



Community attachment as a factor in the subjective well-being of older adults in urban and rural areas: a case study in Tokyo, Osaka, and Shikoku region in Japan

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Abstract

This study explored the relationship between community participation/community attachment and subjective well-being (SWB) among Japanese older adults. The study was conducted in Japanese urban (Tokyo and Osaka) and rural (Shikoku region) areas. Structural equation modelling was performed to assess the potential relationship between community participation, community attachment and SWB. Results showed that community participation and community attachment were positively associated in both areas. However, community attachment had a significant impact on SWB only in rural areas with little impact on increasing SWB in urban areas. We conclude that the role of community attachment varies according to regions with different socioeconomic properties. These findings contribute to the design of detailed region-specific initiatives to improve SWB of older adults.

Keywords Community activities · Community attachment · Subjective well-being · Japan

1 Introduction

The positive aspects of human psychology in promoting the health of older adults have been widely discussed, with the aim of a more fulfilling life from the perspective of lifelong development. Hence, it became necessary to elucidate the psychosocial factors that lead to this need. Subjective well-being (SWB) is a broad concept that includes emotional states, satisfaction with specific areas such as family and work, and satisfaction with life in general (Diener et al. 1999; Maddux 2018; Vallejos and Despott 2019). Studies have investigated the measure of SWB and explored enhancers in the context of health promotion. They figured

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out that personal and social factors act on SWB, for example, health, income, occupation, and so on (Pontin et al. 2013; Gaspar and Balancho 2017). Those are applied as indicators to increase well-being.

An approach to fostering those among older adults focuses on feelings of control and expectancies. Increased control over, and responsibility for, important outcomes in communities or networks results in higher levels of happiness. Expanding the social networks of older adults, such as allowing them to make more friends and communicate more with friends and family, improve their SWB (Wang 2016). For example, local festivals and sports teams influence community attachment and strengthen SWB through residents' cocreation and community belonging (Chou et al. 2018; Kim et al. 2019). Although there are few studies on the mechanisms of SWB and community attachment in the elderly, related studies suggest that community attachment improves satisfaction with the community environment, community relationships, and perceived security, and has a positive effect on SWB (Lai et al. 2021; Layera et al. 2020; Taniguchi and Portter 2016; Toikko and Pehkonen 2018). Studies have indicated that community attachment is closely associated with self-perceived mental health (Vallejos and Despott 2019; Lee and Blanchard 2012; Yeo et al. 2022). Positive psychological states could mediate SWB and community attachment. Feeling a sense of belonging and involvement in the community during newly experienced activities could increase the level of confidence and satisfaction.

Another aspect of SWB is to be influenced by a number of factors including the built environment and socio-economic factors (Williams and Kitchen 2012). Subsequently, the relationship between community attachment and SWB could differ in regions possibly influenced by region-specific socio-economic factors. However, there is a lack of studies to pay attention to the regional difference in the relationship between community attachment and SWB for older adults and the mechanism of those. Although the literature concerning the effect of residential environment on SWB and mental health (Francis et al. 2012; Phillips et al. 2005) or the mediating effect of social connectedness and involvement to SWB (Lee et al. 2008; Lv and Xie 2017) are accumulating, there are much fewer empirical studies examining the contribution of community attachment to SWB and psychological mechanisms of community participation, community attachment toward SWB for the older adults, and those regional variances. Especially in Japan, where the aging rate exceeds 21% and which is referred to as a 'super-aging society', the older adults' health and welfare are major concerns. In efforts aimed at promoting longer and healthier lives, the Japanese government recently decided that increasing community activities among older adults is a policy priority (MHLW 2017). Given the retirement and physical limitation of older adults, the community has gradually become the center of their daily lives and communication. It is thought that physical enhancement and psychological stability consisting of experience through community activities and community attachment can have a positive impact on SWB of the elderly and, by extension, contribute to extending the healthy life expectancy of older adults (De Leon et al. 1999; Kelly 2013; Kwon et al. 2019; Kobayashi et al. 2020). Therefore, it is important to explore the influence of community participation and community attachment to SWB of older adults to provide care services to address these concerns. However,

extant studies related to SWB and community attachment for older adults remain relatively deficient.

