AGING & MENTAL HEALTH
2025, VOL. 29, NO. 3, 408–417
https://doi.org/10.1080/13607863.2024.2394847

Routledge
Taylor & Francis Group

Protective and stress factors for psychological distress: a comparative analysis of LGB and non-LGB older adults

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ABSTRACT

Objectives: Population ageing raises major public health and psychosocial challenges. Particularly, lesbian, gay, and bisexual (LGB) older people may face increased vulnerabilities and marginalization when compared to their non-LGB (heterosexual) counterparts, which may entail more risks for their mental health. The aim of this study was to comparatively evaluate the levels of protective – social support, spirituality, and resilience and stress factors – loneliness and ageism – among LGB and non-LGB older adults, and their impact on psychological distress (PD).

Method: A sample of 647 people aged 60 years or older ($M = 66.01$; SD = 4.93) was collected, 368 non-LGB and 279 LGB. Participation was carried out through an online survey in Portugal.

Results: LGB older adults had lower scores on all protective factors, except on social support from friends, and higher levels on all stress factors, except on hostile ageism, compared to non-LGB older adults. Further, resilience and loneliness were the main predictors of PD regardless of the sexual orientation. Stress factors explained the levels of PD over and above the effects of protective factors, both among LGB and non-LGB older adults.

Conclusion: Psychological distress in aging presents different protective and stressful factors according to the sexual orientation of older adults. More comparative studies are suggested in the intersection between ageing and sexual orientation.

ARTICLE HISTORY
Received 16 March 2024
Accepted 15 August 2024

KEYWORDS
Psychological distress; sexual orientation; risk factors; elderly; ageing

Introduction

Population ageing is an increasingly challenging reality in the international context (World Health Organization (WHO), 2015). The World Health Organization (WHO) estimates that by 2030 one in six people will be aged 60 years or older, and by 2050 older adults are expected to make up about a quarter of the world's population (Coelho-Júnior et al., 2022; Officer et al., 2016; World Health Organization (WHO), 2015). Particularly, Portugal is among the five countries with the highest aging rates in the world, with almost a quarter of the population being older adult (United Nations (UN), 2023). According to the National Institute on Ageing (NIA), with the various demographic changes resulting from population ageing, it becomes essential to respond to the psychosocial needs and health challenges of the older population, particularly the most disadvantaged people (Hill et al., 2015; National Institute on Ageing (NIA), 2017). Incidentally, the latest WHO report on health in ageing highlights the important inequalities among the older population, particularly in mental health indicators (World Health Organization (WHO), 2015).

The lesbian, gay, and bisexual (LGB) older adults, while largely with social and public invisibility, appears to be one of the most disadvantaged older populations, including in their mental health, in the community and social context, as well as in the economic component. It's been more than a decade since the Center for Disease Control and Prevention (CDC, 2011) recognized health disparities related to sexual orientation as one of the most prominent gaps in health research, and likewise the Institute of Medicine (IOM),) (2011) identified LGB older adults as a population with more health risks, and one of the most underserved in health care. However, these concerns and needs about LGB older people continue to be current (Breder & Bockting, 2023; Chen, 2022; Fredriksen-Goldsen et al., 2017). Literature about the LGB older population produced in the last decade points to several inequalities and worse mental health indicators in relation to non-LGB (heterosexual) older people, such as anxious and depressive symptoms and psychological distress (Fredriksen-Goldsen et al., 2013; Ribeiro-Gonçalves et al., 2024).

In Portugal, particularly, LGB older adults had a challenging life journey, in addition to stressors such as discrimination throughout the life cycle and the HIV pandemic, these older people have gone through a long journey of sexual repression - Salazar dictatorship (1933–1974) - where they were persecuted and threatened/attacked (Ribeiro-Gonçalves et al., 2023). However, there is a marked lack of research that aims to comparatively evaluate health indicators between LGB and non-LGB older adults (Fredriksen-Goldsen et al., 2013; Grabovac et al., 2019; Lytle et al., 2018). Further, these LGB older adults in Portugal have experienced long periods of concealment of their sexual orientation and internalization of sexual stigma, with concealment often functioning as a protection and survival mechanism, given that these older people only saw their

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rights validated when they were between 40 and 50 years old, namely the first institution to defend the rights of sexual minorities in Portugal only opened in 1995, in 2010 same-sex marriage was legalized and in 2016 adoption by couples was allowed (Pereira & Monteiro, 2016; Ribeiro-Gonçalves et al., 2023). Particularly, the amount of research on LGB older adults in Portugal, where this study was conducted, is low, hence the limited understanding of the needs and resources existing in these populations (Ribeiro-Gonçalves et al., 2023; Ribeiro-Gonçalves et al., 2023a).

Age and sexual orientation: protective and stress factors for mental health

Sexual stigma continues to influence society in a negative view of LGB people, despite their growing acceptance in different contexts (Lytle et al., 2018). Many studies highlight the mental health disadvantages of LGB people compared to non-LGB people (Wittgens et al., 2022), and although there is little prevalence data, it is thought that LGB youth may experience up to six times more depressive symptoms than their heterosexual peers, and this trend it can be maintained throughout aging if there is little availability of psychosocial support resources throughout life (Anxiety and Depression Association of America (ADAA), 2020). Recent evidence indicates that LGB older adults may face unique challenges when compared to non-LGB older adults due to progressive vulnerability arising from ageing and stigmatized identities (i.e. double stigma due to aging and sexual stigma; Fredriksen-Goldsen et al., 2015; Ribeiro-Gonçalves et al., 2019). LGB older adults may have unique concerns about the resources they will have at their disposal and how they will be cared for as they age (Fredriksen-Goldsen et al., 2015; Lytle et al., 2018). Recent studies suggest that older LGB people suffer high levels of discrimination and victimization throughout their life cycle, which is associated with worse levels of physical and mental health indicators (Fredriksen-Goldsen et al., 2015; Ribeiro-Gonçalves et al., 2024). However, research also suggests that because they have a stigmatized identity (due to sexual orientation) LGB older adults develop stress and stigma management skills, which can be used to deal with additional stigmatized identities (e.g. associated with age; MetLife, 2010).

Older adults are contradictorily stereotyped with negative (e.g. incompetent) and positive (e.g. wise) attributes, and consequently are discriminated against due to age in a hostile (e.g. verbal aggression) and benevolent way (e.g. assumption of physical disability). These various forms of ageism appear to be common among LGB and non-LGB older adults and contribute significantly to several negative health indicators, including increased early mortality, anxiety, and high levels of psychological distress (PD), the latter being internationally considered one of the main indicators of mental health (Levy, 2003). Further, youth-oriented culture in communities can instill in older adults a sense of loss of attractiveness and increasing feelings of rejection and invisibility, thus highlighting the effects of ageism (Lyons et al., 2015). Particularly, LGB older adults are more likely to live alone, to be marginalized, and to have a less robust social network than non-LGB older adults, further LGB older adults suffered a cumulative effect of the internalized stigma throughout their life cycle, which potentially places them at a higher risk of loneliness (Hsieh & Liu, 2021; Kuyper & Fokkema, 2009). Loneliness has also been a factor identified as more common in LGB older people than in non-LGB older people, with a strong influence of the diversity of social support in LGB older adults in its manifestation (Peterson et al., 2022).

