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Original Article

The Predictive Factors of Subjective Well-Being in Older Adults Living Alone: A Mixed-Methods Approach

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ARTICLEINFO SUMMARY

Accepted 25 April 2022 Background: There have been a few studies on the subjective well-being (SWB) among older adults living alone, and previous research investigated the associated factors on SWB. This study examines the Keywords: factors predicting SWB, together with the perspective of older adults living alone. aged, Methods: An explanatory-sequential approach was adopted in this study. First, during the quantitative female, phase, the multistage random sampling consisted of 198 older adults living alone in selected metrosense of coherence. politan areas in Thailand, where the mean age was 74.11 years (SD = 7.66). Self-reported questionnaires social support, were used to collect the data. Second, during the qualitative phase, a purposive sample of 14 participants with high SWB was recruited, with a mean age of 72.07 years (SD = 6.22). Semi-structured inter-Thailand views were used to collect the qualitative data. Then, a joint display table was used to connect the quantitative and qualitative data. Results: The quantitative findings revealed a sense of coherence (SOC) as the strongest predictor of SWB, followed by resilience, both of which jointly predicted SWB by 31.20% (R² = 0.31, p < 0.001). Additionally, economic status (insufficient income), functional status, social participation, and perceived stress were significantly correlated with the SWB. The qualitative findings explained that a SOC and resilience produced peaceful feelings. In addition, economic status (insufficient income), functional status, social participation, and perceived stress were seen to be relevant to SWB. Conclusion: A SOC and resilience were significant predictors of SWB. Implementing a program to promote a SOC and resilience will induce SWB among older adults living alone, particularly females. Copyright © 2023, Taiwan Society of Geriatric Emergency & Critical Care Medicine.

1. Introduction

The number of older adults living alone is increasing throughout the world, ¹ including Thailand.² Aging comes with deteriorating changes. Older people that live alone are more likely to have physical, mental, and social problems than those that live with others. More than half of the Thai older adults living alone reported a higher level of loneliness.^{3,4} Other problems include lack of caregivers when being sick and insufficient income.^{3,4} These problems lead to subjective well-being (SWB) being at a low level.⁵ SWB comprises an affective and cognitive component. The affective component refers to pleasant affect and unpleasant affect. The cognitive component refers to life satisfaction with the person's current condition. A person with high SWB refers to a person that experiences pleasant affect at a high level, a low or unpleasant affect that is absent, and high life satisfaction. SWB focuses on self-evaluation regarding an individual's happiness and life satisfaction.⁶

A great deal of research has shown that high SWB contributes immensely to physical and mental health in addition to years in good health without chronic disease or disability.^{7,8} Further, SWB at a high

* Corresponding author. Faculty of Nursing, Thammasat University, Piyachat Building, 99 Moo 18, Phaholyothin Road, Khlong Nueng Subdistrict, Khlong Luang District, Pathum Thani 12120, Thailand. level can predict better immune functioning.⁹ Conversely, SWB at a low level contributes to physical, mental, and social problems, such as depression, multimorbidity^{7,10} and increased mortality.^{7,11} Older adults that live alone can be linked to negative SWB.¹¹ Previous empirical studies focused on quantitative methods have shown the factors that affect the SWB of the older adults, such as age,¹² gender,^{13,14} length of living alone,¹⁵ economic status,¹⁶ functional status,¹⁷ resilience,^{18,19} sense of coherence (SOC),^{20,21} and perceived stress.²² Therefore, relevant agencies should establish policies to increase SWB in older adults living alone in order to prevent problems caused by low SWB. In the metropolitan areas in Thailand there has been study on the predictive factors of SWB among older adults living alone from their perspective. Therefore, the purposes of this study were (1) to examine the predictive factors of SWB, and (2) to gain an in-depth understanding of the perspective of older adults on SWB living alone.

