



## Original article

# The association between living arrangements and subjective health and well-being among older adults in Thailand: a special focus on skip-generation households

Romnalin Thonglor<sup>1,2</sup>, Keiko Nakamura<sup>1,3</sup>, and Kaoruko Seino<sup>1,3</sup>

<sup>1</sup>Department of Global Health Entrepreneurship, Tokyo Medical and Dental University, Japan

<sup>2</sup>Faculty of Public Health, Naresuan University, Thailand

<sup>3</sup>WHO Collaborating Centre for Healthy Cities and Urban Policy Research, Japan

## Abstract

**Objectives:** Older adults in skip-generation households (SGHs) play a valuable role in maintaining the cohesion of extended families in the absence of the middle generation. Little is known about the health and well-being of older adults in SGHs or how it varies depending on their age. This study aimed to examine 1) the association between living in SGHs and subjective health and well-being and 2) the association between subjective health and well-being of older adults in SGHs across age groups.

**Methods:** Drawing data from the 2017 national survey of older people, older adults aged  $\geq 60$  years without disability in activities of daily living ( $n=38,088$ ) were included for multiple regression analyses. Living arrangements were classified into SGHs and non-SGHs. Subjective health was evaluated based on self-rated health, whereas subjective well-being was evaluated using a happiness score. Ordinal logistic regression and linear regression models, stratified by age groups (young-old, 60–69; middle-old, 70–79; and old-old,  $\geq 80$ ), compared subjective health and well-being of older adults in SGHs and non-SGHs, while controlling for potential covariates.

**Results:** Among older Thai adults, 10.1% lived in SGHs, and 11.1%, 9.5%, and 6.3% were among the young-old, middle-old, and old-old, respectively. Across age groups, older adults living in SGHs reported better health status but worse well-being than those living in non-SGHs. Older adults from the old-old group living in SGHs seemed to report the best health status, whereas those in the young-old and old-old groups tended to report the worst well-being. The direction of the association between living arrangements and subjective health and well-being did not differ by age group.

**Conclusion:** Better health status but worse well-being were observed in SGHs. Social sectors should pay attention to the well-being of these older adults.

**Key words:** skip-generation household, living arrangements, subjective health and well-being, older adults, age differences

(J Rural Med 2022; 17(4): 205–213)

## Introduction

Thailand has the second-fastest aging population in Southeast Asia, with the older population (21 million persons) projected to account for 30% of the total population by 2035<sup>1)</sup>. Traditionally, older Thai adults have co-resided with their children. However, sociodemographic changes have led to a decrease in the prevalence of co-residing among older adult parents and children and an increase in the number of older adults living independently (alone or with his/her spouse only). In addition, the prevalence of skip-generation households (SGHs), in which grandparents live with their grandchildren without the presence of a middle generation,

Received: May 6, 2022

Accepted: June 10, 2022

Correspondence: Keiko Nakamura, Department of Global Health Entrepreneurship, Division of Public Health, Tokyo Medical and Dental University, 1-5-45 Yushima, Bunkyo-ku, Tokyo 113-8519, Japan

E-mail: nakamura.ith@tmd.ac.jp

This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial No Derivatives

(by-nc-nd) License <<http://creativecommons.org/licenses/by-nc-nd/4.0/>>.



has gradually increased, currently accounting for about 10% of the total population<sup>2</sup>.

SGHs have emerged worldwide as a result of economic growth and urbanization, which has resulted in adult parents migrating for better economic opportunities. In the absence of a parent generation, this living arrangement plays an important role in maintaining a functioning family<sup>3</sup>. In Thailand, the number of SGHs has risen considerably over the past decades<sup>2</sup>. The following are the main reasons why older adults live in SGHs: 1) They purposefully agree to provide care for their grandchildren according to cultural norms; 2) Because of education or work obligations, their children ask them to look after the grandchildren; and 3) Their children simply abandon their grandchildren and leave them behind<sup>4</sup>. Grandparents in SGHs play a vital role as primary caregivers for their grandchildren, who can also assist their grandparents on occasion. Intergenerational exchanges in which both grandparents and grandchildren take care of each other have been observed in SGHs<sup>5</sup>. This background makes Thailand an interesting setting for examining the health implications of SGHs.

