as by sexual and gender identity [6]. Individuals who openly self-identify as LGBTQ are estimated to comprise 2.4% of the USA older adult population or 2.7 million individuals, which will increase to more than 5 million by 2060. Furthermore, when taking into consideration same-sex behavior, attractions, and romantic relationships, this number more than doubles to over 5 million LGBTQ older adults today and more than 20 million by 2060 [6].

An earlier 25-year review of existing research on sexual orientation and aging [7] analyzed 58 articles published between 1984 and 2008. The review assessed the literature corresponding to the dimensions of the life course perspective as explicated by Elder [8]. Based on the analysis using life course theory, the review identified four key waves in sexual orientation and aging related research, illustrating the evolution of the field. The first wave of research dispelled myths and negative stereotypes of sexual-minority older adults as lonely, isolated, and having poor mental health, illuminating similarities between lesbian, gay, and bisexual older adults and their heterosexual counterparts. A second wave emphasized psychosocial adjustment to aging, while the third focused on identity development and recognized the shifting historical and social contexts. The fourth wave emphasized sexual-minority adults' social relationships and community-based needs and support.

The two primary life course themes in the existing literature at the time were the interplay of lives with historical times and social relationships. The existing studies explored how lesbian, gay, and bisexual older adults' experiences intersected with the broader historical and social context in which they lived, including how experiences of prejudice affected their aging, identity, and service utilization. This early research also sought to understand the importance of linked lives and social interactions, including the importance of families of choice, legally defined family members, and social and community support networks. The review identified the life course tenets of timing of lives and agency as significantly underdeveloped and requiring further study.

In this paper, we examine articles published since the previous review to provide an evidence base for this growing field. Given recent changes in the expanding empirical literature, we also expanded the population of interest to include trans and queer older adults. By synthesizing research findings across 66 articles published between 2009 and 2016 that focus on LGBTQ older adults and aging, we examine the key life course themes in the literature, as well as the theoretical, substantive, and methodological limitations and strengths of the literature base. By assessing the extent to and ways in which knowledge in the field has advanced, as well as examining existing gaps in the research, we outline the Iridescent Life Course framework with a blueprint for future research. We propose the Iridescent Life Course to capture the diverse, fluid, and intersectional nature of LGBTQ older adults' lived lives, much like iridescent properties creating dynamic and fluid colors as perceived from different angles, perspectives, and environments over time.

Table 1. Literature review search terms

	Sexuality	Sexual minority	Sexual identities	Trans*	Gender expression
Sexuality and gender related	sexual orientation sexual attraction sexual behavior sexual preference sexual identity homosexuality bisexuality	sexual minority sexual minorities sexual minority men sexual minority women	homosexual non-heterosexual bisexual lesbian gay queer	transgender trans transgendered transgenders	gender queer gender identity gender expression gender non-binary gender non-conforming gender expansive gender diverse
AND					
Aging related	aging older adults elder gerontology				

*Trans** is an umbrella term used to connote transgender identities, including gender non-binary and diverse.

Methodology

Like prior gerontological literature reviews [9, 10], we used a narrative systematic approach to structure the analysis and comparison of studies by identifying concepts according to key words, as opposed to a meta-analytic method, which analyzes studies according to the measurement of concepts [11]. The application of a meta-analytic approach is limited in fields that are underdeveloped and made up of a wide range of disciplinary and methodological approaches. In contrast, a narrative approach provides the foundation for assessing the comparability and divergence in findings, as well as the relative strengths and limitations across studies, despite the wide range of methods used.

This review included peer-reviewed journal articles published between 2009 and 2016 focusing on LGBTQ adults aged 50 years and older, as well as those including age-based comparisons of those 50 years and older with younger counterparts. As in the previous review, articles that were written in English and contained original empirical findings published in a peer-reviewed journal with 4 or more study participants were included. A Boolean phrase search was applied to the following databases: PsycINFO, Sociological Abstracts, and MedlinePlus. Multiple search terms were included: *sexuality*, *sexual minorities*, *sexual identities*, *lesbian*, *gay*, *bisexual*, *transgender*, *trans*, *queer*, and *gender*. These search terms were then combined with aging-related terms: *aging*, *older adults*, *elder*, and *gerontology* (Table 1). Articles that focused specifically on HIV/AIDS were excluded, since that body of literature has been the focus of several recent reviews among both older adults [11, 12] and the broader population [13–15].

Figure 1 represents a flowchart of the search process, with a final sample of 66 articles. Two articles included findings from multiple studies; therefore, while 66 articles were included, study design and sample characteristics are reported for a total of 70 studies. In all, 185 articles were excluded based on sample ineligibility (e.g., did not include LGBTQ adults over the age of 50 years). The articles were systematically reviewed by two graduate students and

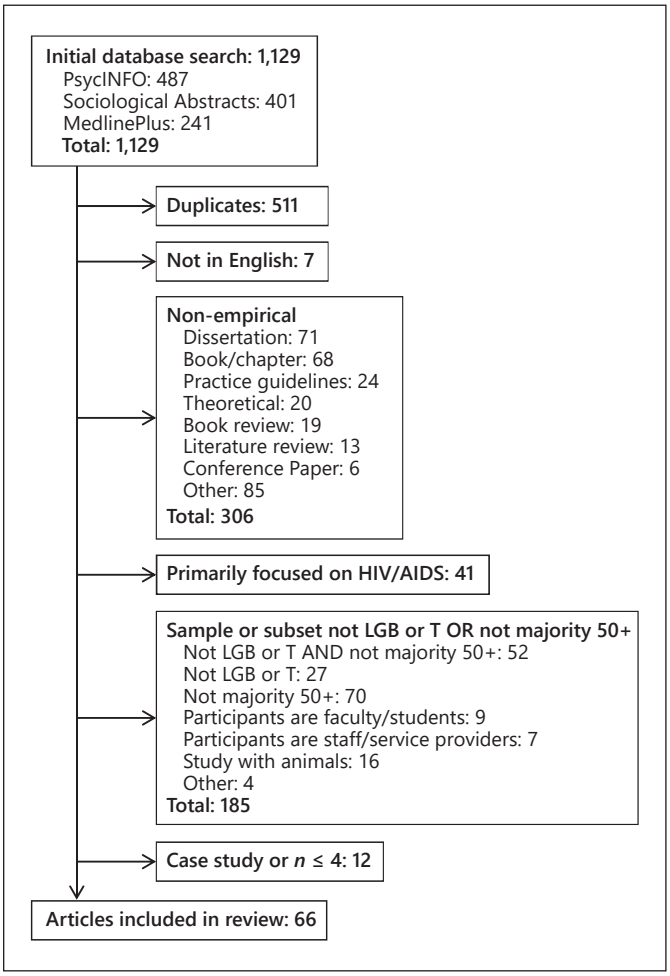

Fig. 1. Search flow diagram.

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coded by study type, research design and method, theory, population definition, sample characteristics, salient findings, and limitations. See Table 2 for an overview of the articles included in the review.

All authors analyzed each dimension across the full range of articles. Data on sample characteristics, study design, recruitment procedures, and methods were compiled across the articles to analyze the representation of various populations and common strengths and limitations in terms of the sampling procedures and methods applied. Theories were organized into substantive and methodological theories to assess what number of articles applied a theoretical framework or theoretical concepts, which revealed the extent of theory used across articles and common theoretical concepts represented. Salient findings were analyzed next to assess the topical domain areas represented in the field and how they corresponded to the four existing dimensions of the life course perspective, which enabled a comparison of how trends in the field and areas of focus had shifted over time.

Results

Study Design and Sample Characteristics

All studies were cross-sectional. More than half (56.3%) used quantitative methods, 39.4% used qualitative methods, and 3 studies applied mixed methods. Data collection included surveys (56.3%), interviews (35.2%), and focus groups (7.0%, $n = 5$). Three studies also used participant observation in addition to interviews [16–18]. A majority of the studies relied on community-based samples (85.1%), with 4.5% utilizing population-based representative data ($n = 3$) [19–21]. Most of the studies incorporated multiple types of recruitment, most commonly outreach via health, social, and other community-based service organizations or businesses (54.8%), snowball sampling (27.4%), internet/social media (23.3%), and flyers and publications such as newsletters and newspapers (20.5%). Two studies used public venues or events. The recruitment process was not described for 23.3% of the studies. Secondary data analyses were used in 18.9% of the studies.

Sample sizes ranged from 6 to 256,585 participants, with a median size of 151 participants. Most studies (71.2%) included only participants aged 50 years and older, 16.9% had participants aged 60 years and older, and 5.6% ($n = 4$) had participants aged 65 years and older. Participants younger than 50 years were included in 21.1% of the studies, which incorporated age-based comparisons. While the majority of the studies reported on a USA sample (73.2%), 4 studies reported on international samples [22–25]; 21.1% had samples exclusively from outside the USA, including Australia [26, 27], Canada [28, 29], Hong Kong [30], Israel [31], the Netherlands [32, 33], New Zealand [34, 35], Sweden [36], and the UK [18, 37–39].

The population of interest varied in definition and measurement across studies. The most common aspect of sexuality identified for study in the articles was sexual orientation, most often measured with a single sexual identity question. The most common response categories were "lesbian," "gay," "bisexual," and "heterosexual" or "straight." Less frequent responses included "homosexual" in place of or in addition to "gay" and "lesbian" (reported in 8.1% of the studies, $n = 6$), "queer" (8.1%, $n = 6$), and "questioning" (5.4%, $n = 5$), and 3 studies reported "pansexual/omnisexual." Three studies used "celibate/asexual" (4.1%), 2 used "dyke" and "woman loving woman" [28, 29], and 1 used "same-gender-loving" [40]. Three studies reported on sexual behavior, primarily "men who have sex with men" [41–43].

A majority of the studies included participants across multiple sexual identities (69.0%), most often lesbian-, gay-, and bisexual-identified older adults (28.2%), followed by 9.9% including only lesbian- and gay-identified individuals ($n = 7$), and 14.1% comparing with heterosexuals. Eighteen studies included a single sexual identity group, including 12.7% with gay men only and 12.7% with lesbians only. While 51.4% of the studies included bisexuals, no studies had only bisexuals. Four studies did not report the sexual orientation or identity of the participants, but instead referred to the population of interest as sexual and/or gender minorities or members of "same-sex" couples.

Gender and gender identity were assessed through a variety of means. Approximately 10% (9.9%, $n = 7$) of the studies included only trans-identified participants, with an additional 19.7% including some trans participants. The most common terms used to assess trans identities were "transgender" (18.3%), "MTF" (male to female) (8.1%, $n = 6$), and "FTM" (female to male) (4.2%, $n = 3$). In 2 studies, a broader range of terms were used to refer to gender identity and expression, including "transsexual," "genderqueer," "gender bender," "trans-blended," "third gender," "cisgender," "cismale," "cisfemale," "masculine," "feminine," "two spirit," and "androgynous." Some studies included women only (15.5%) or men only (15.5%). Other studies used sex, gender, and/or sexual identity-related terms interchangeably. For instance, 1 study assessed sex as being "male" or "female," but referred to the participants as "men" or "women." Another assessed trans individuals via a sexual identity question. Only 1 study included intersex participants.