In addition to these stressors, protective resources for the mental health of older adults also seem to differ according to sexual orientation (Iasiello et al., 2020; Lytle et al., 2018). Non-LGB older adults are more likely to have children and partners, and to have support from their families of origin, while LGB older adults to demonstrate a more dispersed social support network coming from the community, which can provide a sense of community belonging (Erosheva et al., 2015; Kuyper & Fokkema, 2009; Fredriksen-Goldsen et al., 2011; von Humboldt et al., 2022). Many of these differences may be due to the processes of stigmatization and discrimination throughout the life cycle experienced by LGB older adults, which affected several fields of the lives of these older adults, such as the social, mental and economic life (Fredriksen-Goldsen et al., 2011; Ribeiro-Gonçalves et al., 2024; von Humboldt et al., 2022). Further, regardless of sexual orientation, older adults who report richer and more caring social networks experience greater well-being and quality of life (Erosheva et al., 2015). These external resources are essential for promoting and maintaining internal variables, such as resilience (Ribeiro-Gonçalves et al., 2023a). Despite the adversities, LGB older adult have shown high levels of resilience, particularly LGB older adults showed important skills in gathering social resources and the application of key cognitive resources in coping with sexual stigma events (Angevaare et al., 2020; Bower et al., 2019; Fredriksen-Goldsen et al., 2017; Ribeiro-Gonçalves et al., 2024; von Humboldt et al., 2022a). Further, particularly during ageing, spirituality can be one of the variables that most contribute to the adaptive management of adversities and better mental health, allowing for greater optimism and hope, a decrease in cortisol levels, and greater support/involvement with the religious community (Coelho-Júnior et al., 2022; Tan, 2005). However, little is known about the specific role of spirituality in the LGB older adults, the existing results are contradictory, spirituality and religiosity have already been found to be an important source of peace, dignity and coping for LGB older people, but they are also sources of stigma and discrimination, leading to move away from religious institutions (Pereira & Banerjee, 2021).

Theoretical framework

The Minority Stress Model (MSM) addresses the stress processes that contribute to inequalities in the prevalence of mental health problems between LGB and non-LGB people (Meyer, 2003). The MSM indicates that LGB people are constantly subject to society stressors specific to sexual minorities, in addition to those that the non-LGB population is subject to, which negatively affects their mental health. Although this model considers LGB people to be active agents, able to find resources that facilitate the management of stressors, the MSM mainly addresses the impact of stressors on the mental health of sexual minorities (Meyer, 2003). Concurrently, the Minority Strengths Model seeks to explain how a set of personal and collective protective resources interact to generate positive health and well-being outcomes for LGB people, compared to the non-LGB population (Perrin et al., 2019). This model indicates that personal and internal resources of LGB populations particularly benefit from social and community resources, which contribute to one of the main positive dimensions of personal and affirmative identity, the "Identity Pride" (Dunn & Burcaw, 2013; Perrin et al., 2019). Like

the MSM, the Minority Strengths Model considers the existence of stressors, although it mostly focuses on the protective factors that can minimize or neutralize the effects of stressors on mental health (Perrin et al., 2019).

The Minority Stress Model and the Minority Strengths Model together allow a more comprehensive theoretical and applied assessment of the protective and stress factors to which older LGB populations are subject (Meyer, 2003; Perrin et al., 2019). Despite this evidence, the two models have not been used much in previous studies with older people, and less so in comparative approaches - LGB and non-LGB older adults - which is what we intend to address in this study (Meyer, 2003; Perrin et al., 2019; Ribeiro-Gonçalves et al., 2019).

Research objectives

Based on previous evidence, the main objective of this study was assessing psychological distress and its protective and risk factors among LGB and non-LGB older people comparatively. In particular, this study has two specific objectives: (1) to assess the levels of protective (social support, spirituality, and resilience) and stress factors (loneliness and ageism) among LGB and non-LGB older adults, and (2) to assess the relationship between stress and protective factors with PD, this relationship will be assessed comparatively for LGB and non-LGB older people. To the best of our knowledge, this is the first comparative study between LGB and non-LGB older adults in the Portuguese context.

Methods

Participants

A sample of 647 older adults was obtained using three main inclusion criteria: (1) community-dwelling people (non-institutionalized), (2) being at least 60 years old, and (3) who self-identified as cisgender. Of the 1,013 older adults recruited, 366 were excluded for being younger than 60 years, for not indicating their sexual orientation or age, or for leaving more than 75% of the survey unanswered. For more descriptive information about the sample, please see Table 1.

Measures

Sociodemographic questionnaire

Participants were asked about their age, gender, sexual orientation, living situation, having children, place of residence, civil status, education level, professional situation, and annual income. Most variables were measured using dichotomic response options (see Table 1), except for age (continuous variable) and sexual orientation (open-ended question, categorized posteriorly). For the latter, and after all the data was collected, we created the main categories according to the answers indicated by the participants. Namely, two main categories, non-LGB people (heterosexual) and LGB people.

Ageism

Ageism was measured using the Ambivalent Ageism Scale (AAS; Cary et al., 2016), adapted to the Portuguese context (Barroso, 2018). The AAS measures perceived age-related discrimination in a two-dimensional structure, a nine-item subscale of benevolent ageism (e.g. item 5—"People should shield older adults from sad news because they are easily moved to tears") and a four-item subscale of hostile ageism (e.g. item 11—"Old people are too easily offended"). The AAS is composed by a total of 13 items, measured in a 7-point Likert type scale (from 1 - *Strongly Disagree* to 7 - *Strongly Agree*). Cronbach's alpha for this study was high for both subscales (A_B α = 0.82 and A_H α = 0.81). Higher scores reflect higher levels of ageism.

Loneliness

Loneliness was measured using the Short-Form UCLA Loneliness Scale (USL-6; Russell, 1996), adapted to the Portuguese context

Table 1. Sample characteristics by sexual orientation.

Characteristics	Heterosexual (*n* = 368)	LGB (*n* = 279)	ST[1] (*df*)	*p*
Age				
M (*SD*)	68.05 (5.88)	63.97 (3.98)	10.001 (645)	<.001
Gender				
Men	55.70	74.55	35.655 (1)	<.001
Women	44.30	25.45		
Living Situation				
Alone	31.67	55.96	51.767 (1)	<.001
Partner/Spouse/Family/Others	68.33	44.04		
Children				
Yes	92.62	38.13	272.552 (1)	<.001
No	7.38	61.87		
Professional Situation				
Employed	42.38	81.75	150.573 (1)	<.001
Retired/Unemployed/Other	57.62	18.25		
Civil Status				
Widower/Divorced/Single	43.60	85.30	179.277 (1)	<.001
Married/Civil partnership	56.40	14.70		
Place of Residence				
Urban/Semi-urban	80.87	83.09	.453 (1)	.479
Rural	19.13	16.91		
Education Level				
Up to High School diploma	61.50	47.31	17.698 (1)	<.001
Undergraduate/Graduate/Post-graduate degree	38.50	52.69		
Income (household's gross annual income)				
Between one and two national minimum wage	76.83	76.17	.053 (1)	.818
Greater than two national minimum wages	23.16	28.83		

Note: [1]Statistical Test; Values are percentages unless otherwise stated.

(Neto, 2014). The USL-6 measures feelings of loneliness in a unidimensional scale. It is composed of six items (e.g. Item 6—"People are around me but not with me"), measured in a 4-point Likert type scale (from 1 - *never* to 4 - *frequently*). Cronbach's alpha for this study was high (α = 0.85). Higher scores reflect higher levels of loneliness.