Successful aging, which refers to the quality of aging, has shifted toward more subjective aspects of later life<sup>6</sup>. Although consensus on the exact dimensions of successful aging is still required, physical and psychological aspects should nevertheless be included at the very least. Therefore, to understand and improve successful aging among older adults in special living arrangements such as SGHs, subjective health and well-being should be considered as focused outcomes. Subjective health, as measured by self-reported evaluations of physical health, is meant to capture the current health status of an individual. It is a reliable and robust measure of health status because it is linked to various domains such as objective health<sup>7</sup> and mortality risk<sup>8</sup>. In addition to health status, positive well-being needs to be promoted for successful aging. Subjective well-being, which refers to an individual's cognitive and affective evaluation of human life, primarily includes life satisfaction, positive affect, and negative affect. This is often equated with happiness, one of the most important components of the positive affect of well-being<sup>9</sup>.

Living arrangements can be an important factor associated with the health and well-being of older adults. Although findings from previous research have been mixed, some living arrangements have been demonstrated to have better health outcomes than others<sup>10</sup>. Living with children<sup>11</sup> and having a spouse in the household<sup>12</sup> is sometimes regarded as "healthy" and assumed to meet the needs of older adults, whereas living alone is sometimes regarded as the "least healthy" living arrangement, as it can lead to social isolation and loneliness<sup>13</sup>. Multigenerational households, a normative ideal of living arrangements in Asia, are considered to provide the most social and financial support and

may compromise with the health benefits of older adults<sup>14</sup>. However, despite the growing emphasis paid to the impact of living arrangements on the health and well-being of older adults, little is known about SGHs and their relationship to health and well-being.

No theoretical consensus has been reached on how living in SGHs affects older adults' health and well-being. To date, the association between living in SGHs and health has been varied, and the subject has received little attention in the literature. Research findings on the health implications of SGHs indicate that older adults do not suffer from poor health<sup>14–17</sup>. Additionally, rearing grandchildren may benefit grandparents' health. In Asia, where intergenerational support plays a significant role in family obligations, a cultural understanding of filial piety underlies the decisions that grandparents make to assume responsibility for their grandchildren<sup>4</sup>. Caring for grandchildren may enhance psychological well-being, which promotes happiness and reduces loneliness<sup>5</sup>. In addition, grandparents appreciate being given a second chance at parenting<sup>18</sup>, and some appreciate the assistance they receive from their grandchildren as well as the financial assistance they receive from their migrant children<sup>19</sup>. A study of grandparents and grandchildren in Southeast Asia reported that care provision was not viewed as a serious burden, even in the absence of an adult parent in the household<sup>5</sup>.

However, this type of living arrangement has been shown to have unfavourable outcomes for older adults (grandparents in SGHs and custodial grandparents). When grandparents take on the role of primary caregivers, it can be physically, mentally, and economically challenging for them. Rearing grandchildren can also mean that grandparents have little time to take care of themselves, and some custodial grandmothers have experienced negative changes in their health and health behaviours<sup>20</sup>. In the absence of the middle generation, rearing grandchildren can sometimes lead to emotional challenges. A previous study that analysed the implications of providing regular care for grandchildren found that it had a negative impact on the health and well-being of grandparents<sup>21</sup>. Some older adults who live in SGHs have also been found to be more stressed than those who live in other living arrangements<sup>22, 23</sup>.

Older adults' health and well-being may vary depending on demographic factors such as age. A higher age is associated with deteriorating health and increasing disability. Evidence of declining health status with age has been reported in both cross-sectional and longitudinal analyses<sup>24</sup>. However, there is evidence that older age does not necessarily lead to worse subjective well-being in older adults<sup>25</sup>. Clarifying the association between living arrangements and health and well-being across age groups could provide important information for enhancing the quality of life of older adults.

Given the lack of evidence from previous empirical stud-

ies, it is worth investigating whether older adults who live in SGHs have better or poorer health and well-being than older adults who live in other living arrangements. Moreover, it remains unknown whether the health and well-being of older adults living in SGHs varies by age. Therefore, this study aimed to examine 1) the association between living in SGHs and subjective health and well-being and 2) the association between subjective health and well-being in older adults living in SGHs across age groups.

## Materials and Methods

### Data

Data were drawn from the 2017 Survey of Older Persons in Thailand (SOPT), which was conducted by the Thai National Statistical Office (NSO). Data from face-to-face interviews were collected from all 77 provinces using a stratified multistage sampling technique. More information on the SOPT can be found elsewhere<sup>26</sup>.

The sample initially included 41,752 older adults, aged 60 years and older, which corresponds to the definition of

“older adults” in Thailand<sup>27</sup>. Those without disabilities in activities of daily living (ADLs) (n=38,088, 91.2%) were included in the analysis to ensure that the sample was generally in a healthy state and did not require any special care. Those who answered by proxy (n=5,975, 15.7%) were excluded from the analysis. Finally, 32,113 respondents were included in the analysis of the association between living arrangements and health and well-being. Population weighted was applied to all the analyses.

