PREDICTIVE FACTORS OF SUBJECTIVE WELL- BEING IN OLDER ADULTS LIVING ALONE: MIXED METHOD APPROACH

BY

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ABSTRACT

Background: Subjective well-being is essential for older adults living alone. Older adults living alone with high subjective well-being contribute to physical and mental well-being, which reduces the burden on society and the nation.

Objectives: To examine the predictive factors of subjective well-being in older adults living alone and to explore a comprehensive in-depth understanding of subjective well-being in older adults living alone.

Method: An explanatory sequential mixed method design was used to investigate the predictive factors of subjective well-being. For the quantitative research, the sample was 198 older adults living alone in metropolitan areas and selected by the multistage random sampling method. The predictors included personal factors and psychosocial factors. The psychometric properties of instruments were verified with acceptable reliability and validity. The researchers analyzed the data obtained from descriptive statistics and hierarchical regression analysis. Then purposive sampling was used to select 14 participants who had high subjective well-being scores for the qualitative research. Semi-structured interviews were used to collect data, and content analysis was used to analyze data. Subsequently, connected the qualitative and quantitative findings.

Results: Among 198 respondents, majority was female (68.7%) with a mean age of 74 and had been living alone for 16.6±12.77 years. Although most of them were highly independent (59.1%), there was 41.4% of elderly claimed without sufficient income for necessary daily expenses. The results from the quantitative data revealed a sense of coherence (β = 0.34, p< 0.001) as the strongest predictor of subjective well-being among older adults living alone, followed by resilience (β = 0.18, p =0.02), both of which jointly predicted subjective well-being by 31.20% (p< 0.001). The qualitative results explained that a sense of coherence and resilience were strongly related to subjective well-being by causing no overthinking, feeling free from problems, and producing peaceful feelings. In addition, economic status (insufficient income), functional status, social participation, perceived stress, and social support were related to subjective well-being in participants.

Conclusion: A sense of coherence and resilience were significant in subjective well-being among older adults living alone. Implementing a program to promote these elements will induce clients' subjective well-being, particularly females and those who have completed fundamental education. An activity that generates income maintains health status, functional status, social participation, and social support help to promote subjective well-being in older adults living alone would be recommended. However, further research is needed to explore other predicting factors in older adults living alone.

Keywords: older adults living alone, subjective well-being, sense of coherence, resilience

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Symbols/Abbreviations	Terms
VAR	Variable
AGE	Age
GEN	Gender
SIN	Marital status (single)
LOL	Length of living alone
FED	Educational attainment (primary education)
HED	Educational attainment (higher education)
ENO	Economic status (insuffcient income)
FNC	Functional status
SP	Social participation
RS	Resilience
SOC	Sense of coherence
PS	Perceived stress
SWB	Subjective well-being
n	The sample size
SD	Standard deviation
r	The correlation coefficient
p	the probability value
β	The standardized beta
R	The correlation coefficient
R^2	The square of the coefficient of multiple correlation
t	The t test statistic
b	The unstandardized coefficients
F	The F Statistic
Sig F Change	Significant F

CHAPTER 1
INTRODUCTION

1.1 Background

The population aged 60 years and over is increasing worldwide, growing from 12.5 percent in 2015 to 22 percent in 2050 (World Health Organization [WHO], 2018). The population aged 65 years and over will rise to 16 percent by 2050 (United Nations [UN], 2019). Similar, in Thailand, in 2018, the population aged 60 and over is about 16.06 percent (Department of Older Persons, 2020); in this amount, those aged 65 years and older were 11.7% and expected to be 17.3%, and 24.1% in 2028, and 2038, respectively (National Statistical Office [NSO], 2018_b).

Changes in population age structure, the increasing proportion of older adults are consequences of increasing longevity and fertility decline. Additionally, delayed marriages, workforce migration, and lower co-reside were the reasons for increases in the number of older adults living alone in many countries throughout the world, including Thailand (UN, 2017; National Economic and Social Development Board NESDB], 2013; WHO, 2011). Considering the number of households, more than 40 percent in Scandinavian countries, more than one-third in European countries, and more than one-fourth in the United States, people lived alone. These populations were more likely to be destitute, especially with advancing age (Kaplan, 2016; Klinenberg, 2016). In Thailand, the older adults who live alone increased from 3.6% in 1994 and increase to 6.3%, 7.7%, 8.6%, 8.7%, and 10.8% in 2002, 2007, 2011, 2014, and 2017 respectively (NSO, 2018_b).

Older adults living alone are aged 60 years and over residing in a one-person household (NSO, 2018_b; UN, 2017_a), which differs from living two-person in a household, such as living with a spouse, partner, or children. This living alone did not include living in other households such as nursing homes and retirement homes (UN, 2017_a). Similar to previous studies gave the meaning of older adult living alone was a person living in the household without someone else such as a spouse, children, and

sibling (Cheng et al., 2008; De Vaus & Qu, 2015; Dreyer et al., 2018; Eshbaugh, 2008; Evans et al., 2019; Jeon et al., 2017; Kharicha et al., 2007; Lee & Edmonston, 2019; Pantell et al.,2013; Phatharapreeyakul et al., 2016; Teerawichitchainan et al., 2015). This study defined older adults living alone as a one-person residing in a household in a community. The elderly who live alone is different from the elderly who live with others, such as have to responsible for household chores without help (Eshbaugh, 2008; Evans et al., 2019; Pantell et al., 2013; Phatharapreeyakul et al., 2016), lack of carer (Kharicha et al., 2007; Phatharapreeyakul et al., 2016), fear of getting hurt, fear of falling, (Eshbaugh, 2008), feelings of loneliness, lack of feelings of support (Evans et al., 2019; Teerawichitchainanet al., 2015), and lack of facilitating material and instrumental support (Teerawichitchainanet al., 2015).

On the other hand, there are some arguments concerning older adults living alone. The positive effect, for instance, social connectedness, is having good social relations with friends, neighbors and participating in various social activities as needed independently (Evans et al., 2019; Pierini & Volker, 2009). The elderly living alone who tends to access health care providers reflects the opportunity to receive health care advice and services (Iliffe et al., 1992) and no higher risk of poor cognitive function (Evans et al., 2019). Evidences also shown some older adults living alone have physical, mental, and social problems that need support different from those who live with others. Therefore, there may be a risk of not receiving the necessary support (Bilotta et al., 2010; Cheng et al., 2008; De Vaus & Qu, 2015; Dreyer et al., 2018; Glass et al., 2006; Howland et al., 1998; Lim & Kua, 2011; Ramos & Wilmoth, 2003; Stepler, 2016; Thomas, 2015). The general physical health problems found in older adults living alone, such as undernutrition, high risk of falling, and chronic conditions, lead to psychological and social problems, for instance, social isolation, loneliness, and financial strain (Boccardi & Boccardi, 2019; Kaplan, 2016; Kharicha et al., 2007; Klinenberg, 2016; Lim & Kua, 2011; Lim & Ng, 2010). More than half of the Thai older adults living alone had reported a higher level of loneliness (Khongboon et al., 2017; Phatharapreeyakul et al., 2016). Other problems include lack of caregivers when sick and insufficient income (Khongboon et al., 2017; Phatharapreeyakul et al., 2016). These

problems lead to unpleasant feelings. In other words, it is a low level of subjective well-being (SWB) (Chansarn, 2013; NSO, 2018_a).

Subjective well-being comprises an affective and a cognitive component. The affective component refers to pleasant affect and unpleasant affect. A pleasant affect has meant positive emotions, feelings, and moods. In contrast, unpleasant affect has meant negative emotions, feelings, and moods of someone's experiences. A person experiencing positive affective and absence of negative affective refer to experiencing happiness. Another is a cognitive component, which refers to life satisfaction at the current condition. SWB focuses on self-evaluation about an individual's happiness and life satisfaction (Diener, 1984)

The researcher emphasizes how older adult life is going and whether they are getting the things they want in life. These are based on how persons think and feel about their lives as important without specific concern for what these things are. The assessment of their own lives to better understand the perception of happiness and satisfaction of living will bring a guideline for health operations for older adults living alone (Diener, 1984).

Much gerontological literature illustrated those older adults with high SWB contribute immensely to physical health and mental health in terms of additional years in good health without chronic disease or disability (Diener & Chan, 2011; Zaninotto & Steptoe, 2019), and greater longevity (Brummett et al., 2005; Diener & Chan, 2011; Koopmans et al., 2010; St. John et al., 2015; Wiest et al., 2011; Zaninotto & Steptoe, 2019). Besides, SWB at a high level can predict better immune functioning (Friedman, 2012) and increased higher resistance to developing a common cold (Cohen et al., 2003). It is also related to economic at the micro and macro level (Boccardi & Boccardi, 2019; Chida & Steptoe, 2008; Shankar et al., 2013; Steptoe & Wardle, 2011); whereas, SWB at a low level was the predictor of mortality for many health conditions such as depression, anxiety, cardiovascular disease, cancer (Diener & Chan, 2011), renal failure, and HIV (Chida & Steptoe, 2008).

Elderly living alone links to the negative SWB (Zhang, 2015), a low level of SWB was contributing to physical, mental, and social problems, such as depression, anxiety, sleeping problems, multimorbidity, and increased mortality (Lukaschek et al.,

2017; Zhang, 2015). Besides, those with more negative emotions have a lower immune system and may be at more risk of illness than those with a positive emotional (Barak, 2006). These problems and effects depending on the social context and decisions behind the living arrangements (Boccardi & Boccardi, 2019; Kaplan, 2016; Kharicha et al., 2007; Klinenberg, 2016; Lim & Kua, 2011; Lim & Ng, 2010). On the other hand, living alone links to the positive SWB by made the elderly being proud of self-reliance (Mahem et al., 2020; Pierini & Volker, 2009), not burdening their families (Mahem et al., 2020), increased their involvement with friends, community, organizations (De Vaus & Qu, 2015; Evans et al., 2019; Pierini & Volker, 2009), increased contact with community health professionals (Iliffe et al., 1992), being independent and keeping one's schedule (Eshbaugh, 2008).

Previous empirical researches both in Thailand and abroad showed the factors that affect the SWB of the older adults living alone, such as age (Blanchflower & Oswald, 2008; Freedman et al., 2017; Jivraj et al., 2014; Steptoe et al., 2014), gender (De Vaus & Qu, 2015; Gao, 2018; Knodel et al., 2015; Román et al., 2017; Stepler, 2016; Teerawichitchainan et al., 2015), educational attainment (Knodel et al., 2015; Román et al., 2017), length of living alone (Argyle, 1987; Boccardi & Boccardi, 2019; Pimouguet et al., 2015), economic status (Allen, 2008; Galiani et al., 2016; Han & Hong, 2011), social participation (Lim & Taylor, 2005; Román et al., 2017), perceived stress (Mitsonis et al., 2009; Tariga & Cutamora, 2016), resilience (Mahmood & Ghaffar, 2014; Togonu-Bickersteth et al., 2018; Xing & Sun, 2013), sense of coherence (Elovainio & Kivimäki, 2000 ; Kocjan, 2017; van Humboldt et al., 2015), social support (Smith et al., 2014), self- esteem (Diener & Diener, 1995; Prakotwong, 2009; Suksai et al., 2018; Sumneangsanoh, 2013), optimism (Carver et al., 2010; Isaacowitz, 2001), and volunteering (Smith et al., 2014).

However, many studies found the significant predictors of resilience were optimism (Lamond et al., 2009; Lee et al., 2008), self-esteem (Lee et al., 2008; Sornkla et al., 2019), self-rated successful aging (Lamond et al., 2009), emotional health (Wells, 2010), and social support (Parayat et al., 2016; Sornkla et al., 2019). These factors did not apply to this study to avoid multicollinearity in the regression equation (Garson, 2012).

The consequences of increasing older adults living alone will impact the policy related to older adults living alone in the long term and inevitably reflect the need to promote the SWB of older adults living alone. Promoting the SWB of older adults living alone will benefit society, both micro and macro levels. The policy determination or any project implementation to promote SWB in older adults who live alone is necessary to obtain the predictive factors of SWB, which is consistent with the same perspective of older adults living alone.

The metropolitan regions comprise five provinces located around Bangkok, the capital city of Thailand, with an area of over 7 thousand square kilometers. The metropolitan regions are the most prosperous economic zone and the country's governing center, public administration, commerce, and finance. It is also the supported area for the expansion of the capital city. The five provinces comprising 29 districts include Nakhon Pathom (seven districts), Nonthaburi (six districts), Pathum Thani (seven districts), Samut Prakan (six districts), and Samut Sakhon (three districts). Approximately 754,420 elderly populations (Official statistics registration systems, Department of Provincial Administration, 2017). With similar characteristics, most of them were female, the age range between 60-69 years, Buddhism, needy, and had chronic disorders such as hypertension and diabetes mellitus (Policy and Planning Division, Office of City Planning Bangkok, 2017; Social Development and Human Security Office of Nonthaburi, 2016). The elderly living alone in Nakhon Pathom, Nonthaburi, Pathum Thani, Samut Prakan, and Samut Sakhon province were 4.69, 4.35, 1.70, 1.95, and 1.44 percent in 2013 and increased to 4.75, 5.63, 4.18, 2.89, and 3.6 percent, respectively in 2017 (NSO, 2018_b).

There are few studies on the SWB of the elderly living alone in the metropolitan regions. From the literature review, there is less research on well-being in the elderly in Nakhon Pathom province. Chimjinda (2012) studied the factors influencing SWB amongst the homebound elderly at a community in Nakhon Pathom province. The results showed SWB at a good level, and the developmental task of aging family, self-care ability, and social support could predict SWB. Jinadattiyo et al. (2018) conducted a qualitative study that found that integrating Buddhist principles such as meditation and prayer enhanced well-being in the elderly of the community

organization in Sampran District, Nakhon Pathom. Further, participation in activities that promote physical, mental, social, and spiritual health, such as receiving services from mobile health services, made the elderly feel a sense of happiness and high life satisfaction. As mentioned above, there was a study of SWB in older adults living with others, but there was no study of SWB in older adults living alone in Nakhon Pathom Province.

Tungthongchai et al. (2016) developed physical activity promotion model for improving SWB among 95 older adults from three elderly clubs in Pathumthani Province. After trying out for six months, the post-test means scores on satisfaction with life resulted higher than the pretest scores statistically significant at .05. There was no evidence study on SWB in Nonthaburi, Samut Prakan, and Samut Sakhon province. The above evidence showed rare studies of SWB in the elderly living alone in the metropolitan regions. Despite this, older people living alone are at a higher risk of problems.

For this study, the researcher selected the factors that correlated with SWB to investigate the predictive factors on older adults living alone in the metropolitan regions. These factors include age, gender, marital status, length of living alone, functional status, educational attainment, economic status, social participation, resilience, sense of coherence, and perceived stress (Adams et al., 2011; Allen, 2008; Blanchflower & Oswald, 2008; Boccardi & Boccardi, 2019; Chida & Steptoe, 2008; De Vaus & Qu, 2015; Delle Fave et al., 2018; Ferguson & Goodwin, 2010; Jivraj et al., 2014; Kivelä & Pahkala, 2001; Knodel et al., 2015; Lim & Taylor, 2005; Lim & Ng, 2010; Stepler, 2016; Steptoe et al., 2014; Suksai et al., 2018; Tariga & Cutamora, 2016; Teerawichitchainan et al., 2015).

The researcher utilized an explanatory sequential mixed methods design. A quantitative study was used to identified predictive factors of SWB among older adults living alone. Then, a qualitative study was used to explore the SWB in a deep insight. In the mixed methods analysis phase, the qualitative data help to explain the quantitative results and provide a comprehensive, in-depth understanding of the predictive factors associated with SWB from older adults living alone in a community, which has not been studied in an insightful perspective way in the metropolitan with this research design.

1.2 Research questions

1.2.1 What is the relationship between age, gender, marital status, length of living alone, functional status, educational attainment, economic status, social participation, resilience, sense of coherence, perceived stress, and SWB among older adults living alone?

1.2.2 How do older adults living alone describe their perspective of SWB?

1.2.3 To what extent and how do age, gender, marital status, length of living alone, functional status, educational attainment, economic status, social participation, resilience, sense of coherence, and perceived stress predict SWB among older adults living alone?

1.3 Research purposes

1.3.1 To examine the relationships between age, gender, marital status, length of living alone, functional status, educational attainment, economic status, social participation, resilience, sense of coherence, perceived stress, and SWB among older adults living alone.