Social support

Social support was measured using the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet et al., 1988), adapted to the Portuguese context (Carvalho et al., 2011). The MSPSS measures perceived social support in a three-dimensional structure with four items each, a subscale of family support (e.g. item 11—"My family is available to help me make decisions"), a subscale of friends support (e.g. item 7—"I can count on my friends when something goes wrong"), and a subscale of significant others support (e.g. item 1—"There is a special person who is close when I need"). This last subscale measures the support from a partner, spouse, psychotherapist, or religious guide. The MSPSS is composed by a total of 12 items, measured in a 7-point Likert type scale (from 1 - *Strongly Disagree* to 7 - *Strongly Agree*). Cronbach's alpha for this study was high for all subscales ($MSPSS_{Fa}$ α = 0.91, $MSPSS_{Fr}$ α = 0.88, $MSPSS_{OS}$ α = 0.89). Higher scores reflect higher levels of perceived social support.

Resilience

Resilience was measured using the Connor-Davidson Resilience Scale (CD-RISC-10; Campbell-Sills & Stein, 2007), adapted to the Portuguese context (Almeida et al., 2020). The CD-RISC-10 measures resilience in a unidimensional scale. It is composed of ten items (e.g. Item 6—"I can achieve goals despite obstacles"), measured in a 5-point Likert type scale (from 0—*not true at all* to 4—*true nearly all the time*). Cronbach's alpha for this study was high (α = 0.84). Higher scores reflect higher levels of resilience.

Spirituality

Spirituality was measured using the Intrinsic Spirituality Scale (ISS; Hodge, 2003). The ISS measures intrinsic spirituality in a unidimensional scale. It is composed of six items (e.g. Item 3—"When I am faced with an important decision, my spirituality…"), measured in a 11-point Likert type scale (e.g. from 0—*plays absolutely no role* to 10 - *is always the overriding consideration*). In face of a lack of an adaptation of the ISS to the Portuguese context, a process of translation and retroversion of the scale scale was carried out by a group of experts, and only minor linguistic adaptations were made. A confirmatory factor analysis of the scale was performed (X^2 (9) = 28.001, $p < 0.01$, CFI = 0.985, GFI = 0.966, RMSEA = 0.08 90% CI [0.052, 0.125]), which corroborated the one-dimensionality of the scale with the six items (all factor weights > 0.71). For this study, Cronbach's alpha of the ISS was high (α = 0.90), further higher scores reflect higher levels of intrinsic spirituality.

Psychological distress

Psychological Distress was measured using the Kessler Psychological Distress Scale (K6; Kessler et al., 2002), adapted to Portuguese population (Pereira et al., 2019). The K6 measures the degree of nonspecific psychological distress, one of the main indicators of mental health. It is composed of six items in a unidimensional scale (e.g. Item 5—"During the past 4 wk, how often did you feel like everything was an effort?") measured in a 5-point Likert scale (from 0 - *none of the time* to 4 - *all of the time*). Cronbach's alpha for this study was high (α = 0.83). Higher scores reflect higher levels of PD.

Procedures

This study was part of *Pro-PSISexES*, a larger national project with the aim of assessing health and well-being among older adults in Portugal, focusing particularly on the sexual orientation of older adults. This project was funded by Fundação para a Ciência e a Tecnologia (FCT) (Grant: SFRH/BD/143214/2019), data were collected between May 2020 and July 2021 using a convenience sampling procedure across the country. Firstly, it was developed an online survey hosted on the *Qualtrics* platform. Secondly, wide online dissemination of the survey was done through electronic means (e.g. online social networks, blogs, websites of interest to older adults). Thirdly, invitations were sent to potential participants across the country, including a brief description of the study and the link to the survey. When accessing the online survey, a more complete explanation of the study and the informed consent were made available to participants. No compensation was offered to participants and all procedures were in accordance with the ethical standards of the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. Further, this research project was approved by the Ethics Committee of ISPA—University Institute with approval code n° D/028/04/2020.

Data analysis

Initially, differences between non-LGB and LGB older adults' sociodemographic characteristics were tested using independent *t* tests for continuous variables and chi-square tests for categorical variables. Posteriorly, a set of Pearson bivariate correlations were run to examine the relationships among protective factors—social support (family, friends, and other significant), resilience, and spirituality - stress factors—ageism's (hostile and benevolent) and loneliness—and psychological distress. The linearity of the variables was verified using scatterplots and no problems were identified. Next, a set of *t* tests were run to assesses differences among protective factors, stress factors, and PD by sexual orientation. Finally, two hierarchical linear regression, one for non-LGB older adults subgroup and one for LGB older adults subgroup were conducted, considering firstly protective variables (step 1) and secondly stress variables (step 2) in order to understand whether, in a second moment, the introduction of stressors influences the relationship between protective factors and PD. In all analyses a *p*value < 0.05 was used to indicate statistical significance. All analyses were performed using IBM SPSS Statistics 28.

Results

Sociodemographic differences by sexual orientation

Of the 647 participants, 279 (43.1%) were LGB and 368 (56.9%) were non-LGB. LGB older adults were on average younger than non-LGB older adults (M_{LGB} = 63.9 vs M_{H} = 68.1 years, $p < 0.001$). Compared to the non-LGB sample, the LGB sample was composed by significantly more men ($p < 0.001$), by people living

alone ($p < 0.001$), without children ($p < 0.001$), and employed ($p < 0.001$). Further, LGB older adults were married or in civil partnership in lower proportion ($p < 0.001$), but had higher educational levels ($p < 0.001$). Sample characteristics are summarized in Table 1.

Protective factors, stress factors, and psychological distress by sexual orientation

Protective factors—social support, resilience, and spirituality—were significantly and negatively associated with PD among LGB (except for friend's social support) and non-LGB older adults (except for spirituality). Further, stress factors—loneliness and ageism—were significantly and positively associated with PD both among LGB and non-LGB older adults, except for the correlation between hostile ageism and PD which was not significant among the latter. Moreover, most of the protective variables had strong and significant correlations with each other among both LGB and non-LGB people, and relationships between stress factors were weak in both samples, although benevolent ageism and hostile ageism are significantly related in both. All associations among variables under study are shown in Table 2.

Psychological distress levels were significantly higher in LGB people than in non-LGB people ($p < 0.001$). Further, almost all stress variables—ageism and loneliness—were significantly higher among LGB than among non-LGB older adults ($p < 0.001$), except for hostile ageism, which showed no significant differences ($p = 0.234$). Further, almost all protective variables - social support, resilience, and spirituality - were significantly lower among LGB than among non-LGB people ($p < 0.001$), except for social support from friends, where the opposite was demonstrated ($p < 0.001$; see Table 3).

The effects of protective and stress factors on psychological distress by sexual orientation

Two hierarchical linear regressions, one for LGB and one for non-LGB older adults, were developed considering both the literature review and the significant associations found in the previous analysis. As predictor variables we consider firstly protective variables - social supports (family, friends, and other significant), resilience, and spirituality (step 1) - and secondly stress variables - ageism's (hostile and benevolent) and loneliness (step 2) - and consider PD as outcome. Thus, we can test the effects of stress factors on PD controlling the effects of protective factors. For this analysis, all assumptions were verified, and no evidence of multicollinearity was found (tolerance values > 0.1 and FIV < 5, to all independent variables).

The regression model for PD among LGB older adults was statistically significant in both steps, step 1 F_{change} (5, 264) = 22.256, $p < 0.001$; and step 2 F_{change} (8, 264) = 17.928, $p < 0.001$, explaining 28.3% and 31.7% of the variance (adjusted r^2), respectively. Among non-LGB older adults, the regression model for PD was also statistically significant in both steps, step 1 F_{change} (5, 333) = 21.231, $p < 0.001$; and step 2 F_{change} (8, 333) = 22.124, $p < 0.001$, explaining 23.1% and 32.8% of variance (adjusted r^2), respectively. Higher levels of family, friends, and

Table 2. Pearson's correlation among all variables by sexual orientation.