The study sample consisted primarily of women who lived in rural areas, were currently married, had lower educational attainment, and earned adequate income. In addition, the older adults, in general, were relatively healthy, although 11.8% reported a poor health status (Table 1).

### Variables and measures

#### Subjective health

A self-rated health (SRH) index was designed to capture the respondents’ subjective health assessments. The older adults were asked to rate their health based on the question, “How do you feel about your health in the last 7 days?”. Re-

**Table 1** Sociodemographic characteristics, subjective health, and well-being of the older adults by age group

Variables	Whole sample M (SD) or %	Young-old M (SD) or %	Middle-old M (SD) or %	Old-old M (SD) or %	P
Age (years)	69.1 (7.3)	64.0 (2.8)	73.8 (2.8)	83.7 (3.4)	<0.001
Gender					<0.001
Man	44.1	44.7	43.8	41.3	
Woman	55.9	55.3	56.2	58.7	
Residence area					<0.001
Urban	40.2	41.1	39.1	38.2	
Rural	58.9	58.9	60.9	61.8	
Marital status					<0.001
Currently married	63.6	71.3	57.7	36.7	
Not married	36.4	28.7	42.3	63.3	
Educational attainment					<0.001
Primary or higher	21.1	24.8	17.5	10.6	
Lower than primary	78.9	75.2	82.5	89.4	
Income					<0.001
Adequate	55.8	55.0	56.3	59.0	
Inadequate	44.2	45.0	43.7	41.0	
Living arrangement					<0.001
SGH	10.1	11.1	9.5	6.3	
Non-SGH	89.9	88.9	90.5	93.7	
Subjective health					<0.001
Self-rated health					
Poor	11.8	7.8	15.5	23.4	
Fair	44.0	39.8	50.0	51.5	
Good	44.2	52.4	34.5	25.1	
Subjective well-being					<0.001
Happiness score	7.0 (1.4)	7.2 (1.3)	6.9 (1.4)	6.7 (1.4)	

SGH: skip-generation household; M: mean; SD: standard deviation; P-values are based on  $\chi^2$  tests for categorical variables and analysis of variance for continuous variables.

sponses included very bad, bad, fair, good, and very good (5-point Likert scale ranging from 1 to 5, with higher scores indicating better health status). The responses were then classified into three categories: poor (very bad and bad on the scale), fair (fair on the scale), and good (good and very good on the scale).

## Subjective well-being

We used a happiness score to capture the respondents' subjective assessments of their well-being. We considered "happiness" as a key indicator of the positive effect of well-being. Older adults were asked to rate their happiness based on the question, "What was your level of happiness in the past month?". The scores ranged from 0 to 10, with higher scores indicating a higher level of happiness.

## Living arrangements

In this study, living arrangements were classified as SGHs and non-SGHs. SGH denotes a household in which older adults live with at least one grandchild of any age, with or without a spouse, in the absence of the grandchild's parent. SGHs are observed in Thailand mainly because of the migration of adult parents due to job scarcity in rural areas, as well as family crises<sup>19</sup>. This type of household was predominantly found in rural areas, and the older adults were generally less educated and had inadequate incomes.

## Sociodemographic characteristics

Sociodemographic characteristics may influence subjective health and well-being and living arrangements. Therefore, these covariates are considered in the analyses. The sociodemographic characteristics included the following: age (young-old, age 60–69 years; middle-old, age 70–79 years; and old-old, age 80 years and above), gender (man or woman), marital status (currently married, not currently married), residence area (urban or rural), educational attainment (primary school or higher level, lower than primary school), and income (adequate or inadequate self-perceived income).

## Data analysis

The characteristics and subjective health and well-being of the older adults in the entire sample were described using descriptive statistics by age group. Next, differences in the sociodemographic characteristics and subjective health and well-being of the older adults were examined using  $\chi^2$  tests and analysis of variance. The association between living in SGHs and subjective health and well-being was analysed for the whole population, with (Model 1) and without (Model 2) controlling for the covariates using multivariate regression models. Multiple regression models were run separately, stratified by subgroup, to predict subjective health and well-being across the young-old, middle-old, and old-old adults,

with (Model 1) and without (Model 2) controlling for the covariates. Ordinal logistic regression was used for subjective health, and linear regression was used for subjective well-being. SPSS Version 18 was used to analyse the data, and all the analyses were population-weighted according to the Thai NSO to approximate national representative estimates.