1.3.2 To predict how strong the effect of age, gender, marital status, length of living alone, functional status, educational attainment, economic status, social participation, resilience, sense of coherence, and perceived stress have on SWB among older adults living alone.

1.3.3 To gain an in-depth understanding of the perspective of SWB among older adults living alone.

1.4 Research hypotheses

1.4.1 There is a significant correlation of personal factors including age, gender, marital status, length of living alone, functional status, educational attainment, and economic status; psychosocial factors including social participation, resilience, sense of coherence, and perceived stress on the SWB of older adults living alone.

1.4.2 Personal factors, namely age, gender, marital status, length of living alone, functional status, educational attainment, economic status, and psychosocial factors, namely social participation, resilience, sense of coherence, and perceived stress, could predict the SWB of older adults living alone.

1.5 Scope of the study

This study used an explanatory sequential mixed method design to investigate the predictive factors of SWB and to in-depth understanding of SWB from the perspective of a population aged 60 years or over who lives alone for at least six months in the community in Nakhon Chai Si district (Nakhon Pathom), Samkhok district (Pathum Thani), and Ban Phaeo district (Samut Sakhon). There were 2 phases of the study. Phase 1 - quantitative phase with 198 respondents, and phase 2 - qualitative phase, the number of participants was 14 cases.

1.6 Definition of terms

1.6.1 Older adults living alone

Older adults living alone refers to people with a chronological age of 60 years or older, both male and female, able to understand, speak, and listen to the Thai language: single, separated, divorced, or widowed. This person stayed at home without other co-residents for at least six months. Other people, such as relatives, children, and neighbors, may sometimes visit, but they did not stay with older adults all day, all night long. These older adults resided in the metropolitan regions. Living alone was measured as the duration that a respondent has been living alone until the survey day by specifying the number of months or years.

1.6.2 Subjective well-being

Subjective well-being refers to the individual's life experience. It consisted of an affective component and a cognitive component. The affective component has meant both positive and negative emotions, feelings, and pleasantness of someone's experienced. A person experiencing positive affective and

absence of negative affective referred to experiencing happiness. The cognitive component referred to interpretations or judgment events or situations that happened as desired or not, indicating satisfaction in life in the present condition. This approach focused on happiness and life satisfaction (Diener, 1984). Lyubomirsky and Lepper (1999) developed the Subjective Happiness Scale (SHS) to assess the individual perceives and interprets SWB according to individual experience. The researcher modified the SHS Thai version (Boonyasiriwat, n.d.) to assess an individual's happiness and overall life satisfaction in older adults living alone. The actual score is between 1.00 -7.00. A higher score indicated a higher SWB level.

1.6.3 Personal factors

1.6.3.1 Age refers to the period of existence from birth until the time of collecting data counted as a full year. An open-ended question was used for respondents to specify their age according to the calendar year.

1.6.3.2 Gender refers to physical and physiological differences of primary gender characteristics, the reproductive system, which categories were male and female. A closed-ended question was used for the respondents to choose between male and female.

1.6.3.3 Marital status refers to the relationship between male and female in being a husband and wife, which can be divided as follows: single, separated, divorced, or widowed. Single meant older adults who were never married. Separated means a spouse who lives in different households but is not yet divorced. Divorced meant older adults who were legally divorced. Widowed meant older adults with deceased spouses and currently live alone. A closed-ended question was used for the respondents to specify their marital status.

1.6.3.4 Length of living alone refers to the period starting with the date the older adults live as only one person in the house up to the day of the survey of at least six months. The questionnaire was an open-ended question for the respondents to specify the length of living alone.

1.6.3.5 Functional status refers to the ability of an older adult living alone to perform routine daily activities independently. Functional status was assessed using the Lawton Instrumental Activities of Daily Living Scale (IADL) Thai version translated

by Phanasathit (2017). The actual score between 1.00-8.00. A higher score indicated a high function. The IADL score was interpreted into four-level, 0-2, 3-5, 6-7, and 8 interpreted as a high dependency, moderate dependency, low dependency, and 8 independent (high function), respectively.

1.6.3.6 Educational attainment refers to the highest educational level reached by the older adults living alone, which is classified as follows: no education, primary education, secondary education, vocational certificate, bachelor's degree, higher than bachelor's degree, and others. In addition, a close-ended question was used to identify respondents' educational attainment.

1.6.3.7 Economic status refers to the financial status of older adults who live alone and divided into four categories: not enough money for necessary daily expenses and be in debt, not enough money for necessary daily expenses but not in debt, enough money for necessary daily expenses but no savings, and enough money for necessary daily expenses and have money as savings. In addition, the source of income was identified. A closed-end question was used for the respondents to specify their economic status, while an open-ended question was used to define their sources of income such as children, pensions, earnings, the Old Age Allowance, and others. The sources of income were used as descriptive data and did not analyze statistically.

1.6.4. Psychosocial factors

1.6.4.1 Social participation refers to an older adult living alone who 1) participated in society or community in various social settings, either formal or informal, 2) expressed interpersonal interactions outside the home, 3) sharing resources with other members in society, including time, knowledge, and skills, 4) active and conscious participation in the social activities, and 5) satisfied with resulting social involvement ((Dehi Aroogh & Mohammadi Shahboulaghi, 2020). The researcher constructed the Social Participation Scale (SPS) from its operational definition and modified it from the Maastricht Social Participation Profile (MSPP) (Mars et al., 2009) and the Keele Assessment of Participation (Wilkie et al., 2005) to measure social participation. The actual score ranges from 10 to 50, and average scores range from 1-5. A higher score indicated a higher social participation level.

1.6.4.2 Resilience refers to 1) self-esteem, 2) self-reliance, and 3) social responsiveness. These attributes lead to an older adult's successful and competent capacity to adapt and recover emotionally and physically on social interaction that includes encountering obstacles, adversities, bad experiences, or stressful situations. Its outcomes reduced the negative consequence of difficult situations. They can face adversities, reduce adverse reactions, and bounce back to everyday life (Scoloveno, 2016). However, this process was dynamic and can be improved. The researcher modified the Resilience Scale short version (Choowattanapakorn et al., 2010) to measure the resilience of older adults living alone. The actual score ranges from 14 – 98, and average scores range from 1 - 7. A higher score indicates a higher resilience level.

1.6.4.3 Sense of coherence refers to the perception of older adults living alone in terms of evaluated, ordered, understood, and predicted stressful events or situations with confidence, which leads to the ability to solve problems efficiently. Older adults can control and manage stressful events with confidence by themselves or with the help of others they were familiar with and trust, such as close friends, community leaders, doctors, and health care staff. Recognizing stressful events is challenging, valuable, and worthwhile to solve successfully. The older adults were able to solve or manage the situation and obtained the meaning of that situation. The researcher assessed a sense of coherence by modifying the 13-item Orientation to Life Questionnaire developed by Antonovsky (1993) and translated into Thai version by Hanucharoenkul et al.,1989, as cited in Rattanavichakul, 2011. The actual score ranges from 13 – 91, and average scores range from 1 - 7. A higher score indicates a higher sense of coherence level.

1.6.4.4 Perceived stress refers to the personal feelings or thoughts about how stressful life situations were at a given time, especially the uncontrollability, unconfident, unmanageability, and unpredictability of life situations. The researcher modified the Perceived Stress Scale (PSS-4) Thai version (Wongpakaran & Wongpakaran, 2010) to measure perceived stress. The actual score ranges from 10– 50, and average scores range from 1-5. Thus, a higher score indicates a higher perceived stress level.

CHAPTER 2
REVIEW OF LITERATURE

This study utilized an explanatory sequential mixed method study to identify the predictive factors of SWB and explain the perspective regarding predictive factors on the SWB of older adults living alone. The researcher presented the literature review as follows. Older adults living alone in Thailand were described first. The concept of SWB was explored next. Then, psychosocial factors were explained, namely, social participation, resilience, sense of coherence, and perceived stress. Finally, personal factors including age, gender, marital status, length of living alone, functional status, educational attainment, and economic status would follow.

2.1 Older adults living alone

2.1.1 Definition of older adults

Most developed countries have accepted the chronological age of 65 years as a definition of older adults. However, it may not suit some countries according to social, economic, cultural, and physical conditions. Therefore, the United Nations (2017) agreed to use age 60 years and over to refer to the older population. This definition considering the age of receiving pension benefits. While Orimo et al. (2006) offered to change the definition of the older adults from 65-years-old to those 75- years- old instead because nowadays people have physical activity and living independence than the past, there was also a classification of the elderly into groups. For instance, the oldest-old referred to those over 80 years old. Centenarian refers to those over 100 years old. Supercentenarian refers to those over 110 years old (WHO, 2018). According to Yurick et al. (1980), age has been divided into two groups; 1) Young-old age is between 60 - 74 years old, and 2) Old-old are over 75 years old.

In Thailand, the Act on the elderly B.E. 2546 (2003 A.D.) defined the older adult as a person who has attained a full sixty years (Department of older persons, 2010). Government Pension Act, B.E 2494 (1951) Section 19 government

officials determined who are 60 years old should terminate from office at the end of each fiscal year or every 30 September. The NSO (2018_b) classified the elderly into three groups: early old age 60-69 years, middle old age 70-79 years, and late old age 80 years or older.

Therefore, for this research, the older adult was defined as the person who was 60 years of age or over, both male and female.

2.1.2 The situation of older adults

The demographic change that has taken place worldwide is raising the number and proportion of the elderly. The world population aged 60 and over in 1980 was 382 million, rose to 962 million in 2017, and is expected to increase by almost 2.1 billion in 2050. Of these, the population age 80 years and over is expected to grow from 137 million in 2017 to 425 million in 2050. The growth rate of older adults is highest in low-income countries, followed by middle-income and high-income countries. The main factors that led to a change in population structure and global population aging, including in Thailand, are fertility decline whereas decreased mortality rates. Consequently, the increased elderly population and longevity have been observed (U.N, 2017).

Thailand faces a changing demographic structure consistent with the world stepping to an aging society due to a declining birth rate; the proportion of childhood and the working-age population is declining while the older adults increase (Aging Society, VS. Aged in Global and Thai Context, n.d.). The total fertility rate has declined from over six births per woman in the mid-1960s to below 2 in the mid-1990s, reflecting a combination of factors, including higher education, urbanization, higher wages, and access to contraception (Chittinandana et al., 2017). During the same period, the mortality rate continues to decline. The average life expectancy increased from 55.2 years to 69.9 years for men and 61.8 years to 74.9 years for women. The factors that reduce the mortality rate and increase the average life expectancy of the Thai population are implementing and developing public health policy, advanced medical technology, better access to health services, effective control of infectious diseases, proper nutrition, and improved material well-being. People are more educated and advance technologically in getting information more conveniently. People with

more incomes, property, and wealth are greater accessibility to medical services. (Aging Society, VS. Aged in Global and Thai Context, n.d.; Chittinandana et al., 2017).

The proportion of Thai older adults has increased. In 2005, the population aged 60 years and over was 10.4 percent and increased to 15.45 percent in 2017 (Official Statistical Registration System, 2017). It is expected to increase to more than 20 and 28 percent in 2025 and 2032, respectively. (NSO, 2018_a). The Thai older adults are likely to increase in the municipality and urban areas. In 2010, 39.7 percent of the 3.3 million older adults lived in municipalities and will rise to 11.6 million people (59.8 percent) in 2040. The female elderly population was 55.1 percent in 2010 and will increase to 56.8 percent in 2040. In particular, older women tend to increase significantly from 13.9 percent in 2010 to 21.3 percent in 2040 since women delay marriage, are likely to be single, and have more longevity than males. As a result, more female older adults tend to be living alone than older men (NESDB, 2013; Reher & Requena, 2018).

Older adults in developed countries are likely to have good health, and prolonged work after retirement leads to well-being in their life. Nevertheless, older adults often have health problems from physical decline, chronic disease, and the consequences were increased disability, cognitive impairment, sensory impairment, reduced mobility, and social isolation. Older people's chances of being lonely with poor health are 2.5 times more likely to feel lonely than healthy people (NESDB, 2013; Reher & Requena, 2018; Thomas, 2015). In conclusion, changes in population structure lead older adults living alone to increase throughout the world, including Thailand.

2.1.3 The older adults living alone

The factors related to living alone in old age, aside from demographic changes, are also caused by increased migration of children from rural areas to urban areas, reducing the co-reside with older parents, and becoming an urban society. Likewise, personal factors, higher education, and income are associated with living alone when entering old age (Reher & Requena 2018). The older adults who lived alone were from unintended situations, such as family neglect, single, divorced, widowed, lived apart from their spouse, no living relatives. Some outlived their children; children moved to work in other areas; children had their own families. Therefore, these people tend to live alone during old age (Knodel et al., 2015; Yeung

& Cheung, 2015). Although some older adults choose to live alone themselves because they want privacy or do not want to burden their children and to avoid conflicts from living in multigenerational households, this group were those, who have adequate income, educated, and independent living (Mohd et al., 2016; Phatharapreeyakul et al., 2016; Siritarungsri et al., 2015).

Also, the reasons for living alone, as mentioned, the perspective of living alone in the past and present is different. In the past, living alone in old age was viewed as social isolation or family abandonment. Unlike the present, research in several cultural settings shows that older adults prefer staying in their own home and community to other age groups, even if it means living alone. This liking is reinforced by more longevity, extends social benefits, and increases homeownership and friendly accommodation for older adults. Many countries give priority to caring for the older adults' community. However, differences in cultural norms also affect the perspective of living alone in later life. In developed countries, living alone is an individual preference or choice, and they expect to be supported by families, communities, and societies (Reher & Requena, 2018; Thomas, 2015; WHO, 2011).

The older adults who lived alone worldwide in 1990 were 9 percent and increased to 12 percent in 2010, with different proportions in each country. In the United States, about half of the community-dwelling oldest old, whose ages 85 years and older, live alone. One-third in Lithuania and Finland, 7.5 percent in Singapore, and less than 1 percent in Afghanistan and Pakistan live alone (Kaplan, 2016; Lim & Kua, 2011; UN, 2017). In Thailand, the older adults living alone were 4.79 percent, 6.25 percent, and 10.8 percent in 2012, 2016, and 2017, respectively, and tended to increase. People aged 60-69 years old are the most prevalent living alone (NSO, 2018_a).

Firstly, according to population structure change, the number of the female population is more than male. Since women are often married to those who are older and females have a longer lifespan than males; therefore, after her husband dies, the widowed living alone. In Africa and Europe, older women are twofold more likely to live alone than older men (Chansarn, 2013; Kaplan, 2016; Kharicha et al., 2007; Lim & Kua, 2011; Official statistics registration systems, Department of Provincial Administration, 2017; Pimouguet et al., 2015; Reher & Requena, 2018; Teerawichitchainan

et al., 2015; UN, 2017; Velkoff, 2001). In Thailand, women aged 60 or over are more likely never to marry and live alone in the community than men (Knodel et al., 2015; Torut, 2018).

Secondly, most widowed older adults were living alone more than older adults of another marital status. The average year being widowed was 12 years. Nevertheless, the number of young and middle-aged people who are divorced or never married live alone has also increased (Eshbaugh, 2008; Klinenberg, 2016; Lim & Ng, 2010; Podhisita & Xenos, 2015; Teerawichitchainan et al., 2015; Torut, 2018; Yeh & Lo, 2004). As most Asian countries, including Thailand, are experiencing a rapid aging trend, declining marriage and fertility rates, and increased migration, one-person households will continue to rise in the next few decades (Yeung & Cheung, 2015).

Thirdly, economic factors include income, retirement savings, pension, and receiving government assistance are likely effects on a decision to living alone among older adults (McGarry & Schoeni, 2000; Mohd et al., 2016;). Older adults in wealthier countries like Denmark, Switzerland, and Finland were more likely to live alone than older adults in developing countries. Due to the high income allowing the elderly to live alone enjoy freedom and privacy (Reher & Requena, 2018). However, in some countries such as Sweden, Italy, and Taiwan, most older adults living alone have an impoverished living and being unemployed (Bilotta et al., 2010; Pimouguet et al., 2015; Yeh & Lo, 2004). While most Thai older adults living alone had sufficient income on necessary expenses but had no savings, the sources of income were from their children, working, the old age allowance, pension, and interest on deposits (Chansarn, 2013; Phatharapreeyakul et al., 2016; Teerawichitchainan et al., 2015).