This study focused on the influence of the participation in community activities and community attachment as a means of enhancing SWB. In particular, it was assumed that the relationship among ‘community participation’, ‘community attachment’, and ‘SWB’ might differ depending on the regional environment owing to the implementation status of community activities, relationship with neighbors, and efforts by local governments for aging measures. Therefore, this study aimed to analyze the relationship among four dimensions: ‘community attachment’, ‘community participation’, and ‘SWB’, compared it between urban and rural areas, and explored ways to enhance well-being of older adults in each area. It would offer information which contributes to the older adults’ welfare policy decision.

2 Literature review and hypothesis

2.1 Community participation and community attachment

Community attachment describes a sense of support for a community, formed through shared experiences with others in daily life, and a mindset that aims for the future of the community (Omori et al. 2014). It is a comprehensive concept that includes connectedness with neighbors (Eisenhauer et al. 2000; Raymond et al. 2010), sense of belongingness or involvement (Escalera-Reyes 2020; Esters et al. 2022; Schellenberg et al. 2018), pride in being a resident (Fiser and Kozuh 2019; Magno and Dossena 2020) and so on. Community participation is defined as engagement in activities occurring outside the home and interacting with others in the community. Given community participation are critical for older adults to develop abilities, promote health, and prevent disabilities (Gough et al. 2021), community organizations, healthcare professionals and municipalities have delivered community activities targeting the participation of older adults. Older adults are encouraged to participate in various community activities, such as involving in residential community groups, volunteering, participating in local events, and so on.

Community participation brings emotional connections and further develops community attachment (Manzo and Perkins 2006). In community participation, older adults connect with their neighbors and feel a sense of belonging. It improves functional ability and mental health. These positive experiences should be closely related with community attachment. Mutually, community attachment enhances community participation (Kim et al. 2022). Feeling a sense of belonging and cohesion would convert to act for a community. For example, community cohesion increases the willingness to participate in community activities, such as cooperation in tourism (Orgaz-Agüera et al. 2022). This cycle can occur repeatedly through interactions between community participation and community attachment.

H1 *Community participation and community attachment interacts each other.*

2.2 Community attachment and subjective well-being

Subjective well-being (SWB) is attracting wide attention in fields such as policy evaluation and development economics (Das et al. 2020). In Japan, where the aging population is advancing at an unprecedented rate coupled with the declining birthrate, the purpose of the system has changed greatly from ‘long-term care’ to ‘prevention’ after the revision of the Long-term Care Insurance Law. Hence, prefectures and municipalities have put SWB as one of the policy indicators of the long-term vision and are using it for local government management. Many municipalities have begun to measure SWB of the older adults prior to the formulation of long-term Care Insurance Plan. It assumes SWB as a driving force that encourages actions that lead to preventive care. Therefore, understanding the factors that enhance SWB and working on them are measures for encouraging older adults to take preventive care. Furthermore, even if the household composition, financial situation, and physical condition cannot be changed, there is room for interaction and social participation to be changed by the behavior of the older adults themselves. By preventing the decline in SWB in old age, it becomes easier to take positive actions that lead to care prevention, interactions, and better physical and mental health. The Japanese government is promoting and subsidizing senior citizens’ clubs that are conducting community activities so that the older adults themselves can find a role in society and actively participate in society (MHLW 2017). Municipalities also support volunteer activities to older adults. Through participation in such activities, they can obtain SWB by satisfying various aspects of physical, mental, and social aspects. (Litwin 2000; Zhang and Zhang 2015).

H2 *Community attachment affects subjective well-being.*

The conceptual model regarding SWB of the elders regarding community attachment, and community participation was built as follows (Fig. 1). To see the regional differences, two conceptual models of urban and rural regions were compared.