	1	2	3	4	5	6	7	8	9
1. Family Social Support	–	.152**	.311**	.155**	.039	−.004	.064	−.209**	−.241**
2. Friends Social Support	−.051	–	.203**	.312**	−.076	−.145**	−.180**	−.148**	−.162**
3. Significant Others Social Support	.265**	−.094	–	.262**	.083	−.041	.016	−.313**	−.234**
4. Resilience	.311**	.100	.367**	–	.091	−.092	−.154**	−.342**	−.455**
5. Spirituality	.163**	−.013	.219**	.285**	–	−.017	.087	.126*	.143*
6. Hostile Ageism	−.073	−.217**	−.109	−.328**	−.161*	–	.439**	−.021	−.017
7. Benevolent Ageism	−.048	−.105*	−.189**	−.291**	−.164*	.453**	–	.103	.170**
8. Loneliness	−.165**	−.081	−.322**	−.433**	−.117	.122	.231**	–	.479**
9. Psychological Distress	−.137*	−.022	−.319**	−.531**	−.221**	.157*	.233**	.439**	–

*$p < 0.05$; **$p < 0.01$.
Note: Correlations below the diagonal refer to the LGB population and correlations above the diagonal refer to the heterosexual population.

Table 3. Comparative data about protective factors, stress factors, and psychological distress by sexual orientation.

	Heterosexual				LGB					
	M^1 (*SD*) Range	M^2 (*SD*) Range	|Sk|	|K|	M^1 (*SD*) Range	M^2 (*SD*) Range	|Sk|	|K|	*t* (df)	*p*
Family Social Support	26.53(3.48) 6-28	5.32(1.06) 1.50-7	.636	.803	19.06(5.07) 6-28	4.72(1.44) 1.50-7	.683	.121	11.431 (621)	<.001
Friends Social Support	19.74(4.46) 7-28	4.87(1.50) 1.75-7	.774	.990	21.73(3.58) 10-28	5.42(.91) 2.50-7	.869	.311	−8.210 (613)	<.001
Significant Others Social Support	24.76(3.43) 7-28	5.98(.79) 1.75-7	1.284	1.756	22.04(4.63) 5-28	5.35(1.06) 1.25-7	.832	.424	6.664 (626)	<.001
Resilience	37.09(5.64) 20-50	3.89(.53) 2-5	.228	.312	34.91(6.02) 15-48	3.19(.56) 1.50-4.80	.471	.622	6.852 (634)	<.001
Spirituality	42.59(10.32) 6-66	7.06(1.63) 1-11	.709	1.064	35.06(11.79) 6-66	6.09(2.13) 1-11	.357	.949	7.216 (607)	<.001
Hostile Ageism	11.23(4.11) 4-26	2.69(1.54) 1-6.50	1.35	.593	11.70(4.51) 4-26	2.93(1.15) 1-6.50	.679	.092	−1.140 (614)	.207
Benevolent Ageism	30.97(8.95) 9-55	3.28(1.06) 1-6.11	.111	.234	33.91(8.84) 9-55	3.65(1.22) 1-6.11	.330	.101	−4.851 (626)	<.001
Loneliness	15.98(3.95) 6-23	2.37(.67) 1-3.83	.271	.709	19.23(2.32) 9-23	3.31(.71) 1.50-3.83	.739	.153	−13.022 (635)	<.001
Psychological Distress	15.06 (4.26) 6-27	2.25(.81) 1-4.50	.216	.902	19.55(4.81) 6-29	3.43(.78) 1-4.83	.425	.405	−13.031 (627)	<.001

Note: [1]Mean derived from the sum of the instrument; [2]Mean derived from the final mean of the instrument.

significant other social support, higher levels of resilience, and lower levels of spirituality explained lower levels of PD in non-LGB older adults, whereas higher levels of significant other social support and resilience explained lower levels of PD in LGB older adults. Resilience was the main protective variable in both groups, and especially for the LGB older adults. After controlling the effects of these protectors, higher levels of loneliness explained higher levels of PD in both groups, with a very significant importance, and higher levels of benevolent ageism explained also higher levels of PD in non-LGB older adults (Table 4).

Discussion

The main objective of this study was to evaluate mental health indicators - psychological distress - of older adults in a comparative way according to sexual orientation, particularly to evaluate Psychological Distress in LGB and non-LGB older adults from Portugal. Demographic and contextual characteristics were comparatively evaluated in the two samples, as well as the impact of psychosocial protective (social support, resilience, and spirituality) and stress factors (ageism and loneliness) on psychological distress.

All sociodemographic variables assessed were found to differ between non-LGB and LGB people, except for place of residence and annual income. LGB older adults were significantly younger, more likely to be men, to live alone, to be widowed, divorced, or single, and less likely to have children than their non-LGB counterparts. Although these characteristics may not faithfully represent population differences, they are nonetheless in line with data from other countries (e.g. Australia, United Kingdom, USA), in which it appears that LGB older people are more likely to live alone, to not have children or grandchildren, thus being more deprived of a formal and traditional familial social network composed by family of origin and/or family of procreation (Allen & Roberto, 2016). Some studies indicate that these conditions contribute to a greater risk of disability, poverty, homelessness, premature institutionalization, and worse mental health indicators (e.g. depression, anxiety, substance use; Fredriksen-Goldsen et al., 2011; Kneale et al., 2021; Waling et al., 2019). Marginalization and social stigmatization directed at LGB older adults may also contribute significantly to greater social isolation and less community involvement, conditioning the resources available to them in case of need (Fredriksen-Goldsen et al., 2013; Ribeiro-Gonçalves et al., 2019). Further, we found that LGB older adults were more likely to be professionally active and had higher levels of formal education than non-LGB older adults. This result may indicate that LGB older adults invest significantly more in the work environment and demonstrate willingness to work even at older ages as a way not to lose the social connections they have when they retire, which are significantly less than in non-LGB people (Fredriksen-Goldsen et al., 2017; Kuyper & Fokkema, 2009). However, this result may also be because LGB older adults in this sample were significantly younger than non-LGB older adults.

Parsing apart the results from the regression analysis, it was found that higher levels of loneliness explained higher levels of PD in older adults regardless of sexual orientation and in a very relevant way, whereas benevolent ageism explained higher levels of PD only in non-LGB older adults. As the international literature reveals, loneliness is one of the major factors that affect the mental health and well-being of older adults, which leads to increased mortality, increased risk of dementia, and significant functional losses in daily activities (Cacioppo et al., 2011; Holt-Lunstad et al., 2015; Ribeiro-Gonçalves et al., 2023a). In addition, benevolent ageism may have more impact on the PD of non-LGB older adults since this one is often associated with care, paternalism, and infantilization of older adults, often arising from the origin family - beyond the general ageism that affects all older people - one of the main sources of support and care for non-LGB but non for LGB older adults (Allen & Roberto, 2016; Horhota et al., 2018; Pan American Health Organization (PAHO), 2021). However, it was also found that LGB older adults showed higher levels of stressors - loneliness and benevolent ageism, but not of hostile ageism - than non-LGB older adults. Effectively, LGB people have gained multiple rights and legal protection in recent years (Pereira & Monteiro, 2016), along with an increase in the defense of the rights of older adults in the last decade (Hespanhol & Santos, Especialista em Medicina Geral e Familiar, 2022), which may be contributing to ageism being manifested in a more benevolent rather than hostile way (Chen & Zhang, 2022).