Then, the older adults who live alone tend to have physical and mental health problems, for instance, sensory deficits (Chansarn, 2013), lower activity of daily living (Kharicha et al., 2007; Pimouguet et al., 2015), hypertension (Phatharapreeyakul et al., 2016; Pimouguet et al., 2015), heart failure (Pimouguet et al., 2015) bone and muscular diseases (Phatharapreeyakul et al., 2016), multiple falls (Kharicha et al., 2007), fear of falling (Eshbaugh, 2008; Kharicha et al., 2007), dementia (Pimouguet et al., 2015), loneliness (Lim & Kua, 2011; Phatharapreeyakul et al., 2016; Pimouguet et al., 2015; Yeh & Lo, 2004), bored (Phatharapreeyakul et al., 2016), and depression (Bilotta et al., 2010;

Lim & Kua, 2011; Pimouguet et al., 2015). Also, new symptoms may occur, or symptoms may worsen without being noticed. Many have difficulty complying with prescribed treatment regimens because they have physical limitations. Some might have undernutrition because they did not prepare complete and balanced meals (Bilotta et al., 2010; Kharicha et al., 2007). In contrast, some studies found that older adults living alone had a better cognitive status and functional self-sufficiency than those who live with others (Bilotta et al., 2010). Thai older people tend to live alone when they get more aged (Teerawichitchainan et al.,2015). That indicates older adults living alone and getting old age are at higher risk of problems than those less aged.

In terms of social contact, compared with older adults who live with others, those living alone have a higher frequency of visiting friends and non-family relatives rather than contacting their children and grandchildren (De Vaus & Qu, 2015; Stepler, 2016). They had a low level of perceived positive support (Yeh & Lo, 2004) and the risk of social isolation (Kharicha et al., 2007). Some feel lonely, have fewer close friends. Living alone was associated concurrently with the lack of a confidant, both of which predict loneliness (Lim & Ng, 2010).

Lastly, the educational attainment of older adults who live alone was without formal education or less than high school (Eshbaugh, 2008; Kharicha et al., 2007; Lim & Kua, 2011; Lim & Ng, 2010; Pimouguet et al., 2015). The situation is similar in Thailand; most older adults living alone finished primary school or less than 12 years of education (Torut, 2018). On the other hand, Reher and Requena (2018) stated that people in developed countries with higher education are the most likely to live alone because they tend to have more material resources and have higher divorce rates. The educational attainment characteristics of older adults living alone are also different between developed countries and developing countries.

2.1.4 The consequences of older adults living alone

Living alone affects older adults in the physical, mental, and social dimensions. The physical health consequences of older adults living alone include decreased daily living activities, hesitate to perform physical activities without assistance, related to multiple falls (Kharicha et al., 2007), and the fear of falling (Eshbaugh, 2008; Kharicha et al., 2007). Conversely, this fear often leads to avoiding perform activities

that lead to deterioration of physical and mental health, resulting in an increased risk of falling (Kharicha et al., 2007). Results showed that older adults who live alone had a higher risk of experiencing fear of falling and falling than those who lived with others (Cheng et al., 2008; Dreyer et al., 2018; Howland et al., 1998; Kharicha et al., 2007; Lim & Kua, 2011; Teerawichitchainan et al., 2015). Also, older adults who lived alone were more likely to have other health problems and chronic diseases such as atherosclerosis (Harvard Health Publishing, 2012). Furthermore, it became a cause of forgetting or neglecting to follow the doctor's treatment and miss the signs that indicate their health is starting to fail (Harvard Health Publishing, 2012).

Consequently, they use more resources from the government for health services (Bunker et al., 2003; Kharicha et al., 2007; Shankar et al., 2013; Siritarungsri et al., 2015). The older adults who live alone have low social participation, which is a cause of worse mental health conditions than those who live with others. Living alone is a factor that contributes to psychological problems such as social isolation (Kaplan, 2016; Kharicha et al., 2007; Phatharapreeyakul et al., 2016), loneliness (De Vaus & Qu, 2015; Eshbaugh, 2008; Evans et al., 2019; Kaplan, 2016; Lim & Kua, 2011; Yeh & Lo, 2004), depressive symptom (Bilotta et al., 2010; Cheng et al., 2008; Eshbaugh, 2008; Lim & Kua, 2011; Noosorn & Saengngern, 2013; Ramos & Wilmoth, 2003), higher stress levels (Thomas, 2015), boredom (De Vaus & Qu, 2015; Phatharapreeyakul et al., 2016), grief (Costello, 1999), and suicidal thoughts (Conwell et al., 2002).

Gender affects loneliness; older men living alone feel lonely for a more extended time than women. De Vaus and Qu (2015) stated that older men experienced loneliness when they lived alone and continued for six years. Unlike older women experienced increased loneliness on which they begin to live alone, and after six years, the level of loneliness recovered to the same level as before living alone. Loneliness itself affected physiological change by increase blood pressure, stress levels, depressive symptoms, anxiety, lower immune systems (Boccardi & Boccardi, 2019), and increased the risk of all-cause mortality (Chan et al., 2015). Beyond that, loneliness was a predictor of cognitive decline (Shankar et al., 2013), functional decline, and death (Perissinotto et al., 2012; Pimouguet et al., 2015). In a high level of loneliness, they reported

a low level of SWB (Thomas, 2015). Living alone and loneliness worsened the psychological effects of living alone (Lim & Kua, 2011). Older adults living alone were a more financial strain, poverty, lack of companionship, no one helped the housework than those who live with others lead to unpleasurable aspects of life, which lower their SWB (Cheng et al., 2008; Lim & Kua, 2011; Stepler, 2016). The older adults living alone are associated with their SWB, divided into three categories; neutrally, positive, and negative. Older adults with a neutral perception of living alone were familiar with being alone, prepared themselves for being alone, and quite satisfied with their situation. Therefore, they are willing to living alone rather than staying at a nursing home. In neutral perspectives, loneliness is at a moderate level, higher than the other two groups. Most of the older adult women living alone were neutral perceptions of living alone, followed by positive and negative, respectively (Eshbaugh, 2008).

The older adults who live alone on positive perception view that they are happy, independent, private, schedule their own freely (Harvard Health Publishing, 2012; Phatharapreeyakul et al., 2016; Yetter, 2008). Moreover, they were proud to live alone and age with dignity because they cared for themselves and did not burden anyone. They loved to stay alone and never live with anyone else again; living alone is genuinely beneficial. These views were congruent with well-being from the perspective of female older adults in western Sweden (Eshbaugh, 2008; Svensson et al., 2012). Yetter (2008) explored the view of male older adults living alone in Portland, U.S.A. Participants express their view of living alone as self-growth. Being alone is an opportunity for them to grow and develop from learning to be alone. They identified that living alone gives them more freedom to choose their activities and lifestyle independence, which is the experience of self-determination. Moreover, they discovered the need to maintain a sense of purpose in life, such as volunteering, collecting antiques, attending auctions.

Older adults who live alone connected to society engage in more social activity than those living with others (Evans et al.,2019; Pierini & Volker, 2009; Yetter, 2008). They also have good social relations; the leading society is friends and neighbors, who prompt help when needed. In addition, they can be self-reliant, such as driving to visit neighbors, freedom to travel, joining a travel group, and exercising

group (Pierini & Volker, 2009). Besides, living alone increases the likelihood of contacting community health professionals such as nurses, increasing the chances of contact with social services as a whole (Iliffe et al., 1992). Evans et al. (2019) followed older adults who lived alone for two years. They were at no higher risk of poor cognitive function or cognitive decline over the period studied.

The opposing perspectives of living alone were not like being alone, hate to be alone, feeling lonely, unhappy, bored, cannot bear the silence, did not choose to be alone, and did not want to happen to their lives. Someone expressed a desire to die because living is painful and had chronic diseases, or no one cared for them. Also, living alone affects access to health care, which negatively impacts their physical and mental health inescapably (Eshbaugh, 2008; Phatharapreeyakul et al., 2016; Siritarungsri et al., 2015). According to Eshbaugh (2008), female older adults living alone in the negative perspective group were the most depressed group, whereas the less depressed group positively perceived living alone. The positive perceived living alone was the youngest age group; the negative group was the oldest.

2.2 Subjective well-being

According to Diener (1984), SWB composes of an affective component and a cognitive component. The affective component refers to the experience of pleasant affect and unpleasant affect. Pleasant affect (pleasant feelings or positive affect) occurs when the feelings, moods, and emotions experienced are pleasant such as joy, gladness, pride, affection, contentment, ecstasy, and happiness. In contrast, unpleasant affect (unpleasant feelings or negative affect) are the feelings, moods, and emotions experienced when a person stays in suffering and unpleasant emotional states such as sadness, guilt, anger, shame, anxiety, stress, depression, envy, and worry. Positive and negative affect can fluctuations within and across days reflect reactions to changes in situations, activities, and daily hassles (Smith et al., 2014). It also influences to act, make decisions and expressions.

Positive emotion strengthens personal growth and mental health (Fredrickson, 2001) and can motivate goal-directed behaviors, whereas negative affect

promotes suspicion. The relationship between positive affect and negative affect may vary depending on cultural diversity (Lim et al., 2010).

Another component of SWB is a cognitive component, which refers to life satisfaction and domain satisfaction. Life satisfaction is the current state of circumstances that meet or exceed what is desired. At the same time, domain satisfaction is specific aspects of life such as family work, leisure, finances, self, one's group, and health. For this study, a cognitive component refers to life satisfaction because the researcher aims to assess overall life satisfaction without focusing on any specific domain. Life satisfaction evaluating how well a person's life is going on based on their set of criteria by the current condition (Pavot & Diener, 1993, as cited in Vanhoutte, 2012). Positive cognitive well-being occurs when the current state or situation is found to exceed expected. Alternatively, with negative cognitive well-being, dissatisfaction may arise. A person with high life satisfaction decides that their goals are mostly met the current conditions of their life. Thus, high life satisfaction is an element of a high level of well-being (Diener, 1984). However, the term "happiness" is often used to reflect the overall evaluation of one's life, equating to SWB (Adler & Fleurbaey, 2016; Diener, 2021).

The concept of SWB was extensively used in the studies. The World Health Organization defined the SWB as a composite measure of independent feelings about various life concerns and overall feelings about life in positive and negative terms. The 40 items of the Subjective Well-being Inventory was used to measure the SWB of an individual or a group of individuals (Sell & Nagpal, 1992).

SWB is usually linked to physical health, mental health, and health behaviors. A low SWB level is linked to physical illness, psychiatric diseases, and social isolation (Argyle, 1987). In contrast, SWB at a high level fostered physical health and mental health, which is associated with a low incidence of chronic disease and higher survival rates. These findings showed the relationship between physical, mental, social, and SWB (Allen, 2008; Boccardi & Boccardi, 2019; Chida & Steptoe, 2008; Delle Fave et al., 2018; Jivraj et al., 2014; Kivelä & Pahkala, 2001; Steptoe et al., 2014). Therefore, SWB is an individual's affective and cognitive evaluation of his or her life in the current situation (Diener et al., 2002) A person who has a high level of SWB has a desirable life more than those who are unhappy (King & Napa, 1998).

In summary, a high SWB consisted of having a high level of positive emotions, feelings, absent or low negative emotions, and high life satisfaction.

Assessing SWB is an individual decision based on their feelings and thoughts on pleasant, unpleasant, and life satisfaction. Therefore, SWB measurement measures how people's thoughts, feelings, and satisfaction about their life on these three independent components, as subjective assessment. The instrument that was used to measure is the self-report measurement (Pavot & Diener, 2008). The researcher modified the SHS Thai version (Boonyasiriwat, n.d.) to measure SWB in older adults living alone.

Lyubomirsky and Lepper (1999) developed the Subjective Happiness Scale to assess SWB based on the belief that people's overall SWB is affected by biological factors, external factors, and environmental factors. The SHS has been translated into many languages to measure SWB and examined related factors on SWB in many contexts. It showed adequate psychometric properties, factorial stability, and briefness. Many versions showed the internal consistency reliability at a good level, such as Cronbach's alpha was 0.773 (Babincak, 2018), 0.74 (Yue et al., 2017), and 0.82 (Nan et al., 2014). Test-retest reliability was 0.70 (Nan et al., 2014) and 0.89 (McCaskill et al., 2017). Many studies demonstrated that SWB measuring using the SHS was related to resilience, sense of coherence, and personal data. The studies showed a significantly higher SHS score in women (Yue et al., 2017), married (Vincze, 2016), and a high sense of coherence level (Siqueira et al., 2019. Furthermore, there was a significant correlation between resilience and happiness (Aboalshamat et al., 2018; Kim et al., 2016). In addition, age (Lobos et al., 2016; Siqueira et al., 2019), educational level (Siqueira et al., 2019), satisfaction with the economic situation (Lobos et al., 2016), independence in activities of daily living (Lobos et al., 2016) were significantly associated with levels of happiness (Lobos et al., 2016). on the other hand, some studies found no significant differences in the SHS level on gender and education (Babincak, 2018).

In summary, the short four- item scale has satisfactory psychometric properties and offers opportunities for the rapid assessment of SWB in older adults.

2.3 Factors related to subjective well-being in older adults living alone

According to previous research has shown factors that affect SWB among older adults living alone include psychosocial factors, including social participation, resilience, sense of coherence, and perceived stress; personal factors including age, gender, marital status, length of living alone, functional status, educational attainment, and economic status as follows.

2.3.1 Social participation

There are various definitions of the social participation concept among the elderly. Levasseur et al. (2010) described social participation as a variety of activities include individual-based, for example, hobby, neighborhood relationship, and community-based, for instance, local event, volunteer, senior center, and religious activities. Amagasa et al. (2017) defined social participation as participation in groups or organizations with familiar people such as relatives, friends, or neighbors. Social participation is categorized into two types, including community involvement, engagement in interacting socially, such as volunteer activities, religious activities, community events, elderly clubs, and exercise activities. Another is individual relationships, for example, friendship, communication with family and friends, and hobbies. Levasseur et al. (2010) suggested that social participation mainly focuses on involvement in activities providing interactions with others in society or the community. There are six levels of involvement of the individual with others. Categorization depends on the primary goal of social activities, including 1) doing an activity in preparation for connecting with others, 2) being with others, 3) interacting with others without doing a specific activity with them, 4) doing an activity with others, 5) helping others, and 6) contributing to society.

Social participation can be classified as individual participation in formal and informal group activities (Tomioka et al., 2015) or social roles (Latham & Clarke, 2018). Formal social participation occurs through social and religious organizations and involves social relationships with predesigned groups, such as membership and participation within formal groups and associations. On the other hand, informal social participation means casual and occasional social communication such as meetings and contacting friends (Tomioka et al., 2015). Differ from Katagiri and Kim (2018) classified

social participation into four types: 1) no affiliation, 2) inactive participation, 3) active recreational, and 4) active social.

Social participation defines as a person's involvement in activities that provide interaction with others in the society or the community (Clément et al., 2018; Cohen et al., 2015; Levasseur et al., 2010; Turcotte et al., 2018), outside the home (Goll et al., 2015). Together with sharing some resources with other society members (Chen et al., 2016; Hsu, 2007; Richard et al., 2013), establish a social relationship. Based on resource sharing, social participation has three types; 1) collective social participation is an activity that is shared among group members. Spending time on social interactions with others being the primary source of sharing, and its purpose is directly related to the group of participants (He et al., 2017), 2) productive social participation involves the provision of services, products, or specific benefits to others. Furthermore, specific skills and competencies are shared in addition to time, such as volunteering and caring for another person. 3) political, social participation involves making decisions on social groups and allocating resources. Active participation is an attribute that indicates that the person active involvement in social activities which divided into small societies, such as communication with friends and large societies, for instance, the interactions of the work environment (Kessler et al., 2009; Levasseur et al., 2010) or in social groups (Tomioka et al., 2018). Also, individual satisfaction indicates the person has a personal satisfaction resulting from performed social (Dehi Aroogh & Mohammadi Shahboulaghi, 2020; Levasseur et al., 2010).

Participation in social activities encourages physical movement in older adults. This activity promotes various body systems such as joints, muscles, and cardiovascular. Besides, participation in social activities is also social support pathway, which reduces stress by improving cognitive reappraisals that make the situation less stressful, leading to enhanced well-being (Lazarus & Folkman, 1984, Lim & Taylor, 2005). The influence of participation in social activities on SWB is to reduce the risk of social separation and provide emotional closeness, social and emotional support, reinforcement for personal self-concept, social roles, and the sense of being valued (Adams et al., 2011). Frequently participate in exercise activity improves self-esteem, self-rated health, lower rates of depression, lower cognitive impairments, lower mortality

risk, and is associated with better SWB (Agahi & Parker, 2008; Fernandez et al., 2001; Jang et al., 2004; Klumb, 2004; McAuley et al., 2000; Menec, 2003; Müller et al., 2014; Román et al., 2017; Ubolwan et al., 2018). Men were less participated in social activities and were at a higher risk of social isolation (Katagiri & Kim, 2018). Some studies found that older men who live alone are more likely to experience less social participation than women who live alone (Rodríguez-Galán & Falcón, 2010). Sufficient income is associated with more social participation in senior citizens in Pathumthani province, Thailand (Myers, 2009).