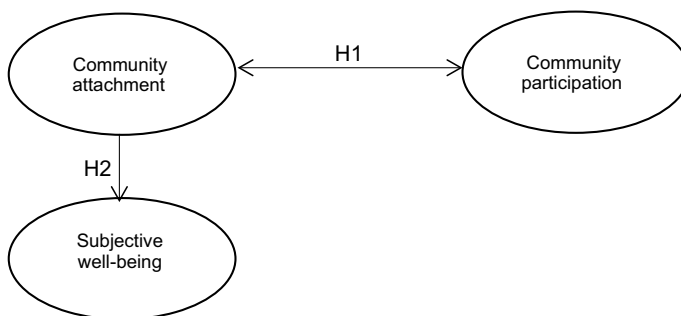


Fig. 1 Conceptual model

3 Materials and methods

3.1 Target area and sample

To compare different socioeconomic regions, we separated the survey area into urban and rural areas. Tokyo and Osaka prefectures were selected as urban areas, and four prefectures in Shikoku were selected as rural areas. Data were collected using a questionnaire survey via the Internet from anonymous individuals aged over 60 from 24 to 25 September 2021. Respondents were briefed on the study and considered subject consent of participation before beginning their responses. An online survey was designated to only respondents with subject consent to participate in the survey. Of the total samples collected, 111 were from urban areas and 116 were from rural areas. The number of total samples is 227. Based on the regulation of Ethics Committee of Tokyo University of Science, survey research only including questions about psychological trauma is subject to review by Ethics Committee, this work does not require review or approval by Ethics Committee and informed consent.

An urban area is an area where commerce, culture, and distribution are developed, and human concentration is high. Tokyo and Osaka, which have the largest populations and average annual incomes in Japan, can be considered urban areas with well-developed commerce and other activities. The aging rate is relatively low at 23.1% and 27.6% in Tokyo and Osaka, respectively, due to the large number of young people moving in. However, in the four prefectures of the Shikoku region, the average population of each prefecture does not reach 1 million, and although the number of older adult people is small, the aging rate is higher than 30.0% (Cabinet Office 2020). The employment rate of the primary industry is higher than the national average, thus, agriculture is flourishing in such regions.

To distinguish between the socioeconomic characteristics of respondents in the urban and rural areas of the target regions, personal attributes such as age, gender, occupation, area and duration of residence, family structure, subjective sense of health status, and household income were asked and subjected to χ^2 tests (Table 1). There was a significant difference with residence (<0.001) and household income (<0.005). Regarding residence, while both regions are dominated by residential area, Shikoku has a relatively large number of farming and mountainous areas. There are relatively many low-income households with household income of less than 2 million yen in Shikoku region, and many high-income households with 10 million yen or more in Tokyo and Osaka. In both regions, the male ratio of respondents was high at 70% or more in terms of gender, and although there was no significant difference in age, the older adults in rural area were slightly younger. Nearly half the respondents are laborers. There are many older adults who have lived for more than 25 years in rural areas and have lived for a long time on average. Most households comprised a married couple family, with no children, followed by couples with unmarried children, and those living alone. In terms of the subjective sense of health, the most common answer was 'healthy' in both regions (Table 1).

Table 1 Description of respondents of urban area and rural area

Category	Urban area	Rural area	<i>p</i> value		
Gender	Male	78	0.209		
	Female	33			
	Others	0			
Age	60–64	42	0.492		
	65–69	31			
	70+	38			
	Office worker	26			
Occupation	Public service worker	2	0.294		
	Self-employed	19			
	Agriculture, forestry, and fishery worker	0			
	Housewife	19			
	Temporary worker	7			
	Unemployed	37			
	Others	1			
	Residential period	Less than 15 years		22	0.091
		15–25		28	
		25+		61	
	Household composition	Single person		17	0.560
		Married couple family, No children		44	
		Married couple family, with dependent child		33	
Married couple family, with all children nondependent		3			
Three-generation household		7			
Others		7			

Table 1 (continued)

Category	Urban area	Rural area	<i>p</i> value
Subjective sense of health	Strongly unhealthy	5	0.574
	Unhealthy	36	
	Healthy	67	
Place of residence	Strongly healthy	8	0.001
	Residential area	91	
	Commercial area	5	
	Farming and mountain villages	15	
	Others	5	
Household income (appx. US\$)	Below 14,384	17	0.030
	14,384–28,696	35	
	28,804–43,135	20	
	43,206–57,537	16	
	57,708–71,939	7	
	72,100–107,944	12	
	Over 108,017	4	
		24	
		42	
		28	
	10		
	8		
	1		
	3		