Table 2. Summary of review by article (listed alphabetically by author)

Author(s), Year	Sample	Design/recruitment	Framework/theory/concept	Salient findings
Almack et al. [37], 2010	*n* = 15 **SO:** lesbian, gay, and bisexual (percentage not specified) **Sex/gender:** men (66.7%) and women (33.3%) **Age:** 50+ (93.3%), <49 (6.7%) **Race/ethnicity:** all White British **Setting:** South England	**Design:** focus groups **Recruitment:** organizations	**Stated framework:** none **Other theory used:** none	**Findings:** focused on end-of-life care and bereavement among "nontraditional" social networks; friends were treated as chosen family, and family was divided into those one does or does not have a close or supportive relationship with; family configurations changed with age; participants were concerned that social networks would shrink with age
Averett et al. [58], 2012	*n* = 456 **SO:** not explicitly specified, sample referred to as lesbian **Sex/gender:** female (98%) **Age:** 51–86 (mean = 62.9) **Race/ethnicity:** Non-Hispanic Caucasian (86.9%) **Setting:** multistate USA	**Design:** survey **Recruitment:** Internet, organizations	**Stated framework:** none **Other theory used:** sexual fluidity	**Findings:** summarized identity and sexual orientation, romantic/sexual relationships, erotic fantasies, current and past relationships with women and men, sexual activity, age-based comparisons, and same-sex marriage preferences; indicated a strong identification with being a lesbian and fluidity in romantic and sexual relationships, and 96.7% said same-sex marriage should be legal
Averett et al. [41], 2011	*n* = 456 **SO:** lesbian (91.3%), bisexual (3.7%), gay (2.7%), other (2.7%) **Sex/gender:** female (98%) **Age:** 51–86 (mean = 63.1) **Race/ethnicity:** Non-Hispanic Caucasian (86.9%), bi- or multiracial (5.1%), African American (3.3%), Hispanic/Latina (1.5%), API (0.5%) **Setting:** multistate USA	**Design:** survey **Recruitment:** Internet, snowball	**Stated framework:** none **Other theory used:** none	**Findings:** summarized demographics, sexual identity and orientation, current and past relationships, social life, health, service use, and experiences with discrimination; more than 60.5% were currently in an emotional, romantic, or sexual relationship with a woman; more than 75% reported good or excellent physical health; more than 30% reported sexual identity-related discrimination in employment, family, and social relationships
Brennan-Ing et al. [42], 2014	*n* = 239 **SO:** gay (75.7%) and bisexual (24.3%) **Sex/gender:** all men **Age:** 50+ (mean = 56.4) **Race/ethnicity:** Non-Hispanic White (41.9%), Hispanic/Latino (30.2%), Non-Hispanic Black (27.9%) **Setting:** New York City	**Design:** survey **Recruitment:** data from Research on Older Adults with HIV (ROAH), procedures not specified	**Stated framework:** none **Other theory used:** none	**Findings:** compared demographics and HIV risk behaviors between HIV-positive bisexual and gay men; bisexual men more likely were racial minorities and had lower levels of education; gay men were more likely to engage in unprotected sex, which is partly explained by their higher use of poppers and erectile dysfunction drugs
Brennan-Ing et al. [50], 2014	*n* = 210 **SO:** gay or lesbian (80.1%), bisexual (13.6%), queer (3.4%), questioning (1.5%), heterosexual (1.5%) **Sex/gender:** male (70.5%), female (23.7%), transgender or intersex (5.8%) **Age:** 54+ (mean = 59.5) **Race/ethnicity:** Caucasian/White (61.7%), Black (32.0%), Hispanic (3.9%), other (1.5%), API (0.5%), Al/AN (0.5%) **Setting:** Chicago area	**Design:** survey **Recruitment:** organizations	**Stated framework:** Hierarchical Compensatory Theory **Other theory used:** none **Methodology:** grounded theory (applied to open-ended questions)	**Findings:** described the demographic makeup and the formal and informal service needs, met or unmet, and services received; despite reporting an average of 3 health conditions, 75% rated their overall health to be good or excellent; women reported having larger social networks than men; the most common unmet needs concerned "housing, economic supports, help with entitlements" and "opportunities for socialization"
Brennan-Ing et al. [51], 2014	*n* = 155 **SO:** gay or lesbian (55%), heterosexual (30%), bisexual (15%) **Sex/gender:** men (78%), women (22%) **Age:** 50+ (mean = 55.5) **Race/ethnicity:** Non-Hispanic White (34%), Non-Hispanic Black (33%), Hispanic/Latino (33%) **Setting:** New York City area	**Design:** survey **Recruitment:** organizations	**Stated framework:** Anderson Model of service utilization **Other theory used:** Hierarchical Compensatory Theory	**Findings:** the participants "exhibit high rates of age-associated illnesses" earlier than expected, reporting an average of 3 or more conditions in addition to HIV; more than 50% were classified as moderately or severely depressed; social networks were tenuous, limited, and could not provide all needed support
Che et al. [22], 2013	*n* = 402 **SO and sex/gender:** lesbian women (84.6%), gay men (15.4%) **Age:** 18+ **Race/ethnicity:** not specified **Setting:** Canada (39.4%), USA (18.5%), UK (18.2%), Australia (11.5%), New Zealand (7.9%), other (4.4%)	**Design:** survey **Recruitment:** Internet, organizations	**Stated framework:** none **Other theory used:** none	**Findings:** Canadian lesbians were more likely than American lesbians to hold hands in public; 51.5% held hands often or very often; 41.5% had been verbally accosted while holding hands in public; 26.0% of the participants deemed handholding to be a political act
Cook-Daniels and Munson [74], 2010*	*n* (by study) = 70; 56; 272 **SO:** heterosexual, lesbian, bisexual, asexual, celibate, pansexual, omnisexual, queer, gay male, questioning (percent not specified) **Sex/gender:** MTF, FTM, cisgender male, cisgender female (percent not specified) **Age:** 50+ **Race/ethnicity (by sample):** White (84%), multiracial (6%); White (79%), multiracial or African American (10%); not specified **Setting:** multistate USA (6 international participants)	**Design:** survey **Recruitment:** Internet, organization	**Stated framework:** none **Other theory used:** none	**Findings:** the 3 studies described experiences with sexual assault, elder abuse, and sexuality among older transgender individuals; of those who responded to a question regarding whether they had received unwanted sexual touch (44), 64% said "yes"; of those who said "yes," 66% knew the perpetrator and 55% felt their abuser's perception of their gender presentation or expression was a contributing factor; more than half did not report the incident; 64.8% had experienced psychological or emotional abuse

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Table 2 (continued)

Author(s), Year	Sample	Design/recruitment	Framework/theory/concept	Salient findings
Croghan et al. [80], 2014	*n* = 495 **SO:** lesbian (46.7%), gay (38.7%), bisexual (9.0%), queer or other (5.3%) **Sex/gender:** cisgender (90.1%), transgender (9.9%) **Age:** 48+ **Race/ethnicity:** Non-Latino White (93.2%) **Setting:** Twin Cities Metro area	**Design:** survey **Recruitment:** Internet, organizations	**Stated framework:** none **Other theory used:** none	**Findings:** focused on the demographic profile and social relationships of the participants; 59.5% were partnered or married, and 39.1% were single; 50.7% lived with a partner or spouse, and 39.5% lived alone; 35.4% had children; 63.7% reported that the family of origin was very or extremely accepting of them as an LGBT person; 22.2% were acting as a caregiver; 78.3% had an available caregiver
Czaja et al. [78], 2016	*n* = 124 **SO and sex/gender:** gay men (74.2%), lesbian women (25.8%) **Age:** 50–89 (mean = 65.7) **Race/ethnicity:** Non-Hispanic White (72%), Hispanic (18%) **Setting:** South Florida	**Design:** focus groups **Recruitment:** organizations	**Stated framework:** none **Other theory used:** none	**Findings:** almost three-quarters had been or were currently an informal caregiver; focus groups focused on aging-related concerns, barriers to accessing care or services, and caregiving experiences; gay men reported fears around discrimination, coming out, isolation, and lack of support; lesbians feared discrimination, coming out, and legal and financial issues; Hispanic gay men feared discrimination, financial issues, and a lack of awareness of their needs among service providers
Emlet et al. [43], 2013	*n* = 226 **SO:** gay (92.9%), bisexual (6.2%), other (0.9%) **Sex/gender:** all male **Age:** 50–86 (mean = 63.0%) **Race/ethnicity:** Non-Hispanic White (77.3%) **Setting:** USA	**Design:** survey **Recruitment:** organizations, participants limited to men living with HIV	**Stated framework:** resilience theory **Other theory used:** none	**Findings:** "[C]omorbidity, limitations in activities, and victimization [were] significant risk factors" for poor physical and mental health-related quality of life; social support and self-efficacy were protective of mental health-related quality of life, and self-efficacy was protective of physical health-related quality of life
Erosheva et al. [46], 2016	*n* = 1,913 **SO and sex/gender:** gay cisgender men (59.0%), lesbian cisgender women (27.7%), transgender men and women (7.0%), bisexual cisgender men and women (4.9%) **Age:** 50+ **Race/ethnicity:** not specified **Setting:** USA	**Design:** survey **Recruitment:** Internet, organizations	**Stated framework:** social capital theory **Other theory used:** none	**Findings:** global social network size was positively associated with "being female, transgender identity, employment, higher income, having a partner or child, identity disclosure to a neighbor, engagement in religious activities, and service use"; network diversity was positively associated with being younger, female, transgender, disclosure to a friend, religious activity, and service use
Fabbre [16], 2014	*n* = 22 interviews and 170 h of observation **SO:** not specified **Sex/gender:** all MTF transgender **Age:** 50–82 **Race/ethnicity:** European American (81.8%), African American (13.6%), Asian American (4.5%) **Setting:** Chicago area	**Design:** interviews and participant observation **Recruitment:** flyers, Internet, snowball	**Stated framework:** existential and queer time **Other theory used:** life course perspective	**Findings:** participants described having only so much "time left" to live as one's authentic self in the future and past "time served" conforming to social expectations based on their previously perceived or assigned gender
Fabbre [17], 2015	*n* = 22 and 170 h of observation **SO:** not reported **Sex/gender:** all MTF transgender **Age:** 50–82 **Race/ethnicity:** European American (81.8%), African American (13.6%), Asian American (4.5%) **Setting:** Chicago area	**Design:** interviews and participant observation **Recruitment:** flyers, Internet, snowball	**Stated framework:** queer theory **Other theory used:** successful aging	**Findings:** transgender older adults experienced challenges to their gender identity that may be reconceptualized as queer "failures" or negotiating "success on new terms"
Fokkema and Kuyper [32], 2009	*n* = 3,681 **SO and sex/gender:** heterosexual women (47.9%), heterosexual men (46.2%), sexual minority men (2.3%), sexual minority women (1.8%) **Age:** 55–89 **Race/ethnicity:** not specified **Setting:** The Netherlands	**Design:** survey **Recruitment:** combines data from the Gay Autumn Survey recruited through organizations, the Internet, publications, and the NESTOR Survey, a stratified population-based sample	**Stated framework:** none **Other theory used:** minority stress	**Findings:** LGB older adults reported higher levels of loneliness and were less socially embedded than their heterosexual counterparts; LGB older adults were also more likely to have experienced divorce, be childless, or have less contact with their children than heterosexuals
Fredriksen-Goldsen et al. [64], 2014	*n* = 2,546 **SO:** not stated **Sex/gender:** transgender (6.8%), men (62.8%) **Age:** 50+ **Race/ethnicity:** Non-Hispanic White (86.5%), Hispanic (4.4%), African American (3.5%), Native American (1.9%), API (1.6%), other (1.3%), multiracial (0.7%) **Setting:** USA	**Design:** survey **Recruitment:** organizations	**Stated framework:** resilience theory **Other theory used:** none	**Findings:** transgender older adults were at higher risk of experiencing "poor physical health, disability, depressive symptomatology, and perceived stress"; gender identity had a significant indirect effect on health outcomes via "fear of accessing services, lack of physical activity, internalized stigma, victimization, and lack of social support"

