



Exploring Disparities in Life Satisfaction among LGBTQ+ Older Adults in different Living Environments: The Case of Slovenia

Mihael Nedeljko^{1*}, Barbara Toplak-Perović¹, Miran Grah², Boris Miha Kaučič¹

¹Research Institute of Social Gerontology, Alma Mater Europaea – ECM, Maribor, Slovenia; ²Department of International Economics and Business, University of Maribor, Faculty of Economics and Business, Maribor, Slovenia

Abstract

Edited by: Sasho Stoleski
Citation: Nedeljko M, Toplak-Perović B, Grah M, Kaučič BM. Exploring Disparities in Life Satisfaction among LGBTQ+ Older Adults in different Living Environments: The Case of Slovenia. Open Access Maced J Med Sci. 2024 Jun 15; 12(2):214-220. https://doi.org/10.3889/oamjms.2024.11870
Keywords: LGBTQ+, Life satisfaction; Living environment; Rural areas; Urban areas
***Correspondence:** Mihael Nedeljko, Research Institute of Social Gerontology, Alma Mater Europaea – ECM, Maribor, Slovenia. E-mail: mihael.nedeljko@almamater.si
Received: 12-Dec-2023
Revised: 12-Jan-2024
Accepted: 21-Feb-2024
Ahead of Print: 20-Mar-2024
Copyright: © 2024 Mihael Nedeljko, Barbara Toplak-Perović, Miran Grah, Boris Miha Kaučič.
Funding: This research did not receive any financial support
Competing Interests: The authors have declared that no competing interests exist
Open Access: This is an open-access article distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (CC BY-NC 4.0)

BACKGROUND: Lesbian, gay, bisexual, transgender, and queer (LGBTQ+) older adults are an overlooked minority of the population who face discrimination, stigma, and homo-, bi-, or transphobia. We have not found any research in the European area that examines differences in life satisfaction among LGBTQ+ older adults according to the living environment.

AIM: The aim of the research was to determine differences in life satisfaction according to different living environments (big cities, small cities, and rural areas) among LGBTQ+ older adults.

METHODS: We selected a non-random purposive sample size of 318 units of LGBTQ+ older adults for the quantitative survey. In the first phase, we used exploratory factor analysis. To ascertain the normality of data distribution, the Kolmogorov–Smirnov and Shapiro–Wilk tests were used. To test the hypothesis, we used a one-way analysis of variance (ANOVA) with a *post hoc* analysis, with which we determined the existence of differences in the perception of life satisfaction according to the living environment.

RESULTS: We find statistically significant differences at $p < 0.05$, which occur in all items except the item. So far, I have gotten the important things I want in life ($p = 0.150$). Since there are statistically significant differences between the ratings of satisfaction with life according to the living environment, we confirm the hypothesis. With a *post hoc* analysis, we determined even more precise differences between the three living environments of the interviewed persons, regarding which we found that life satisfaction increases with the size of the place where they live.

DISCUSSION: As with studies from other countries, we also note that differences exist between rural and urban living environments for LGBTQ+ older adults in Slovenia in terms of life satisfaction. Further research is needed on the factors that account for these disparities among LGBTQ+ older adults.

CONCLUSION: LGBTQ+ older adults in urban settings report higher life satisfaction than those in rural areas, possibly due to factors like community support and acceptance. Further research is needed to understand the needs of LGBTQ+ older adults, especially in countries where they are hidden due to political or religious influences, to ensure optimal conditions for their life satisfaction in old age.

Introduction

The population of older adults aged 65 and above is on the rise in developed countries and is projected to reach 1.6 billion by 2050 [1]. Among this growing population, lesbian, gay, bisexual, transgender, and queer (LGBTQ+) older adults make up a significant portion. It is estimated that 2.4% of LGBTQ+ older adults reside in the United States [2] and this figure could potentially reach 5 million by 2060 [3]. LGBTQ+ older adults encompass LGBTQ+ individuals who are 50 years of age or older [4]. As the overall population continues to grow, the proportion of LGBTQ+ older adults is expected to increase [5]. This population is considered a vulnerable subgroup of underserved aging individuals [6] who are at higher risk for mental health issues [5]. Studies by King *et al.* [7] indicate that LGBTQ+ older adults are about twice as likely to experience suicidal thoughts and 1.5 times more likely

to suffer from depression or anxiety compared to the heterosexual majority. Due to their vulnerability and lack of adequate support, LGBTQ+ older adults have garnered increased attention from gerontologists.