3.2 Measures

The questionnaire items were developed (Okamoto et al. 2005; Kasejimai et al. 2015; Aoyagi 2017) and validated in the preliminary questionnaire survey. Preliminary questionnaire survey was conducted for 52 respondents from 5 to 8 October 2021. The items consist of three dimensions and related questions: willingness to participate in local communities, community attachment, and subjective well-being (SWB) (Table 2). The items should all measure the same thing, so they should be correlated with one another. The Cronbach's alpha coefficient of internal consistency of each dimension was estimated and regarded as satisfactory ($\alpha > 0.8$).

The reliability coefficient α showed > 0.800 values for community attachment, community participation, and SWB in both regions (Table 2).

3.3 Structural equation modelling

To examine SWB process that is driven by community attachment and willingness to participate in local communities, a scheme via structural equation modelling (SEM) was elaborated. SEM has become a useful technique in social sciences research to analyze the relationship between latent variables (Mueller and Hancock 2010). Latent variables were set as 'community attachment', 'community participation', and 'SWB'. Based on the hypothesis model (Fig. 1), SEM was performed using IBM SPSS Amos27 (SPSS Inc., Armonk, USA).

4 Results

4.1 Community attachment and subjective well-being model

Regarding urban areas, the goodness of fit of the model is $RMSEA = 0.086$, $CFI = 0.960$, both of which meet the standard values, thus, the verified hypothetical model is suitable for the data. There is a significant influence of 0.707 (< 0.001) between 'community attachment' and 'community participation', but the relationship between 'community attachment' and 'subjective well-being (SWB)' (0.003, $p = 0.985$) was not significant. It suggested that 'community attachment' would have little effect on increasing 'SWB' in urban areas (Fig. 2).

In rural areas, there is a significant correlation between 'community attachment' and 'community participation' (0.551, < 0.001), 'community attachment' and 'SWB' (0.597, < 0.001). The goodness of fit of the model is $RMSEA = 0.036$, $CFI = 0.996$, which showed relatively low. It may be attributed to the integration of data with different tendencies. This suggests that 'community attachment' could have a significant influence on enhancing 'SWB' in rural areas (Fig. 3).

In both urban and rural areas, the overall relationship among latent variables is similar to that of rural areas. 'community attachment' and 'community participation' was closely related to each other (0.692, < 0.001). Community

Table 2 Descriptive statistics of the questionnaire items

Items	Urban area			Rural area			
	Mean	StDev	α	Mean	StDev	α	
Community attachment	Q1.I think my community is important	3.77	1.063	0.941	3.62	1.080	0.918
	Q2.I love my neighbors and local community	3.68	1.058		3.47	1.086	
Community participation	Q3.I am actively participating in local festivals	2.43	1.256	0.882	2.29	1.130	0.867
	Q4.I am active in interacting and socializing with local residents	2.44	1.144		2.31	1.070	
	Q5.I am active in volunteer activities in the community	2.48	1.097		2.32	1.055	
Subjective well-being	Q6.I've done most of what I wanted in my life	3.15	0.997	0.810	2.99	1.021	0.840
	Q7.I feel like life is not so hard	3.05	1.026		3.05	0.999	
	Q8.I feel like I've become less concerned about small things lately	2.86	1.047		2.58	0.957	
	Q9.I think I'm as healthy as last year	3.49	1.106		3.36	1.070	
	Q10.I think there are a lot of happy things in my life now	3.38	1.040		3.24	1.103	
	Q11.Looking back on my life, I am satisfied	3.34	1.078		3.05	1.121	