2. Materials and methods

2.1. Design, setting, and participants

An explanatory mixed-methods design was conducted from January to March, 2021 in the metropolitan areas, Thailand. Multi-

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stage random sampling was used to determine the representative sample from Nakhon Pathom, Pathum Thani, and Samut Sakhon provinces. The inclusion criteria were the following: (1) individuals aged 60 years or over that have been living with one person in the household for at least six months; (2) being without cognitive impairment; (3) being able to communicate in the Thai language; (4) being willing to participate in the study and signing an informed consent form; and (5) having no risk of exposure to COVID-19 during the 14 days of quarantine. The exclusion criteria were the following: (1) older adults that had a health condition that arose suddenly that limited their ability to participate in the study and (2) that asked to withdraw while participating in the study at any point in time. A cross-sectional study design was used during the quantitative phase in order to identify the factors predicting SWB. The G* power program (Red Ventures Co., Indian Land, South Carolina, USA) was used to calculate the sample size and 198 complete questionnaires were obtained. A descriptive qualitative design was used during the qualitative phase in order to explore the participants' perspectives of SWB. The researcher employed a purposive sampling technique for selecting 14 participants that participated in the quantitative phase according to their outstanding scores on SWB.

2.2. Data collection and instruments

Data collection was conducted following approval from the institutional review board (IRB), Thammasat University (project no. 134/2563). The researcher explained the subjects' rights, and the elderly that were willing to provide information signed the consent form before participating in the study. The participants in the quantitative phase responded to the questionnaires. First, the personal data questionnaire focused on age, gender, marital status, length of living alone, educational attainment, and economic status. The Lawton Instrumental Activities of Daily Living Scale (L-IADL), Thai version, 25 was used to measure functional status; a high score indicated high functional status. The Mini-Mental State Examination-Thai (MMSE-Thai 2002), an unauthorized translation, ²⁶ was used to screen older adults' cognitive function. The Social Participation Scale (SPS), developed by the researcher, was used to measure social participation. A higher score indicated greater participation in social activity. The Resilience Scale short version (RS 14)²⁷ was used to measure resilience. A higher score indicated greater resilience. The 13-item Orientation to Life Questionnaire (OLQ-13)²⁸ was used to measure SOC. A higher score indicated a greater SOC. The Perceived Stress Scale 4 (PSS-4)²⁹ was used to measure perceived stress. A high score indicated more perceived stress. The Subjective Happiness Scale (SHS)³⁰ was used to measure SWB in the participants. A high score indicated greater SWB. The Cronbach alpha coefficients for the SPS, RS14, OLQ-13, PSS-4, and SHS were 0.87, 0.78, 0.71, 0.72, and 0.79, respectively.

The data collection during the qualitative phase was conducted at the participants' home and the sub-district health promotion hospital depending on the participant's convenience and strictly followed the recommendations on preventing and controlling COVID-19.³¹ The participants spent approximately 30 minutes responding to 16 semi-structured, open-ended questions and probe questions. The in-depth interview guide was composed of the perception of SWB and the predictor variables. Example questions are, What do you think about your current life situation? What makes you think like that? Please explain.

The researcher and dissertation advisor created trustworthiness in this qualitative study in order to ensure the study's rigor, where the research findings could be replicated. First, credibility was established by collecting the data using in-depth interviews and semi-structured and open-ended questions, which were examined by five experts. Then, the researcher conducted non-participant observation, took field notes, made audio records, did member checking, and scrutinized the conclusions with the participants. The researcher created transferability by describing the data collection, the data analysis, the purposive sample selection, the instruments, the sufficient sample size, a detailed description of the participants' characteristics and perspectives with quotes, and discussed the findings, interpretations, and recommendations for future research. Further, the researcher created dependability by documenting the research design, methods, instruments, data collection, and analysis so that the reader could follow the research process. The researcher created confirmability by recording and collecting the documents to be audited. In addition, this helped to establish that the research study's findings were based on the participants' responses and not on any potential bias or personal motivations of the researcher.

2.3. Data analysis

The IBM SPSS statistics 23.0 software program (IBM Corp., Armonk, New York, USA) was used to analyze the data quantitatively, and descriptive statistics were used to analyze the personal and psychosocial factors. Two steps of hierarchical multiple regression were used to examine the factors predicting SWB. In the first step, personal factors were entered into the first model. During the second step, personal factors and psychosocial factors were entered into the second model. The researcher conducted a manual analysis and used seven steps of content analysis to analyze the qualitative data.³² First, the text from the verbatim transcribed interview was read several times, then the text was divided into meaning units, condensed meaning units, developing codes, creating sub-categories, categories, and themes. The last process was integration; the researcher presented the quantitative results and qualitative findings via a joint display in order to connect the results for a comprehensive in-depth understanding of the quantitative findings.³³

3. Results

During the quantitative phase, among the 198 participants, the majority were women (68.68%). The ages ranged from 70 to 79 years (42.42%), some had previous marital status (64.14%), some had been living alone for less than or equal to 20 years (70.20%), some had completed primary education (83.33%), some had sufficient income to cover their necessary daily expenses (58.59%), and some exhibited high functional status (59.09%).