Table 2 (continued)

Author(s), Year	Sample	Design/recruitment	Framework/theory/concept	Salient findings
Fredriksen-Goldsen et al. [63], 2013	*n* = 2,439 **SO and sex/gender:** gay men (59.6%), lesbian women (31.6%), bisexual women (2.4%), bisexual men (2.7%) **Age:** 50+ (mean = 67) **Race/ethnicity:** Non-Hispanic White (87.1%) **Setting:** USA	**Design:** survey **Recruitment:** organizations	**Stated framework:** resilience theory **Other theory used:** none	**Findings:** lifetime victimization, financial barriers to health care, obesity, and low physical activity were positively associated with poor general health, disability, and depression among LGB older adults; internalized stigma was positively associated with disability and depression; protective factors included social support and social network size
Fredriksen-Goldsen and Kim [19], 2015	*n* = 172,628 **SO:** heterosexual (97%), gay or lesbian (2%), bisexual (1%), other (0.2%) **Sex/gender:** women (51%), men (49%) **Age:** 18+ **Race/ethnicity:** Non-Hispanic White (82.0%), Hispanic (7.9%), API (3.9%), African American (1.8%), multiracial (2.9%), American Indian (1.2%), other (0.3%) **Setting:** Washington State	**Design:** telephone survey **Recruitment:** data from the Washington State Behavioral Risk Factor Surveillance System (BRFSS), procedures not specified	**Stated framework:** none **Other theory used:** none	**Findings:** older adults showed higher nonresponse rates to sexual orientation measures, but the nonresponse rates had decreased over time; in 2010, 1.2% of older adults responded "don't know"/"not sure," and 1.55% refused to answer sexual orientation measures
Fredriksen-Goldsen et al. [59], 2015	*n* = 2,463 **SO:** gay or lesbian (93%), bisexual (7%) **Sex/gender:** transgender (4%) **Age:** 50+ **Race/ethnicity:** White (86%), other (5%), Hispanic (4%), African American (3%) **Setting:** USA	**Design:** survey **Recruitment:** organizations	**Stated framework:** resilience framework **Other theory used:** successful aging	**Findings:** physical and mental health-related quality of life were positively associated with social support, social network size, physical and leisure activities, substance nonuse, employment, income, and being male; outcomes were negatively associated with discrimination and chronic conditions; the impact of discrimination was particularly salient among the oldest age group (80+)
Fredriksen-Goldsen et al. [20], 2013	*n* = 96,992 **SO and sex/gender:** women (58,319), and among women: lesbian (1.0%), bisexual (0.5%); men (37,820), and among men: gay (1.3%), bisexual (0.5%) **Age:** 50+ **Race/ethnicity:** White (~90% across all sexual orientation and gender subgroups) **Setting:** Washington State	**Design:** survey **Recruitment:** Washington State Behavioral Risk Factor Surveillance System (BRFSS), procedures not specified	**Stated framework:** none **Other theory used:** life course	**Findings:** compared to heterosexuals, LGB older adults were at higher risk of disability, poor mental health, smoking, and excessive drinking; lesbians and bisexual women were at higher risk of cardiovascular disease and obesity, and gay and bisexual men were at higher risk of poor physical health and living alone compared to heterosexuals; lesbians reported higher rates of excessive drinking than bisexual women; bisexual men reported higher rates of diabetes and lower rates of HIV testing than gay men
Fredriksen-Goldsen et al. [62], 2009	*n* = 72 (36 caregiving dyads, demographics provided for caregiving recipients, followed by caregivers) **SO:** gay or lesbian (66.7%), bisexual (33.3%); gay or lesbian (60.0%), heterosexual (20.0%), bisexual (17.1%), other (2.9%) **Sex/gender:** male (58.3%), female (41.7%); male (69.4%), female (30.6%) **Age:** 50+; 18+ **Race/ethnicity:** Caucasian (51.4%), African American (20.0%), multiethnic (17.1%), Hispanic (8.6%), American Indian (2.9%); Caucasian (50.0%), African American (30.6%), multiethnic (13.8%), Asian (2.8%), American Indian (2.8%) **Setting:** Washington State	**Design:** interviews **Recruitment:** organizations	**Stated framework:** resilience framework **Other theory used:** stress and coping theory	**Findings:** experiences of discrimination were associated with depression among both care recipients and caregivers; a good relationship quality moderated the impact of discrimination on depression
Gabrielson [71], 2011	*n* = 10 **SO:** all lesbian **Sex/gender:** all women **Age:** 55+ **Race/ethnicity:** White (90%), African American (10%) **Setting:** USA	**Design:** interviews **Recruitment:** all participants involved in development of a CCRC specializing in LGBT care	**Stated framework:** conceptual framework developed by Ayres (2000), combines expectations, explanations, and strategies in a process of meaning making **Methodological influences:** case-oriented analysis and narrative analysis	**Findings:** past negative experiences with homophobia and discrimination were widespread in the contexts of family, workplace, and health care; positive experiences of finding LGBT communities emphasized the importance of a shared identity and support; participants had explored their options for their own aging, such as caring for family members or creating their own LGBT aging community, and expressed dissatisfaction with the currently available options
Gabrielson et al. [82], 2014	*n* = 53 **SO:** all lesbian **Sex/gender:** all women **Age:** 55–80 (mean = 63.3) **Race/ethnicity:** all White **Setting:** Midwest USA	**Design:** survey **Recruitment:** organizations, snowball	**Stated framework:** none **Other theory used:** none	**Findings:** the pilot tested the Lubben Social Network Scale-Revised (LSNS-R) with a lesbian sample and minor modifications; the findings indicated that the tool may not be reliable among this population due to the importance and distinctiveness of families of choice among older lesbians

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Table 2 (continued)

Author(s), Year	Sample	Design/recruitment	Framework/theory/concept	Salient findings
Gardner et al. [79], 2014	*n* = 569 **SO and sex/gender:** gay men (70.5%), lesbian women (17.7%), straight women (7.0%), bisexual men (2.4%), bisexual women (1.1%), transgender MTF (0.2%), straight men (1.1%) **Age:** 21+ **Race/ethnicity:** Caucasian (87%) **Setting:** Riverside County, California	**Design:** survey **Recruitment:** events, organizations	**Stated framework:** none **Other theory used:** none	**Findings:** about one-third of midlife and older gay men and lesbians reported fear of disclosing their sexual orientation and discomfort using mainstream senior services; lesbians reported more fear and discomfort than gay men; older lesbians and gay men reported more fear and discomfort than younger individuals
Gonzales and Henning-Smith [21], 2015	*n* = 256,585 **Couple type and sex/gender:** men in opposite-sex marriages (51.4%), women in opposite-sex marriages (44.8%), men in opposite-sex unmarried couples (2.1%), women in opposite-sex unmarried couples (1.7%), men in same-sex couples (0.3%), women in same-sex couples (0.2%) **Age:** 50+ **Race/ethnicity:** White (80% or more) **Setting:** national sample of USA	**Design:** survey **Recruitment:** data from the National Health Interview Survey (NHIS), procedures not specified	**Stated framework:** none **Other theory used:** conceptual discussion of discrimination and resilience	**Findings:** both men and women in same-sex relationships were less likely to report poor or fair health than those in opposite-sex relationships; compared to those in opposite-sex marriages, both men and women in same-sex relationships reported fewer chronic conditions, but higher levels of psychological distress; men and women in same-sex relationships also experienced favorable demographic characteristics as they were younger on average, were more likely to be college graduates, and had higher incomes
Grigorovich [28], 2015	*n* = 16 **SO:** lesbian (43.8%), gay (25%), lesbian/queer (12.5%), lesbian/queer/dyke (6.3%), bisexual (6.3%), women loving women (6.3%) **Sex/gender:** all women **Age:** 55–72 (63.9) **Race/ethnicity:** White European (75%), Aboriginal (18.8%), women of color (6.3%) **Setting:** Ontario, Canada	**Design:** interviews **Recruitment:** flyers, organizations, snowball, participants must have had experienced home care in Ontario or attempted to access these services in the previous 5 years	**Stated framework:** feminist political economy **Other theory used:** none	**Findings:** common reasons for requiring home care services included experiencing chronic pain, fatigue, conditions that limited everyday activities, and issues with or impairments of mobility, memory, vision, and hearing; participants gained access to home care services through a health care professional (typically following a hospital stay) or by contacting a community care provider directly; medical treatment was more immediately supplied than personal and housekeeping assistance; delays sometimes led to participants choosing not to set up services; needs assessment was based on function and did not account for other key factors; participants were not sure how to work within the system to get what they needed; additional informal assistance was often limited due to strained family relations or a lack of children
Grigorovich [29], 2016	*n* = 16 **SO:** lesbian (43.8%), gay (25%), lesbian/queer (12.5%), lesbian/queer/dyke (6.3%), bisexual (6.3%), women loving women (6.3%) **Sex/gender:** all women **Age:** 55–72 (mean = 64) **Race/ethnicity:** White European (75%), Aboriginal (18.8%), women of color (6.3%) **Setting:** Ontario, Canada	**Design:** interviews **Recruitment:** flyers, Internet, organizations, snowball, participants must have had experienced home care in Ontario or attempted to access these services in the previous 5 years	**Stated framework:** feminist ethics of care perspective **Other theory used:** none	**Findings:** participants defined quality in-home care as being responsive and attentive to needs, involving them in their own care process and decision-making, demonstrating respect and care, and being comfortable with and knowledgeable about the needs of sexually diverse clients
Grossman et al. [73], 2014	*n* = 113 **SO:** lesbian or gay (90.3%), bisexual (9.3%) **Sex/gender:** men (67.3%), women (26.5%), transgender women (5.3%), transgender men (0.9%) **Age:** 60–88 (mean = 72) **Race/ethnicity:** European/Caucasian/White (84.0%), African American/Black (5.3%), other (5.3%), Latino/Latina/Hispanic (4.0%), mixed race (0.9%) **Setting:** USA	**Design:** survey **Recruitment:** organizations	**Stated framework:** none **Other theory used:** none	**Findings:** in relationships with caregivers, 22.1% of care recipients had experienced at least one type of harm, 11.5% were exposed to more than one type, and 25.7% reported they knew another LGB older adult who had experienced at least one type of harm; 62.8% reported experiencing self-neglect, which negatively impacted psychological health
Hostetler [40], 2012*	*n* = 136 (mixed-gender sample = 60; gay-men sample = 76) **SO:** gay or lesbian (91.9%), bisexual (2.7%), same-gender loving (0.7%) **Sex/gender:** male (53.3%) **Age:** 35+ (mean = 51.1; mean = 53.9) **Race/ethnicity:** Caucasian (68.3%), African American (20%), Latino/a (10%), and Asian American (1.7%); Caucasian (69.1%), African American (17%), Latino/a (9.6%), Asian American (4.3%) **Setting:** Large Midwestern city	**Design:** interviews **Recruitment:** flyers, organizations, publications	**Stated framework:** perceived control **Other theory used:** life course perspective, person-environment approach	**Findings:** men had higher rates of aging concerns than women; in both samples, perceived control was significantly negatively associated with aging concerns; unexpectedly, community involvement was positively associated with aging concerns
Hughes [26], 2009	*n* = 371 **SO:** gay (54.9%), lesbian (28.9%), bisexual (6.5%), queer (6.5%) **Sex/gender:** transgender MTF (2.9%), transgender FTM (0.7%) **Age:** ≤25 (16.4%) and >25 (83.6%) **Race/ethnicity:** Australian Anglo-Saxon (80.6%), culturally and linguistically diverse (5.9%), Aboriginal (3.2%) **Setting:** Australia	**Design:** survey **Recruitment:** data from the Queensland Association for Health Communities (QHAC) survey, flyers, Internet, organizations	**Stated framework:** none **Other theory used:** none	**Findings:** younger adults (<26 years) were more likely to be concerned about being alone, and older adults (≥66 years) were more likely to be concerned about a lack of LGBT-friendly accommodations, loss of mobility, and declines in mental health or cognitive abilities; lesbians were more concerned about a lack of LGBT-specific services and lack of recognition for same-sex partners than gay men, who were more concerned about aging alone