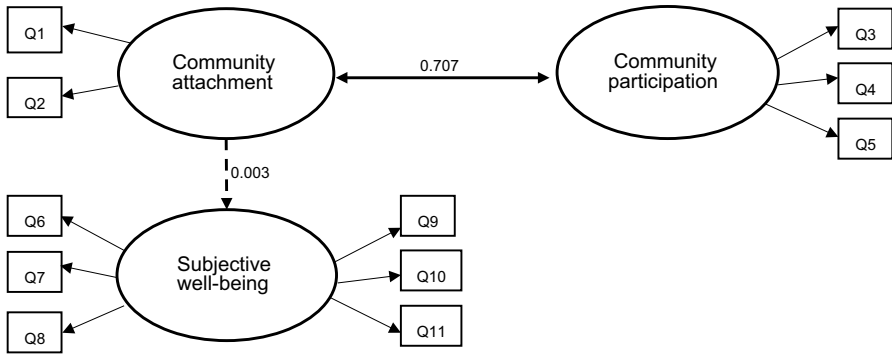


Fig. 2 Community attachment and subjective well-being model of urban area (solid arrows, $p < 0.001$)

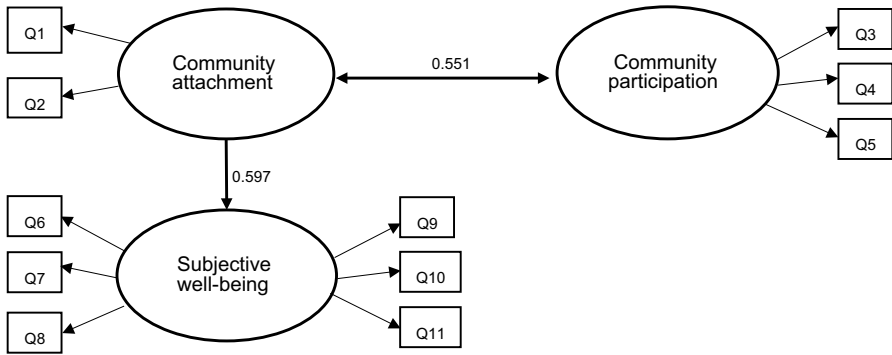


Fig. 3 Community attachment and subjective well-being model of rural area (solid arrows, $p < 0.001$)

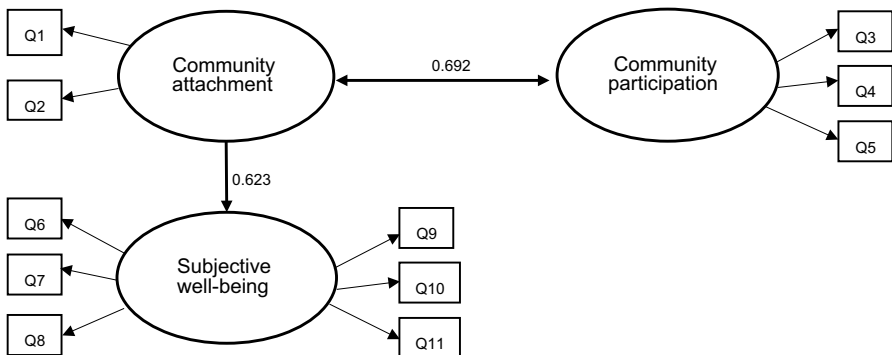


Fig. 4 Community attachment and subjective well-being model of the total (urban and rural areas) (solid arrows, $p < 0.001$)

attachment positively influenced SWB ($0.623, < 0.001$). The goodness of fit of the model is $RMSEA = 0.096$, $CFI = 0.964$, which showed relatively low. It may be attributed to the integration of data with different tendencies (Fig. 4).