In conclusion, social participation refers to interpersonal interactions and community-based activities outside the home, in various social settings, either formal or informal. Participation in resource sharing such as time, knowledge, and skills with friends or others in their social activities. Conscious and active involvement in social activities and satisfaction with resulting social involvement (Dehi Aroogh & Mohammadi Shahboulaghi, 2020). Social participation was to interact with other people with or without a specific purpose, such as talking, shopping, giving advice, listening, joining religious activities, joining group activities, and volunteering. The researcher constructed the Social Participation Scale from its operational definition and modified it from the Maastricht Social Participation Profile (MSPP) (Mars et al., 2009) and the Keele Assessment of Participation (Wilkie et al., 2005) to measure social participation. A higher score indicated a high social participation level.

2.3.2 Resilience

Wagnild and Young (1993) defined resilience as the ability to deal with change or adversity effectively, or even as a positive feature of personality, promoting individual adaptation and moderating the adverse effects of stress. Scoloveno (2016) stated that resilience consists of three attributes: self-esteem, self-reliance, and social responsiveness. Self-esteem is a belief in oneself and the protective mechanism of self-worth that successfully allows the individual to cope with severe challenges and adversities. Individuals with low self-esteem are not resilient. Self-reliance is confidence in one's powers, judgment, and ability to depend on themselves or their abilities. It is a sense of control, independence, autonomy, and existential. They are empowered to control their destiny in the face of adversity situations. Finally, social responsiveness

allows the individual or group to interact competently with their environment through social interaction and response; they can face adversity, relate to helping others, and reduce adverse reactions.

Grotberg (1995) defined resilience as the ability of individuals, families, groups, and communities to prevent, reduce, or overcome the damaging effects of adversity. Grotberg (1995) used the I HAVE, I AM, and I CAN model as three sources that promote resilience in the process of overcoming adversity. First, I HAVE, is external support, referring to a person who may be loved. Second, I AM, is inner strength, referring to have inner strength. Finally, I CAN, is social and problem-solving skills, referring to social, interpersonal skills—a person with these three features to be resilient. However, a person with one element is not enough to be resilient. For instance, a person who has a great deal of self-esteem (I AM), but if he or she does not know how to communicate with others or solve problems (I CAN), and has no one to help him or her (I HAVE), this person is not resilient.

The consequences of resilience were psychological and physical integration, the development of personal control, psychological adjustment, and personal growth. In addition, optimism and hope were needed for resilient individuals to see a successful future in the face of adversity. Optimism correlated to resilience, and the more optimistic the individual was, the more resilient the individual (Edward et al., 2009; Lee et al., 2008; Scudder et al., 2008; Smith et al., 2008).

Many studies found the resilience level is related to age; more age, more resilience (Wells, 2010), gender (Aboalshamat et al., 2018), living with others (Hardy et al., 2004), family networks (Wells, 2010), social network (Wells, 2009), grip strength (Hardy et al., 2004), independence in instrumental activities of daily living (IADLs) (Hardy et al., 2004), self-rated health (Hardy et al., 2004; Wells, 2010), morale (Wagnild, 2004), good mental health status (Wells, 2010), physical health status (Wells, 2010), and depression (Hardy et al., 2004); while a lower household income significantly associated with high resilience levels (Wells, 2010). Differ from Parayat et al. (2016) found that gender, income, and morale could not predict resilience among community dwellers older adults in Bangkok, Thailand. Nygren et al. (2005) found the resilience is not related to physical health status among Swedish older adults living in the community. Some

studies found that gender and age are related to resilience—nevertheless, those studies performed in different background characteristics. So, the results could not be represented in this study. Instead, the researcher examined the relationships of age, gender, and SWB in older adults living alone.

The significant predictors of resilience were optimism (Lamond et al., 2009; Lee et al., 2008), self-esteem (Lee et al., 2008; Sornkla et al., 2019), self-rated successful aging, emotional health, self-rated cognitive function, days spent with family and friends (Lamond et al., 2009), perceived health status (Parayat et al., 2016), and social support (Parayat et al., 2016; Sornkla et al., 2019). Social support and perceived health status could predict resilience among older adults (Parayat et al., 2016; Sornkla et al., 2019). Differ from Wells (2010) found that resilience was not associated with social support. Resilience significantly positively correlated with SWB among survivors of dengue fever patients (Mahmood & Ghaffar, 2014). Furthermore, resilience was a predictive factor of SWB in older adults and adults age group (Chang & Lim, 2007; Rossi et al., 2007; Togonu-Bickersteth et al., 2018; Wagnild & Young, 1993; Xing & Sun, 2013).

In conclusion, resilience was an individual's ability to function successfully, adapted, and recover psychological, sociological, cultural, and physical back to normal from an adverse situation. Resilience was a trait and process found in individuals along the developmental continuum. Also, resilience reflected the relationships among individuals and the community that involve well-being (Tusaie, 2004). Since resilience was highly significant in SWB for older adults (Tecson et al., 2019), Which can measure through a self-reported questionnaire, the researcher used the Resilience Scale short version (RS14) (Wagnild & Young, 1993) to measure resilience in older adults living alone. This instrument correlated significantly to measure satisfaction with life (Cronbach's alpha was 0.85)(Aboalshamat et al., 2018; Aiena et al., 2015; Surzykiewicz et al., 2019) and happiness (Aboalshamat et al., 2018). In the initial version, the Resilience Scale (25 items) showed internal consistency reliability at 0.90 (Losoi et al., 2013; Nishi et al., 2010). The RS 14 presented internal consistency reliability at 0.87 (Losoi et al., 2013), 0.88 (Callegari et al., 2016; Nishi et al., 2010), and 0.82 (Surzykiewicz et al., 2019). The t-test showed no significant differences between the mean values of the resilience scores on gender and age group (Callegari et al., 2016). Therefore, it is

suitable for this study with acceptable reliability and validity. The short version showed good internal consistency, brevity and reduced the respondents' burden. Therefore, the researcher will modify the Resilience Scale Thai version (Choowattanapakorn et al., 2010) and choose only the 14 items in the short version.

2.3.3 Sense of coherence

The sense of coherence refers to the perspective of a person's life and their ability to face and respond to stressful situations appropriately, which leads to the ability to solve problems efficiently. The sense of coherence consists of three components: comprehensibility, manageability, and meaningfulness. Comprehensibility is the cognitive component of a sense of coherence. Comprehensibility refers to the extent to which an individual perceives stimuli confronted with deriving from internal and external, as rationally understandable, and as information that is orderly, coherent, clear, structured. In other words, a person with high comprehensibility scores expects that the stimuli they encounter in the future can be predicted, ordered, and precise. Manageability is the instrumental or behavioral component of the sense of coherence. It is defined as the degree to which one feels resources to control or manage a stimulus. The resources may come from oneself or others, such as friends, officers, colleagues, health workers, and significant others. This leads to face and copes with stimuli with confidence. Meaningfulness is the motivational component of a sense of coherence, which refers to the extent to which a person feels that life has meaning. The situation that happened to them provides a significant challenge, worth, rather than a burden. The sense of coherence was dynamic. A person with a high sense of coherence would have flexible behavior, which assessed emotions and cognition when facing problems (Antonovsky, 1987). The sense of coherence reflected a person’s view of life and their capacity to respond to stressful situations (Eriksson & Lindström, 2006). A person who had a strong sense of coherence considered a problem or stressful event as challenging, meaningful, hopeful, with a clear and specific understanding. As a result, they could determine the appropriate coping with confidence and flexibility in dealing with problems or stressful events (Antonovsky, 1987). Thus, it stated that the sense of coherence had a high relationship to subjective well-being.

The strong sense of coherence was the predictor of SWB among older adults in the community (Elovainio & Kivimäki, 2000; von Humboldt et al., 2015). Similar to Kocjan (2017), a strong sense of coherence was associated with better life satisfaction among older adults, while von Humboldt et al. (2015) found a sense of coherence was a negative predictor of SWB in older adults living in the community.

A sense of coherence could be measured by using the 13-item Orientation to Life Questionnaire. Its psychometric properties were good. Therefore, it was beneficial for measuring the sense of coherence for populations who need assistance filling out the questionnaire or administering it face-to-face like older adults. For this study, the researcher modified the 13-item Orientation to Life Questionnaire, the Thai version translated by Hanucharoenkul, and modified by Rattanavichakul (2011).

2.3.4 Perceived stress

Stress is a process that involves stressors that make a demand, which evokes a stress response or stress experience in a person (Cox, 1978). Based on a theory of stress and coping developed by Lazarus and Folkman (1984), stress is how individuals interact with their environment and are events that trigger negative emotional responses. Stress can negatively impact individuals' well-being only when individuals perceive the situation as stressful and unable to deal with stimuli (Roddenberry, 2007). Perceived stress is the feelings or thoughts that an individual has about how much stress they are under at a given point in time or overtime (Whittaker was Phillips, 2015). Perceived stress is a subjective report of stressful life situations (Moore et al., 2015). It incorporates feelings about the uncontrollability and unpredictability of one's life, how often one has to deal with irritating hassles, how much change occurs in one's life, and confidence in one's ability to deal with problems or difficulties.

Measuring perceived stress is not measuring the types or frequencies of stressful events which have happened to a person, but rather how an individual feels about the general stressfulness of their life and their ability to handle such stress. Individuals may suffer similar adverse life events but appraise the impact or severity to different extents due to personality, coping resources, and support. In this way, perceived stress reflects the interaction between an individual and their environment, which they appraise as threatening or overwhelming their resources in a way that will

affect their well-being (Lazarus & Folkman, 1984). Perceived stress has a bidirectional relationship with well-being outcomes. That is, perceived stress can lead to a decline in well- being; conversely, a sense of insufficient well- being cause to appraise circumstances as exceptionally stressful (Mitsonis et al., 2009). Perceived stress was a significant predictive variable for the elderly' s SWB (Tariga & Cutamora, 2016). Gillett and Crisp (2017) indicated that stress was negatively associated with SWB. Some factors affect perceived stress. VanderZee et al. (1995) reported that health problems might only affect well- being if they perceive their health problems as stressful. In comparison, participants with higher resilience and social support had less perceived stress (Moore et al., 2015). A study of 1,656 elderly aged 66-97 years found that women reported higher stress than men, and stress levels increased with increasing age (Osmanovic-Thunström, 2015).

In conclusion, perceived stress is defined as personal feelings or thoughts about how stressful life situations they are under at a given period. The stress was about the uncontrollability, unconfidence, unmanageability, and unpredictability of life situations. Perceived stress was commonly measured as the frequency of such feelings via a questionnaire such as the Perceived Stress Scale (Cohen et al., 1983). The researcher modified the Perceived Stress Scale (PSS-4) Thai version (Wongpakaran & Wongpakaran, 2010) to measure perceived stress. Therefore, A higher score indicated more significant perceived stress.

2.3.5 Age

The relationship pattern between age and SWB was not the same throughout the world, such as in America and other high-income English-speaking countries. The life satisfaction level was the lowest at 54 years and higher in younger and older. In sub-Saharan Africa, life satisfaction remains flat at all ages (Blanchflower & Oswald, 2008; Jivraj et al., 2014; Steptoe et al., 2014). Román et al. (2017) found that life satisfaction was associated with increased age, which, similar to Freedman et al. (2017), life satisfaction was higher among those aged 65–74 years. Age was negatively related to the SWB of the elderly in the community, Nakhon Pathom province (Chimjinda, 2012). Therefore, age was a factor associated with the SWB of older adults.

The questionnaire was an open-ended question for respondents to specify their age according to the calendar year.

2.3.6 Gender

The study of the impact of gender on the SWB of older adults living alone was inconsistent results. Some studies found that women living alone were considerably more satisfied than men living alone (De Vaus & Qu, 2015; Jeon et al., 2007; Stepler, 2016). In contrast, some studies show, women reported lower SWB and higher psychological distress, such as sad, unhappy, depressed, and lonely than men, including Thai women (Knodel et al., 2015; Lukaschek et al., 2017; Román et al.,2017; Teerawichitchainan et al., 2015). Gao (2018) examined well-being in the Taiwanese elderly from 1999 to 2007 found that the male older adult had better well-being than the female older adult in the initial stages. However, after that, their well-being would decrease slower than female older adults. So, the relationship between gender and SWB was investigated in Thai older adults living alone in the community context. The questionnaire is a closed-ended question for respondents to specify between males and females.

2.3.7 Marital status

The marital status had significant implications for older adults' SWB. The older adults who lived with their spouses had a positive relationship with SWB than those who were single, widowed, divorced, or separated. The widowed older adults were poor SWB than those who lived with a spouse. Because the spouse provided material, social, and emotional support, such as personal care during the illness (Jivraj et al., 2014; Knodel et al., 2015; Román et al., 2017; Suksai et al., 2018). The researcher used a closed-ended question for respondents to specify their marital status.

2.3.8 Length of living alone

The length of living alone is related to the level of SWB of older adults. The empirical evidence emphasized the length of living alone associated with SWB. Older adults in Sweden lived alone for more than six years, related to a half-year reduction in survival (Pimouguet et al., 2015). Inasmuch, SWB is usually linked to physical illness, psychiatric diseases, and social isolation. So, negative well-being is related to increased chronic illness, depression, and mortality rate (Argyle, 1987;

Boccardi & Boccardi, 2019). Women were a sharper increase in loneliness at the beginning of living alone. After six years, the level of loneliness returned to the same level as before living alone, while men increased loneliness experienced when they persisted in living alone for over six years (De Vaus & Qu, 2015). The retirees' SWB decreased a few years later from reduced financial security (Allen, 2008). However, the above studied in Western countries, which might differ from the Thai context. Therefore, this study examined whether the length of living alone of Thai older adults affected the SWB or not by using an open-ended question for respondents to specify how long there were living alone.

2.3.9 Functional status

Functional status was an individual's ability to perform daily activities required to care for themselves independently, fulfill usual roles, and maintaining health and well-being. Functional status can be influenced by biological or physiological impairment, symptoms, mood, and other factors. It was also likely to be affected by health perception (Leidy, 1994, as cited in American Thoracic Society, 2007). The positive consequences were well-being, goal achievement, learning practical coping, hope, and health status. The negative consequences were a further disability, increased dependence, increased use of health services, depression, and stress (Giddens, 2017). In addition, the elderly living alone and had any disability and had low activities of daily living had significantly lower perceived life satisfaction for both genders (Banjare et al., 2015).

There was a strong relationship between functional status and SWB in older adults (Simone & Haas, 2013). The lower physical function increased depressive symptoms and reduced life satisfaction (Hsu, 2009). On the other hand, older adults who performed daily tasks independently directly positively affected their well-being (Gao, 2018). The researcher used the Instrumental Activities of Daily Living (IADLs) Thai version translated by Phanasathit (2015) to identify respondents' functional status.

2.3.10 Educational attainment

Educational attainment was a significant predictor of SWB in older adults. Besides, continuing education and learning are essential for an active social life. Since writing and reading skills allowed older adults to access various information;

therefore, education was a crucial factor in the well-being of the elderly (Knodel et al., 2015). Román et al. (2017) found that life satisfaction was associated with having a higher education level. The elderly with different levels of education had significantly differed SWB (Ali et al., 2018). The researcher used a close-ended question to identify respondents' educational attainment.

2.3.11 Economic status

The economic status, such as income and wealth, was essential to determine and promote SWB among the general population, including older adults. Sources of income were from children, pensions, earnings, government payments, and the Old Age Allowance. As a result, the retirees' SWB improved at retirement and declined a few years later from reduced financial security. That was, those with a high level of economic status enabled them to afford more privacy in the form of living alone. On the other hand, low incomes or poverty caused stress, unhappiness, worrying, insecurity, losing control of their lives, leading to declining in emotional well-being among community-dwelling older adults living alone (Allen, 2008; Galiani et al., 2016; Han & Hong, 2011; Horner, 2014; Russell & Taylor, 2009; Stepler, 2016). Most Thai older adults who live alone were less economically active; having an inadequate income to meet their necessary expenses was also associated with mental distress in older adults who live alone. They were more financial strain and poverty than older adults who live with others, which related to living comfortably. Also, it found that older adults in rural areas had insufficient income levels compared to urban areas (Phatharapreeyakul et al., 2016; Teerawichitchainan et al., 2015). Income was positively related to the SWB of the elderly in the community, Nakhon Pathom province (Chimjinda, 2012). A closed-end question was used to specify their economic status, and an open-ended question was used to specify their source of income.