LGBTQ+ older adults frequently encounter health challenges, face limited options for socializing, grapple with feelings of loneliness and social isolation, and find themselves navigating these issues independently [8]. Older adults who live in small towns or rural areas face even greater challenges in their old age [9]. Seeking a secure space where they can foster a sense of community connection, LGBTQ+ older adults aim to find environments that promote inclusivity [10]. The necessity for a sense of security among older adults correlates with various aspects of their well-being, such as quality of life, health, life satisfaction, and satisfaction with their surroundings [11]. Neighborhoods play an increasingly significant role in influencing the quality of life and overall well-being of older adults [12]. Lecompte *et al.* [13] propose the development of policies and procedures to

establish and sustain inclusive and safe environments for LGBTQ+ older adults as a potential solution [14].

The response of older adults to societally induced stressors can have a positive impact on their lives and contribute to maintaining life satisfaction by increasing their resilience [15]. Life satisfaction is a complex concept and different authors and experts have tried to define it in different ways. Tatarkiewicz [16] described the concept of life satisfaction as satisfaction with past, present, and future life, whereby the description of life satisfaction must go beyond only positive experiences. Life satisfaction is one of the indicators of the “apparent” quality of life. Together with indicators of mental and physical health, it shows how well people live [17] and is measured as a subjective assessment that an individual makes about their own life. This assessment may be in terms of happiness, satisfaction, or well-being [18]. Higher life satisfaction is associated with reduced mortality rate, reduced likelihood of hospitalization, and reduced risk of developing chronic diseases [19] and with subjective mental health [20], indicating a strong correlation between public health and life satisfaction [21].

According to a report by the LGBTQ+ foundation, findings from a nationwide study revealed that older members of the LGBTQ+ community are more inclined toward being single and living independently compared to both their heterosexual counterparts and younger generations of LGBTQ+ individuals. In addition, this demographic is found to have lower rates of parenthood [22], which is reflected in a lower level of life satisfaction [23]. Due to a lack of support and a diminished sense of belonging to a community, a rural environment can make older homosexual men fear loneliness and isolation in later life, while at the same time, they are exposed to social isolation due to having a less active social life [24].

We focus on LGBTQ+ older adults who live in Slovenia. Slovenia is a small country in central Europe with 2,120,937 inhabitants (July 1st, 2023) [25]. Spatial dispersion of settlement is typical for Slovenia. Compared to cities in other European Union (EU) member states or in the rest of the world, Slovenian cities are small to medium sized. Out of a total of 6,035 Slovenian settlements, as many as 90% have fewer than 500 inhabitants and only two settlements have more than 50,000 inhabitants. This situation is also reflected in the various treatment of cities in Slovenia and the EU [26]. The two biggest cities, with over 50,000 inhabitants each, are Ljubljana and Maribor. A municipality can acquire the status of an urban municipality if there is a city within its territory that has at least 20,000 inhabitants and 15,000 jobs and is the economic, cultural, and administrative center of a wider area [26]. In addition to the two largest cities, we have ten such cities in Slovenia, which we classified as small cities. All other settlements we classified as rural areas. There are many definitions of rural, e.g., the U.S.

Census Bureau includes rural areas regions that are not considered part of an urban area or cluster [27]. We also divided rural and urban areas according to a similar key, although it is unfeasible to compare American cities of several million with cities in Slovenia that has a few thousand inhabitants.

The purpose of the article is to determine whether there are differences in life satisfaction among LGBTQ+ older adults based on living environment. Based on the literature review and the set research objectives, we formulated a hypothesis:

H_1 : There are statistically significant differences in the experience of life satisfaction by living environment among LGBTQ+ older adults.

Methods

Measuring instrument

To obtain quantitative data, we used a structured measuring instrument – a survey questionnaire. To measure satisfaction with life, we used the standardized and validated satisfaction with life scale [28], which consists of 5 items. Respondents indicated their agreement with each item on a seven-point Likert scale. Place of residence was measured on an ordinal scale. We collected the data in the territory of Slovenia. The survey lasted from September 28, 2023, to November 08, 2023.