We found that stress factors explained the levels of PD over and above the effects of protective factors, both among LGB and non-LGB older adults. Nevertheless, it is noteworthy that the levels of PD were significantly higher in the LGB people. These results seem to be due to the direct effect of minority sexual stigma, which penalize the mental health of LGB (Meyer, 2003), and may have been inflated by the COVID-19 pandemic during which the data collection took place, accentuating social inequalities and decreasing the availability of resources for older sexual minorities (Chen, 2022). Further, based on the assumptions of the MSM, this result suggests that the factors that promote the psychological distress of older adults are not being enough in the face of adversities in the daily experiences (Meyer, 2003). Furthermore, it should be noted that the levels of PD in LGB older people in this sample are particularly high when

Table 4. Hierarchical linear regression for psychological distress by sexual orientation.

	Heterosexual				LGB			
	B [95%CI]	SE	β	*t*	B [95%CI]	SE	β	*t*
Step 1								
Family Social Support	−.123 [−.192, −.022]	.041	−.153	−2.997**	.031 [−.017, .089]	.030	.053	.865
Friends Social Support	.005 [−.066, .065]	.054	.009	.117	.004 [−.094, .098]	.037	.014	.256
Significant Others Social Support	−.089 [−.175, −.006]	.036	−.110	−1.975*	−.165 [−.197, −.041]	.046	−.176	−3.142**
Resilience	−.518 [−.703, −.336]	.069	−.414	−8.307***	−.583 [−.731, −.364]	.077	−.473	−7.396***
Spirituality	.068 [.031, .131]	.026	.193	4.350***	−.021 [−.062, .019]	.023	−.039	−.793
Step 2								
Hostile Ageism	−.054 [−.119, .008]	.038	−.079	−1.654	.030 [−.121, .039]	.042	−.062	−.857
Benevolent Ageism	.128 [.069, .185]	.046	.153	2.658**	.061 [−.032, .151]	.049	.059	1.227
Loneliness	.483 [.301, .628]	.073	.337	7.254***	.400 [.234, .546]	.096	.262	4.526***

Note: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

compared to those of Portuguese non-LGB older people, but also to other non-LGB older people from other countries, such as Japanese (e.g. Kikuchi et al., 2013) or American (e.g. Han et al., 2011). This result is particularly relevant for the Portuguese context, and internationally, as we have no prior information on how LGB older adults are using the resources to combat the effects of sexual stigma (Kuyper & Fokkema, 2009; Ribeiro-Gonçalves et al., 2019), thus highlighting the importance and need for more investment in psychosocial resources so that these LGB older adults can better combat their levels of psychological distress.

We also verified that LGB older adults had significantly lower levels of family and significant other support but higher levels of friend social support compared to their non-LGB counterparts. However, significant other support was the only protective factor of social support that explained lower levels of PD of LGB older adults. For non-LGB older adults, both family and significant other support significantly explained their lower levels of PD. These findings further corroborates what the literature of the last decade have shown, that the nuclear family seems to have a more prominent role in the lives of non-LGB (older) people, whereas for LGB (older) people this role is mostly played by the "family of choice", composed by friends and other significant people. These families of choice often play the role of confidant, essential in the empowerment and well-being of LGB people in the face of nuclear family rejection, hence the importance of significant other support as a protective factor against PD in LGB older adults (Allen & Roberto, 2016; Lytle et al., 2018). Further, as the minority strengths model states, this role of confidant and proximal support is decisive for the occurrence of positive mental health indicators (Perrin et al., 2019). Nevertheless, this finding also alerts to the fact that these older people may rely more, or almost exclusively, on the specific benefits of support from partners or a significant other for their mental health, potentially increasing the risk of overloading them, whereas in non-LGB older people this support may be more dispersed among family members besides their partner or significant other (Breder & Bockting, 2023; Chen, 2022).

Resilience was the main protective factor for levels of PD for both LGB and non-LGB older adults, although LGB older adults reported significantly lower levels of resilience. This result highlights the importance of a sense of agency in the search for resources to overcome adversities in the daily life of older adults to protect their mental health, as proposed by the minority strengths model (Costa et al., 2022; Perrin et al., 2019). As systematic reviews and recent meta-analyses have indicated, resilience in older adults allows for the maintenance of autonomy, a posture of perseverance, greater socialization, and flexibility in the face of difficulties, and greater tolerance for uncertainty, which in turn protect the mental health of these people (e.g. Färber & Rosendahl, 2020). However, based in previous evidence (e.g. Bower et al., 2019; Fredriksen-Goldsen et al., 2011; Mereish & Poteat, 2015) it was expected that LGB older adults would obtain similar or higher levels of resilience than their non-LGB counterparts, mainly due to the potential greater training of resilient skills throughout the life cycle gained in coping with different risk situations, adversity, and stigmatization. LGB older adults are the generation that faced the most psychosocial stigma in Portugal (e.g. stigma associated with HIV, long periods of dictatorship and sexual repression), similarly to other countries in Europe (e.g. Spain, Italy), so this lower level of resilience may be due to the cumulative stress throughout the life cycle, which may be influencing the perception of being able to respond to the challenges that are imposed by the environment, that is, the perception of self-efficacy may be influence the response of these older people in the measure of resilience (Accornero, 2014; Bower et al., 2019).

We also verified that resilience, as well as the other protective social variables that were significant, had a greater predictive weight of psychological distress in LGB older adults than in non-LGB older adults, and the opposite happens with the stressor variables (loneliness). This result may suggest that LGB older adults may be placing increasing importance on relational and social protective factors to maintain their mental health (Ribeiro-Gonçalves et al., 2023). This data brings important reflections and suggestions for future studies, considering that for many years, due to decades of experience in periods of dictatorship and oppression, these older adults avoided these protective resources in order to protect themselves and not be persecuted or attacked (Pereira & Monteiro, 2016; Ribeiro-Gonçalves et al., 2023)".

Lastly, significantly higher levels of spirituality were found in non-LGB older adults when compared to LGB older adults, and higher levels of spirituality were significantly associated with higher levels of PD only for non-LGB older people. The available evidence shows the importance of spirituality for non-LGB older people, namely in promoting hope, well-being, in fostering a more optimistic meaning in the face of adversity, in social support through a group with similar beliefs and externalization of the locus of control, and these conditions may have a protective role in mental health, especially in reducing anxiety and depressive symptoms (Coelho-Júnior et al., 2022; Stanley et al., 2011). However, we found that these older people may be using spirituality as a means of managing psychological distress, increasing the use of spirituality/religious support when levels of distress are high, particularly during the COVID-19 pandemic, as already found in studies with other populations (Elliott & Reuter, 2021; Kira et al., 2021). Further, spirituality was not relevant for the psychological distress of LGB older adults, which may be due to the association that remains between the Judeo-Christian values of religion/spirituality in the Western context that encourages sexual repression and conservatism. This association can encourage LGB older adults to distance themselves from spirituality as a preferential mode of protection, reducing the use of spirituality/religiosity in the search for well-being, safety and mental health (Etengoff & Lefevor, 2021).