## Results

### *Sociodemographic characteristics of the older adults by age group*

Table 1 shows the demographic characteristics of the older adults by age group. Among older Thai adults without ADL disabilities, 10.1% lived in SGHs. In addition, 11.1%, 9.5%, and 6.3% of the young-old, middle-old, and old-old adults, respectively, lived in SGHs. The proportion of young-old and middle-old adults living in SGHs were similar, implying that this type of living arrangement is still in demand for families to function in Thailand.

The gender distribution of the young-old, middle-old, and old-old adults was skewed toward more women than men, which is a consistent pattern across the whole population. The respondents predominantly lived in rural areas, especially the old-old adults. The majority of young-old (71.3%) and middle-old adults (57.7%) were married, whereas the majority of old-old adults (63.3%) were not. Across all age groups, a lower educational level was prevalent. Almost all of the old-old adults (89.4%) had an education lower than the primary level. More than half of the older adults across all age groups reported having an adequate income.

The older adults were more likely to report having good or fair health (88.2%); only 11.8% reported having a poor health status. Young-old adults (52.4%) were more likely to report a good health status. The middle-old and old-old adults had the same pattern of reporting health status; they tended to report fair health most often, followed by good and poor health. The old-old adults had the lowest proportion of good health status (25.1%). The mean happiness score for the entire sample was  $7.0 \pm 1.4$ , with old-old adults more likely to report lower happiness scores (mean  $\pm$  standard deviation =  $6.7 \pm 1.4$ ,  $P < 0.001$ ).

Table 2 shows the ordinal logistic regression estimates for the association between living in SGHs and subjective health. Regarding the analyses of the entire sample, Model 1 compared living in SGHs with living in non-SGHs without controlling for potential covariates; the results revealed that living in SGHs was significantly associated with better health status (coefficient = 0.013,  $P < 0.0001$ ) compared to living in a non-SGH. Once the potential covariates were entered into the model, the coefficient increased (Model 2, coefficient = 0.054,  $P < 0.0001$ ), indicating that living in SGHs was significantly associated with better health status compared to living in a non-SGH.

**Table 2** Ordinal logistic regression estimates of the association between living in SGHs and subjective health

	Whole sample		Age group					
			Young-old		Middle-old		Old-old	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Age group (ref: old-old, 80 years and over)								
Young-old (60–69)		<b>1.178</b>						
Middle-old (70–79)		<b>0.445</b>						
Living arrangement								
SGH	<b>0.013</b>	<b>0.054</b>	<b>-0.078</b>	<b>0.046</b>	<b>-0.085</b>	0.011*	<b>0.176</b>	<b>0.285</b>
Covariates								
Gender (ref: woman)								
Man		<b>0.230</b>		<b>0.255</b>		<b>0.269</b>		<b>-0.020</b>
Residence area (ref: rural)								
Urban		<b>-0.006</b>		<b>-0.053</b>		<b>0.059</b>		<b>0.057</b>
Marital status (ref: not married)								
Currently married		<b>0.158</b>		<b>0.119</b>		<b>0.216</b>		<b>0.194</b>
Educational attainment (ref: lower than primary)								
Primary or higher		<b>0.337</b>		<b>0.368</b>		<b>0.252</b>		<b>0.359</b>
Income (ref: inadequate)								
Adequate		<b>0.731</b>		<b>0.763</b>		<b>0.709</b>		<b>0.611</b>

SGH: skip-generation household. **Bold text:**  $P < 0.0001$ , \* $P < 0.01$ . The coefficients are from ordinal logistic regression. Model 1: The dependent variable is self-rated health, without controlling for covariates. Model 2: The dependent variable is self-rated health, controlling for covariates.

Next, we ran regression models stratified by age group, with and without controlling for the covariates. The results indicated that compared to living in non-SGHs, living in SGHs was significantly associated with poorer health status among the young-old (Model 1, coefficient =  $-0.078$ ,  $P < 0.0001$ ) and middle-old adults (Model 1, coefficient =  $-0.085$ ,  $P < 0.0001$ ). However, the less biased results, which considered the potential covariates, indicated that living in SGHs was significantly associated with positive health status among the young-old (Model 2, coefficient =  $0.046$ ,  $P < 0.001$ ) and middle-old adults (Model 2, coefficient =  $0.011$ ,  $P < 0.01$ ). The old-old adults living in SGHs showed a better coefficient than their counterparts, indicating that living in SGHs was significantly associated with a positive health status compared to those living in non-SGHs (Model 1: coefficient =  $0.176$ , Model 2: coefficient =  $0.285$ ,  $P < 0.0001$ ). The results also indicated that higher age was associated with a better health status among those living in SGHs. The direction of the association between living in SGHs and subjective health did not differ across age groups after the covariates were entered into the regression models.