There were some studies on predictive factors on SWB in the elderly in metropolitan regions. Still, there had not been a study on the elderly who were living alone. Therefore, the researcher conducted an explanatory sequential mixed methods design to collect and analyze quantitative data followed by qualitative data. The data connected in the integration stage: First, a quantitative approach was used to identify the predictive factors of SWB among older adults living alone. Next, the

qualitative analysis explained SWB related to the participants' perspective's predictive factors in-depth. Finally, the researcher connected the quantitative and qualitative data results, which allowed for a better understanding of the perspective of SWB related to predictive factors had on older adults living alone.

2.4 Conceptual framework

The researcher utilized the SWB concept (Diener, 1984) and related literature to construct the framework of this study. From the literature review, the factors associated with the older adults' SWB living alone were personal factors, namely age, gender, marital status, length of living alone, functional status, educational attainment, and economic status and psychosocial factors, namely, resilience, sense of coherence, social participation, and perceived stress (Adams et al., 2011; Allen, 2008; Blanchflower & Oswald, 2008; Boccardi & Boccardi, 2019; Chida & Steptoe, 2008; De Vaus & Qu, 2015; Delle Fave et al., 2018; Jivraj et al., 2014; Kivelä & Pahkala, 2001; Knodel et al., 2015; Lim & Ng, 2010; Mahmood, & Ghaffar, 2014; Stepler, 2016; Steptoe et al., 2014; Suksai et al., 2018; Tariga & Cutamora, 2016; Teerawichitchainan et al., 2015; von Humboldt et al., 2015). The researcher examined these factors to determine the predictive factor on the SWB of older adults living alone in the community. The researcher applied the SHS Thai version (Boonyasiriwat, n.d.) to measure SWB in older adults living alone (see Figure 2.1)

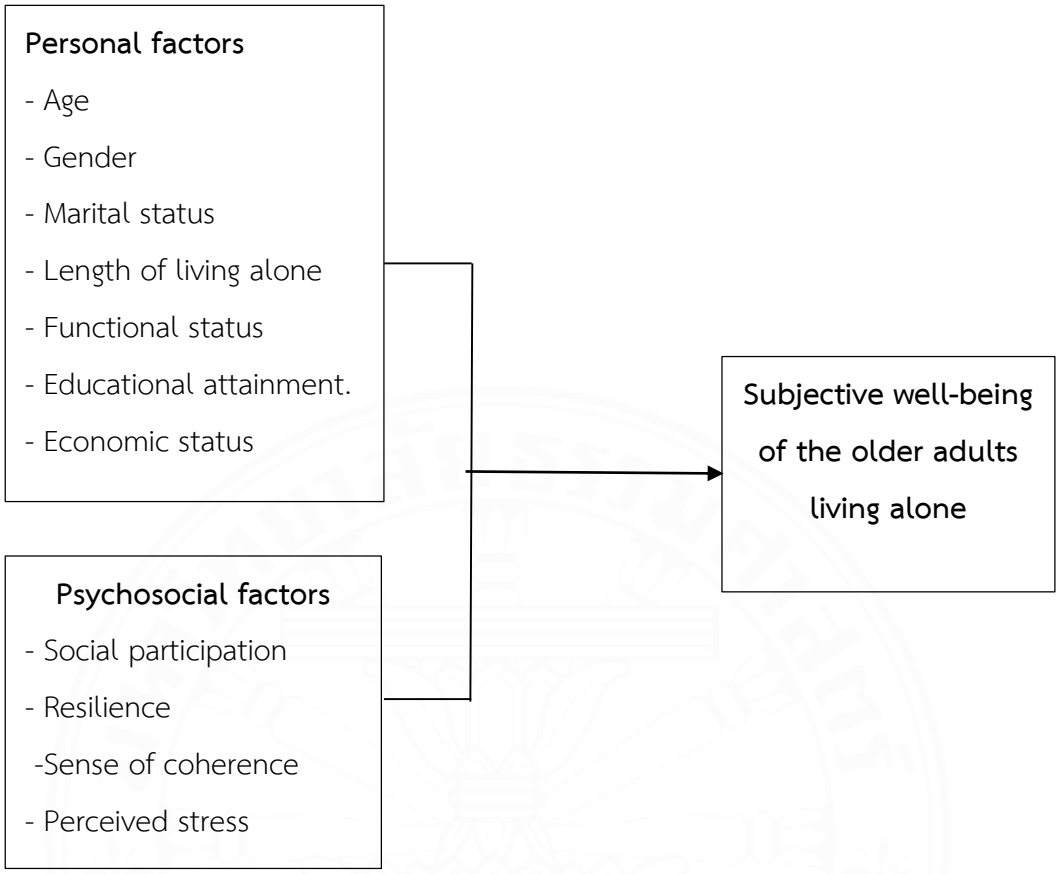

Figure 2.1 *The conceptual framework of this study*

CHAPTER 3
MATERIALS AND METHODS

This study consisted of two phases. Phase 1: an initial quantitative data collection phase to investigate the predictive factors of SWB older adults living alone in the community. Phase 2: a qualitative data collection phase was used to explore the personal perception of SWB to explain the quantitative results relating to predictive factors. In this way, the researcher used a joint display to interpret and report the research's final result (Chanasith & Pasunon, 2018; Creswell & Creswell, 2018; Guetterman et al., 2015).

3.1 Ethical considerations

The researcher submitted the research protocol for approval from the Ethical Review Sub- Committee Board for Human Research Involving Sciences, Thammasat University, No. 3. The Project was approved on December 25, 2020, and the project code was 135/ 2563.

The researcher submitted a permission letter for data collection, the dissertation proposal, and certificate of approval from the Ethical Review Sub-Committee Board for Human Research Involving Sciences, Thammasat University, No. 3 to the Provincial Public Health Medical Doctor, Nakhon Pathom Province, Provincial Public Health Medical Doctor, Pathum Thani Province, and Provincial Public Health Medical Doctor, Samut Sakhon Province. The permission letter to collect data ware approved on January 13, January 25, and March 5, 2021, respectively.

Before collecting data, the participants received an information sheet explaining the purposes of the study, benefits, risks, confidence, and the right to withdraw from the study at any time without disclosing the explanation, without any effect. Then, participants would return their signed informed consent after considering participating in the research. Participants were granted the right to request their information from the recording at any time without identifying any reasons.

In considering subjects' anonymity, pseudonyms were used to maintain the participants' confidentiality for data analysis and results reporting. The researcher keeps the information confidential and will destroy the data after dissemination for three years.

3.2 Research method

3.2.1 Phase 1: Quantitative approach

3.2.1.1 Population

There were 754,420 elderly populations in the metropolitan regions. Classified by province as follows; Nakhon Pathom, Nonthaburi, Pathum Thani, Samut Prakan, and Samut Sakhon provinces were 142,221 (15.60%), 207,129 (16.84%), 145,575 (12.89%), 181,703 (13.86%), and 77,792 (13.68%), respectively (Official statistics registration systems, Department of Provincial Administration, 2017). Most of them were the Thai nationality (95.7%)(Nakhon Pathom Provincial Statistical Office, 2012; NSO, 2018_b; Pathum Thani Province Office, n.d.), women (Nakhon Pathom Provincial Statistical Office, 2012; NSO, 2017; NSO, 2018_b; Official statistics registration systems, Department of Provincial Administration, 2017; Policy and technical services subdivision, 2019; Pathum Thani Province Office, n.d.), age 60-69 years (NSO, 2018_b; Pathum Thani Province Office, n.d.; Policy and technical services subdivision, 2019), stay outside the municipality (Nakhon Pathom Provincial Statistical Office, 2012; NSO, 2018_b; Pathum Thani Province Office, n.d.) except Nonthaburi, the majority of the population lives in the municipality (Nonthaburi Provincial Office, 2016), primary education attainment (Chimjinda, 2012; NSO, 2018_b; Pathum Thani Province Office, n.d.), Buddhist (NSO, 2018_b; Pathum Thani Province Office, n.d.; Strategy and Information for Province Development Group, n.d). They were in retirement age; some do private business without employees, do not work, or are farmers (NSO, 2018_b; Sookanan et al., 2016). Sources of income were from children, work, the old-age allowance (NSO, 2018_b). They have enough money to spend but no savings (Chimjinda, 2012; NSO, 2018_b). Common health problems were chronic illnesses such as hypertension, diabetes mellitus, joint pain, and falling (NSO, 2018_b). The population is 31,837 elderly living alone in the metropolitan

regions. Of these, in Nakhon Pathom 6,756 (4.75%), Nonthaburi 11,662 (5.63%), Pathum Thani 6,086 (4.18%), Samut Prakan 5,252 (2.89%), and Samut Sakhon 2,801 (3.6%), respectively (NSO, 2018_b).

3.2.1.2 Setting

Bangkok is the capital city of Thailand, located in the country's central region and surrounded by metropolitan areas, including Nakhon Pathom, Nonthaburi, Pathum Thani, Samut Prakan, and Samut Sakhon province. Bangkok and the metropolitan areas are a center for economic, political, and cultural management. The east side of Nakhon Pathom province is adjoining Bangkok. The area is 2,168.327 square kilometers, 58.78 percent is an agricultural area (Strategy and Information for Province Development Group, n.d.). Administrative divisions were divided into seven districts, 106 sub-districts, and 904 villages. The seven districts are Mueang (25 sub-districts), Sampran (16 sub-districts), Nakhon Chai Si (24 sub-districts), Kamphaeng Saen (15 sub-districts), Bang Len (15 sub-districts), Don Tum (8 sub-districts), and Phutthamonthon (3 sub-districts).

Nonthaburi province has an area of 622.38 square kilometers. The south and east side is adjacent to Bangkok, and administrative divisions were divided into six districts, 52 sub-districts, and 328 villages. The six districts are Mueang Nonthaburi (4 sub-districts), Pak Kret (7 sub-districts), Bang Bua Thong (7 sub-districts), Bang Yai (6 sub-districts), Bang Kruai (7 sub-districts), and Sai Noi (7 sub-districts) (Nonthaburi Provincial Office, 2016).

Pathum Thani province locates on the north side of Bangkok. The area is 1,525.856 square kilometers, and administrative divisions are divided into seven districts, 60 sub-districts, and 529 villages. The seven districts are Mueang Pathum Thani (14 sub-districts), Khlong Luang (7 sub-districts), Thanyaburi (6 sub-districts), Nong Suea (7 sub-districts), Lat Lum Kaeo (7 sub-districts), Lam Luk Ka (8 sub-districts), and Sam Khok (11sub-districts) (Pathum Thani Province Office, n.d.).

Samut Prakan Province has an area of 1,004.092 square kilometers. The north and west side is adjacent to kilometers, and administrative divisions are divided into six districts, 50 sub-districts, and 405 villages. The six districts are Mueang Samut Prakan (13 sub-districts), Bang Bo (8 sub-districts), Bang Phli (6 sub-

districts), Phra Pradaeng (15 sub-districts), Phra Samut Chedi (5 sub-districts), and Bang Sao Thong (3 sub-districts) (Samut Prakan Provincial Office, n.d.).

Samut Sakhon Province has an area of 872. 347 square kilometers. The east side is adjacent to Bangkok, and administrative divisions are divided into three districts, 40 sub-districts, and 290 villages. The three districts are Mueang Samut Sakhon District (18 sub-districts), Ban Phaeo (12 sub-districts), and Krathum Baen (10 sub-districts) (Policy and Planning Department, Planning and Budget Division, 2019). The public administration and operations, such as administration and public health, are under the same constitution and law. (Ministry of Public Health Inspection Plan Fiscal Year 2017; Pathum Thani Province Office, n.d; Policy and Planning Department, Planning and Budget Division, 2019).

3.2.1.3 Sampling technique

The researcher used multistage random sampling to obtain the sample as follows.

1) The metropolitan regions include five provinces, namely Nakhon Pathom, Nonthaburi, Pathum Thani, Samut Prakan, and Samut Sakhon. The researcher used simple random sampling to identify three provinces from the metropolitan regions, including Nakhon Pathom, Pathum Thani, and Samut Sakhon. The researcher calculated the sample size in each province proportionally from the number of older adults living alone in Nakhon Pathom, Pathum Thani, and Samut Sakhon at 6,756, 6,086, and 2,801, respectively. The total accessible study population was 15,643. The researcher used the G* Power program to calculate the required sample size for this study, and the sample size was 198 (please refer to 3.2.1.7). Then, the researcher applied the probability proportional to size to calculate the sample size in each province. The selected would be 1/79 or 1.26% of the target population. Therefore, the sample groups in Nakhon Pathom, Pathum Thani, and Samut Sakhon provinces were 86, 77, and 35, respectively.

2) Simple random sampling was applied to select one district from each province. This study selected Nakhon Chai Si, Samkhok, and Ban Phaeo from Nakhon Pathom, Pathum Thani, and Samut Sakhon provinces accordingly.

3.2.1.4 Inclusion criteria

The inclusion criteria included 1) population entirely age 60 years or over, who lives alone at least six months in the community, 2) without cognitive impairment, considered from the Mini-Mental State Examination-Thai Version (MMSE-Thai 2002) an unauthorized translation (PAR, 2021). The criteria scores considered from educational attainment with a score of at least 14 in those who did not study, at least 17 in those who obtained elementary education, and at least 22 in those who finished higher than the elementary level., 3) no problem to understand, to speak, and to listen to the Thai language.,4) willing to participate in the study and signed informed consent, and 5) no risk of exposure to COVID-19 and were not during the 14 days of quarantine.

3.2.1.5 Exclusion criteria

The exclusion criteria included 1) while participating in the study, older adults who abrupt conditions that limit the ability to participate in the study; and 2) asked for withdrawing while participating in the study at any point in time.

3.2.1.6 Discontinuation criteria

1) older adults who deceased during the research study; and 2) relocated to another facility.

3.2.1.7 Sample size

The researcher calculated the sample size by using the G* Power program, version 3.1.9.4. The program offers the ability to calculate the power of statistical tests. The G* Power program has a built-in tool for determining effect size if it cannot be estimated from prior literature or is not easily calculable. Cohen (1988) set the criteria effect size for multiple linear regression as 0.02, 0.15, and 0.35, indicating small, medium, and large, respectively. In this study, the sample size was calculated using the principle of power analysis. The researcher calculated the sample size for the multiple regression statistics test. The default setting in the program for power analysis of multiple linear regression as the effect size f=0.15, alpha = 0.05, power = 0.95, and fill out the number of predictors as 11. The G* Program calculates the sample size as 178 (Faul et al., 2009). The researcher added a response rate of 90 percent. Therefore, the actual sample size was 198 (Lindemann, 2019).

3.2.1.8 Instruments

The instrument in phase 1- quantitative phase consisted of 8 parts as follows.

Part 1 The personal data questionnaire includes six questions, a close-ended and open-ended question on age, gender, marital status, length of living alone, educational attainment, and economic status.

Age: participants were asked to identify their age considering the date of birth according to the calendar year until the time of the study counted as a full year; they categorized into three groups: early old age 60-69 years, middle old age 70-79 years, and late old age 80 years or older (NSO, 2018_b).

Gender: participants were asked to identify their gender by choosing either male or female.

Marital status: participants were asked to identify their marital status from choices: single, separated, divorced, and widowed.

Length of living alone: the questionnaire was an open-ended question for participants to specify a living-alone period, then categorized before a statistical test.

Educational attainment: participants were asked to identify their highest level of education from options: no education, primary education, secondary education, vocational certificate, bachelor's degree, higher than bachelor's degree, and others (please specify.....).

Economic status: participants identified their economic status from choices: not enough money for necessary daily expenses and be in debt, not enough money for necessary daily expenses but not in debt, enough money for necessary daily expenses but no savings, and enough money for necessary daily expenses and have money as savings. Moreover identifying the source of income: from children, pensions, earnings, the Old Age Allowance, and others (please specify,...)