Sample and demographic

We selected a non-random purposive sample of LGBTQ+ older adults from the statistical population aged 50+ in the size of 318 units. Special populations, such as LGBTQ+ older adults, for which we cannot use standard sampling methods, are called hidden populations [29]. They are characterized by being small, difficult to reach, have a desire for anonymity, and are often stigmatized. Members within a hidden population usually know each other. A method that is often used within hidden groups is the snowball method. Sampling through social networks is a method that results in a non-random sample [29], which is why we also used it. Computer-assisted interviewing, both personal (computer-assisted personal interviewing) and self-interviewing (computer-assisted self-interviewing), is gaining ground among newer methodologies, especially for surveys with sensitive topics [29]. Based on these findings, we decided to conduct an online survey through the 1KA platform, version 2002–2023. The presence of a computer during the survey can give the respondent a greater sense of privacy, importance, and objectivity of the survey and influence their perception of it. Nevertheless, some respondents may

feel uncomfortable with the presence of a computer, especially if they are not used to using computers. However, the mere presence of a computer has no significant effect on the truthfulness or accuracy of responses [29]. When selecting the appropriate respondents in the studied population, we took into account the following inclusion criteria: Age 50 years or older, self-identification as an LGBTQ+ person, all genders, the ability to verbally communicate and possession of reading literacy, and the ability to give informed consent to participate in the research. We considered the following as exclusion criteria: Age <50 years, cisgender heterosexually oriented persons, presence of dementia or other mental illness, physical underdevelopment, and illiteracy or blindness.

We included 318 respondents in the sample, of which 12.6% were women and 87.4% were men. As a current gender identity, 81.1% of respondents self-identify as male, followed by female gender identity with 12.6%. The survey included the least respondents who describe themselves as (i) transgender woman, (ii) transgender man, (iii) non-binary person, (iv) queer person, (v) asexual person, (vi) multisexual person, and (vii) gender fluid person. The sample also included 17 respondents who identify as transgender. Most of the people surveyed belong to three age groups: 50–55 years (50.9%), 56–60 years (23.9%), and 61–65 years (13.5%). Table 1 also shows that 45.0% of the respondents live in a large city (more than 50,000 inhabitants) and 28.6% of the respondents live in a smaller city (centers of urban municipalities). Respondents living in rural areas closely follow in third place with 26.4% (Table 1).

Table 1: The sample of persons included in the survey

Sample characteristics	n	Proportion (%)	Cumulative proportion (%)
Gender assigned at birth			
Male	278	87.4	87.4
Female	40	12.6	100.0
Total	318	100.0	
Current gender identity			
Male	258	81.1	81.1
Female	40	12.6	93.7
Transgender woman	5	1.6	95.3
Transgender man	2	0.6	95.9
Non-binary person	2	0.6	96.5
Queer person	2	0.6	97.2
Asexual person	1	0.3	97.5
Multisexual person	6	1.9	99.4
Sexually fluid person	0	0	99.4
Other	2	0.6	100.0
Total	318	100.0	
Sexual orientation			
Lesbian	33	10.4	10.4
Gay	160	50.3	60.7
Bisexual	111	34.9	95.6
Pansexual	2	0.6	96.2
Asexual	1	0.3	96.5
Heterosexual	5	1.6	98.1
Other	6	1.9	100.0
Total	318	100.0	
Age			
From 50 to 55	162	50.9	50.9
From 56 to 60	76	23.9	74.8
From 61 to 65	43	13.5	88.4
From 66 to 70	27	8.5	96.9
71 or older	10	3.1	100.0
Total	318	100.0	
Place of residence			
Big city	143	45.0	45.0
Small city	91	28.6	73.6
Rural area	84	26.4	100.0
Total	318	100.0	

Data analysis

We used descriptive methods as well as univariate and multivariate statistical methods for data analysis. Analyses were performed using IBM Statistical Package for the Social Sciences Statistics 25. Within the framework of exploratory factor analysis (EFA), we implemented the method of principal components, which allows reducing a large number of variables into more manageable units [30], thus explaining as much as possible the total dispersion of the data. The Cronbach's alpha coefficient was used to check the internal consistency of the factors [31]. The distributions of items were checked with statistical tests, and the Kolmogorov–Smirnov and Shapiro–Wilk tests were used. Both tests show that the distribution of the studied items does not differ significantly from the normal distribution ($p > 0.05$). That is the reason, we used the one-way ANOVA with *post hoc* analysis for differences in experiencing life satisfaction of LGBTQ+ older adults between the three groups of the living environment, as we compared the averages of each group with the averages of the remaining two groups.

Ethical aspect of research

The ethics commission at Alma Mater Europaea – European Centre, Maribor, issued decision no. 15/2022-23, that the measurement instrument and the research are consistent with all ethical aspects of research work.

Results

EFA was used to determine whether the studied sample of respondents really shows the theoretically established interrelationship between individual items, or whether individual items can be used to measure a specific construct. Mean values, standard deviations, and one-way ANOVA for individual items are shown in Table 2.