Table 2 (continued)

Author(s), Year	Sample	Design/recruitment	Framework/theory/concept	Salient findings
Jenkins et al. [84], 2014	*n* = 55 **SO:** all lesbian **Sex/gender:** all women **Age:** 55–82 **Race/ethnicity:** Caucasian (81.8%), Latina (3.6%), Native American (1.8%), multiracial (1.8%) **Setting:** not specified	**Design:** interviews **Recruitment:** snowball	**Stated framework:** none **Other theory used:** disenfranchised grief	**Findings:** examined experiences of bereavement among older lesbians; 76% reported experiencing an emotional barrier to dealing with the death of a partner; common themes included disenfranchised grief, loneliness or isolation, and discriminatory experiences in legal, financial, and health care realms
Jenkins Morales et al. [54], 2014	*n* = 151 **SO:** gay (49.0%), lesbian (36.4%), bisexual (7.3%), multiple labels (7.3%) **Sex/gender:** male (47.7%), female (45.7%), MTF (3.3%), FTM (0.6%) **Age:** 50+ **Race/ethnicity:** Caucasian (91.3%), multiracial (2.7%), American Indian (2.0%), other (2.0%), African American (1.3%), Asian (0.7%) **Setting:** Greater St. Louis area	**Design:** survey **Recruitment:** Internet, organizations, publications, snowball	**Stated framework:** minority stress model **Other theory used:** none	**Findings:** compared Baby Boomer (78.1%) and Silent Generation (21.9%) cohorts; Baby Boomers perceived more barriers to health care and legal services, felt less safe in their neighborhoods, had experienced more verbal harassment, and had fewer legal documents in place
Jessup and Dibble [76], 2012	*n* = 371 **SO:** heterosexual (79.0%), lesbian or gay (15.9%), bisexual (4.0%) **Sex/gender:** female (67.4%) **Age:** 55+ **Race/ethnicity:** Caucasian (72.0%) **Setting:** San Francisco area	**Design:** survey **Recruitment:** organizations	**Stated framework:** none **Other theory used:** none	**Findings:** compared mental health and substance use issues across cohorts and sexual identities; the youngest age group (55–64 years) reported significantly more problems with substance use, posttraumatic stress disorder, depression, anxiety, and suicidal thoughts than those 65 years and older; bisexuals reported more issues with depression, anxiety, and suicidality than heterosexuals, lesbians, and gay men; mental health and substance use treatment program use was low among all groups
Kelly-Campbell and Atcherson [81], 2012	*n* = 163 **SO and sex/gender:** gay men (30.7%), heterosexual men (28.2%), heterosexual women (20.9%), lesbian women (14.7%), bisexual men (3.1%), bisexual women (2.5%), gay women (1.8%) **Age:** 18+ **Race/ethnicity:** not specified **Setting:** USA	**Design:** survey **Recruitment:** flyers, Internet, organizations	**Stated framework:** none **Other theory used:** none	**Findings:** examined quality of life among LGB and heterosexual adults with hearing impairments; LGB individuals reported greater perceived impacts of their hearing loss on their emotional life and quality of life; among both LGB and heterosexual individuals, those who were partnered or married reported fewer impacts of their hearing loss on their quality of life
Kim and Fredriksen-Goldsen [49], 2016	*n* = 2,444 **SO and sex/gender:** gay men (60.0%), lesbian women (32.9%), bisexual women (3.6%), bisexual men (3.4%) **Age:** 50+ (mean = 66.7) **Race/ethnicity:** Non-Hispanic White (86.8%), other (5.5%), Hispanic (4.3%), Non-Hispanic African American (3.5%) **Setting:** USA	**Design:** survey **Recruitment:** organizations	**Stated framework:** loneliness model **Other theory used:** none	**Findings:** 55.5% of the sample were living alone; 36.9% lived with a partner or spouse; 7.6% lived with someone other than a partner or spouse; gay and bisexual men were more likely to live alone than lesbians and bisexual women; Non-Hispanic White participants were more likely to live with a spouse or partner than people of color; living arrangement was significantly associated with loneliness such that those living with a partner or spouse reported the lowest levels of loneliness
Kong [30], 2012	*n* = 14 **SO:** all gay **Sex/gender:** all men **Age:** 60+ **Race/ethnicity:** all Chinese **Setting:** Hong Kong	**Design:** oral histories and focus groups **Recruitment:** not specified, participants had to have lived in Hong Kong for 40+ years	**Stated framework:** post-structuralist conception of power/resistance **Other theory used:** queer theory, geographies of sexuality	**Findings:** family homes fostered heteronormative assumptions; early homosexual experiences were largely carried out in secret; public spaces were co-opted for seeking out a gay scene and to find willing partners through the use of code words; many felt pressured to marry women as they aged; some married women and some stayed single
Kushner et al. [34], 2013	*n* = 12 **SO:** all gay **Sex/gender:** all men **Age:** 65–81 **Race/ethnicity:** all White and of European descent **Setting:** New Zealand	**Design:** interviews **Recruitment:** flyers, organizations	**Stated framework and methodology:** critical gerontological approach **Other theory used:** none	**Findings:** themes acknowledged the pervasiveness of homophobia in participants' lives; every participant had been in a relationship with a man, but all but one were currently single; challenges to finding a partner included limited opportunities to find a companion, the participants' own age, or perception of their own attractiveness; participants reported future care concerns including being forced into the closet or out of one's own home and lack of accepting and compassionate care
Kuyper and Fokkema [33], 2010	*n* = 161 **SO:** homosexual (78.1%), bisexual (21.9%) **Sex/gender:** men (~60%), women (~40%) **Age:** 55–85 (mean = 64.6) **Race/ethnicity:** not specified **Setting:** The Netherlands	**Design:** survey **Recruitment:** Internet, organizations, publications	**Stated framework:** minority stress model **Other theory used:** none	**Findings:** having a partner and the extensiveness of the social network were negatively associated with loneliness; LGB social networks were more protective than general social networks; discrimination and expected prejudice were positively associated with loneliness; different kinds of loneliness (general, emotional, and social) were impacted by different factors

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Table 2 (continued)