Part 2 The Lawton Instrumental Activities of Daily Living Scale (L-IADL), Thai version translated by Phanasathit (2015), was used to measure functional status in older adults living alone. The original version, the L-IADL (Lawton & Brody, 1969), is widely used to assess independent living skills that identify how a person is

functioning at present and for identifying improvement or deterioration over time among older adults in the community clinic and hospital settings. It consists of 8 domains of function, such as using a telephone, and food preparation. The possible score on each domain is 0 or 1. A total score ranges from 0 (low function, dependent) to 8 (high function, independent). The researcher divided functional status into four levels as follows 0 -2 means high dependency, 3-5 means moderate dependency, 6-7 means low dependency, and eight means independent (high function). In the original paper, inter-rater reliability was established at 0.85 (Lawton & Brody, 1969). Kadar et al. (2018) assessed the validity and reliability of the-IADL, Malay version among independent elderly in Malaysia's community. The results showed that the percentages of content validity index for four criteria were from 88.89 to 100.0. The Cronbach's alpha coefficient for internal consistency was 0.84. The intra-class Correlation Coefficient of inter-rater reliability and test-retest reliability was 0.96 and 0.95, respectively. Phanasathit (2017) examined content consistency among older Thai persons. The result found that Cronbach's alpha coefficient was 0.32. The 2-week test-retest reliability using Spearman's rank correlation coefficient resulted as equal to 0.46

Part 3 The Mini-Mental State Examination-Thai (MMSE – Thai 2002), an unauthorized translation (Psychological Assessment Resources, 2021), was used to screen older adults' cognitive levels. The MMSE-Thai 2002 was developed from the Mini-Mental State Examination, original, English version (Folstein et al., 1975). It is extensively used in clinical and research settings to measure cognitive impairment. The MMSE-Thai 2002 consists of 11 simple questions: orientation to time, orientation to place, registration, attention and calculation, recall, language, repetition, and complex commands. Muangpaisan et al. (2015) used MMSE-Thai 2002 to measure cognitive impairment in 50 years and older participants. The average age was 64.2 years in the suburban community, Bangkok Metropolitan. Using MMSE-Thai 2002, the result showed an assessment of cognitive impairment with the sensitivity of 80%, specificity of 86%.

The researcher used the MMSE-Thai 2002 to assess cognitive impairment to screen the older adults who participated in the study. The suggested cut-off point to determine cognitive impairment for illegible was ≤ 14, the primary

level was ≤ 17, and education higher than primary school was ≤ 22 from the total maximum score of 30 points.

Part 4 The Social Participation Scale (SPS) was used to measure social participation in older adults living alone. The researcher modified the Social Participation Scale from the Maastricht Social Participation Profile (MSPP) (Mars et al., 2009), the Keele Assessment of Participation (Wilkie et al., 2005), and constructed from it an operational definition. It consisted of 10 items, such as, "I visited relatives, friends, or neighbors." and "I participated in voluntary activities such as planting trees, etc." Participants responded on a 5-point Likert scale: 1 = Never; 2 = Rarely; 3 = Sometimes; 4= Fairly Often; 5= Very Often. The actual score ranged from 10 to 50, and average scores ranged from 1-5. A higher score indicated a higher social participation level.

Part 5 The Resilience Scale short version (RS 14) was used to measure resilience in respondents. The original Resilience Scale consists of 25 items (Wagnild & Young, 1993). Choowattanapakorn et al. (2010) translated the Resilience Scale to the Thai version to measure the resilience of 422 people age 60 years or over in Sweden and Thailand. The internal consistency estimated using Cronbach's alpha coefficients in the Thai elderly was 0.92 (Choowattanapakorn et al., 2010) and 0.88 (Praparpak, 2011).

The short version of the RS (RS-14) was developed to provide a shorter instrument to reduce the participant's burden (Wagnild, 2009). The RS-14 consists of 14 items were selected from the original RS. Such as "I feel proud that I have accomplished things in life." and "I am friends with myself." It showed good internal consistency reliability at 0.82-0.87 among Finnish age from 17 to 92 years and Polish adolescents and young adults (Losoi et al., 2013; Surzykiewicz et al., 2019). The researcher modified the Resilience Scale Thai version (Choowattanapakorn et al., 2010) and choosing only the 14 items in the short version. The possible score ranges between 14 – 98, and average scores range from 1-7. Higher scores indicated a high resilience level. Ratings below 65 indicated low resilience; between 65 - 81 showed moderate resilience; above 81 was interpreted as high levels of resilience (Wagnild & Young, 1993; Wagnild, 2009).

Part 6 The 13-item Orientation to Life Questionnaire (OLQ-13), the shortened version of the Sense of Coherence 29-item scale (SOC-29) (Antonovsky, 1993), was used to measure a sense of coherence in respondents. Hanucharoenkul et al. (1989, as cited in Rattanavichakul, 2011) translated the SOC-29 into the Thai version and examined nursing staff; the Cronbach's alpha coefficient was 0.85. The internal consistency among 30 older adults' Cronbach's alpha was 0.90 (Sucamvan, 1997, cited in Rattanavichakul, 2011). Naaldenberg et al. (2011) tested the reliability of the OLQ-13 in community-dwelling older adults; the Cronbach's alpha was 0.80. Saravia et al. (2014) measured reliability in 448 Peruvian undergraduate students showed a Cronbach's alpha of 0.80. Limwatthanathawonkul et al. (2018) examined reliability among 97 elderly cancer patients receiving chemotherapy found the Cronbach's alpha coefficient was 0.82.

For this study, the researcher modified the OLQ-13 Thai version, and the shortened version was translated by Hanucharoenkul and modified by Rattanavichakul (2011). The OLQ-13 items were constructed according to three components of the sense of coherence including, comprehensibility (CO), manageability (MA), and meaningfulness (ME). Of 13 questions, eight are positive statements, and the other five are negative statements, including items number 1, 2, 3, 7, and 10. The researcher reversed the score in a negative statement before using the statistic test. For example, a negative item is 7, use one in new value; for six use 2; for five use 3.

The response alternatives are the Guttman scale of 1 point to 7 points, where the possible score ranges between 13 and 91 points and average scores range from 1-7. A high score indicated a person has a high sense of coherence level.

Part 7 The Perceived Stress Scale 4 (PSS-4) was used to measure perceived stress in respondents. The researcher modified the PSS-4, a Thai version translated by Wongpakaran and Wongpakaran (2010). The Perceived Stress Scale is one of the popular tools for measuring psychological stress. It is a self-reported questionnaire designed to evaluate the degree to which individuals appraise situations in their lives as stressful during the previous month (Cohen et al., 1983). The assessed items are general rather than focusing on specific events or experiences. The PSS-4 consists of 4 items, two states negatively (item No. 1 and 2), and two states positively.

The respondents were asked to rate their stress over the past month. Participants responded on a 5-point Likert scale for positive state items.: 1 = Never; 2 = Rarely; 3 = Sometimes; 4 = Fairly Often; 5 = Very Often. for negative state items. 5 = Never; 4 = Rarely; 3 = Sometimes; 2= Fairly Often;1 = Very Often. The possible score ranges from 4-20. Higher scores indicated more perceived stress.

Several studies showed the internal consistency reliability of the PSS-4 at a good level, such as Cronbach's alpha coefficient was 0.82 in adults who are survivors of suicide (Mitchell et al., 2008), 0.69 in the Greek population (Andreou et al., 2011), 0.73 in Multiple Sclerosis patients (Wu & Amtmann, 2013), and 0.83 among Thai fathers (Nunchai et al., 2016). The PSS-4 psychometric properties among the Spanish adult population (n = 37,451) presented the scale's internal consistency of 0.74 (Cronbach's alpha). The Spearman-Brown split-half reliability coefficient was 0.76 (Vallejo et al., 2018).

Part 8 The Subjective Happiness Scale (SHS) Thai version, translated by Boonyasiriwat (n.d.). The researcher modified it to measure SWB in participants. Lyubomirsky and Lepper (1999) developed the SHS to assess an individual's overall happiness, both affective and cognitive judgment, as measured through self-evaluation. Since the current measures of SWB either evaluate one of its two components (affective or cognitive) or were single-item global evaluations, which were not conducive to testing psychometric properties. Thus, participants were typically asked to rate their levels of positive and negative affect over a particular period or to make a judgment of their overall life quality. The missing is a measure of overall subjective happiness. That is a global subjective assessment of whether one is a happy or unhappy person. A person reporting that they are happy or unhappy, this judgment is unlikely to compare to the sum of their level of happiness and satisfaction in life. For example, some people may assess themselves as very happy even if they only have a somewhat happy life. On the other hand, some persons may identify themselves as generally unhappy people, but they feel satisfied in the previous month.

Lyubomirsky and Lepper (1999) validated the SHS in 14 studies. The 2,732 participants were students, community adults, and older adults in the United States and Russia. The results indicated that the SHS has high internal consistency; the Cronbach's alpha reliability ranged from 0.79 to 0.94, which was stable across samples.

Test-retest reliability ranging from 0.55 to 0.90 and constructed validation studies of convergent and discriminant validity confirmed the use of this scale to measure the construct of subjective happiness. These results showed that even if the SHS was short, it provided a minimum psychometric criterion for measurement accuracy (Lyubomirsky & Lepper, 1999).

The SHS has been translated into many languages to measure SWB and its adequate psychometric properties, factorial stability, and briefness. For example, Chien et al. (2020) investigated the convergence between the SHS Chinese version (SHS-C) and multidimensional SWB (MSWB) in 543 college students. The SHS-C showed adequate internal consistency reliability and test-retest reliability. Confirmatory factor analysis (CFA) showed a one-factor structure of the SHS-C and multi-group. In addition, CFA showed factor invariance between gender groups. The subjective happiness, as measured by the SHS-C, and MSWB, as measured by life satisfaction, positive affect, and negative affect, were highly correlated (above 0.90), suggesting convergent validity. The results provide preliminary evidence that the SHS -C, and MSWB may be interchangeable. Portugal version, Cronbach's alpha coefficients ranged from 0.73 (group aged 30–34 years) to 0.80 (group aged 25–29 years) (Spagnoli et al., 2012). The Spearman-Brown Correlation Coefficient was 0.77, and the Intraclass Correlation Coefficient (ICC) was 0.87 (Chronic kidney disease patients) (Sousa et al., 2017). Brazilian version, the Alpha coefficient was 0.84 (Brazilian age 18-70 years) (Damásio et al., 2014), and the Chinese version was 0.82 (Nan et al., 2014). In the Thai version, Cronbach's alpha was 0.68 (students) (Kijpitak, 2013).

The SHS is composed of four items. The answer given on a visual analogical scale with seven positions was based on two negative statements, which expressed the level of happiness or lack. On the two items (the second and third items), respondents were asked to characterize and compare themselves with others, both in absolute and relative terms; the two other items correspond to descriptions of happiness and unhappiness. A single composite score was computed by averaging the responses to the four items. Question 4 is "reverse coded" with a descending sequence. The scores range from 1.0 to 7.0. The possible score ranges from 4 to 28, and average scores range from 1-7. A higher score reflects greater happiness or SWB.

If the average score is more significant than 5.6, it shows happier than the average person (Lyubomirsky & Lepper (1999).

3.2.1.9 Assessment of the psychometric of instruments

The researcher checked the Item Objective Congruence (IOC) Index and Internal consistency reliability for the quality of the instruments, as follows.

1) Item Objective Congruence (IOC) Index. The researcher submitted the instruments to five experts including, an independent scholar (field of geriatric nursing), two nurse instructors field of geriatric nursing and field of community health, a Public Health Technical Officer (experienced Level), and a statistician to examine content validity. The Item Objective Congruence (IOC) Index was used to evaluate the congruencies of the items. The five experts have chosen one answer from these three alternatives of choices;

1 = congruent to the study,

0 = uncertain whether item related to the study, and

-1= incongruent to this study.

The researcher calculated IOC by the equation: IOC = $\frac{\Sigma R}{N}$

IOC = The Item Objective Congruence Index

ΣR = Total points of each expert

R = Point given by experts

N = Numbers of experts

The acceptable scores for each item were equal to or greater than 0.50. The items with a score of less than 0.5 and got advice were revised according to the recommendations. The items with scores equal to or higher than 0.5 and no advice were reserved (Laksana, 2018). The IOC of part 1: Personal data questionnaire, part 2: The Lawton Instrumental Activities of Daily Living Scale (L-IADL), part 3: Mini–Mental State Examination: Thai version (MMSE–Thai 2002), part 4: Social Participation Scale (SPS), part 5: Resilience Scale short version (RS14), part 6: 13-item of the Orientation to Life Questionnaire (OLQ-13), part 7: Perceived Stress Scale 4 (PSS-4), and part 8: Subjective Happiness Scale (SHS) were 0.90, 0.93, 1.00, 0.88, 0.90, 0.95, 0.90, and 0.80, respectively.

2) Internal consistency reliability. After the Ethical Review Sub-Committee had approved the proposal for Research Involving Human Research Subjects of Thammasat University No. 3, the researcher was trying out the instruments with 30 older adults who were similar to the sample. Then Cronbach' s alpha coefficient was used to calculated and acceptable at 0.70 or higher (Cortina, 1993; Laksana, 2018). According to trying out, Cronbach's alpha coefficient as followed Social Participation Scale (SPS) was 0.87, Resilience Scale short version (RS14) was 0.78, 13-item of the Orientation to Life Questionnaire (OLQ-13) was 0.71, Perceived Stress Scale 4 (PSS-4) was 0.72, and SHS was 0.79, so the instruments were reliable.

3.2.1.10 Data collection

The researcher collected the data in the following order.

1) Submitted the research protocol for approval from the Ethical Review Sub- Committee Board for Human Research Involving Sciences, Thammasat University, No. 3

2) Improved the research protocol according to the recommendations of the Ethical Review Sub-Committee Board for Human Research Involving Sciences, Thammasat University, No. 3

3) Submitted a permission letter for data collection from the Faculty of Nursing, Thammasat University, the research protocol, and certificate of approval from the Ethical Review Sub-Committee Board for Human Research Involving Sciences, Thammasat University, No. 3 to the Provincial Public Health Medical Doctor, Nakhon Pathom Province, Provincial Public Health Medical Doctor, Pathum Thani Province, and Provincial Public Health Medical Doctor, Samut Sakhon Province.

4) After being allowed to collect the data from the Provincial Public Health Medical Doctor. The researcher coordinated with Nakhon Chai Si District Health Office, Nakhon Pathom, Samkhok District Health Office, Pathum Thani, and Ban phaeo District Health Office, Samut Sakhon, then got the sub-district health officers' name and telephone number to coordinate with.

5) Coordinated with the coordinators (sub-district health officers) to collect the data with the older adults who live alone in their service area. The researcher explained the characteristics of the desired respondents, important

information such as human subject rights, research purpose, estimate time to complete the questionnaires, and incentives. The researcher did not collect data with those with a history of contact with the COVID-19 patient or entering the risk areas.

6) The coordinators checked the name list. Everyone in the name list was invited to participate in collecting the data. In case of willingness to participate, the coordinator made an appointment for data collection.

7) In either the case of the participants who prefer to provide information at the Sub-District Health Promotion Hospital or ones who choose to provide information at their home, the steps of collecting data are as follows:

(1) The researcher screened the participants before entry in the meeting room by following the recommendations on the prevention and control of COVID-19 for meetings (Department of Disease Control, 2020); for instance, provided alcohol hand sanitizer, wore face masks, and performed social distancing.

(2) By herself, the researcher collected the data by meeting the respondents in a private area (room), with a privacy and distraction-free environment.

(3) In the meeting room, the researcher clarified human subject rights and research purpose, then willingly asked about informational consent before collecting data.

(4) The researcher asked the participants to fill out the questionnaire by themselves and with the help of the researcher if needed by allowing them to take a break when they were tired or needed. Data collection took about 10-40 minutes per person.

(5) The researcher stayed with the participants all the time until they completed the questionnaire. Then, check the completeness of the data.

(6) For the respondents who were unable to respond to the questionnaires due to any reason such as particular functional limitations, the researcher facilitated and then allowed them to select an answer on their own.

(7) In the case of the respondents who inconvenient to provide information at the Sub-District Health Promotion Hospital. First, the coordinator assigned an officer or village health volunteer to take the researcher to the meeting

point. Then, the researcher and the village health volunteer went to the respondents' houses by separate cars.

(8) The obtained data were analyzed statistically.

3.2.1.11 Data analysis

The researcher analyzed the quantitative data by using the software program, determined the statistical significance at 0.05. The data analysis process was done as follows:

1) Descriptive statistics like frequency and percentages were used to analyze the personal factors, including gender, marital status, educational attainment, economic status, and functional status.

2) Descriptive statistics like frequency, percentages, means, standard deviations, skewness, and kurtosis were used to analyze the personal factors, including age and length of living alone.

3) The researcher used a mean, standard deviation, skewness, and kurtosis, to examine the psychosocial factors, including social participation, resilience, sense of coherence, perceived stress, and SWB.