It is important to acknowledge that this study has had some limitations. Namely, the data collection took place online, which is more likely to enhance the participation of younger older people with greater computer literacy, and thus not totally representative of the older population. We also potentially considered the existence of some common method variance, particularly given that data collection occurred in a self-response format. In addition, the study carried out a non-probabilistic sampling, which limits the generalization of the study results to the general Portuguese older population. Further, the instrument that was used to measure ageism measures the perception of ageism and not ageism experienced, and therefore this construct refers to the personal and social conception that the older adults have of ageism and not to experiencing the phenomenon first-hand. Finally, it is also important to note that the analyzes were carried out considering lesbian, gay and bisexual people in a single group, representing sexual minorities. However, these may not represent a homogeneous group in terms of experiences of stigma and psychological distress.

Implications for policy and practice and future directions

This study has relevant theoretical and practical implications for the psychosocial and health context. This work is one of the few that used the minority stress model and the minority strengths model in LGB older population in a comparative perspective with non-LGB older adults. These models have been extensively applied to the study of young and adult LGB populations, particularly the MSM, however this study innovated in using them in an older population. This study was also able to identify psychosocial disadvantages and personal and social resources available to LGB older adults compared to non-LGB counterparts. These implications are particularly important for the Portuguese context, as with these data we will have vital information to design evidence-based psychosocial interventions to improve the health of LGB older people. Also, this study responds directly to two United Nations sustainable development goals, health and well-being (goal 3) and reduction of inequalities (goal 10; United Nations (UN), 2022).

It is suggested that future studies continue to invest in a comparative approach according to sexual orientation in older population, identifying protective variables, stressors and psychosocial mechanisms that have an impact on the mental health of this population. Greater evidence in this comparative approach will allow us to identify and develop tools to improve the quality of life of LGB older adults. The need to implement this approach in topics such as sexual function, community support, life satisfaction and well-being is highlighted. It is suggested that future studies develop multivariate regression plans or multigroup analyzes that follow the growth of scientific evidence on the mental health of Portuguese LGB older people. Still, further in-depth studies are suggested to understand the role of religiosity/spirituality in the mental health of LGB and non-LGB older adults.

Conclusion

LGB older adults demonstrated lower levels of almost all protective factors than non-LGB older adults, and higher levels of nearly all stressors. The levels of PD were also higher in LGB older adults than in non-LGB peers. However, regardless of sexual orientation, resilience and loneliness were the main protector and stressor factors, respectively, for PD in older adults. Greater family support was associated with lower levels of PD in non-LGB older adults whereas significant others support was the main factor associated with lower levels of PD in LGB older adults. Spirituality had an important association with PD in non-LGB older adults, but not in LGB older adults. Future studies should assess in depth discrepancies and inequalities between non-LGB and LGB older adults with the aim of developing interventions to improve mental health, particularly in more disadvantaged populations.

Compliance with ethical standards

All procedures were in accordance with the ethical standards of the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. This study was approved by the ethics committee of ISPA—University Institute with approval code n° D/028/04/2020.

Author contribution (CRediT)

JARG participated in the Conceptualization, Data curation, Formal Analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing—original draft, Writing—review & editing. DP participated in the Conceptualization, Methodology, Project administration, Resources, Writing—review & editing. PAC participated in the Conceptualization, Data curation, Formal Analysis, Funding acquisition, Methodology, Project administration, Resources, Supervision, Validation, Writing—review & editing. IL participated in the Conceptualization, Funding acquisition, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing—review & editing.

Disclosure statement

No potential conflict of interest was reported by the authors.

Funding

This work was supported by the Fundação para a Ciência e a Tecnologia (FCT) under grant SFRH/BD/143214/2019.

References

Accornero, G. (2014). O '25 de Abril': Uma revolução nas ciências sociais. [April 25th: A revolution in the social sciences]. *Ler História*, *67*(67), 171–177. https://doi.org/10.4000/lerhistoria.935

Allen, K. R., & Roberto, K. A. (2016). Family relationships of older LGBT adults. In D. A. Harley & P. B. Teaster (Eds.), *Handbook of LGBT elders: An interdisciplinary approach to principles, practices, and policies* (pp. 43–54). Springer.

Almeida, M. H., Dias, S., Xavier, M., & Torgal, J. (2020). Exploratory and confirmatory validation of the Connor-Davidson Resilience Scale (CD-RISC-10) in a sample of individuals registered in job centers. *Acta Medica Portuguesa*, *33*(2), 124–132. https://doi.org/10.20344/amp.12243

Angevaare, M. J., Roberts, J., van Hout, H. P. J., Joling, K. J., Smalbrugge, M., Schoonmade, L. J., Windle, G., & Hertogh, C. M. P. M. (2020). Resilience in older persons: A systematic review of the conceptual literature. *Ageing Research Reviews*, *63*, 101144. https://doi.org/10.1016/j.arr.2020.101144

Anxiety & Depression Association of America (ADAA). (2020). *LGBTQ+ communities and mental health*. Retrieved August 3, from https://mhanational.org/issues/lgbtq-communities-and-mental-health

Barroso, I. C. (2018). *Idadismo: Um estudo em cinco freguesias do baixo concelho da Póvoa de Lanhoso [Ageism: A study in five parishes in the lower municipality of Póvoa de Lanhoso]* [Master thesis]. Instituto Superior Miguel Torga, Escola Superior de Altos Estudos.

Bower, K. L., Lewis, D. C., Bermúdez, J. M., & Singh, A. A. (2019). Narratives of generativity and resilience among LGBT older adults: Leaving positive legacies despite social stigma and collective trauma. *Journal of Homosexuality*, *68*(2), 230–251. https://doi.org/10.1080/00918369.2019.1648082

Breder, K., & Bockting, W. (2023). Social networks of LGBT older adults: An integrative review. *Psychology of Sexual Orientation and Gender Diversity*, *10*(3), 473–489. https://doi.org/10.1037/sgd0000552

Cacioppo, J. T., Hawkley, L. C., Norman, G. J., & Berntson, G. G. (2011). Social isolation. *Annals of the New York Academy of Sciences*, *1231*(1), 17–22. https://doi.org/10.1111/j.1749-6632.2011.06028.x

Campbell-Sills, L., & Stein, M. B. (2007). Psychometric analysis and refinement of the Connor-Davidson Resilience Scale (CD-RISC): Validation of a 10-item measure of resilience. *Journal of Traumatic Stress*, *20*(6), 1019–1028. https://doi.org/10.1002/jts.20271

Carvalho, S., Pinto-Gouveia, J., Pimentel, P., Maia, D., & Mota-Pereira, J. (2011). Características psicométricas da versão portuguesa da Escala Multidimensional de Suporte Social Percebido (Multidimensional Scale of Perceived Social Support - MSPSS). *Psychologica*, *54*(54), 331–357. https://doi.org/10.14195/1647-8606_54_13

Cary, L. A., Chasteen, A. L., & Remedios, J. (2016). The Ambivalent Ageism Scale: Developing and validating a scale to measure benevolent and hostile ageism. *The Gerontologist*, *57*(2), e27–e36. https://doi.org/10.1093/geront/gnw118

Chen, J. H. (2022). Disparities in mental health and well-being between heterosexual and sexual minority older adults during the COVID-19 pandemic. *Journal of Aging and Health*, *34*(6–8), 939–950. https://doi.org/10.1177/08982643221081965

Chen, J. H., & Zhang, X. (2022). We were all once young: Reducing hostile ageism from younger adults' perspective. *Frontiers in Psychology*, *13*, 793373. https://doi.org/10.3389/fpsyg.2022.793373