3.1. Factors predicting SWB

Seven instruments were used to examine the factors predicting SWB. Hierarchical multiple regression analysis was used to test the predictive power of the 12 variables. Among the two steps of the regression analysis by using the enter method, it was found that resilience (β = 0.18, p < 0.05) and SOC (β = 0.34, p < 0.001) jointly predicted SWB by 31.20% of the variance (R² = 0.312, F = 7.00, p < 0.001) (Table 1). This result showed that a higher SOC score increased SWB. A higher resilience score increased SWB, while other variables did not affect SWB.

3.2. Qualitative findings regarding the perspectives of older adults living alone of the selected factors involved in subjective well-being

The fourteen participants that had outstanding SWB scores re-

Table	1
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Hierarchical multiple regression analysis between the predictors and SWB (n = 198).

	Model 1 Personal factors				Model 2 Personal and psychosocial factors			
Predictor variable								
	b	β	t	р	b	β	t	p
Constant term ^a	3.443		3.120	.002*	018		017	.987
Age	001	009	120	.905	.002	.015	.212	.832
Gender	128	052	736	.462	175	071	-1.121	.264
Marital status (single)	049	021	281	.779	070	029	447	.656
Length of living alone	005	057	756	.451	.000088	.001	.014	.988
Educational attainment (primary education)	.415	.135	1.739	.084	.163	.053	.751	.453
Educational attainment (higher education)	.427	.064	.804	.422	076	011	158	.875
Economic status (income sufficiency) ^a	.350	.151	2.109	.036*	.133	.058	.879	.381
Functional status ^a	.163	.208	2.827	.005**	.069	.088	1.222	.223
Social participation					.106	.094	1.233	.219
Resilience ^a					.248	.183	2.283	.024*
Sense of coherence ^a					.464	.341	5.137	.000***
Perceived stress					.089	.066	.928	.355
R	.342				.559			
R ²	.117				.312			
F	3.137				6.997			
Significant F	.002				.000			

 $a^* p < 0.05$, ** p < 0.01, *** p < 0.001.

b: unstandardized coefficients; β : standardized beta; F: F statistic; p: probability value; R: correlation coefficient; R²: square of the coefficient of multiple correlation; Significant F: significant F-statistic; t: t-test statistic.

sponded to 16 interview questions and probe questions in order to obtain a comprehensive, in-depth understanding of the factors associated with SWB. The findings revealed that economic status, functional status, social participation, resilience, SOC, perceived stress, and social support were relevant to SWB; on the other hand, age, gender, marital status, length of living alone, and educational attainment were not relevant to SWB (Table 2).

4. Discussion

A SOC reflected the individual's perception of his or her life and capacity to respond to stressful situations.³⁴ As a result, the person could determine the appropriate manner of coping with problems.³⁵ A SOC was the predictor of SWB among older adults in the community.^{21,36} Resilience was a predictive factor of SWB in older adults and the adult age group.^{18,19}

The participants lived alone and independently, had the freedom to participate in social activities, had sufficient income, and received social support perceived less stress, since social participation,^{14,22} perceived stress,²² economic status (income sufficiency),²² functional status,¹⁷ and social support³⁷ were relevant to SWB.

The participants perceived that age was just a number that changed over time, which is different from previous studies where SWB was associated with increased age.^{12,14} Most of the participants were females, and they perceived that gender had nothing to do with SWB, which differed from previous studies that found that women reported lower SWB than men.^{13,14} The participants were never married and previously married, and there were no differences in terms of SWB. This is unlike the older adults that lived with their spouses, who had a positive relationship in terms of SWB since the spouse could provide material, social, and emotional support.^{13,14} The participants perceived that the length of living alone had nothing to do with SWB. They lived with people and in environments that were familiar to them and received financial support, unlike previous study that found the SWB declined after living alone for a few years due to financial strain.¹⁵ The participants did not use educational qualifications for their livelihood and did not feel in trouble, and therefore they perceived that educational attainment was not relevant to SWB. This is

unlike previous studies, which found that the elderly with different levels of education had significantly different SWB. 14,38

Therefore, public health agencies should focus on determining policy to promote a SOC and resilience concurrently with social support and maintaining health status in order to enable individuals to live independently and participate in social activities, particularly female living alone, in order to increase their subjective well-being.