We begin the assessment of dimensionality with the EFA of the satisfaction with life construct. We measured it with five items, which should make up one factor according to the theoretical operationalization. K-M-O (0.847) and Bartlett's test characteristic level ($p < 0.05$) indicates the reasonableness of using factor analysis. As shown in Table 3, one factor is formed from a total of five items, which explains 66.8% of the variability, which also meets the criterion of a good factor in terms of the percentage of explained variability (at least 60%). The value of communalities is >0.4 for all items and as such appropriate, the same also applies to individual factor weights, which means that all items are typically weighted to the corresponding factor. We

Table 2: Descriptive statistics and statistically significant differences in ratings of satisfaction with life according to the living environment

Designation	Items	Big city (>50.000)		Small city (<50.000)		Rural areas		F	p
		Mean	SD	Mean	SD	Mean	SD		
LS1	In most ways, my life is close to my ideal.	4.89	1.38	4.35	1.60	4.21	1.45	6.855	0.001
LS2	The conditions of my life are excellent.	4.94	1.33	4.56	1.47	4.51	1.45	3.235	0.041
LS3	I am satisfied with my life.	5.36	1.23	4.86	1.60	4.65	1.58	7.368	0.001
LS4	So far, I have gotten the important things I want in life.	4.69	1.63	4.29	1.76	4.40	1.53	1.910	0.150
LS5	If I could live my life over, I would change almost nothing.	4.52	1.78	4.25	1.92	3.87	1.86	3.304	0.038

Note: SD: Standard deviation, p: significance, F: F distribution

call this factor satisfaction with life. Cronbach's alpha confirmed the reliability of the factor scale as it is >0.8.

We continued the analysis by studying the average values and standard deviations of individual items for life satisfaction in relation to the living environment and with the help of a one-way ANOVA, we determined the differences between the three living environments.

The general results of the survey show a fairly high level of satisfaction with the life of the respondents in relation to the living environment (Table 2). The latter can be supported by the interpretation of the fairly high life satisfaction of the respondents in relation to the living environment (arithmetic mean between 3.87 and 5.36 on a scale from 1 to 7). Respondents who live in a large city achieve higher life satisfaction.

To determine whether there are differences between the individual items of satisfaction with life, we performed another one-way ANOVA according to the living environment. Table 2 shows that statistically significant differences at $p < 0.05$ occur for all items, except for the item "I have gotten and achieved everything I wanted in life" ($p = 0.150$). Based on the presented results, we therefore accept hypothesis H_1 , as there are statistically significant differences between the ratings of satisfaction with life according to the living environment. With the help of *post hoc* analysis, we then identified the differences between the three living environments of the surveyed older adults (Table 4) in even greater detail.

The results of the *post hoc* analysis show that for item LS1, in most ways, my life is close to my ideal of the life satisfaction construct, there is a statistically significant difference between respondents who live in a big city and respondents who live in small towns ($p = 0.018$) and respondents who live in a big city and respondents who live in a rural environment ($p = 0.003$), while the attitude "In most respects my life is close to ideal" does not differ between respondents living in small towns and those living in rural areas ($p = 0.809$).

Although the statistical analysis for item LS2 - the conditions of my life are excellent shows

differences, we note that these are less important and appear only between respondents who live in a large city and those who live in a rural environment ($p = 0.049$).

Regarding item LS3 – I am satisfied with my life, statistically significant differences again emerge between respondents who live in a large city and those who live in small towns ($p = 0.024$) and between respondents who live in a large city and a rural environment ($p = 0.001$), while the attitude "I am satisfied with my life" does not differ between respondents living in small towns and respondents who live in rural areas ($p = 0.622$).

According to the item LS4 – so far, I have gotten the important things I want in life, we did not detect statistically significant differences between respondents who live in a big city and respondents who live in small towns ($p = 0.154$), between respondents who live in a big city and those who live in a rural environment ($p = 0.408$), and between respondents who live in small towns and those who live in rural areas ($p = 0.880$).

Statistically significant differences in item LS5 – if I could live my life over, I would change almost nothing occur only among respondents who live in big cities and those who live in rural areas ($p = 0.029$).