5 Discussion

5.1 Community attachment and subjective well-being

People develop a type of attachment to the community to which they belong that involves emotional connections with and intense caring for the community. These emotional attachments have been often estimated empirically and contributing factors were explored (Cheng et al. 2021; Kim and Park 2018; Kwon et al. 2019). Especially, participation in community activities is a strong enhancer in raising community attachment. Community activities encompass a wide range of actions involving a community. These activities include engaging in community self-governance, such as actively exchanging opinions on community development and regional policies, participating in voting, and taking part in initiatives like environmental volunteering and health promotion. By engaging in these activities, individuals have the opportunity to deepen their understanding of the community and cultivate a sense of attachment to it. On one hand, community attachment could enhance participation in community activities and events (Kim et al. 2022; Orgaz-Agüera et al. 2022). Since the initial study on community attachment by Kasarda and Janowitz in 1974, which found a positive relationship between the length of residence and level of community participation, this topic has been widely discussed (Kasarda and Janowitz 1974). Community attachment often transforms into positive perceptions, emotions, and behaviors toward the community (Twigger-Ross and Uzzell 1996; Altman and Low 2012; Zwiers et al. 2018; Chang et al. 2022). It was revealed consistently in this study that community attachment and participation showed positively correlated.

Moreover, it is possible for an individual to form a network within a community by reducing the distance between people who participate in the community together with them, and it is thought that the change of emotions and a sense of belonging within the network will extend to the attachment to the community. Empirical studies elucidated that there is a positive impact of community attachment on SWB (Powdthavee 2008; Tsurumi et al. 2019). Older adults also have shown community attachment via community participation, which is further linked to subjective well-being (SWB) (Strommen and Sanders 2018). Results in the current study suggested consistently that community participation and community attachment are associated with SWB of seniors. Positive psychological states involved in community attachment such as a sense of belonging, good relationships in the community, satisfaction to contribute to community development, and so on (Kelly 2013; Kim et al. 2022), further seemingly influence SWB.

5.2 Regional variation of the role of the community attachment in subjective well-being

Regional variations in happiness and well-being have been often discussed considering neighborhood and community environments (Conigliaro 2022; Hitokoto et al. 2014; Rodríguez-Pose and von Berlepsch 2014). In this study, we focused on community attachment as one of the major factors to influence subjective well-being (SWB) and drive the regional variance of the same. For urban areas, there were no significant paths of community attachment to SWB. Only community attachment and community participation were significant. As the relationship between community attachment and SWB was not significant, attachment to the residential area would hardly be the major factor for increasing SWB for older adults in urban areas.

This finding suggests a couple of explanations regarding influential factors of SWB among urban seniors. Urban seniors would possess more plausible factors than community participation or community attachment to influence SWB. Previous studies have stated the effectiveness of individual approaches to enhance SWB other than increasing participation in community activities. Yasunaga et al. (2002) analyzed factors affecting SWB of the older adults in urban areas in Japan and concluded that exercise habits are particularly important. Exercise practice is known to strengthen more functional skills and contribute to the performance of activities of daily living, greater subjective satisfaction, and increased well-being (De Souza et al. 2018; Parra-Rizo and Sanchis-Soler 2020). Meanwhile, less physical activity than in rural areas may have highlighted the impact of exercise on the well-being of older people in urban areas (Lee and Um 2021; Robertson et al. 2018). Another point of view is seemingly the difference in the range of social relations in working, hobby groups, and so on. Concerned that urban public transportation is convenient and access to certain places is well structured, older adults have a greater range of activities. More urban seniors are working in the office and need to commute away from their residential areas, on the other hand, those in rural areas are working more in agricultural sectors which are mostly located near their residential areas (Cabinet office 2021). Urban seniors often commute or participate in groups/activities away from their residential places, the chance to participate in community activities and raise community attachment might be less. These findings suggest that for older adults residing in urban areas, personal care such as exercise or diversified social relation may be a priority factor associated with SWB, rather than neighborhood or community.

On one hand, a possible explanation is that the relatively lower SWB of elders in urban than in rural could cause the disconnection between community attachment and SWB. Studies have compared urban–rural differences and showed low subjective QOL or SWB in urban contexts and much higher well-being in rural (Campanera and Higgins 2011; Davern and Chen 2010; Wang and Fowler 2019). Given the consistent trend in Japan (Kshita et al. 2021), it might be difficult to find a significant path from community attachment to SWB because SWB is relatively low.