Table 3 shows the linear regression estimates of the association between living in SGHs and subjective well-being. The results for the entire sample, Model 1 (coefficient =  $-0.134$ ,  $P < 0.0001$ ) and Model 2 (coefficient =  $-0.060$ ,  $P < 0.0001$ ), indicated that living in SGHs was significantly associated with poorer well-being compared to living in non-SGHs; moreover, the same pattern was observed

across all age groups. The young-old (Model 2, coefficient =  $-0.069$ ,  $P < 0.0001$ ) and old-old adults (Model 2, coefficient =  $-0.070$ ,  $P < 0.0001$ ) were more likely to report poor well-being than were the middle-old adults (Model 2, coefficient =  $-0.042$ ,  $P < 0.0001$ ). The respondents' sociodemographic characteristics and health status did not change the direction of the association between living in SGHs and subjective well-being across age groups.

The findings related to the covariates are also noteworthy for the entire sample. Higher education and adequate income were positively related to subjective health and well-being across all age groups. Both good and fair health statuses were significantly associated with positive well-being across the entire sample and age subgroups (Tables 2 and 3).

## Discussion

The association between living arrangements and subjective health and well-being among older adults in Thailand was analysed. According to the data from the 2017 SOPT, 10.1% of older adults lived in SGHs. In addition, 11.1%, 9.5%, and 6.3% of the young-old, middle-old, and old-old adults, respectively, lived in SGHs. This study revealed that living in SGHs shows a positive and significant associations on subjective health but a negative and significant associations on subjective well-being among older adults across all age groups. The old-old adults living in SGHs tended to report the best subjective health, while the young-old and mid-

**Table 3** Linear regression estimates of the association between living in SGHs and subjective well-being

	Whole sample		Age group					
			Young-old		Middle-old		Old-old	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Age group (ref: old-old, 80 years and over)								
Young-old (60–69)		<b>0.070</b>						
Middle-old (70–79)		<b>0.018</b>						
Living arrangement								
SGH	<b>-0.134</b>	<b>-0.060</b>	<b>-0.178</b>	<b>-0.069</b>	<b>-0.128</b>	<b>-0.042</b>	<b>-0.093</b>	<b>-0.070</b>
Covariates								
Gender (ref: woman)								
Man		<b>-0.028</b>		<b>-0.007</b>		<b>-0.102</b>		<b>0.062</b>
Residence area (ref: rural)								
Urban		<b>0.037</b>		<b>0.038</b>		<b>0.032</b>		<b>0.043</b>
Marital status (ref: not married)								
Currently married		<b>0.036</b>		<b>0.051</b>		<b>0.066</b>		<b>-0.114</b>
Educational attainment (ref: lower than primary)								
Primary or higher		<b>0.189</b>		<b>0.183</b>		<b>0.236</b>		<b>0.065</b>
Income (ref: inadequate)								
Adequate		<b>0.447</b>		<b>0.472</b>		<b>0.383</b>		<b>0.478</b>
Subjective health (ref: poor)								
Fair		<b>0.780</b>		<b>0.866</b>		<b>0.698</b>		<b>0.760</b>
Good		<b>1.552</b>		<b>1.610</b>		<b>1.505</b>		<b>1.590</b>

SGH: skip-generation household. **Bold text:**  $P < 0.0001$ . The coefficients are from linear regression. Model 1: The dependent variable is happiness score, without controlling for covariates. Model 2: The dependent variable is happiness score, controlling for covariates.

dle-old adults living in SGHs tended to report the worst subjective well-being compared to those living in non-SGHs.

A substantial number of SGHs can be found in Thailand, owing to internal migration of adult parents in search of work as well as family crises<sup>19</sup>. As discussed earlier, SGHs in Thailand are part of a family obligation linked to a cultural norm in which the middle generation leaves their children in the care of their grandparents; this is predominantly observed in rural areas where jobs are scarce<sup>5</sup>. Under such circumstances, these grandparents are described as playing the role of a “child saver”, a “mother saver”, or a “family maximizer”<sup>24</sup>.

The findings also revealed that approximately 10% of the young-old and middle-old adults lived in SGHs. This might reflect a situation in which older adults in Thailand are still active and have social values that encourage them to take on an important role in their own families. The most likely reason for older adults entering this type of household is their prior health state. Grandparents with health issues are less likely to become primary caregivers for their grandchildren. Interestingly, 6.3% of the old-old adults in this study lived in the SGHs. This not only illustrates the situation of active aging in the study sample but also reflects the circumstances in which great-grandparents can play a valuable role in SGHs.