Discussion

Taking into account the results of the verification of the five set items of the satisfaction with life construct, we note that there are many statistically significant differences in LGBTQ+ older adults, depending on the living environment. We find that LGBTQ+ older adults achieve higher levels of life satisfaction in urban areas, which is consistent with findings that living in a rural area involves risks for LGBTQ+ people, such as a high level of intolerance, social isolation, and a lack of social and institutional support [32]. For many LGBTQ+ older adults, the geographic location of residence, along with social, cultural, and economic issues, is an important factor influencing how LGBTQ+ individuals experience aging

Table 3: Factor analysis of experience of life satisfaction of LGBTQ+older adults and Cronbach's alpha value

Designation	Items	Cronbach's α	Communalities	FL
LS1	In most ways, my life is close to my ideal.	0.87	0.770	0.880
LS2	The conditions of my life are excellent.		0.671	0.878
LS3	I am satisfied with my life.		0.775	0.819
LS4	So far, I have gotten the important things I want in life.		0.634	0.796
LS5	If I could live my life over, I would change almost nothing.		0.487	0.698

K-M-O measure: 0.847; BTS: Approximately, Chi-Square=815.590; $P=0.001$, LGBTQ+: Lesbian, gay, bisexual, transgender, and queer. Note: FL – factor loadings.

Table 4: Post hoc analysis (Tukey's test) to identify significant differences between respondents' attitudes regarding life satisfaction in relation to their living environment

Designation	Items	Living environment	Living environment	Mean difference (I-J)	Standard. error	p
LS1	In most ways, my life is close to my ideal.	Big city (>50.000)	Small city (<50.000)	0.536*	0.196	0.018
		Big city (>50.000)	Rural areas	0.674*	0.201	0.003
		Small city (<50.000)	Rural areas	0.137	0.222	0.809
LS2	The conditions of my life are excellent.	Big city (>50.000)	Small city (<50.000)	0.377	0.188	0.113
		Big city (>50.000)	Rural areas	0.425	0.193	0.049
		Small city (<50.000)	Rural areas	0.049	0.212	0.971
LS3	I am satisfied with my life.	Big city (>50.000)	Small city (<50.000)	0.506*	0.193	0.024
		Big city (>50.000)	Rural areas	0.709*	0.198	0.001
		Small city (<50.000)	Rural areas	0.202	0.218	0.622
LS4	I have gotten the important things I want in life.	Big city (>50.000)	Small city (<50.000)	0.407	0.219	0.154
		Big city (>50.000)	Rural areas	0.288	0.225	0.408
		Small city (<50.000)	Rural areas	-0.119	0.248	0.880
LS5	If I could live my life over, I would change almost nothing.	Big city (>50.000)	Small city (<50.000)	0.265	0.246	0.530
		Big city (>50.000)	Rural areas	0.648*	0.252	0.029
		Small city (<50.000)	Rural areas	0.384	0.278	0.352

Note: p: significance.

[33]. Many LGBTQ+ older adults face many challenges in old age, such as discrimination, stigma, and/or non-acceptance of their gender identity or sexual orientation by family members or others [9], which has a negative impact on their overall life satisfaction compared to those living in an urban environment [34]. One of the most important stressors arising from stigma is its internalization [35], which is described in the literature as internalized homophobia, internalized stigma, or internalized homonegativity [36]. Several authors note that the challenges in rural areas are even greater [14], [37]. LGBTQ+ older adults living in rural areas are more cautious about disclosing their sexual orientation and gender identity, and LGBTQ+ older adults in rural areas meet with general problems associated with aging in rural environments, such as remoteness of health services, lack of public transport, and social isolation [9], [14], which is reflected in worse mental health [38], which is related to various aspects of public health [39]. Numerous individuals within the LGBTQ+ community often opt for urban living, yet it is not universally mandated, nor a preference shared by all LGBTQ+ individuals residing in smaller towns or rural locales [37]. Certain writers assert that only in the "big city" can LGBTQ+ individuals attain a satisfying life [40], although the encounters of LGBTQ+ individuals in urban settings are diverse; notable distinctions exist among the experiences of LGBTQ+ individuals [41]. In general, rural areas are more conservative and homophobic than metropolitan centers, leaving many LGBTQ+ individuals in these regions of the country living in the closet; lower population density in rural areas offers LGBTQ+ people fewer opportunities for social gatherings specific to the LGBTQ+ population [14], which can be mitigated by the use of information and communication technology [42], as it increases the quality of their life [43]. Similarly, Lyons *et al.* [44] find that young gay men have poorer mental health and well-being in rural areas. Homosexual men are more likely to experience depression and anxiety in rural areas and small towns than those living in urban areas [45]. Findings show that transgender older adults, especially those in rural areas, often face greater challenges related to social support, access to health care, and discrimination, which can significantly affect their life satisfaction [46]. Differences in life satisfaction among the LGBTQ+ population vary between countries, mainly due

to the presence of structural stigma and expectations to hide one's sexual orientation [47], which is reflected in the less frequent experience of happiness and satisfaction with life compared to the majority population [48].