Author(s), Year	Sample	Design/recruitment	Framework/theory/concept	Salient findings
Lee and Quam [83], 2013	*n* = 1,201 **SO:** bisexual (37.5%), gay (31.8%), lesbian (31.4%), heterosexual (4%) **Sex/gender:** male (53.8%), female (46.2%), sex different from that assigned at birth (10.1%) **Age:** 45–64 **Race/ethnicity:** White (78.6%), African American/Black (8.3%), Hispanic (6.1%), other (6.0%) **Setting:** USA	**Design:** survey **Recruitment:** secondary data analysis	**Stated framework:** none **Other theory used:** none	**Findings:** compared individuals living in urban (43.1%) and rural (14.6%) locations; those in urban areas reported higher levels of outness and self-rated importance of their LGBT identity; groups were similar regarding guardedness toward the sexual identity among parents, bosses/supervisors, and health care providers; rural participants were more guarded among friends, siblings, neighbors, coworkers, and religious community members
Lyons et al. [27], 2013	*n* = 840 **SO:** all gay **Sex/gender:** all men **Age:** 40–78 **Race/ethnicity:** not specified **Setting:** Australia	**Design:** survey **Recruitment:** Internet	**Stated framework:** none **Other theory used:** none	**Findings:** men in their 60s had more friends and were more likely to feel supported by their friends than those in their 40s and 50s; men aged 60 years and older were more likely to live alone and had the highest self-esteem
MetLife Mature Market Institute [85], 2010	*n* = 1,000 **SO/gender:** gay (52%), lesbian (33%), bisexual (15%) **Age:** 40–61 **Race/ethnicity:** not specified **Setting:** USA	**Design:** survey **Recruitment:** procedures not specified	**Stated framework:** none **Other theory used:** none	**Findings:** one-quarter reported having cared for a family member or friend in the past 6 months and the proportions of caregiving were similar across men and women; one-fifth were not sure who would care for them if the need arose; most frequent aging-related fears included outliving their income, being dependent on others, and experiencing discrimination in later life
Muraco and Fredriksen-Goldsen [48], 2014	*n* = 72 (36 caregiving dyads, demographics are reported for care recipients, followed by caregivers) **SO:** gay or lesbian (67%), bisexual (33%); gay or lesbian (63%), heterosexual (20%), bisexual (17%) **Sex/gender:** not specified **Age:** 50+; 18+ **Race/ethnicity:** Caucasian (~50%), African American (20%), multiethnic (17%), Latino (9%), Native American (3%); Caucasian (~50%), African American (31%), multiethnic (13%), Asian (3%), Native American (3%) **Setting:** USA	**Design:** interviews **Recruitment:** organizations	**Stated framework:** exchange theory and communal relationships theory **Other theory used:** none	**Findings:** many care recipients reported having a mental health condition (66.6%), arthritis (44.0%), high blood pressure (37.5%), and diabetes (31.5%); 38% of caregivers were providing 20 h per week of care or more; partnered-care recipients reported positive experiences of expressions of love and commitment from their caregivers; when asked about their worst experiences, the most common response was that there was no worst experience
Neville et al. [35], 2015	*n* = 12 **SO:** all gay **Sex/gender:** all men **Age:** 65–81 **Race/ethnicity:** not specified **Setting:** New Zealand	**Design:** interviews **Recruitment:** events	**Stated framework:** none **Other theory used:** none	**Findings:** analyzed coming-out narratives of older gay men in which three common narratives or themes were identified: (1) early gay experiences often included experimenting sexually with other men before identifying as gay; (2) this was followed by a period of trying not to be gay or trying to have relationships with women for many interviewees; and (3) acceptance marks a period of time when they accepted their identity as gay or same-sex-attracted men
Orel [57], 2014*	*n* (by study) = 26; 1,150; 49 **SO and sex/gender:** gay men (50%), lesbian women (38.5%), bisexual women (11.5%); lesbian or bisexual women (64%), gay men (36%); lesbian women (63.3%), bisexual women (14.3%), gay men (22.4%) **Age:** 65–84; 64–88; 40–79 **Race/ethnicity:** European American (65.4%), African American (23.1%), Latino/a (7.7%), Asian American (3.8%); Non-Hispanic White (91%), African American (8%), Latino (2%); Caucasian (85.7%), African American (10.2%), other (2.0%) **Setting:** Midwest USA and Texas State	**Design:** focus group; needs assessment survey (with open-ended questions); interviews **Recruitment:** organizations, snowball	**Stated framework:** life course perspective (specifically applied to 3rd study) **Other theory used:** none	**Findings:** key areas of needed services identified included: medical/health care, legal, institutional or housing, spiritual, family, mental health, and social services; in interviews, LGB grandparents reported that their relationship with grandchildren was mediated by their adult children, and they acknowledged the need for and challenge to forming an LGB grandparent identity, the centrality of their sexual orientation to the grandparent-grandchild relationship, and the impact of homonegativity on the relationship
Parslow and Hegarty [38], 2013	*n* = 7 **SO:** all lesbian **Sex/gender:** all women **Age:** 48–62 **Race/ethnicity:** not specified **Setting:** UK	**Design:** interviews **Recruitment:** flyers, organizations	**Stated framework:** none **Other theory used:** minority stress and caregiving stress **Methodology:** grounded theory	**Findings:** four themes were revealed in interviews with lesbians providing care to older relatives: feelings of duty and obligation in providing care, loss of lesbian identity, the challenge of maintaining connections with lesbian communities, and the importance of boundary setting between caregiving and the rest of one's life

Table 2 (continued)

Author(s), Year	Sample	Design/recruitment	Framework/theory/concept	Salient findings
Pilkey [39], 2014	*n* = 11 **SO:** all gay **Sex/gender:** all men **Age:** 50+ **Race/ethnicity:** not specified **Setting:** London area	**Design:** interviews **Recruitment:** data from a larger study, flyers, Internet, snowball	**Stated framework:** queer theory **Other theory used:** social constructionism	**Findings:** the interviews revealed ways in which gay men resisted heteronormativity in their homes; the most common form of resistance was displaying homoerotic artwork, which could be varied from explicit to more hidden or understated; less common resistive displays included music collections, decorating styles, rainbow-themed items, and photos of same-sex partners; others did not display items that called attention to their sexuality because they did not feel the need for outright resistance in what had become a relatively accepting society; both can be seen as means of resistance, by either putting homosexuality on display or by normalizing homosexuality
Porter et al. [23], 2013	*n* = 289 **SO:** heterosexual (32.5%), gay (32.5%), bisexual (28.0%), lesbian (17.0%), asexual (9.0%) **Sex/gender:** all transgender **Age:** 51+ **Race/ethnicity:** Non-Hispanic White (92.0%) **Setting:** international	**Design:** survey **Recruitment:** data from the Trans Metropolitan Life Survey (TMLS)	**Stated framework:** successful aging **Other theory used:** none	**Findings:** 73.4% felt that they were aging successfully; 29.4% reported having a disability; 34.6% were chronically ill; 93.7% were somewhat or mostly out about their gender identity, but outness varied by context; being Non-Hispanic White, being highly educated, and having a high income predicted successful aging, but religious affiliation did not
Putney [66], 2014	*n* = 12 **SO:** all lesbian **Sex/gender:** all women **Age:** 65–80 (mean = 71) **Race/ethnicity:** Caucasian (91.7%), Caucasian and Native American (8.3%) **Setting:** USA	**Design:** interviews **Recruitment:** snowball	**Stated framework:** none **Other theory used:** psychological well-being **Methodology:** grounded theory	**Findings:** 11 participants described their feeling toward their pets as "love"; 10 described pets' affection as nonjudgmental or unconditional; 9 described the challenges of owning a pet including financial strain, managing health issues, and finding care for them
Rosenfeld [67], 2009	*n* = 28 **SO and sex/gender:** gay men (50%), lesbian women (50%) **Age:** 64–89 (mean = 72.5) **Race/ethnicity:** White (78.7%), Latino/a (14.3%), African American (7.1%) **Setting:** Los Angeles area	**Design:** interviews **Recruitment:** data from a larger qualitative study, organizations, snowball	**Stated framework:** none **Other theory used:** intersectionality, queer theory **Methodology:** grounded theory	**Findings:** all informants reported instances of trying to pass as heterosexual, including strategies such as not sharing biographical information, policing one's body and dress, and avoiding being seen with non-passing homosexuals; individuals who brought attention to their sexuality were described as putting others and themselves at risk
Rowan and Butler [60], 2014	*n* = 20 **SO:** all lesbians **Sex/gender:** all women **Age:** 50–70 (57.6%) **Race/ethnicity:** White (95%) and African American (5%) **Setting:** USA	**Design:** interviews **Recruitment:** snowball	**Stated framework:** narrative gerontology **Other theory used:** phenomenology	**Findings:** participants described receiving support and aid from partners, family members, and friends during recovery from alcoholism and attaining sobriety; 60% described going through formal treatment, and 75% described the importance of 12-step recovery programs; lesbian peers and professionals offered a particularly important kind of support as mentors; all participants evidenced resiliency in facing adverse situations related to aging, alcoholism, and their sexual identity
Sagie [31], 2015	*n* = 209 **SO and sex/gender:** gay men (68.4%), lesbian women (31.6%) **Age:** 56–80 (mean = 62.9) **Race/ethnicity:** not specified **Setting:** Israel	**Design:** interview **Recruitment:** organizations	**Stated framework:** none **Other theory used:** none	**Findings:** participants reported a "medium-high" level of subjective well-being; physical and mental health, hope, and community availability of services were significant predictors of subjective well-being
Simpson [18], 2013	*n* = 27 interviewees and 20 h of observation **SO:** all gay **Sex/gender:** all men **Age:** 39+ **Race/ethnicity:** White British (88.9%), mixed race (3.7%), oriental (3.7%), Irish European (3.7%) **Setting:** Manchester area	**Design:** interviews, participant observation in bars and clubs **Recruitment:** organizations, snowball	**Stated framework:** none **Other theory used:** ageing capital (informed by Bourdieu's social capital)	**Findings:** three primary themes included: (1) alienation from the queer community as an aging man; (2) growing ambivalence toward the gay scene; and (3) finding agency with age
Siverskog [36], 2014	*n* = 6 **SO:** not specified **Sex/gender:** 2 transsexual women, 1 genderqueer, 1 has kept transgender identity on the down low in later life, 1 identifies as a man but has female gender expression full time, 1 identifies as a man with a transsexual background (assigned female at birth) **Age:** 62–78 **Race/ethnicity:** not stated **Setting:** Sweden	**Design:** interviews **Recruitment:** flyers, organizations, snowball	**Stated framework:** none **Other theory used:** none **Methodology:** grounded theory	**Findings:** themes included intersections of age and gender over the life course (impact of historical context), lack of awareness or knowledge of transgender issues in various social contexts, and the impact of previous experiences with accessing health care and social services

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Table 2 (continued)