Coelho-Júnior, H. J., Calvani, R., Panza, F., Allegri, R. F., Picca, A., Marzetti, E., & Alves, V. P. (2022). Religiosity/spirituality and mental health in older adults: A systematic review and meta-analysis of observational studies. *Frontiers in Medicine*, *9*, 877213. https://doi.org/10.3389/fmed.2022.877213

Costa, P. A., Ribeiro-Gonçalves, J. A., Gomes, G., & Romeu, I. (2022). Coming out experiences and disclosure gap in three age cohorts of portuguese cisgender sexual minority men. *Sexuality Research and Social Policy*, *19*(4), 1662–1673. https://doi.org/10.1007/s13178-022-00731-w

Dunn, D. S., & Burcaw, S. (2013). Disability identity: Exploring narrative accounts of disability. *Rehabilitation Psychology*, *58*(2), 148–157. https://doi.org/10.1037/a0031691

Elliott, M., & Reuter, J. C. (2021). Religion, spirituality, and mental illness among working professionals: An in-depth interview study. *Mental Health, Religion & Culture*, *24*(9), 931–947. https://doi.org/10.1080/13674676.2021.1966401

Erosheva, E. A., Kim, H. J., Emlet, C., & Fredriksen-Goldsen, K. I. (2015). Social networks of lesbian, gay, bisexual, and transgender older adults. *Research on Aging*, *38*(1), 98–123. https://doi.org/10.1177/0164027515581859

Etengoff, C., & Lefevor, T. G. (2021). Sexual prejudice, sexism, and religion. *Current Opinion in Psychology*, *40*, 45–50. https://doi.org/10.1016/j.copsyc.2020.08.024

Färber, F., & Rosendahl, J. (2020). Trait resilience and mental health in older adults: A meta-analytic review. *Personality and Mental Health*, *14*(4), 361–375. https://doi.org/10.1002/pmh.1490

Fredriksen-Goldsen, K. I., Bryan, A. E. B., Jen, S., Goldsen, J., Kim, H. J., & Muraco, A. (2017). The unfolding of LGBT lives: Key events associated with health and well-being in later life. *The Gerontologist*, *57*(suppl 1), S15–S29. https://doi.org/10.1093/geront/gnw185

Fredriksen-Goldsen, K. I., Kim, H. J., Barkan, S. E., Muraco, A., & Hoy-Ellis, C. P. (2013). Health disparities among lesbian, gay, and bisexual older adults: Results from a population-based study. *American Journal of Public Health*, *103*(10), 1802–1809. https://doi.org/10.2105/AJPH.2012.301110

Fredriksen-Goldsen, K. I., Kim, H. J., Shiu, C., Goldsen, J., & Emlet, C. A. (2015). Successful aging among LGBT older adults: Physical and mental health-related quality of life by age group. *The Gerontologist*, *55*(1), 154–168. https://doi.org/10.1093/geront/gnu081

Fredriksen-Goldsen, K. I., Kim, H., Emlet, C. A., Muraco, A., Erosheva, E. A., … Petri, H. (2011). *The aging and health report: Disparities and resilience among lesbian, gay, bisexual, and transgender older adults*. Institute for Multigenerational Health.

Grabovac, I., Smith, L., McDermott, D. T., Stefanac, S., Yang, L., Veronese, N., & Jackson, S. E. (2019). Well-being among older gay and bisexual men and women in England: A cross-sectional population study. *Journal of the American Medical Directors Association*, *20*(9), 1080–1085.e1. https://doi.org/10.1016/j.jamda.2019.01.119

Han, B., Gfroerer, J. C., Colpe, L. J., Barker, P. R., & Colliver, J. D. (2011). Serious psychological distress and mental health service use among community-dwelling older U.S. adults. *Psychiatric Services (Washington, DC)*, *62*(3), 291–298. https://doi.org/10.1176/ps.62.3.pss6203_0291

Hespanhol, A., & Santos, P., Especialista em Medicina Geral e Familiar. (2022). As pessoas idosas e os seus direitos[Elderly people and their rights. *Revista Portuguesa De Clínica Geral*, *38*(2), 135–136. https://doi.org/10.32385/rpmgf.v38i2.13515

Hill, C. V., Pérez-Stable, E. J., Anderson, N. A., & Bernard, M. A. (2015). The National institute on aging health disparities research framework. *Ethnicity & Disease*, *25*(3), 245–254. https://doi.org/10.18865/ed.25.3.245

Hodge, D. R. (2003). The intrinsic spirituality scale. *Journal of Social Service Research*, *30*(1), 41–61. https://doi.org/10.1300/J079v30n01_03

Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality. *Perspectives on Psychological Science: A Journal of the Association for Psychological Science*, *10*(2), 227–237. https://doi.org/10.1177/1745691614568352

Horhota, M., Chasteen, A. L., & Crumley-Branyon, J. J. (2018). Is ageism acceptable when it comes from a familiar partner? *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, *74*(4), 595–599. https://doi.org/10.1093/geronb/gby066

Hsieh, N., & Liu, H. (2021). Social relationships and loneliness in late adulthood: Disparities by sexual orientation. *Journal of Marriage and the Family*, *83*(1), 57–74. https://doi.org/10.1111/jomf.12681

Iasiello, M., van Agteren, J., & Cochrane, E. M. (2020). Mental health and/or mental illness: A scoping review of the evidence and implications of the dual-continua model of mental health. *Evidence Base*, *2020*(1), 1–45. https://doi.org/10.21307/eb-2020-001

Institute of Medicine (IOM). (2011). *The health of Lesbian, Gay, Bisexual, and Transgender people: Building a foundation for better understanding*. The National Academies Press.

Kessler, R. C., Andrews, G., Colpe, L. J., Hiripi, E., Mroczek, D. K., Normand, S. L. T., Walters, E. E., & Zaslavsky, A. M. (2002). Short screening scales to monitor population prevalences and trends in non-specific psychological distress. *Psychological Medicine*, *32*(6), 959–976. https://doi.org/10.1017/S0033291702006074

Kikuchi, H., Takamiya, T., Odagiri, Y., Ohya, Y., Shimomitsu, T., & Inoue, S. (2013). Mental illness and a high-risk, elderly Japanese population: Characteristic differences related to gender and residential location. *Psychogeriatrics: The Official Journal of the Japanese Psychogeriatric Society*, *13*(4), 229–236. https://doi.org/10.1111/psyg.12026

Kira, I. A., Shuwiekh, H. A. M., Alhuwailah, A., & Balaghi, D. (2021). Does COVID-19 type III continuous existential trauma deplete the traditional coping, diminish health and mental health, and kindle spirituality? An exploratory study on Arab countries. *Journal of Loss and Trauma*, *27*(4), 297–317. https://doi.org/10.1080/15325024.2021.2006501

Kneale, D., Henley, J., Thomas, J., & French, R. (2021). Inequalities in older LGBT people's health and care needs in the United Kingdom: A systematic scoping review. *Ageing and Society*, *41*(3), 493–515. https://doi.org/10.1017/S0144686X19001326

Kuyper, L., & Fokkema, T. (2009). Loneliness among older lesbian, gay, and bisexual adults: The role of minority stress. *Archives of Sexual Behavior*, *39*(5), 1171–1180. https://doi.org/10.1007/s10508-009-9513-7

Levy, B. R. (2003). Mind matters: Cognitive and physical effects of aging self-stereotypes. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, *58*(4), P203–211. https://doi.org/10.1093/geronb/58.4.p203

Lyons, A., Croy, S., Barrett, C., & Whyte, C. (2015). Growing old as a gay man: How life has changed for the gay liberation generation. *Ageing and Society*, *35*(10), 2229–2250. https://doi.org/10.1017/S0144686X14000889