Limitations of research

The primary limitation of the study is the sample size, although we achieved a relatively large sample. The research was challenging, as it was extremely difficult to find representatives of the LGBTQ+ population among older adults, as different (from the majority) sexual orientation, gender identity, and gender expression still represent stigma and taboo. We are not familiar with this population, nor do we have data on the proportion of the LGBTQ+ population in relation to the entire population, which means that planning such a sample of respondents from which we can reliably draw conclusions about the entire population is a real challenge [29]. A further limitation is the snowball sampling, as it is based on social connections, and in this way, we may overlook individuals who have a poorly developed social network or whose social network is tightly closed. The next limitation of the research is the (in) accessibility of some gender identities within the LGBTQ+ acronym, where we found that we did not include any transgender men in the sample. Finally, we can point out as a limitation of the research that the inclusion criterion for participating in the research was self-identification as part of the LGBTQ+ community. Perhaps some people, especially in rural areas, did not want to identify themselves as part of the LGBTQ+ community due to stigma and consequently did not complete the survey.

Conclusion

In the presented research, we found that there are statistically significant differences in life satisfaction among LGBTQ+ older adults in different living environments. The results show that LGBTQ+ older adults in large and small cities (urban environments)

report higher life satisfaction compared to rural environments. These differences may be due to a variety of factors, including the availability of supportive communities, social integration, and tolerance and acceptance of the LGBTQ+ community, which suggests an opportunity for further research. In the future, it is necessary to continue to face the challenge of researching the hidden population of LGBTQ+ older adults, even in countries where this population is particularly hidden due to political, religious, or other influences, because only by getting to know the population and its individual needs will we be able to enable this population optimal conditions so that they can be satisfied with life in their old age.

Acknowledgements

We thank the DIH – Equal Under the Rainbow Association – for help with the survey.