Author(s), Year	Sample	Design/recruitment	Framework/theory/concept	Salient findings
Slevin and Linneman [69], 2010	*n* = 10 **SO:** all gay **Sex/gender:** all men **Age:** 60–85 **Race/ethnicity:** all White **Setting:** New York City area	**Design:** interviews **Recruitment:** data from a larger qualitative study, snowball	**Stated framework:** none **Other theory used:** intersectionality, embodied masculinity	**Findings:** themes included aging and acceptance of self and body, constructing and managing identities, achieving masculinity, disapproval or distancing from feminine expression, and ageism in gay communities
Stanley and Duong [55], 2015	*n* = 5,138 **SO:** lesbian, gay, bisexual (4.1%), heterosexual (95.9%) **Sex/gender:** female (61.2%) **Age:** 50–98 (mean = 65.3) **Race/ethnicity:** Non-White (48.5%) **Setting:** New York City	**Design:** survey **Recruitment:** data from the NYC Community Health Survey, procedures not specified	**Stated framework:** minority stress model **Other theory used:** none	**Findings:** among LGB older adults, 23.9% reported having received counseling and 23.4% reported having taken psychiatric medication in the previous year; LGB respondents were significantly more likely to have received counseling and psychiatric medications than heterosexuals, and this association was not mediated by psychological distress, alcohol use, or poor general medical health
Stein et al. [72], 2010	*n* = 16 **SO and sex/gender:** gay men (75%), lesbian women (25%) **Age:** 60–84 **Race/ethnicity:** White (87.5%), African American (12.5%) **Setting:** New York City (75%), New Jersey (25%)	**Design:** focus groups **Recruitment:** recruited from 1 long-term care facility and 1 community-based setting	**Stated framework:** none **Other theory used:** none	**Findings:** participants feared being rejected, neglected, or not accepted or respected by health care providers, especially by personal care aides; they preferred gay-friendly care and feared having to go back into the closet if placed in a mainstream facility; suggestions included staff training and gay-specific or gay-friendly living options
Sullivan [61], 2014	*n* = 38 **SO:** gay (57.9%), lesbian (28.9%), bisexual (5.3%) **Sex/gender:** men (60.5%), women (39.5%), transgender (7.9%) **Age:** 51–85 (mean = 71) **Race/ethnicity:** White (86.8%), African American (5.3%), Latino/a (5.3%), White Middle Eastern (2.6%) **Setting:** California State	**Design:** focus groups **Recruitment:** recruited from 3 existing LGBT senior living communities	**Stated framework:** none **Other theory used:** socioemotional selectivity theory **Methodology:** grounded theory	**Findings:** emphasized the need for acceptance, inclusivity, and diversity; participants chose to live in an LGBT-specific community to feel accepted, because they knew other residents and they perceived comfort and safety; they chose not to live in a mainstream community out of fear of isolation and social rejection
Valenti and Katz [68], 2014	*n* = 76 (17 interviews) **SO:** lesbian (72.4%), gay (13.2%), queer (6.7%), bisexual (6.6%), heterosexual (1.3%) **Sex/gender:** all women **Age:** 35–91 (median age of interviewees = 66) **Race/ethnicity:** White (59%), African American/Black (13%), Latino/a (18%), Native American (3%) **Setting:** multistate USA	**Design:** survey and interviews **Recruitment:** flyers, Internet, organizations, snowball	**Stated framework:** none **Other theory used:** none	**Findings:** survey respondents who were acting as caregivers were asked to participate in follow-up interviews; four themes emerged in the open-ended questions, including the need for: (1) supportive and knowledgeable health care workers; (2) recognition of same-sex partners and their rights; (3) sensitivity training; and (4) accepting environments; the interviews revealed past negative experiences with staff
Van Wagenen et al. [65], 2013	*n* = 22 **SO:** gay or lesbian (90.9%), bisexual (4.5%), heterosexual (4.5%) **Sex/gender:** male (50%), female (50%) **Age:** 60–80 **Race/ethnicity:** Non-Hispanic White (82%), African American (18%) **Setting:** Boston Metropolitan area	**Design:** interviews **Recruitment:** snowball	**Stated framework:** successful aging **Other theory used:** none **Methodology:** grounded theory	**Findings:** were coded into four domains: (1) physical health, (2) mental health, (3) emotional state, and (4) social engagement; based on these domains, four gradations of success emerged; few participants experienced "traditional success" or absence of issues in all domains, but several exhibited coping with challenges through "surviving and thriving" or "working at it," with very few "ailing"
Wight et al. [56], 2015	*n* = 312 **SO:** all gay **Sex/gender:** all men **Age:** 48–78 (mean = 60.7) **Race/ethnicity:** Non-Hispanic White (90.4%) **Setting:** USA	**Design:** survey **Recruitment:** data from the Multicenter AIDS Cohort Study (MACS) and Aging Stress and Health among Gay Men Study (ASH-GM), procedures not specified	**Stated framework:** social stress process **Other theory used:** concept of internalized gay ageism	**Findings:** indicated that internalized gay ageism can reliably be measured among older gay men and can be differentiated from perceived ageism and internalized homophobia; internalized ageism was positively associated with depressive symptomology, and this association was not moderated by one's sense of mattering
Wight et al. [77], 2012	*n* = 202 **SO:** all gay **Sex/gender:** all men **Age:** 44–75 (mean = 56.9) **Race/ethnicity:** Non-Hispanic White (87.1%) **Setting:** Los Angeles area	**Design:** survey **Recruitment:** data from the Multicenter AIDS Cohort Study (MACS), procedures not specified	**Stated framework:** none **Other theory used:** minority stress	**Findings:** positive affect was negatively associated with felt stigma, concerns about independence, financial concerns, and being employed full time; positive affect was positively associated with having a same-sex legal spouse (but not an unmarried partner), mastery, emotional support, and self-rated health; depressive symptoms were positively associated with stigma, HIV bereavements, and independence concerns; depressive symptoms were negatively associated with self-rated health, same-sex domestic partnership, same-sex marriage, mastery, and older age
Williams and Fredriksen-Goldsen [47], 2014	*n* = 2,150 **SO:** gay or lesbian (96.9%), bisexual (5.1%) **Sex/gender:** male (64.8%), female (35.2%) **Age:** 50–95 (mean = 66.8) **Race/ethnicity:** White (87.4%) **Setting:** USA	**Design:** survey **Recruitment:** organizations	**Stated framework:** social integration theory **Other theory used:** none	**Findings:** partnered individuals were significantly younger, were more likely to be female and Non-Hispanic White, and had higher educational and class status than those who were single; having a same-sex partner was significantly associated with better self-reported health and fewer depressive symptoms; relationship duration did not significantly influence the association between partnership and health

Table 2 (continued)

Author(s), Year	Sample	Design/recruitment	Framework/theory/concept	Salient findings
Witten [24], 2014	*n* = 1,963 **SO:** bisexual (18%), lesbian (14%), other (9%), pansexual (8%), gay (7%), refused to label (6%), asexual (4%), questioning (4%), celibate (3%), omnisexual (1%) **Sex/gender:** all identify with trans, including: feminine, androgynous, genderqueer, gender bender, transgender, third gender, transman 13%, transwoman, trans-blended, two spirits, and questioning **Age:** 18+ **Race/ethnicity:** Caucasian (85%), other (4%), Hispanic (3%), multiracial (3%), Black (2%), Asian (2%), First Nation (1%) **Setting:** international: USA (81%), Canada (9%), Australia (1%), Sweden (1%), UK (1%), other (7%)	**Design:** survey (with open-ended questions) **Recruitment:** Transgender MetLife Survey (TMLS), snowball sample	**Stated framework:** none **Other theory used:** intersectionality	**Findings:** summarized end-of-life care concerns, spiritual affiliations, challenges related to chronic illness and disability, and comparisons by age group; 30.1% reported having a chronic illness and 27.1% reported having a disability, with no significant differences by age; younger individuals were less likely to have a pension or retirement plan; more than half of the respondents were moderately or extremely concerned about losing independence as they aged
Witten [25], 2015	*n* = 276 **SO:** all lesbian **Sex/gender:** all participants identified as trans, including: feminine (73.2%), other identities (14.1%), transgender/third gender (9.8%), and masculine (2.7%) **Age:** 18+ **Race/ethnicity:** Caucasian (93.8%), Hispanic (1.8%) **Setting:** international: USA (89.4%), Canada (6.2%), Thailand (1.8%), Australia (0.9%), Sweden (0.9%), Mexico (0.9%)	**Design:** survey **Recruitment:** Transgender MetLife Survey (TMS), snowball sample	**Stated framework:** none **Other theory used:** none	**Findings:** summarized demographic characteristics, pension and retirement planning, social relationships, end-of-life preparation, and concerns about aging and end-of-life care; 61.0% had a retirement plan; 51.3% were in a committed relationship, 31.5% were single, and 11.7% were separated/divorced; 47.8% had completed a will, 39.8% had completed a living will, and 38.1% had a durable power of attorney
Woody [45], 2014	*n* = 15 **SO and sex/gender:** lesbian females (73.3%), gay males (26.7%) **Age:** 58–72 (median = 64) **Race/ethnicity:** African American (53.3%), Black (26.7%), Caribbean African American (6.7%), biracial (Caucasian and African American, 6.7%), multiracial (Native American, Black American, and Caucasian, 6.7%) **Setting:** USA	**Design:** interviews **Recruitment:** Internet, organizations	**Stated framework:** Black feminist theory **Other theory used:** minority stress **Methodology:** phenomenological model	**Findings:** themes included a sense of alienation from the African American community, deliberate concealment of one's sexual identity and orientation, aversion to LGBT labels, perceived discrimination and alienation from organized religion, feelings of grief and loss related to aging, isolation, and fear of financial and physical dependence
Woody [70], 2015	*n* = 15 **SO:** all lesbian **Sex/gender:** all women **Age:** 57–72 **Race/ethnicity:** all African American or Black **Setting:** USA	**Design:** interviews **Recruitment:** not specified	**Stated framework:** none **Other theory used:** minority stress	**Findings:** themes included invisibility, alienation, and loss within the African American community, by any other name (hesitation to use the terms "lesbian" or "queer"), safety concerns, isolation, experiences of minority stress, and resilience

SO, sexual orientation; MTF, male to female; FTM, female to male; API, Asian/Pacific Islander; AI/AN, American Indian/Alaskan Native; cisgender, non-transgender individuals; CCRC, continuing care retirement community. * Denotes articles that report findings from more than one study.

Most samples were made up of a majority of White/Northern European/Caucasian (hereafter referred to as "White") participants, with 5.6% of the samples including only White participants ($n = 4$). Among the studies, 34.8% included African American/Black participants, 31.8% Hispanic/Latino/a, 21.2% Asian/Pacific Islanders, 19.7% Native Americans/Indigenous, and 16.7% others. About one-quarter (25.8%) had multiracial participants. Nearly 12% (11.3%) of the samples were 90% or more White, and another 28.1% were 80% or more White. Two studies reported findings from African American or Black participants only, and 1 sample included only Chinese participants. The race/ethnicity of participants was not reported in 19.2% of the studies, more than half of which were conducted outside of the USA.

Theories Applied

A conceptual framework was identified in 43.9% of the articles. Six key theoretical frameworks were used: critical (12.1%, $n = 8$), ecological/sociocultural (7.5%, $n = 5$), resilience (7.5%, $n = 5$), stress (6.0%, $n = 4$), positive aging (4.5%, $n = 3$), and life course (3.0%, $n = 2$) theories. Methodological theories were utilized in 10.0% ($n = 7$) of the studies. An additional 16.4% of the articles provided conceptual framing of key concepts, but they were not identified as a theoretical framework for the study.

Critical theories (10.6%, $n = 8$) were applied to analyze the ways in which aging is socially constructed through relations of power [44]. As applied, these theories provided a critique of dominant or traditional ways of knowing, challenged common assumptions, examined intersectional identities, and centered the experiences of older adults who are marginalized. Six used ecological and sociocultural frameworks, such as Hierarchical Compensatory Theory [50] and the Anderson Model of service use [51], which were applied to studies on formal and informal service needs and use. A resilience framework was used in 5 studies [43, 59, 62–64] to investigate social determinants and risk and protective factors, as well as their relationship to aging, health, and well-being. As articulated within the tradition of positive psychology, successful aging was utilized in 3 articles to analyze positive aging-related outcomes among LGBTQ older adults [17, 23, 65]. Stress-related theories, most often the minority stress model [52, 53], were used to assess experiences such as loneliness, poor mental health, and service needs [33, 54–56]. A life course perspective was explicitly applied in 2 articles examining life span and life course development [40, 57], with several others referencing the "life course" as a key concept, but not as an overarching framework [16, 20, 24, 36, 58–61].

Two specific methodological theories were used. Grounded theory was used in 10.6% ($n = 7$) of the articles to assess the meaning and generation of theory through the analysis of qualitative data [36, 38, 50, 61, 65–67]. Narrative gerontology was used to explore the experiences of older lesbians in attaining sobriety [60]. See Table 3 for the types of theory utilized in the studies.

Key Themes

In the next section, the systematic review of findings is organized according to the four key domains of the life course (including the interplay of lives with historical times, social relationships, timing of lives, and agency) and an additional domain that included research that extended beyond these life course tenets.

Interplay of Lives and Historical Times

Consistent with a life course perspective, the interplay of lives and historical times account for the contexts within which LGBTQ older adults have lived, and the most frequent way the literature addressed the impact of this context was through examining traumatic and adverse experiences that LGBTQ older adults encountered because of being perceived as LGBTQ. Existing research focused primarily on discrimination (15% of the studies) and victimization (12%) and reported on the frequency [41, 54, 59] and consequences [59, 63, 64] of such adverse experiences.