The limitations of this study were that most of the participants were women, and the data were collected during the COVID-19 pandemic. According to changes in the world's population structure, there are more females than males and they have greater longevity. $^{39}\,$ The women in the present study were more likely to be single and to often have been married to older husbands; therefore, sometimes the widow lives alone after her husband dies. The widows living alone was sometimes caused by their children moving to work in other areas, and their children had their own families. Additionally, the study indicated that some female older adults choose to live alone because they want privacy and do not want to burden their children. As a result, more females live alone than men in their older age. Therefore, the majority of the findings were obtained from women, which may differ from those of men. In order to obtain comparable data from both genders, the proportions of males and females may be random in similar numbers for further studies. Conducting research during the COVID-19 pandemic resulted in data collection limitations, which delayed accessing the subjects because the coordinators, namely, the sub-district health hospital officers, and village health volunteers, were needed to help prevent COVID-19.

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Factors Predicting SWB in the Elderly Living Alone

Table 2

Integrative findings of personal factors regarding subjective well-being in older adults living alone (n = 14).

Predictor variables	Standardized coefficients (β)	Qualitative results	Example quote
Age	β = 0.02, p = 0.832	 Agehad nothing to do with SWB. 	P02: "I don't have to think about
Gender	β = -0.07, p = 0.264	 Gender had nothing to do with SWB. 	P01: "It is not as relevant as it should be."
Marital status (single)	β = -0.03, p = 0.656	 Marital status had nothing to do with SWB. 	P01: "I feel so indifferent."
Length of living alone	β = 0.00, p = 0.988	 Length of living alone had nothing to do with SWB. 	P11: "As usual, nothing has changed."
Educational attainment (primary education)	β = 0.05, p = 0.453	 Educational attainment had nothing to do with SWB. 	P13: "It has nothing to do with education. Even I have little knowledge, but I'm comfortable."
Educational attainment (higher education)	β = -0.01, p = 0.875		
Economic status (income sufficient for spending)	β = 0.06, p = 0.381	 Income sufficiency led to a con- venient life. 	PO2: "I'm at ease, comfortable, don't owe anyone."
		- Insufficient income caused worry.	P08: "Not enough to spend, so think so much."
Functional status	β = 0.09, p = 0.223	 Peacefrom doing things independ- ently. 	P10: "I don't have to depend on others. I can do things myself. I cook my own rice and food every morning. I don't have to depend on others. I am happy."
Social participation	β = 0.09, p = 0.219	 Positive feelings of participating in social activities. Participating in social activities provided new experiences. 	P13: "Going for an activity like making salted eggs or doing some kind of cooking. I feel comfortable and get knowledge."
Resilience ^a	β = 0.18, p = 0.024*	- Resilience created a peaceful feel- ing.	P01: "I don't think this way or that way. That's enough to make me hanny."
Sense of coherence ^a	β = 0.34, p = 0.000***	 SOC created a peaceful feeling. 	P07: "I feel happy, and I don't stress about it."
			P02: "No. There are no problems. When I solve it, I feel peace in my heart."
Perceived stress	β = 0.07, p = 0.355	 Perceived stress reduced SWB. 	P01: "The only thing troubling me is the house falling apart."
			P03: "I'm alone. I have children. Unless they can come home, nobody really visits, since they are all caught up in their careers. Nobody visits."
Social support	-	 Social support created life com- fort. 	P10: "My children give me money to spend."
		 Social support created a feeling of being cared for. Social support created a peaceful feeling. 	P04: "My friends help me well. They see that I'm an older member of the group, so when there are heavy things, they help me
			out." POS: "They give me read
			instructions, so nothing bad will happen to me. Whatever
			food it is they want me to eat, it is the best."

^a * p < 0.05, ** p < 0.01, *** p < 0.001.

 β : standardized beta; P: pseudonym of the participant; p: probability value.

Conflicts of interest

The authors declare no conflicts of interest, financial or non-financial.

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