References

1. Wilmoth JR, Bas D, Mukherjee S, Hanif N. World Social Report 2023: Leaving no one Behind in an Ageing World: AND; 2023.
2. Fredriksen-Goldsen KI, Kim HJ. The science of conducting research with LGBT older adults-an introduction to aging with pride: National health, aging, and sexuality/gender study (NHAS). *Gerontologist*. 2017;57(Suppl 1):S1-14. <https://doi.org/10.1093/geront/gnw212>
PMid:28087791
3. Fredriksen-Goldsen KI. The future of LGBT+ aging: A blueprint for action in services, policies, and research. *Generations*. 2016;40(2):6-15.
PMid:28366980
4. Bain AL, Podmore JA. Placing LGBTQ+ urban activists. *Urban Stud*. 2021;58(7):1305-26. <https://doi.org/10.1177/0042098020986048>
5. Stevens GA, Nguyen T, Fajardo FJ. LGBT senior health disparities: Information resources to bridge the gap. *J Consum Health Internet*. 2018;22(2):150-7. <https://doi.org/10.1080/15398285.2018.1451143>
6. Emlert CA. Social, economic, and health disparities among LGBT older adults. *Generations*. 2016;40(2):16-22.
PMid:28366981
7. King M, Semlyen J, Tai SS, Killaspy H, Osborn D, Popelyuk D, et al. A systematic review of mental disorder, suicide, and deliberate self harm in lesbian, gay and bisexual people. *BMC Psychiatry*. 2008;8(1):70. <https://doi.org/10.1186/1471-244X-8-70>
PMid:18706118
8. Rupan T, Blažič M. The needs of LGBT persons 50+ in Slovenia. *Soc Delo*. 2022;61(1):83-97. <https://doi.org/10.51741/sd.2022.61.1.83-97>
9. Hash KM, Morrow DF. Lesbian, gay, bisexual, and transgender persons aging in rural areas. *Int J Aging Hum Dev*. 2020;90(2):201-8. <https://doi.org/10.1177/0091415019836110>
PMid:30862175
10. Putney JM, Keary S, Hebert N, Krinsky L, Halmo R. "Fear runs deep." The anticipated needs of LGBT older adults in long-term care. *J Gerontol Soc Work*. 2018;61(8):887-907. <https://doi.org/10.1080/01634372.2018.1508109>
PMid:30102141
11. De Donder L, Buffel T, Verté D, De Witte N. Fear of Crime among the Elderly: A Social Capital Perspective. *Sociology in a Changing World: Challenges and Perspectives*. Greece: ATINER; 2009. p. 93-107.
12. Buffel T, Verté D, De Donder L, De Witte N, Dury S, Vanwing T, et al. Theorising the relationship between older people and their immediate social living environment. *Int J Lifelong Educ*. 2012;31(1):13-32. <https://doi.org/10.1080/02601370.2012.636577>
13. Lecompte M, Ducharme J, Beauchamp J, Couture M. Inclusive practices toward LGBT older adults in healthcare and social services: A scoping review of quantitative and qualitative evidence. *Clin Gerontol*. 2021;44(3):210-21. <https://doi.org/10.1080/07317115.2020.1862946>
PMid:33357121
14. Butler SS. LGBT aging in the rural context. *Ann Rev Gerontol Geriatr*. 2017;37(1):127-42. <https://doi.org/10.1891/0198-8794.37.127>
15. Kahana E, Bhatta T, Lovegreen LD, Kahana B, Midlarsky E. Altruism, helping, and volunteering: Pathways to well-being in late life. *J Aging Health*. 2013;25(1):159-87. <https://doi.org/10.1177/0898264312469665>
PMid:23324536
16. Tatarkiewicz W. *Analysis of Happiness*. Nijhoff, Den Haag. 1976. <http://dx.doi.org/10.1007/978-94-010-1380-2>
17. Veenhoven R. *The Study of Life-satisfaction*; 1996. Available from: <https://hdl.handle.net/1765/16311> [Last accessed on 2023 Dec 20].
18. Diener E, Wirtz D, Tov W, Kim-Prieto C, Choi DW, Oishi S, et al. New well-being measures: Short scales to assess flourishing and positive and negative feelings. *Soc Indic Res*. 2010;97(2):143-56. <https://doi.org/10.1007/s11205-009-9493-y>
19. Bi K, Chen S, Yip PS, Sun P. Domains of life satisfaction and perceived health and incidence of chronic illnesses and hospitalization: Evidence from a large population-based Chinese cohort. *BMC Public Health*. 2022;22(1):1703. <https://doi.org/10.1186/s12889-022-14119-3>
PMid:36076190
20. Lombardo P, Jones W, Wang L, Shen X, Goldner EM. The fundamental association between mental health and life satisfaction: Results from successive waves of a Canadian national survey. *BMC Public Health*. 2018;18(1):342. <https://doi.org/10.1186/s12889-018-5235-x>
PMid:29530010
21. Bakkeli NZ. Health, work, and contributing factors on life satisfaction: A study in Norway before and during the COVID-19 pandemic. *SSM Popul Health*. 2021;14:100804. <https://doi.org/10.1016/j.ssmph.2021.100804>
PMid:34027009
22. Foundation L. *The State of the City for Manchester's Lesbian, Gay and Bisexual Communities*; 2015. Available from: <https://s3-eu-west-1.amazonaws.com/lgbt-website-media/files/8e1ae51d-2562-4992-8988-f3e17452a39a/state%2520of%2520the%2520city.pdf> [Last accessed on 2023 Dec 15].
23. Gray AL, Moore EW. Understanding the relationship between sexual identity, life satisfaction, psychological well-being, and online community use. *Modern Psychol Stud*. 2018;23(2):4.
24. Hughes M. Lesbian and gay people's concerns about ageing and accessing services. *Aust Soc Work*. 2009;62(2):186-201.