While none of the population-based research studies assessed the prevalence of such traumatic and adverse experiences, a large community-based study reported an average of 6.5 incidents of victimization and/or discrimination over the life course [59]. Rates of lifetime discrimination and victimization were associated with poorer physical health [59, 63], disability [59, 63], chronic illness [62], depression [59, 63], and lower mental health-related quality of life [43]. Such adverse experiences and lack of access to resources over one's lifetime can exacerbate inequalities and result in cumulative disadvantage [75], with multiple negative consequences in later life.

Rates of victimization and discrimination of LGBTQ older adults differed by demographic characteristics; higher rates were associated with being transgender [64], being male [54], and lower socioeconomic status [68]. Other adverse experiences included ageism and alienation within gay communities [18, 69], as well as heterosexism in faith-based communities [45, 70]. Qualitative studies documented LGBTQ older adults' experiences

Table 3. Theoretical perspectives by theory type and authors

Theory type (total *n*)	Conceptual framework	Studies [Ref.]
Substantive theories (29)		
Critical (8)	Queer theory and existential time	Fabbre [16]
	Queer theory	Fabbre [17], Pilkey [39]
	Feminist political economy	Grigorovich [28]
	Feminist ethics of care	Grigorovich [29]
	Black feminist theory	Woody [45]
	Critical gerontology	Kushner et al. [34]
	Post-structuralist conception of power/resistance	Kong [30]
Ecological and sociocultural (5)	Social capital	Erosheva et al. [46]
	Social integration	Williams and Fredriksen-Goldsen [47]
	Exchange theory and theory of communal relationships	Muraco and Fredriksen-Goldsen [48]
	Loneliness model	Kim and Fredriksen-Goldsen [49]
	Hierarchical Compensatory Theory	Brennan-Ing et al. [50]
Resilience (5)	Resilience framework	Emlet et al. [43], Fredriksen-Goldsen et al. [59, 62–64]
Stress-related (4)	Minority stress model	Jenkins Morales et al. [54], Kuyper and Fokkema [33], Stanley and Duong [55]
	Social stress process	Wight et al. [56]
Positive aging (3)	Successful aging	Fabbre [17], Porter et al. [23], Van Wagenen et al. [65]
Other (4)	Life course perspective	Fabbre [16], Orel [57]
	Meaning making	Gabrielson [71]
	Perceived control	Hostetler [40]
Methodological theories (8)	Grounded theory	Brennan-Ing et al. [50], Parslow and Hegarty [38], Putney [66], Rosenfeld [67], Siverskog [36], Sullivan [61], Van Wagenen et al. [65]
	Narrative gerontology	Rowan and Butler [60]

and concerns of discrimination, mistreatment, and neglect in service settings such as in-home care, workplaces, and health care settings [29, 34, 61, 71, 72].

Internalized stigma, i.e., having negative views of one's own sexual or gender identities, was also often conceptualized as resulting from the historical and cultural context of LGBTQ older adults' lives. For example, 4 studies reported findings related to internalized stigma, which was associated with higher rates of depression and disability [64], loneliness [49], poor physical health [63], and poor quality of life [43]. Internalized gay ageism among older gay men was associated with higher rates of depression [56].

Linked and Interdependent Lives

Embedded within social networks of families of choice, kin, friends, and legally defined family members, the most common social relationships studied were with spouses and partners [47, 49, 59, 63, 80, 81], friends and peer relationships [37, 41, 50, 71, 82], followed by children [46], informal caregivers [50, 80], other household members [20], and pets [66]. Broader social networks and supports were also investigated [32, 33, 46]. Social relationships and social networks were assessed for their presence, size, and impact. One study found that same-sex relationships may be uniquely protective, as same-sex couples reported fewer chronic conditions and were less likely to report poor health than heterosexual couples [21]. Being partnered, having greater social support, and having larger social networks were associated with positive quality of life [59, 81], lower rates of disability, and fewer symptoms of depression [63].

Greater levels of social support were observed among women [63] and younger participants [59]. Social networks were also larger among women [46, 63], younger individuals [46, 59], trans individuals, and those living

with children [46]. Having a partner and co-residing with that partner were associated with being White [49], younger [47, 59], and female [80]. Loneliness and social isolation, on the other hand, were associated with being male, being single, being less socially embedded, and having a smaller social network [32, 33].

A few studies investigated the importance of informal supports [28, 60, 62] and the likelihood of having an informal caregiver [50, 73, 80]. Among LGBTQ older adults, 20% indicated that they were currently providing informal care [80]; caregivers reported a strong sense of duty [38], but also love and commitment, particularly among caring spouses, partners, and close friends [48]. Relationship quality was protective against depression for both informal caregivers and those receiving care [62].

Timing of Lives

The life events explored in the literature were related primarily to identity development, coming out and disclosure experiences [16, 17, 41], and the formation and dissolution of important social relationships [32, 41, 77]. Coming out experiences were measured in a variety of ways, including sequencing and timing. In terms of identity development trajectories, older lesbians, for example, reported recognizing attractions to women at an average age of 18 years and beginning their first serious relationship with a woman 6.5 years later [41]. In a qualitative study, older gay men reported a sequencing of sexual experiences and identity development. For example, many reported experiencing same-sex sexual contact, followed by a period of non-acceptance of self, which was most often followed by self-acceptance [35].

Overall rates of disclosure were assessed: 73% of lesbian, gay, and bisexual adults in a large sample reported being out and comfortable with their sexual orientation [57]. Showing variation by context, 91.5% of older lesbians reported being out to their family, but only 48.5% were out to their health care providers [41]. Of trans older adults, 93.7% were mostly or completely out in terms of their gender identity, but only 22.8% openly identified in religious organizations [23]. Differences in disclosure rates were associated with multiple factors. Lower rates of disclosure were reported by older adults [59], those with smaller social networks [46], and those living in rural areas [83]. Lower disclosure rates were also associated with higher levels of depression and anxiety [64]. A few qualitative studies described the potential risks of identity disclosure [57, 67] and potential protective responses such as withholding biographical information (e.g., gender of one's partner); policing body, dress, or mannerisms; and avoiding or even ridiculing other LGBTQ individuals to blend in [67].

Life events related to the dissolution and ending of social relationships were investigated. For example, LGBTQ older adults were more likely than heterosexuals to have been divorced [32]. Gay men were more likely to have experienced the death of a partner than lesbians, bisexuals, and heterosexuals [32], and often at younger ages, with an especially high rate of death-related experiences as a result of HIV/AIDS [77]. Thirteen percent of lesbians also reported the death of a partner [41]. Experiencing the death of a partner was linked to experiences of disenfranchised grief and legal and financial concerns [37, 84].

Human Agency

Human agency, accounting for how individuals take action to influence their own life possibilities, was most often explored relative to resilience, as individuals responded proactively to various adverse life situations [59, 60] and hostile environments [70], such as choosing to ignore or confront oppressive behaviors or using one's "ageing capital to challenge gay ageism" [18]. A few studies highlighted the important role of resistance to marginalization and heteronormativity [30, 39, 59] in the lives of LGBTQ older adults.

Protective factors as indicators of agency and resilience were investigated [59], including self-esteem, self-efficacy, mastery, hope, and a positive sense of sexual identity. Higher levels of self-esteem and self-efficacy were associated with being older [25] and having a better quality of life [43, 59]. Mastery [77] and hope [31] were associated with positive mental health outcomes. Three qualitative studies identified resilience as a theme, illustrating the ability to bounce back from adverse situations [60], respond to hostile environments [70], and decrease vulnerability in later life [18]. Specific examples included gay men's development of an underground or counterculture [30, 35], and reinterpreting one's failure to comply with heteronormative life sequences and expectations as a way to redefine success in the narratives of older trans adults [17].

Extending beyond Elders' Life Course Perspective

Several areas of existing LGBTQ aging research did not fit neatly into the life course tenets, such as elder abuse, spirituality, service use and needs, and positive and negative health behaviors and outcomes. For example, other types of adverse experiences were reported that were not directly linked in the literature to historical times, such as elder abuse and neglect. Among lesbian, gay, and bisexu-

al adults aged 60 years and older who attended community-based social and recreational programs, 22.1% reported having experienced at least one type of abuse from their caregiver, with 11.5% reporting more than one type [73]. The most common types of abuse were emotional, verbal, physical, and neglect. In a study of transgender older adults, two-thirds reported having received unwanted sexual touch, with 55% reporting such abuse was related to their perceived gender expression or presentation [74].

The study of religiosity and spirituality in the lives of LGBTQ older adults was often presented in the literature as a personal resource and assessed using a variety of indicators, including religious or spiritual affiliation, the frequency of religious activity, and personal experiences in religious and spiritual institutions. Although lesbian, gay, and bisexual older adults were found to be less frequent churchgoers than their heterosexual counterparts [32], nearly 40% attended religious or spiritual services on an ongoing basis [59]. Religious and spiritual activity, such as engagement, was not significantly associated with health or quality of life for LGBTQ older adults in general [59] or with successful aging among trans older adults [23].

A new theme that emerged in the LGBTQ aging-related literature was health, including physical health, mental health, health behaviors, and health-related quality of life and well-being. Much of this research addressed poor health, although some studies found that LGBTQ older adults reported good mental health [41, 73], physical health [59, 63, 64], and quality of life [59]. Yet there was mounting evidence that LGBTQ older adults experienced health disparities, with higher rates of poor general health, disability, functional impairment, and psychological distress than among heterosexuals of similar age [20, 64]. While health disparities were evident across the LGBTQ groups, those identified at elevated risk included transgender [64], bisexual [63, 76], lesbian [63], and unemployed [77] older adults, as well as those needing caregiving assistance [62]. One study on a large sample of LGBTQ older adults found that 9% reported an HIV diagnosis [43], while up to one-third of gay men in another study had a diagnosis of HIV [77]. The progression of HIV to AIDS and comorbidities were negatively associated with quality of life [43].

Findings related to LGBTQ older adults' health and age were mixed. In one large community-based sample, quality of life was highest among the middle-aged group (65–79 years) and similar among the younger (50–64 years) and oldest (80+ years) groups [59], but another study found that the youngest participants (55–64 years) reported the highest rates of anxiety and posttraumatic stress disorder [76]. The oldest LGBTQ adults reported the most chronic conditions and lowest physical health-related quality of life [59, 49].

Behavioral health, including the use of tobacco, alcohol, and illicit substances [42, 55, 63, 76] and sexual behavior [42], was another common focus identified in the literature that did not align directly with the life course tenets. In terms of demographic differences, lesbian, gay, and bisexual older men and women, compared to heterosexuals, were at an elevated risk of excessive drinking [20]. Among older men, bisexuals were less likely to have engaged in unprotected sexual activity but more likely to be smokers than gay men [40]. For trans older adults, physical activity was negatively associated with rates of poor physical health, disability, and depression and anxiety; trans older adults reported less engagement in physical activity than did cisgender sexual minorities [64]. There was also evidence that substance use was related to sexual risk behavior; for example, among gay and bisexual older men living with HIV, unprotected sex was not predicted by past or current alcohol use but was associated with current and lifetime use of crystal meth, cocaine, and club drugs (e.g., GHB, ketamine, and Ecstasy) [42]. Fewer studies considered positive health behaviors, although a few assessed physical and leisure activities [59, 63, 64], which were associated with better quality of life and lower rates of depression [59, 63].