Lytle, A., Apriceno, M., Dyar, C., & Levy, S. R. (2018). Sexual orientation and gender differences in aging perceptions and concerns among older adults. *Innovation in Aging*, *2*(3), igy036. https://doi.org/10.1093/geroni/igy036

Mereish, E. H., & Poteat, V. P. (2015). The conditions under which growth-fostering relationships promote resilience and alleviate psychological distress among sexual minorities: Applications of relational cultural theory. *Psychology of Sexual Orientation and Gender Diversity*, *2*(3), 339–344. https://doi.org/10.1037/sgd0000121

MetLife. (2010). *Still out, still aging: The MetLife study of lesbian, gay, bisexual, and transgender baby boomers*. https://www.metlife.com/assets/cao/mmi/publications/studies/2010/mmi-still-out-still-aging.pdf

Meyer, I. H. (2003). Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychological Bulletin*, *129*(5), 674–697. https://doi.org/10.1037/0033-2909.129.5.674

National Institute on Ageing (NIA). (2017). *Supporting older patients with chronic conditions*. https://www.nia.nih.gov/health/supporting-older-patients-chronic-conditions

Neto, F. (2014). Psychometric analysis of the short-form UCLA Loneliness Scale (ULS-6) in older adults. *European Journal of Ageing*, *11*(4), 313–319. https://doi.org/10.1007/s10433-014-0312-1

Officer, A., Schneiders, M. L., Wu, D., Nash, P., Thiyagarajan, J. A., & Beard, J. R. (2016). Valuing older people: Time for a global campaign to combat

ageism. *Bulletin of the World Health Organization*, *94*(10), 710–710A. https://doi.org/10.2471/blt.16.184960

Pan American Health Organization (PAHO). (2021). *World report on ageism*. Pan American Health Organization (PAHO).

Pereira, A., Oliveira, C. A., Bártolo, A., Monteiro, S., Vagos, P., & Jardim, J. (2019). Reliability and factor structure of the 10-item Kessler Psychological Distress Scale (K10) among Portuguese adults. *Ciencia & Saude Coletiva*, *24*(3), 729–736. https://doi.org/10.1590/1413-81232018243.06322017

Pereira, H., & Banerjee, D. (2021). Successful aging among older LGBTQIA+people: Future research and implications. *Frontiers in Psychiatry*, *12*, 756649. https://doi.org/10.3389/fpsyt.2021.756649

Pereira, H., & Monteiro, S. (2016). The role of political and legislative changes in the everyday lives of LGB individuals: The case of Portugal. *Sexuality Research and Social Policy*, *14*(3), 300–309. https://doi.org/10.1007/s13178-016-0261-x

Perrin, P. B., Sutter, M. E., Trujillo, M. A., Henry, R. S., & Pugh, M. (2019). The minority strengths model: Development and initial path analytic validation in racially/ethnically diverse LGBTQ individuals. *Journal of Clinical Psychology*, *76*(1), 118–136. https://doi.org/10.1002/jclp.22850

Peterson, N., Lee, J., Svec, J., & Russell, D. (2022). Diversity in social communication and support: Implications for loneliness among LGB adults. *The Gerontologist*, *63*(2), 361–372. https://doi.org/10.1093/geront/gnac101

Ribeiro-Gonçalves, J. A., Costa, P. A., & Leal, I. (2019). Psychological distress in older Portuguese gay and bisexual men: The mediating role of LGBT community connectedness. *International Journal of Sexual Health*, *31*(4), 407–413. https://doi.org/10.1080/19317611.2019.1670315

Ribeiro-Gonçalves, J. A., Costa, P. A., & Leal, I. (2023). Double stigma in Portuguese lesbian, gay, and bisexual older adults: A study of health status. *Journal of Sex & Marital Therapy*, *49*(8), 886–901. https://doi.org/10.1080/0092623x.2023.2215258

Ribeiro-Gonçalves, J. A., Costa, P. A., & Leal, I. (2023a). Loneliness, ageism, and mental health: The buffering role of resilience in seniors. *International Journal of Clinical and Health Psychology: IJCHP*, *23*(1), 100339. https://doi.org/10.1016/j.ijchp.2022.100339

Ribeiro-Gonçalves, J. A., Jesus, J. C., Costa, P. A., & Leal, I. (2024). Sexual stigma and mental health of LGB older adults: A systematic scoping review. *Sexuality Research and Social Policy*. In press. https://doi.org/10.1007/s13178-024-00965-w

Russell, D. W. (1996). UCLA Loneliness Scale (Version 3): Reliability, validity, and factor structure. *Journal of Personality Assessment*, *66*(1), 20–40. https://doi.org/10.1207/s15327752jpa6601_2

Stanley, M. A., Bush, A. L., Camp, M. E., Jameson, J. P., Phillips, L. L., Barber, C. R., Zeno, D., Lomax, J. W., & Cully, J. A. (2011). Older adults' preferences for religion/spirituality in treatment for anxiety and depression. *Aging & Mental Health*, *15*(3), 334–343. https://doi.org/10.1080/13607863.2010.519326

Tan, P. P. (2005). The importance of spirituality among gay and lesbian individuals. *Journal of Homosexuality*, *49*(2), 135–144. https://doi.org/10.1300/J082v49n02_08

Truman, B. I., Smith, K. C., Roy, K., Chen, Z., Moonesinghe, R., Zhu, J., Crawford, C. G., & Zaza, S., Centers for Disease Control and Prevention (CDC). (2011). Rationale for regular reporting on health disparities and inequalities - United States. *MMWR Supplements*, *60*(1), 3–10.

United Nations (UN). (2022). *The 17 goals*. Retrieved November 27, from https://sdgs.un.org/goals

United Nations (UN). (2023). Leaving no one behind in an ageing world: World social report 2023. Retrieved August 3, from https://desapublications.un.org/publications/world-social-report-2023-leaving-no-one-behind-ageing-world

von Humboldt, S., Mendoza-Ruvalcaba, N. M., Arias-Merino, E. D., Ribeiro-Gonçalves, J. A., Cabras, E., Low, G., & Leal, I. (2022a). The upside of negative emotions: How do older adults from different cultures challenge their self-growth during the COVID-19 pandemic? *Frontiers in Psychology*, *13*, 648078. https://doi.org/10.3389/fpsyg.2022.648078

von Humboldt, S., Ribeiro-Gonçalves, J. A., Low, G., & Leal, I. (2022). Psychotherapy in old age: Older adults' sexual distress concerning their sexual well-being. *Educational Gerontology*, *49*(4), 263–277. https://doi.org/10.1080/03601277.2022.2107842

Waling, A., Lyons, A., Alba, B., Minichiello, V., Barrett, C., Hughes, M., Fredriksen-Goldsen, K., & Edmonds, S. (2019). Experiences and perceptions of residential and home care services among older lesbian women and gay men in Australia. *Health & Social Care in the Community*, *27*(5), 1251–1259. https://doi.org/10.1111/hsc.12760

Wittgens, C., Fischer, M. M., Buspavanich, P., Theobald, S., Schweizer, K., & Trautmann, S. (2022). Mental health in people with minority sexual orientations: A meta-analysis of population-based studies. *Acta Psychiatrica Scandinavica*, *145*(4), 357–372. https://doi.org/10.1111/acps.13405

World Health Organization (WHO). (2015). *World report on ageing and health*. World Health Organization (WHO)

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, *52*(1), 30–41. https://doi.org/10.1207/s15327752jpa5201_2