In general, the older adults living in SGHs are associated with better health but poorer well-being. Holding the

covariates constant, the association between living in SGHs and subjective health and well-being among the young-old, middle-old, and old-old adults shared the same pattern: they seemed physically healthy but mentally unhealthy. While sociodemographic variables appeared to mediate the association between living in SGHs and subjective health, no change in direction was observed with regard to subjective well-being. However, existing evidence on the health implications of living in SGHs have been mixed. The results of the present study indicated that older adults living in SGHs have better health, which is in line with a study in the US that reported limited evidence that grandparents living in SGHs are more likely to experience unfavourable changes in subjective health<sup>20</sup>. Studies in Asian countries, which share similar cultural values, have also reported that older adults living in SGHs do not suffer from poor health status<sup>14–16</sup>.

In the current study, however, older adults in SGHs tended to show poorer well-being than those in non-SGHs. This finding is consistent with studies in the US, arguing that custodial grandparents often experience emotional hardship<sup>28,29</sup>. In addition, some studies have reported that living in SGHs in Asia had a detrimental effect on grandparents’ mental well-being<sup>21–23</sup>.

Among the entire population, the old-old adults seem to have the worst health status. However, the current findings indicate a better health status among those living in SGHs,

particularly the old-old adults. A plausible explanation for this is that caring for grandchildren necessitates being “physically active”, which can help maintain physical health and boost the sense of healthiness, thereby empowering older adults to perceive better health<sup>30</sup>. Another explanation is that older adults’ interactions with their grandchildren might involve physical activity, which is linked to better health. Some evidence supports the idea that grandchild care increases physical activity levels, which may result in better physical health in grandparents<sup>31</sup>. However, we are aware of the possible selection bias, as being the primary caregiver for grandchildren often necessitates good health. Those with health problems may naturally be excluded from this living arrangement. However, longitudinal data suggest that raising grandchildren has no negative impact on the health of grandparents and may even have health benefits<sup>17, 20, 32</sup>.

Despite the positive results on subjective health from living in SGHs, the current study suggests a consistent link between living in SGHs and negative well-being. Although, as discussed earlier, some grandparents enjoy the role of rearing their grandchildren, they do occasionally face emotional challenges. The current findings, in terms of the main reasons why older adults live in SGHs, could be explained by choice theory, which states that the life satisfaction of grandparents who provide childcare is related to individual preferences and choice<sup>33</sup>. Older adults may be unhappy in this type of living arrangement because their children might force them to care for their grandchildren or simply abandon their grandchildren<sup>4, 19</sup>.

Regarding the nature of SGHs, older adults are expected to play a role in nurturing and supporting their grandchildren, and some grandparents may feel overburdened. Providing care for grandchildren while the middle generation is absent often comes with strings attached, as they must be responsible for basic daily care, health care, and emotional and financial support, all of which can be sources of physical and mental burdens<sup>21</sup>. Furthermore, some grandparents living in SGHs are expected to assume a parental role, which can sometimes lead to role confusion because some grandchildren will not regard their grandparents as their true parents, showing a lack of respect for them<sup>19</sup>. Moreover, older adults living in SGHs generally have a lower level of education and live in poverty, which could be a source of financial distress, resulting in more emotional hardships<sup>18</sup>.

The worse subjective well-being were found in the young-old and old-old adults living in SGHs. A plausible explanation for this is that young-old adults may require more time to attend to their own needs or engage in leisure activities, thus rearing grandchildren may make them feel as if they have lost their freedom after retirement<sup>18</sup>. Furthermore, they may feel isolated from their peers as a result of their responsibilities, which prevent them from engaging in various social activities<sup>28</sup>. These older adults might feel

trapped by this role, thereby inhibiting their positive well-being.

This study has some limitations. First, because the analysis is based on cross-sectional data, no causal inferences can be made. The findings only serve to help us understand the characteristics, health, and well-being of older adults living in SGHs. Second, cohort effects of the changes in this type of living arrangement or the development of health and well-being could not be made. Future research based on longitudinal data may provide more information on this association. Third, selection bias among older adults living in SGHs is possible because healthier older adults may be more likely to live in SGHs. This bias was minimized by including only older adults without ADL disabilities across living arrangements to ensure that the entire sample was in a healthy state. In addition, SRH was considered as covariate of happiness among older adults. Fourth, current medical treatment is generally related to subjective health, well-being, and living arrangements; however, such information was not available in the current dataset. This variable could be related to the ability to be caretakers. Future studies should consider this variable as a covariate. Finally, this study focused on the differences in health and well-being of older adults living in SGHs compared to those not living in SGHs. In a future study, the implications of the grandchild care burden should be examined.