In rural areas, community attachment and SWB were significantly related. There is relatively abundant community involvement in rural areas that older adults can take the initiative in, which not only provides employment support but

also a place for social participation, leading to securing income, purpose of life, friend-making, and maintaining and improving health. Community participation was indirectly associated to SWB via community attachment, suggesting that there is a tendency to lower anxiety when the connection with the neighboring community is strong in rural areas, where they are relatively vulnerable to natural disasters (Lee and Fraser 2019). Concerned that there are many challenges such as a shortage of human resources and reduced demand for nursing and medical services, people tend to value not only ‘self-help’ and ‘public assistance’ but also ‘mutual assistance’, that is, cooperation and help from the people around them. Such awareness of interpersonal relationships with neighboring residents is the community attachment of older adults in rural areas. Through community attachment, they feel well-being.

5.3 Theoretical and practical implications

The current study is one of few explorations that examine the relationships between ‘community attachment’, ‘community participation’, and ‘subjective well-being (SWB)’ among Japanese older adults and that point out the distinctions in regional variations of the same. First, despite considerable findings that have demonstrated the positive effect of willingness to participate in local community activities on community attachment, few studies consider its sequential positive role toward SWB. In most cases, motivation to participate in local community activities is a critical factor that directly determined the community attachment. In turn, community attachment also influences community participation (Kim et al. 2022). Subsequently, community attachment influences an older adults’ SWB through individuals’ psychological processes. This means that community attachment raises SWB as a means of giving decision-making autonomy, independence, satisfaction, and achievement, among others, through daily activities of older adults. Second, community attachment positively influences SWB in rural areas, but not in urban areas. Results indicated that regional characteristics could drive differences in the role of community attachment as a trigger of SWB. For example, there are relatively physically intensive community activities, which is a major part of the daily life of rural older adults. On the other hand, in urban areas, individual activities are more abundant than community activities.

These findings have practical implications. First, municipalities or community administrators should fully consider social communication and the design of community activities. During a community activity design phase, policymakers and stakeholders should carefully consider the regional characteristics and the regional specific preference of community activities in maintaining or enhancing the quality of life of older adults. Second, especially in urban areas, given the weak role of community attachment, implementation of community activities alone is not sufficient for enhancing SWB. Community administrators should adopt proper measures to cultivate older adults’ satisfaction with community activities and strengthen the relationship between community attachment and SWB.

5.4 Limitations and future scope

The following limitations exist in the current study. The theoretical model explored in this study remains to be tested. First, target areas were limited to a couple of prefectures in Japan, Shikoku regions for rural and both Tokyo and Osaka for urban. Although the regional characteristics were clarified to represent urban and rural areas by using regression analysis, respectively, it remains to test whether to generalize the findings for older adults through Japan in future study. Second, because the survey in this study used an online research tool, the target population was limited to those who have or can handle electronic devices such as computers and tablets. This inevitably led to an increase in the proportion of those who live with family members and are proficient in handling electronic terminals and a slight decrease in the data for the older adults who live alone. It is necessary to prevent bias in the characteristics of the target population by having the survey mailed to them. Furthermore, this study suggested that community attachment affects SWB in rural areas and not in urban areas. As the next step, it is necessary to clarify the factors that influence the community attachment of the older adults in rural areas and the factors that strongly influence the SWB of the older adults in urban areas, respectively. By doing so, it is possible to narrow down the focus points of each local government's efforts to improve SWB.

6 Conclusions

This study targeted older adults living in urban areas and rural areas in Japan, and explored the relationship between community attachment, community participation, and subjective well-being (SWB). The elderly of the rural area could acquire SWB from community attachment and active participation in community activities. However, in urban areas, the relationship between them was not that significant. In urban areas, a sense of security in life is provided by other factors but community attachment such as well-developed public transportation systems, medical facilities, and nursing care facilities is seemingly considered to be linked to SWB. Conversely, in rural areas, there is a strong spirit of mutual aid, in which neighbors help each other resolve concerns and risks in their daily lives, and it is thought that fostering relationships with others is associated with SWB.

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Data availability Data is available in seo, yuna (2022), Community attachment as a factor in the subjective well-being of the older adults in urban and rural Japan, Dryad, Dataset. <https://doi.org/10.5061/dryad.ht76hdrkj>.

Declarations

Conflict of interest The author declares that they have no conflict of interest.

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