Some studies indicated barriers to care. In a population-based study, sexual-minority older women were more likely than heterosexual women to experience financial barriers to health care [20]. Additional barriers included difficulty locating needed services [78], past negative experiences in care settings [57, 78], and fears of discrimination [24, 36, 63, 79]. Despite barriers to care, compared to heterosexuals, sexual minorities reported higher service use in some areas. For example, lesbian, gay, and bisexual older adults were more likely to have received a flu shot, HIV screening [20], and counseling services [55].

Commonly reported aging-related concerns of LGBTQ older adults included loss of decision-making ability, loss of independence, lack of availability of assistance from others, economic concerns [24–26, 77], and needs regarding legal planning, including durable powers of attorney, end-of-life decision-making, and retirement plans [23, 25, 68, 84, 85]. Studies also identified the need for nonjudgmental and proactive welcoming, affirming, and sensitive services [28, 29] and a critical need for train-

ing of health and human service providers and organizations to promote cultural capacity in the delivery of services [28].

Discussion

This review provides a much-needed updated evidence base for LGBTQ aging research. Since our prior review [7], the research on the topic has grown rapidly, as illustrated by the sheer increase in frequency of articles; this review included 66 articles published over 8 years in comparison to 58 articles during the prior 25-year review period. In the previous review, we noted the surprising absence of health research in the field, given its central role in the gerontological literature in general. However, in this review health-related research emerged as a new 5th wave of work in the field, as several studies addressed health disparities and inequities, as well as social determinants associated with the health and well-being of LGBTQ older adults. Below, we discuss the key advancements and limitations of the existing literature, as well as outline a blueprint for future LGBTQ aging research across theoretical, substantive, and methodological domains.

Theory: Where from Here?

The use of theory in this literature has increased significantly since the last review, with 43.9% of the articles stating a conceptual framework, up from 25.0% in the prior review. Interestingly, critical theories were the most commonly used perspectives in the LGBTQ aging literature along with methodological theories, followed by ecological/sociocultural, resilience, stress, positive aging, and life course. Critical theories were presented as challenging common assumptions and traditional ways of knowing by centering the experiences of those who are marginalized or excluded from dominant society [44]. Fabbre's [17] use of queer theory, for example, was used to assess successful aging and critiqued the notion of "success" in the broader field of gerontology and offered a reimagined understanding of failure in the lives of transgender older adults. While the use of theory has grown, more depth, integration, and review of the field continue to be needed for framing research questions as well as analysis and interpretation.

While historical forces and linked lives from the life course perspective [8] were evident in the previous review, both the timing of lives and human agency had rarely been assessed earlier. We now see small and growing literature bases in both these areas. However, we also found that key areas of LGBTQ aging research did not fit neatly into Elder's [8] four tenets of the life course, including spirituality, elder abuse, positive and negative health outcomes, health behaviors, and service use and needs.

To more fully capture the possibilities of the growing field of aging in historically disadvantaged and marginalized populations, we propose the Iridescent Life Course, much like iridescent properties [86] encompassing the interplay of light and environment creating dynamic and fluid colors as perceived from different angles and perspectives over time. The Iridescent Life Course extends existing work in the following ways as it:

- incorporates the intersectionality of sexuality and gender as well as other social positions and considers how these positions interact to shape opportunities and constraints;
- addresses the fluidity inherent across identities as well as how they interact with each other to reflect aging lives as they shift over time;
- highlights the consequences of divergent representations and viewpoints of and about disadvantaged older adults and their interaction with individual, interpersonal, social, and structural opportunities and barriers;
- illuminates the social construction and power dynamics inherent in the lived lives of marginalized older adults, such as through *queering* and *trans-forming* of the life course, which sheds light on the heterosexual and gender-normative nature of most existing gerontological research; and
- elucidates psychological, behavioral, and biological factors that influence the lives of older adults, along with critical social factors.

The Iridescent Life Course raises questions regarding the utility and potential overuse of "LGBTQ" as an umbrella term, given the intersectional nature of aging across communities, as well as the critical role of culture, time, and space [17]. An important new direction for this research is intersectionality, i.e., to assess the complex nature of intersecting demographic, social, cultural, and societal positions including diverse ages and sexual and gender identities and their multiple junctures over the life course. Within a life course perspective, this highlights the rapidly changing social context and raises important generational issues for future study. Yet, to date, most research has ignored heterogeneity within older adult communities. Exploring such variations and similarities over the life course within intersecting multiple

social and structural positions that can be simultaneously occupied will foster a much deeper understanding of life course trajectories. However, the demographic characteristics of samples continue to be underreported in the literature, constricting the generalization of the findings. Nearly one-quarter of the studies, for example, did not report the race or ethnicity of the research participants.

Additional investigation of the consequences of divergent representations and viewpoints in society and the interaction with individual, interpersonal, social, and structural opportunities and barriers is needed. For example, the lack of attention to poverty and economic inequities, socioeconomic status, class, ethnicity, race, nationality, immigration, and ability status in this field is alarming, especially since we know that stratification and inequities have such far-reaching effects across the life course. While research on those who identify as trans or queer was represented in the existing literature, it comprised a small portion of the studies; thus, more work is needed in these areas. In addition, other subpopulations also require additional study, including the oldest, bisexual (especially women), asexual, intersex, and sexual and gender non-binary and diverse older adults; they continue to remain largely invisible in research, despite evidence of distinct experiences.

Substantive Areas of Study: Depth rather than Breadth

Differing Configurations of Risks and Resources

As we move forward, it is critical that the field reach for more depth in research rather than continuing to increase breadth. Several existing studies have illustrated differing configurations of risks and resources in the lives of LGBTQ older adults [20, 64] both by subgroups as well as by differing outcomes. Future research is needed to further investigate LGBTQ older adults within the larger social context as well as embedded within kin relations and communities, and to assess how these structures and relationships may play a significant role in aging. While more research investigating health disparities is needed, we run the risk of overproblematizing and overmedicalizing LGBTQ older adults unless we also invest in complementary areas such as resistance, resilience, and community engagement, as well as positive health behaviors and outcomes in the lives of LGBTQ older adults (e.g., well-being, life satisfaction, and quality of life).

Trauma and Inequities in Visibility, Representation, and Capital

Future research needs to further investigate how trauma, discrimination, and bias has resulted in differing consequences for LGBTQ older adults over time, depending in part on their age, generation, and vulnerability. Also needed are studies that address access to aging and health systems and LGBTQ older adults' use of services. The next wave of research needs to address both individual and community agency that capitalizes on the strengths and benefits of LGBTQ people, and their communities and social movements. Research is also needed to inform policymakers on how legislative processes and policies shape the larger social context as they provide access to social representation and resources since they influence health and well-being over time.

Multilevel Analysis of LGBTQ Aging over Time

To more fully understand the complex interaction of such factors will require multiple levels of analysis – including individual and intrapersonal (e.g., comfort with one's identity), interpersonal and social (e.g., disclosure to others), and structural levels (e.g., geographical, existence or absence of legal protection, and the larger sociopolitical context). Studies are needed that address the multiple levels and intersecting influences on the full continuum of LGBTQ aging, well-being, and quality of life, including positive and adverse pathways (behavioral, social, psychological, and biological processes) to influence the continuum of aging outcomes in LGBTQ communities [87]. And while most research relies on self-report measures, the use of more objective data is needed, including functional and cognitive assessments and biomarker and physiological data, to better understand environmental and biological influences of aging and health over time.

All studies reviewed to date were cross-sectional, with no longitudinal findings reported, which limits our ability to assess trajectories and causal relationships as well as to identify those at the greatest risk and most vulnerable in these communities. Understanding individual as well as cohort trajectories in LGBTQ aging will be aided by the development of longitudinal studies that can attend to the shifting individual, structural, and environmental contexts over time. Such longitudinal approaches have the capacity to be responsive to tensions that result from heterogeneous needs given the diverse nature of these communities and the call for system-level changes, which in the past have often been built upon the premise of homogeneous experiences. Such studies can also create oppor-

tunities to develop, design, and evaluate evidence-based interventions in order to address the needs of LGBTQ older adults and of their families and communities.

Methodological Advances

The findings from this review reveal a greater differentiation and complexity in methods since the prior review. Overall, the research designs were more varied, primarily relying on quantitative or qualitative data, with a few mixed-method studies. There was more diversity within samples, and for the first time some studies incorporated population-based data. While most were largely descriptive, there was an increase in correlational and comparative studies. The state of the knowledge in the field provides greater opportunity for mixed-method studies as well as for meta-analyses of specific substantive topics. However, the field continues to grapple with several measurement issues. For example, there remains a tendency to conflate concepts, such as sex, sexual orientation, gender, and gender identity and expression. For instance, some studies measured sex as "male" or "female," but referred to the participants as "men" or "women," or reported findings for lesbian, gay, bisexual, and transgender individuals, with "transgender" being analyzed as a sexual identity. The field needs to better distinguish and differentiate research on sexual orientation and gender, which will require deeper analyses of the various aspects of sexual orientation (e.g., sexual identity, sexual behavior, attraction and romantic relationships, and other types of diversity in sexuality) and gender (e.g., gender identity, gender expression, and gender diversity and non-binarity), as well as assessing how these dimensions change or remain static over the life span. The development of best practices and standardization of measures of such constructs is needed. Next steps will also require developing representative sampling methods while continuing to attend to the need for innovative methods to reach hidden-within-hidden populations.

Global Initiatives

The interplay of culture and the importance of understanding LGBTQ lives on a global scale are essential to understanding differences and similarities across local as well as national contexts. Advancing global LGBTQ aging research initiatives has the potential to create important opportunities for the field. As we move forward, it will be critical to assess human rights such as participation, representation, transparency, and accountability within differing and shifting cultural contexts. Evaluating changes in policy will also be facilitated by global research partnerships that allow for cross-national comparisons. Such information would be useful in the development and evaluation of evidence-based prevention efforts, interventions, practices, training, and policy.

Conclusions

This review of the literature was designed to provide an evidence-based platform for future research. Since the prior review, several promising trends have become evident, including the increased application of theory, the use of more varied research designs and methods, and the emergence of a new wave of research on the health and well-being of LGBTQ older adults. While the topics have grown in breadth, future research must strive for greater depth. The Iridescent Life Course underscores the need for more fully encompassing the intersectionality and fluidity inherent in aging. Several understudied areas ripe for further study include the complex nature of intersecting demographic, cultural, and sociopolitical positions; differing configurations in risks and resources; legacies of trauma and inequities in representation and capital; multilevel analyses; the use of longitudinal studies to assess trajectories over time; and growing opportunities for collaborations through global initiatives.

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Statement of Ethics

The authors have no ethical conflicts to disclose.

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