Despite these limitations, the findings from the current study are representative of older adults in Thailand and provide valuable evidence and knowledge on the health and well-being of older adults living in SGHs across age groups. Future studies should draw the longitudinal association between living in SGHs and health and well-being among older adults. Meanwhile, qualitative research should address the reasons why older adults living in SGHs are generally physically healthy but mentally unhealthy.

## Conclusion

One-tenth of the older adults in Thailand live in SGHs and show better health status but poorer well-being than older adults living in non-SGHs. After controlling for potential covariates, the subjective health and well-being of older adults living in SGHs did not vary across age groups. While old-old adults living in SGHs were more likely to report the best health status, the young-old and old-old adults living in SGHs seemed to report the worst well-being.

Despite the fact that older adults living in SGHs seem to have better subjective health, they nevertheless require support because their subjective well-being is worse than that of other older adults. Therefore, social support tailored to the needs of older adults living in SGHs and young working families is required.

## IRB protocol/human subjects approval numbers:

The datasets used in this study are available after submission of a data-use agreement to the Thai NSO committee. Not applicable.

**Funding:** The authors received no financial support for the research, authorship, and/or publication of this article.

**Conflict of interest:** The authors declare no potential

conflicts of interest with respect to the research authorship and/or publication of this article.

## Acknowledgment

The authors would like to express their gratitude to the National Statistical Office (NSO) of Thailand for providing the data for this study.

## References

1. Glinskaya E, Walker T, Wanniarachchi T. Caring for Thailand's aging population. 2021; Available from: <https://openknowledge.worldbank.org/handle/10986/35693>.
2. Peek C, Im-em W, Tangthanaset R. Features of Thai families in the era of low fertility and longevity. United Nations Population Fund (UNFPA). Bangkok, 2015; 85–97. Available from: <https://thailand.unfpa.org/en/publications/state-thailand's-population-report-2015>
3. Zimmer Z, Treleven E. The rise and prominence of skip-generation households in lower- and middle-income countries. *Popul Dev Rev* 2020; 46: 709–733. [CrossRef]
4. Ingersoll-Dayton B, Punpuing S, Tangchonlatip K, *et al.* Pathways to grandparents' provision of care in skipped-generation households in Thailand. *Ageing Soc* 2018; 38: 1429–1452. [CrossRef]
5. Knodel J, Nguyen MD. Grandparents and grandchildren: care and support in Myanmar, Thailand and Vietnam. *Ageing Soc* 2015; 35: 1960–1988. [CrossRef]
6. Urtamo A, Jyväkorpi SK, Strandberg TE. Definitions of successful ageing: a brief review of a multidimensional concept. *Acta Biomed* 2019; 90: 359–363. [Medline]
7. Wu S, Wang R, Zhao Y, *et al.* The relationship between self-rated health and objective health status: a population-based study. *BMC Public Health* 2013; 13: 320. [Medline] [CrossRef]
8. Wuorela M, Lavonius S, Salminen M, *et al.* Self-rated health and objective health status as predictors of all-cause mortality among older people: a prospective study with a 5-, 10-, and 27-year follow-up. *BMC Geriatr* 2020; 20: 120. [Medline] [CrossRef]
9. Cohn MA, Fredrickson BL, Brown SL, *et al.* Happiness unpacked: positive emotions increase life satisfaction by building resilience. *Emotion* 2009; 9: 361–368. [Medline] [CrossRef]
10. Hughes ME, Waite LJ. Health in household context: living arrangements and health in late middle age. *J Health Soc Behav* 2002; 43: 1–21. [Medline] [CrossRef]
11. Teerawichitchainan B, Pothisiri W, Long GT. How do living arrangements and intergenerational support matter for psychological health of elderly parents? Evidence from Myanmar, Vietnam, and Thailand. *Soc Sci Med* 2015; 136–137: 106–116. [Medline] [CrossRef]
12. Waite LJ, Hughes ME. At risk on the cusp of old age: living arrangements and functional status among black, white and Hispanic adults. *J Gerontol B Psychol Sci Soc Sci* 1999; 54: S136–S144. [Medline] [CrossRef]
13. Gierveld J J, Dykstra PA, Schenk N. Living arrangements, intergenerational support types and older adult loneliness in Eastern and Western Europe. *Demogr Res* 2012; 27: 167–200. [CrossRef]
14. Chen F, Liu G. The health implications of grandparents caring for grandchildren in China. *J Gerontol B Psychol Sci Soc Sci* 2012; 67: 99–112. [Medline] [CrossRef]
15. Choi SW, Zhang Z. Grandparenting and self-rated health among older Korean women. *Res Aging* 2018; 40: 911–932. [Medline] [CrossRef]
16. Ku LJE, Stearns SC, Van Houtven CH, *et al.* Impact of caring for grandchildren on the health of grandparents in Taiwan. *J Gerontol B Psychol Sci Soc Sci* 2013; 68: 1009–1021. [Medline] [CrossRef]
17. Oshio T. Is caring for grandchildren good for grandparents' health? Evidence from a fourteen-wave nationwide survey in Japan. *J Epidemiol* 2022; 32: 363–369. [Medline]
18. Meyer MH, Kandic A. Grandparenting in the United States. *Innov Aging* 2017; 1: igx023. [Medline] [CrossRef]
19. Ingersoll-Dayton B, Tangchonlatip K, Punpuing S, *et al.* Relationships between grandchildren and grandparents in skipped generation families in Thailand. *J Intergenerational Relatsh* 2018; 16: 256–274. [CrossRef]
20. Hughes ME, Waite LJ, LaPierre TA, *et al.* All in the family: the impact of caring for grandchildren on grandparents' health. *J Gerontol B Psychol Sci Soc Sci* 2007; 62: S108–S119. [Medline] [CrossRef]
21. Komonpaisarn T, Loichinger E. Providing regular care for grandchildren in Thailand: an analysis of the impact on grandparents' health. *Soc Sci Med* 2019; 229: 117–125. [Medline] [CrossRef]
22. Punpuing S, Ingersoll-Dayton B, Tangchonlatip K, *et al.* Psychological functioning and living arrangements among older Thai people. *J Popul Ageing* 2022; 15: 193–216. [CrossRef]
23. Wen M, Ren Q, Korinek K, *et al.* Living in skipped generation households and happiness among middle-aged and older grandparents in China. *Soc Sci Res* 2019; 80: 145–155. [Medline] [CrossRef]
24. Andersen FK, Christensen K, Frederiksen H. Self-rated health and age: a cross-sectional and longitudinal study of 11,000 Danes aged 45–102. *Scand J Public Health* 2007; 35: 164–171. [Medline] [CrossRef]
25. Kieny C, Flores G, Ingenhaag M, *et al.* Healthy, wealthy, wise, and happy? Assessing age differences in evaluative and emotional well-being among mature adults from five low- and middle-income countries. *Soc Indic Res* 2020; 160: 1019–1050. [CrossRef]
26. National Statistical Office of Thailand (NSO). Report on the 2017 survey of the older persons in Thailand. Bangkok; 2018. Available from: <http://www.nso.go.th>