4) Assumptions of hierarchical multiple regression were examined. First, it met the assumptions, and then the researcher used hierarchical multiple regression to analyze factors predicting SWB in older adults living alone (Field, 2008).

3.2.2 Phase 2: Qualitative approach

The qualitative descriptive design was used to explore the participants' perspective of SWB related to the predictive factors in older adults living alone (Koh & Owen, 2000).

3.2.2.1 Population

The population in the qualitative phase were the participants in the quantitative phase, who had a high SWB score.

3.2.2.2 Participants

The researcher employed a purposive sampling technique to select participants from phase 1 according to their outstanding score on SWB (Creswell, 2012; Palinkas et al., 2015). This technique was used to select participants to ensure the study held relevance and personal significance to respond. It also enabled the

researcher to capture details on a specific group of individuals who have experienced a particular phenomenon under investigation richness and depth. That was to understand the perspective of SWB relation with predictive factors among older adults living alone.

3.2.2.3 Sample size

There are no rules regarding how many participants should be included in the qualitative descriptive design (Pietkiewicz & Smith, 2014). The researcher explored the data of the research questions and all subsequent pertinent questions arising from the data (Richards, 2009). Data Saturated with a total of 14 participants, then the recruitment was terminated.

3.2.2.4 Data collection

1) The researcher arranged the name lists of participants by considering the SWB scores. The participant with the highest scores was the first on the name list. Then the following highest scores were a rank of 2, and so on.

2) The researcher coordinated with the cooperator to contact the participants by name list, starting with the first name to make an appointment. In the setting, most of the areas were rural and unfamiliar. Suppose an appointment place cannot identify on Google Maps, the researcher coordinated with the coordinator to guide. If the appointment place could go by herself, the researcher made an appointment with the informant and met the informant herself. The interview place depended on the participant's convenience, including the participant's home, the pavilion in the gated village, and sub-district health hospital. The researcher strictly followed the recommendations on the preventing and controlling of COVID-19 (Department of Disease Control, 2020); for instance, the researcher provided alcohol hand sanitizer, wore face masks, checked body temperature, and performed social distancing.

3) The researcher collected data using in-depth interviews and non-participant observation methods, which are reported as follows.

(1) In-depth interviews using semi-structured and open-ended questions. The researcher asked for permission to take notes and to audiotape record the interview before being interviewed. The duration of the interview approximately ranged from 10 minutes - 45 minutes.

(2) Non-participant observation; to support the information more clearly and used to check the reliability of the research, the researcher observed and recorded the behavior and context related to the participants (Pietkiewicz & Smith, 2014).

(3) The researcher collected and analyzed the data from the first participant. Then, the data from the second participant and the next participant until the data was saturated; that was, getting repeated data, no new information was discovered in data analysis at 14 cases. Therefore, the participants' recruitment was terminated.

3.2.2.5 Instruments

The qualitative approach tools consisted of

1) Researcher: the researcher had sufficient information about the issues of the study, including knowledge of qualitative research, and had skill training from the Ph.D. program, Faculty of Nursing Thammasat University.

2) Instruments were used to collect data, including

(1) Interview guidelines, the semi-structured and open-ended questions, applied as a guideline for in-depth interviews on attitudes, beliefs, and thoughts of SWB in older adults living alone. The interview guidelines were constructed by the researcher and then examined by the five experts. The questions focus on SWB by relating to the predictive factors in the participants' view. The postulate questions like “What do you do and feel happy.?” “What do you think about your current life situation, what makes you think like that?” and “How do you think income is related to your happiness? Please explain.?” In addition to the main questions, the researcher had a probe question, depending on the participants' answers.

(2) Field notes were used to record the environment and context involved when interviewing, such as the date and time of the interview, gender, environment, etc. The information was used to comprehensive understanding the participant perspective.

(3) The memo was used to record steps in research about the researcher’s decision-making, operation, and behavior to remind memory in each step

of doing the research, what do, how, and why. The memo, therefore, helped clarify the thinking process about the research study.

(4) Data recording tools included an audio tape recorder, a pen, and a notebook.

3.2.2.6 Data analysis

The data analysis procedure continued throughout the data collection period. It began at the first interview and continued and modified throughout the study. The knowledge gained from the interview and analysis process accumulated until saturated. In analyzing the data, the analytic induction approach was an emergent framework to group the data and then look for the relationship using content analysis to analyze data (Graneheim & Lundman, 2004). The process was as follows.

Step 1: Read and reread text from transcribed interview texts word by word (verbatim) several times to obtain a sense of the whole.

Step 2: Dividing up the text into meaning units, consider from words, sentences, or paragraphs that relate to the same central meaning.

Step 3: Condensed meaning unit by shortening a meaning unit while still preserving the core (condensation).

Step 4: Developing codes that were descriptive labels for the condensed meaning units.

Step 5: Creating sub-categories by grouping similar codes.

Step 6: Creating categories by grouping the sub-categories that shared a commonality. The data related to the purpose were included in a suitable category.

Step 7: Creating themes by linking the underlying meanings and categories together.

The researcher conducted member checking and scrutinized the conclusions with participants.

3.2.2.7 Trustworthiness

The researcher created trustworthiness to ensure the rigor of the study. It involves establishing credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985).

1) Credibility: The techniques applied to establish credibility in this study were: (1) Triangulation. Data collection in multiple methods includes in-depth interviews using semi- structured and open- ended questions, non- participant observation, and field notes; (2) The researcher established a good relationship for trust; (3) Member checking. The researcher shared and debriefing the conclusion with the participants. The participants clarified their intentions, corrected, and provided additional information. This process was done until there were no new suggestions or information as each participant agreed with the data.

2) Transferability: The researcher described the methods, sample selection, instruments to provide readers with a crystal clear understanding of the research process and can apply the research to other contexts in which situations, populations, and phenomena may appear similar to this study.

3) Dependability: The researcher documented research design, methods, data collection, instruments, and data analysis. So, the reader can follow the research process.

4) Confirmability: The researcher recorded and collected the documents so they could be audited. The audit trailed every step of data analysis and provided a rationale for the decisions made. In addition, it helped establish that the research study's findings were based on participants' responses and not on any potential bias or personal motivations of the researcher.

3.2.3 Integration

The advantage of both quantitative and qualitative approaches was used to understand better how do older adults living alone described their perspective of SWB. Therefore, the quantitative data and qualitative data are connected in the Integration stage. In this stage, the quantitative results provided a strong predictor of SWB in older adults living alone. Then, the qualitative data explained the quantitative results by exploring participants' views on SWB related to predictive factors in greater depth. The visual diagram of this study is shown in figure 3.1. Next, the researcher examined whether the quantitative and qualitative results were consistent or different and then discussed the results (Chanasith & Pasunon, 2018; Creswell & Creswell, 2018; Creswell & Hirose, 2019; Guetterman et al., 2015.

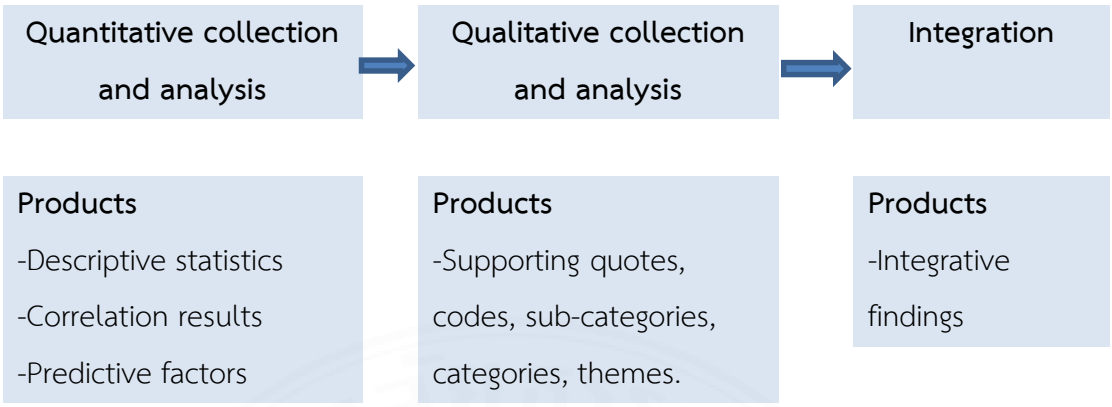

Figure 3.1 *Visual diagram for explanatory sequential mixed methods design of this study*

CHAPTER 4
RESULTS AND DISCUSSION

The purpose of this study was to explore the predictive factors of SWB in older adults living alone. In Phase 1, the researcher collected quantitative data from 198 older adults living alone. In Phase 2, the qualitative part of the study was performed by collecting data until the data were saturated with a total of 14 participants. The quantitative results are presented first, followed by the qualitative results and integrative findings, respectively.

4.1 Phase 1: Quantitative results

Phase 1: During January 2021-March 2021, quantitative research examined the factors predicting the SWB of 198 older adults living alone in metropolitan areas. Data were analyzed by using the Statistical Program for Social Sciences (SPSS). The results of the data analysis are presented with a table accompanying the details as follows.

Part 1 - Descriptive statistics of selected factors and subjective well-being

Part 2 - Associated between selected factors and subjective well-being

Part 3 - Predictive power of selected factors on subjective well-being

Part 1 - Descriptive statistics of selected factors and subjective well-being

4.1.1 Personal data

The highest percentage of participants was female (68.7%) with ages ranging from 70-79 years (42.4 %), previous married status (64.1%), living alone for less than or equal to 20 years (70.2%), completion of primary education (83.3%), sufficient income to cover necessary daily expenses (58.6%), and had high functional status (independent) (59.1%), as shown in Table 4.1.

Table 4.1

Descriptive statistics of personal data (n=198)

Personal data	Frequency	Percentages
Gender		
Male	62	31.3
Female	136	68.7
Age (Years) Means = 74.11 (SD = 7.66), Range=61-93, Skewness = 0.31, Kurtosis = - 0.79		
60-69	62	31.1
70-79	84	42.4
≥ 80	52	26.3
Marital status		
Single	71	35.9
Previously married	127	64.1
Length of living alone (Years) Means = 16.60 (SD = 12.77), Range= 0.58-60, Skewness = 0.87, Kurtosis = 0.10		
≤20	139	70.2
21-40	50	25.3
≥41	9	4.5
Educational attainment		
No education	27	13.6
Primary education	165	83.3
Higher education	6	3.0
Economic status		
Insufficient income for necessary daily expenses	82	41.4
Income sufficiency for necessary daily expenses	116	58.6
Functional status Means = 7.07 (SD = 1.46), Range=1-8		
High dependence	3	1.5
Moderate dependence	26	13.1
Low dependence	52	26.3
High independence	117	59.1

4.1.2 Psychosocial factors and subjective well-being

The participants had an average score of social participation, resilience, sense of coherence, perceived stress, and SWB at 2.80 (SD = 1.02), 5.92 (SD = 0.84), 4.45 (SD = 0.84), 3.53 (SD = 0.84), and 4.91 (SD = 1.15) with a normal distribution (skewness = 0.18, kurtosis = -0.67; skewness = -1.01, kurtosis = 1.04; skewness = -0.05, kurtosis = -0.05; skewness = -0.15, kurtosis = -0.60; skewness = -0.25, kurtosis= -0.25) respectively, as shown in table 4.2.

Table 4.2

Descriptive statistics of psychosocial factors and SWB (n=198)

Variables	Mean	SD	Skewness		Kurtosis	
			statistic	SE	statistic	SE
Social participation	2.80	1.02	0.18	0.17	-0.67	0.34
Resilience	5.92	0.84	-1.01	0.17	1.04	0.34
Sense of coherence	4.45	0.84	-0.05	0.17	-0.05	0.34
Perceived stress	3.53	0.84	-0.15	0.17	-0.60	0.34
SWB	4.91	1.15	-0.25	0.17	-0.25	0.34

Part 2 - Association between selected factors and subjective well-being

4.1.3 Association between selected factors and subjective well-being

Pearson's Product Moment Correlation Coefficient was conducted to examine the association between selected factors and SWB. The findings accepted the research hypothesis that personal factors, namely economic status (income sufficiency), functional status, and psychosocial factors, namely social participation, resilience, sense of coherence, and perceived stress, were significantly correlated with the SWB of older adults living alone ($r = 0.22$, $r = 0.26$, $r = 0.32$, $r = 0.38$, $r = 0.44$, $r = 0.30$, respectively, $p < 0.01$). And the findings rejected the research hypothesis that age, gender, marital status, length of living alone, and educational attainment were significantly correlated with the SWB of older adults living alone, as shown in Table 4.3.

Table 4.3

Association between predictors and SWB (n=198)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. AGE	-												
2. GEN	-.049	-											
3. SIN	-.077	-.187**	-										
4. LOL	.201**	-.074	.263***	-									
5. FED	-.185**	.010	.024	-.119	-								
6. HED	-.149*	.071	-.009	.148*	-.395***	-							
7. ENO	-.129	-.051	-.013	-.107	.064	.149*	-						
8. FNC	-.294***	-.070	-.015	.029	.050	.113	.195**	-					
9. SP	-.283***	.013	.052	-.112	.149*	.157*	.127	.376***	-				
10. RS	-.219**	-.016	-.082	-.140*	.150*	.082	.210**	.429***	.528***	-			
11. SOC	-.101	.029	.014	-.081	.094	.089	.236***	.073	.197**	.189**	-		
12. PS	-.154*	.124	-.066	-.046	.031	.100	.159*	.235***	.282***	.411***	.312***	-	
13. SWB	-.132	-.060	-.027	-.077	.137	.046	.220**	.256***	.316***	.381***	.435***	.295***	-

Note. *VAR= Variable, AGE = Age, GEN = Gender, SIN = Marital status (single), LOL = Length of living alone, FED = Educational attainment (primary education), HED = Educational attainment (higher education), ENO = Economic status (income sufficiency), FNC = Functional status, SP = Social participation, RS = Resilience, SOC = Sense of coherence, PS = Perceived stress, SWB = Subjective well-being.*

**p <.05, ** p <.01, *** p <.001*

Part 3 Predictive power of selected factors on subjective well-being

4.1.4 Factors predicting subjective well-being in older adults living alone

Hierarchical multiple regression analysis was used to test the predictive power of the 12 variables (age, gender, marital status (single), length of living alone, educational attainment (primary education), educational attainment (higher education), economic status (income sufficiency), functional status, social participation, resilience, sense of coherence, and perceived stress on SWB). In the 2-step regression analysis by using the enter method, it was found two variables were found to significantly predict SWB, namely resilience and sense of coherence.

Step 1: Tested the predictive power of the personal factors including age, gender, marital status (single), length of living alone, education attainment (primary

education), education attainment (higher education), economic status (income sufficiency), and functional status toward SWB. Economic status (income sufficiency) (β = 0.151, $p < 0.05$) and functional status (β = 0.208, $p < 0.01$) were found to be able to predict SWB at 11.70% (R^2= 0.117, F=3.137, $p < 0.01$). Economic status (income sufficiency) and functional status were significantly related to SWB (t_{ENO} =2.109, p = 0.036, t_{FNC} =2.827, $p < 0.01$), which explains that economic status (income sufficiency) affects the SWB of older adults living alone differently from economic status (income insufficiency). A higher functional status score increased SWB scores, while other variables did not affect SWB.

Step 2: Test the predictive power of personal factors and psychological factors, including social participation, resilience, sense of coherence, and perceived stress toward SWB. It was found that resilience (β = 0.18, $p < 0.05$) and sense of coherence (β = 0.34, $p < 0.001$) jointly predicted SWB by 31.20% of the variance (R^2 = 0.312, F = 7.00, $p< 0.001$). Sense of coherence (SOC) and resilience (RS) were found to be significantly related to SWB (t_{SOC} =5.14, p = 0.00, t_{RS} =2.28, $p < 0.05$). The results can be explained in that a higher sense of coherence score increased SWB, and a higher resilience score increased SWB, while other variables did not affect SWB.

Based on the results of this study, the research hypothesis that resilience and sense of coherence could predict the SWB of older adults living alone is accepted. The findings rejected the research hypothesis that age, gender, marital status, length of living alone, functional status, educational attainment, economic status, social participation, and perceived stress could predict the SWB of older adults living alone, as shown in Table 4.4.