- <https://doi.org/10.1080/03124070902748878>
25. Republic of Slovenia Statistical Office. Available from: <https://www.stat.si/statweb/en/field/index/17> [Last accessed on 2023 Dec 2].
 26. Cities and Urban Areas in Slovenia; 2024 Available from: <https://www.gov.si/teme/mesta-in-druga-urbana-naselja> [Last accessed on 2023 Nov 29].
 27. Krout JA, Hash KM. What is rural? Introduction to aging in rural places. *Aging in rural places*. In: *Programs, Policies, and Professional Practice*. Berlin: Springer; 2015. p. 3-22.
 28. Diener ED, Emmons RA, Larsen RJ, Griffin S. The satisfaction with life scale. *J Pers Assess*. 1985;49(1):71-5. https://doi.org/10.1207/s15327752jpa4901_13
 29. Brečko BN. Homosexuals: A methodology for researching hidden populations. *Soc Sci Discuss*. 2005;21(49-50):107-18.
 30. Reio TG Jr., Shuck B. Exploratory factor analysis: Implications for theory, research, and practice. *Adv Dev Hum Resour*. 2015;17(1):12-25. <https://doi.org/10.1177/1523422314559804>
 31. Leontitsis A, Pagne J. A simulation approach on Cronbach's alpha statistical significance. *Math Comput Simul*. 2007;73(5):336-40. <https://doi.org/10.1016/j.matcom.2006.08.001>
 32. Kramer JL. Bachelor farmers and spinsters: Gay and lesbian identities and communities in rural North Dakota. In: *Mapping Desire: Geog Sexuality*. London: Routledge; 2003. p. 182-94.
 33. Harley DA. LBGt elders in rural settings, small towns, and frontier regions. In: *Handbook of LGBT Elders: An Interdisciplinary Approach to Principles, Practices, and Policies*. Berlin: Springer; 2016. p. 493-511. https://doi.org/10.1007/978-3-319-03623-6_25
 34. Wienke C, Hill GJ. Does place of residence matter? Rural-urban differences and the wellbeing of gay men and lesbians. *J Homosex*. 2013;60(9):1256-79. <https://doi.org/10.1080/00918369.2013.806166>
 35. Gómez F, Cumsille P, Barrientos J. Mental health and life satisfaction on Chilean gay men and lesbian women: The role of perceived sexual stigma, internalized homophobia, and community connectedness. *J Homosex*. 2022;69(10):1777-99. <https://doi.org/10.1080/00918369.2021.1923278>
 36. Szymanski DM, Kashubeck-West S, Meyer J. Internalized heterosexism: Measurement, psychosocial correlates, and research directions. *Couns Psychol*. 2008;36(4):525-74. <https://doi.org/10.1177/0011000007309489>
 37. Langarita Adiego JA. Sexual and gender diversity in small cities: LGBT experiences in Girona, Spain. *Gender Place Cult*. 2020;27(9):1348-65. <https://doi.org/10.1080/0966369X.2019.1710473>
 38. Fredriksen-Goldsen KI, Kim HJ, Shiu C, Goldsen J, Emler CA. Successful aging among LGBT older adults: Physical and mental health-related quality of life by age group. *Gerontologist*. 2015;55(1):154-68. <https://doi.org/10.1093/geront/gnu081>
 39. Kim ES, Delaney SW, Tay L, Chen Y, Diener ED, Vanderweele TJ. Life satisfaction and subsequent physical, behavioral, and psychosocial health in older adults. *Milbank Q*. 2021;99(1):209-39. <https://doi.org/10.1111/1468-0009.12497> PMID:33528047
 40. Doderer YP. LGBTQs in the city, queering urban space. *Int J Urban Reg Res*. 2011;35(2):431-6. <https://doi.org/10.1111/j.1468-2427.2010.01030.x> PMID:21542205
 41. Nash C, Gorman-Murray A. Lesbians in the city: Mobilities and relational geographies. *J Lesbian Stud*. 2015;19(2):173-91. <https://doi.org/10.1080/10894160.2015.969594> PMID:25760994
 42. Nedeljko M. Virtual environment can ease the challenges of LGBTQ+ older adults-literature review. *IFAC PapersOnLine*. 2022;55(39):147-52. <https://doi.org/10.1016/j.ifacol.2022.12.026>
 43. Zgonec S. Mobile apps supporting people with dementia and their carers: Literature review and research Agenda. *IFAC PapersOnLine*. 2021;54(13):663-8. <https://doi.org/10.1016/j.ifacol.2021.10.527>
 44. Lyons A, Hosking W, Rozbroj T. Rural-urban differences in mental health, resilience, stigma, and social support among young Australian gay men. *J Rural Health*. 2015;31(1):89-97. <https://doi.org/10.1111/jrh.12089>
 45. Kauth MR, Barrera TL, Denton FN, Latini DM. Health differences among lesbian, gay, and transgender veterans by rural/small town and suburban/urban setting. *LGBT Health*. 2017;4(3):194-201. <https://doi.org/10.1089/lgbt.2016.0213> PMID:28430020
 46. Fredriksen-Goldsen KI, Cook-Daniels L, Kim HJ, Erosheva EA, Emler CA, Hoy-Ellis CP, *et al*. Physical and mental health of transgender older adults: An at-risk and underserved population. *Gerontologist*. 2014;54(3):488-500. <https://doi.org/10.1093/geront/gnt021> PMID:23535500
 47. Pachankis JE, Bränström R. Hidden from happiness: Structural stigma, sexual orientation concealment, and life satisfaction across 28 countries. *J Consult Clin Psychol*. 2018;86(5):403-15. <https://doi.org/10.1037/ccp0000299> PMID:29683698
 48. Bartram D. Sexual orientation and life satisfaction. *J Sociol*. 2023;59(1):20-35. <https://doi.org/10.1177/14407833211017672>