- nso.go.th/sites/2014en/Survey/social/domographic/OlderPersons/2017/Full%20Report\_080618.pdf
27. Ministry of Social Development and Human Security. The Act on the Elderly, B.E. 2546 (2003 A.D.). Section 3 Thailand; 2003 p. 22. Available from: [https://www.dop.go.th/download/laws/regulation\\_th\\_20160807155130\\_1.pdf](https://www.dop.go.th/download/laws/regulation_th_20160807155130_1.pdf)
  28. Hayslip B, Fruhauf CA, Dolbin-MacNab ML. Grandparents raising grandchildren: what have we learned over the past decade? *Gerontologist* 2019; 59: e152–e163. [[Medline](#)] [[CrossRef](#)]
  29. Smith GC, Palmieri PA, Hancock GR, *et al.* Custodial grandmothers' psychological distress, dysfunctional parenting, and grandchildren's adjustment. *Int J Aging Hum Dev* 2008; 67: 327–357. [[Medline](#)] [[CrossRef](#)]
  30. Waldrop DP, Weber JA. From grandparent to caregiver: the stress and satisfaction of raising grandchildren. *Fam Soc J Contemp Soc Serv* 2001; 82: 461–472.
  31. Endoh Y, Tamashiro Y, Toyosato T, *et al.* Child-rearing assistance enhances physical activity and health-related quality of life among Japanese grandmothers. *J Intergenerational Relatsh* 2021 (in press). [[CrossRef](#)]
  32. Di Gessa G, Glaser K, Tinker A. The impact of caring for grandchildren on the health of grandparents in Europe: a lifecourse approach. *Soc Sci Med* 2016; 152: 166–175. [[Medline](#)] [[CrossRef](#)]
  33. Goh ECL. Grandparents as childcare providers: an in-depth analysis of the case of Xiamen, China. *J Aging Stud* 2009; 23: 60–68. [[CrossRef](#)]