Predictive power changed after psychological factors were added at this stage. Income sufficiency and functional status could not predict SWB. The multiple linear regression model of SWB in older adults living alone in raw scores (unstandardized) is shown in the following equation:

$$Y' = b_0 + b_1 RS + b_2 SOC$$

Where Y' = SWB of the older adults living alone

b_0 = Constant term of Unstandardized Coefficient (-0.02)

b_1 = Unstandardized Coefficient of RS (0.25)

b_2 = Unstandardized Coefficient of SOC (0.46)

The predictive equation is as follows:

SWB of the older adults living alone = -0.02+0.25 (RS)*+0.46 (SOC)***

The regression equation presented that resilience and sense of coherence positively influenced SWB in older adults living alone in metropolitan areas. The unstandardized coefficient of resilience was 0.25. When the other value of independent variables was fixed, the resilience score increased by 1 unit, while the SWB of the older adults living alone increased by 0.25 units. The unstandardized coefficient of sense of coherence was 0.46. When the other value of independent variables was fixed, the sense of coherence score increased by 1 unit and the SWB of the older adults living alone increases by 0.46 units, while other variables did not affect SWB.

The standardized equation (standard score) to predict the SWB of older adults living alone as follows:

$Z_Y = \beta_1 Z_1 + \beta_2 Z_2 + \ldots + \beta_k Z_k$

Z_Y = Predicted standard score for Y

$\beta_1, \beta_2, \ldots \beta_k$= Standardized coefficients beta of predictor variables

$Z_1, Z_2 \ldots Z_k$ = standardized score for predictor variables

K = Number of predictors

The equations model of this study is shown below:

$Z_{SWB} = 0.18 (Z_{Resilience}) + 0.34 (Z_{Sense\ of\ coherence})$

The researcher tested the assumptions for multiple regression analysis before applying hierarchical multiple regression analysis. The results showed no collinearity and multicollinearity (Table 4.3). There was no auto-correlation, while Durbin-Watson was 1.84. The researcher applied normal probability plots and scatter plots checking the homoscedasticity of residuals. The results showed no heteroscedasticity (Homoscedasticity).

Table 4.4

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

Predictor Variable	Model 1 Personal factors				Model 2 Personal and Psychosocial factors			
	b	β	t	*p*	b	β	t	*p*
Constant Term	3.443		3.120	.002	-.018		-.017	.987
AGE	-.001	-.009	-.120	.905	.002	.015	.212	.832
GEN	-.128	-.052	-.736	.462	-.175	-.071	-1.121	.264
SIN	-.049	-.021	-.281	.779	-.070	-.029	-.447	.656
LOL	-.005	-.057	-.756	.451	.000088	.001	.014	.988
FED	.415	.135	1.739	.084	.163	.053	.751	.453
HED	.427	.064	.804	.422	-.076	-.011	-.158	.875
ENO	.350	.151	2.109	.036	.133	.058	.879	.381
FNC	.163	.208	2.827	.005	.069	.088	1.222	.223
SP					.106	.094	1.233	.219
RS					.248	.183	2.283	.024
SOC					.464	.341	5.137	.000
PS					.089	.066	.928	.355
R	.342				.559			
R^2	.117				.312			
R^2 Change	.117				.195			
F	3.137				6.997			
Significant F	.002				.000			
F Change	3.137				13.109			
Sig F Change	.002				.000			
Durbin Watson	1.703				1.841			

4.2 Phase 2: Qualitative results

The analysis of the in-depth interviews of 14 older adults living alone who had outstanding SWB scores answered research Questions 2 and 3. Research question 2: How do older adults living alone describe their perspective of SWB?"

Research question 3: To what extent and how do age, gender, marital status, length of living alone, functional status, educational attainment, economic status, social participation, resilience, sense of coherence, and perceived stress predict SWB among older adults living alone?

The results section of the qualitative phase began with an overview of qualitative participant demographics and SWB scores. Next, themes, sub-categories, and categories are presented.

4.2.1 Participants (n=14)

Pseudonym P01 as the first participant and all participants were given numbers in order until the last participant was identified as P14.

The participants were aged 63-82 years with 12 females, and 2 males. Marital status was 8 widowed, 5 single, and 1 separated. Length of living alone was between 1.5 - 45 years. 13 participants had full scores on the Lawton Instrumental Activities of Daily Living Scale; only one participant obtained 7 of 8 points (low dependency). In the category, "Ability to Use Telephone", one participant did not have a telephone, so she selected "does not use telephone at all". Three participants had no education; 11 participants had completed primary education. On economic status, 5 participants did not have sufficient income to cover necessary daily expenses, but were not in debt, while 5 participants had income sufficiency for necessary daily expenses, but no savings; 3 participants had income sufficiency for necessary daily expenses necessary daily expenses and savings. One participant did not have income sufficiency to cover necessary daily expenses and was in debt. In total, 9 participants obtained full SWB scores (28 points); 3 participants obtained 27 points, and 2 participants obtained 26 points. Table 4.5 provides an overview of the demographic information of the participants.

Table 4.5

Overview of qualitative participant demographics and SWB scores (n = 14)

Pseudonym	Age (Years)	Gender	Marital status	Length of living alone (Years)	Functional status	Educational attainment	Economic status	SWB scores
P01	82	Female	Widowed	6	Independent	No education	No income sufficiency for necessary daily expenses, but not in debt.	28
P02	63	Female	Single	9	Independent	Primary education	Income sufficiency for necessary daily expenses, but no savings.	28
P03	64	Female	Widowed	20	Independent	Primary education	No income sufficiency for necessary daily expenses and in debt.	28
P04	68	Female	Single	7	Independent	No education	Income sufficiency for necessary daily expenses, but no savings.	28

Table 4.5

Overview of qualitative participant demographics and SWB scores (n = 14) (cont.)

Pseudonym	Age (Years)	Gender	Marital status	Length of living alone (Years)	Functional status	Educational attainment	Economic status	SWB scores
P05	70	Female	Widowed	5	Independent	Primary education	Income sufficiency for necessary daily expenses, but no savings.	28
P06	70	Female	Widowed	30	Independent	Primary education	Income sufficiency for necessary daily expenses, but no savings.	28
P07	72	Female	Single	30	Independent	Primary education	No income sufficiency for necessary daily expenses, but not in debt.	28
P08	73	Male	Separated	10	Independent	No education	No income sufficiency for necessary daily expenses, but not in debt.	28

Table 4.5

Overview of qualitative participant demographics and SWB scores (n = 14) (cont.)

Pseudonym	Age (Years)	Gender	Marital status	Length of living alone (Years)	Functional status	Educational attainment	Economic status	SWB scores
P09	79	Female	Widowed	8	Independent	Primary education	Income sufficiency for necessary daily expenses and savings	28
P10	78	Female	Widowed	15	Independent	Primary education	Income sufficiency for necessary daily expenses, but no savings.	27
P11	65	Male	Widowed	26	Independent	Primary education	No income sufficiency for necessary daily expenses, but not in debt.	27
P12	69	Female	Widowed	1.5 year	Independent	Primary education	Income sufficiency for necessary daily expenses and savings	27

Table 4.5

Overview of qualitative participant demographics and SWB scores (n = 14) (cont.)

Pseudonym	Age (years)	Gender	Marital status	Length of living alone	Functional status	Educational attainment	Economic status	SWB scores
P13	75	Female	Single	20	Independent	Primary education	No income sufficiency for necessary daily expenses, but not in debt.	26
P14	81	Female	Single	45	Low dependent	Primary education	Income sufficiency for necessary daily expenses and savings	26

4.2.2 Themes

The qualitative results identified the following two main themes: 1) meaning of SWB from the perspectives of older adults living alone and 2) perspectives of older adults living alone on selected factors involved with SWB. Each of the themes contains categories revealed during the process of the in-depth interviews.

4.2.2.1 Meaning of subjective well-being

Concerning the meaning of SWB from the perspectives of older adults living alone, the participants expressed a consistent definition of SWB into the following three categories: health status, economic status, and social support.

1) The participants defined SWB as health status and described health status as follows: (1) healthy (no illness) (P01) (P02) and good health (P09); (2) good mental health (no overthinking) (P01) (P04) (P11), no chaos (P12), no troubles (P06) (P02) (P08) (P13), and no trouble from other people (P10).

2) The participants defined SWB as economic status and described economic status in terms of SWB as income sufficiency (P03) (P07) (P14) (P09).

3) The participants defined SWB as social support and described social support as having people who cared about them. (P03) (P05) (P09), or having caregivers, (P03), receiving things (P05), having children visit (P10), and having the participants' kids take care of them (P09).

Examples of the attributes of the meaning of SWB are reflected in the following statements: "*Don't think too much, and you won't get sick*." (P01); "*All I have to do is live comfortably and not overthink things, and I'm happy*." (P01); "*I use whatever I have, since I don't have to stress a lot about anything*." (P11); "*Everyone lives separately, and I don't interact with anyone*." (P12); "*I'm not troubled, and I live comfortably.*" (P13); "*I have money to feed myself*." (P03); "*It's my happiness. My children making or buying things for me makes me happy.*" (P05); "*I am well-provided for. I am healthy. And my children are good.*" (P09); "*I am at peace. There isn't a lot of trouble or anyone causing trouble. I am happy, and my children visit every week.*" (P10).

Therefore, the researcher concluded that the meaning of SWB in older adults living alone based on the participants' perceptions was a perceived health status as good physical and mental health, which consisted of no illness, good health, not overthinking, no chaos, no troubles and no trouble from other people. Together with perspectives on economic status, income sufficiency to enable spending and receiving social support by having people who care about them such as caregivers, receiving things, having children visit, and having kids take care of them.

4.2.2.2 Perspectives of older adults living alone on selected factors involved in subjective well-being

The 14 participants expressed their perceptions of selected factors related to SWB, which were identified as follows:

1) Nine of the 14 participants perceived that age was not related to SWB. They felt at ease and in good health. The following quotes support this view: "*Age is just a number*." (P08); "*Happiness is the same*." (P14). Five of the 14 participants perceived that age was related to SWB; in this number, three participants reported

getting older and feeling more comfortable. Since they were young, they had had to work hard to raise their children. Later on, when they got older, their children were working and gave them money. They did not have to work as hard as before. An example quote was, "*When I was young, I had difficulty. Now, I am quite comfortable. I can do or not do anything. No one says anything about it.*" (P12). On the contrary, two participants reported that growing old was a burden to other people. One of them worried that being an older person and living alone would make their children worried. There would be no one to see in case they got sick or had an unexpected event. Another had little anxiety, sometimes thinking whether her child would take care of her or not. Both of them had kids who came to visit and gave them money and other things regularly. Example quotes were: "*It seems to trouble other people. They worry about me*." (P01); "*I think about whether they'll take care of me or not. My children have to take care of me, but I think it myself*." (P05).

2) Nine of the 14 participants reported that their gender had nothing to do with their SWB. The example quotes were: "*It's irrelevant*." (P09) and "*Indifferent*." (P12). Five of the 14 participants were satisfied with their gender. The example quotes were: "*I am happy with my female sexuality*." (P04) and "*No trouble, I live comfortably.*" (P14).

3) Nine of the 14 participants perceived that marital status was not related to SWB. They perceived indifference and thought nothing. Some quotes were presented as follows: "*I feel so indifferent*." (P01); "*I stay comfortable, not serious, and think nothing*." (P03). Four participants' perceived that marital status was related to SWB since being single involved less responsibility than being married; it was comfortable with no burdens. They had freedom in their lives as in the following sample quotes: "*I don't have a family. I'm comfortable*." (P13) and "*No one fusses over me*." (P14). Three participants perceived that being single meant they had no family problems, since they had seen other families quarrel. For example: "*I saw my grandchildren's family quarrel. Being single, I have a happy life. I feel happy*." (P04). One participant did not overthink, as in the following quote: "I *am very content, and I don't have to think anything about anyone*."(P05).

4) Ten of the 14 participants who had lived alone for 1.5 – 45 years viewed that the length of living alone had nothing to do with SWB since their SWB was equal with no difference. For example: "*Always staying like this does not affect me.*" (P10); "*As usual, nothing has changed*." (P11). Four participants who had lived alone for 5 – 30 years perceived being alone for many years had increased SWB. They viewed being alone as being able to do activities freely with enough money and no burdens. For example: "*There is no one fussy, no one complains*." (P03); "I *am happier than at first*. *In the beginning, I had little money. I currently have enough to spend*." (P07); "*I don't have to take any responsibility. I am not responsible for raising my children*." (P08).

5) Nine of the 14 participants who had completed primary education and no education reported that educational attainment was not related to SWB in older adults living alone. For example: "*It has nothing to do with education. Although I have little knowledge, I'm comfortable.*" (P13); "*I'm out of time for thinking about it*." (P06). The above findings differ from four participants who reported that higher educational attainment made them have a higher income because education allowed them to have a good job with a good income. Therefore, having a high educational background worked out in terms of making them comfortably salaried, whereas low educational attainment meant low income. For example: *"I got a job because of my educational background."* (P05); "*If I had not graduated at a high level, I would not have come to work like this.*" (P04). One participant thought that education made her seem quick-witted, because highly educated people would not be deceived. For example: "*It's like not allowing anyone to deceive, me, because I have knowledge*." (P12).

6) Thirteen of the 14 participants perceived that economic status was related to SWB. In this number, twelve participants perceived that income sufficiency led to comfortableness. Since they had income sufficiency and were not in debt, other people could depend on them. For example: "*I have nothing to worry about, no debt*." (P05); "*Having enough money, don't have to trouble anyone*." (P07). One participant got the facilities she needed; therefore, income sufficiency led to a convenient life. For example: "*At first, I didn't have a washing machine, so I washed by hand. Oh, I was so tired. I wondered how I could get a washing machine. My neighbor's daughter bought a new washing machine for her. She asked me, "Would*

you like to take a second-hand washing machine?" She sold cheap. I told her to bring it over to me. I have what I need. I have an electric fan, a washing machine, a TV, a cell phone. It's comfortable now." (P04). One participant viewed that not having income sufficiency made her worried, dismal, overwrought, and edgy. For example: "*Not having enough to spend made me think so much.*" (P08); "*Time without money; sometimes I want to buy something, but I don't have money.*" (P08). Only one of the 14 participants perceived that economic status had nothing to do with SWB. The participant accepted the status quo. For example: "*I don't think much about my economic status*." (P11).

7) All 14 participants perceived that functional status was related to SWB. They viewed that they were living independently, so they did not have to depend on others and avoid not being satisfied when other people did things they did not like. This made them feel peaceful. For example: "*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*." (P10). On the other hand, dependence on others decreased SWB in being a burden to others. For example: "*I'm considerate of them. I'm worried about them, and I don't want to trouble them, because I can't do things myself and have to depend on others*." (P10).

8) Eight of the 14 participants perceived that social participation was related to SWB. They had positive feelings such as joy, pleasure, and benefit while participating in social activities. For example: "*I do activities; it's fun. We talk to each other, have fun.*" (P07); "*Going for an activity like making salted eggs or doing some kind of cooking makes me feel comfortable, and I gained knowledge*." (P13). The remaining 7 participants indicated that they did not participate in activities because they did not feel it was convenient to participate in activities and did not want to have a problem. For example: "*I can't do activities with anyone. I can't sit for a long time*." (P01); *"In the past, I went 3-4 times a month; since the disease outbreak, I rarely go*." (P12). The participant under the pseudonym "P09" recognized that she had had new experiences participating in social events, but the coronavirus outbreak prevented her from participating in activities.

9) Nine of the 14 participants perceived that resilience was related to SWB. They felt peaceful when they could mitigate adverse reactions from problems

and bounced back to normal life. The ability to bounce back to normal life prevented them from overthinking and stress. For example: "*After I'm done stressing about things, and I have nothing else, I just let go. After I let go, there's no impact on my happiness*." (P05); "*I come to terms with it and don't get stressed over it. I'll just be indifferent to it*." (P07). Five participants reported no stressful situations, and that they did not have problems. For example: "*There's no issue about how to make adjustments. There's no issue at all.*" (P02); "*I'm not stressed about anything.*" (P08).

10) Nine of the 14 participants reported that their situations were normal due to no overthinking and no problems. For example: "*I don't know. I'm not the type to overthink things*." (P01). Other examples of quotes reflecting the participants' view on having no problems were: "*No. There are no problems*." (P02); "*I never thought about it. I don't think there're any*." (P05). Five of the 14 participants perceived that a sense of coherence was related to SWB. A sense of coherence made them feel peaceful. For example: "*When I solve it, I feel peace in my heart, right? But if I can't solve it, it will constantly trouble me*." (P03); "*I feel relieved*." (P04).

11) Eleven of the 14 participants perceived that they were not in a stressful situation. The participants experienced no problems. For example: "*There's nothing to think about right now*." (P06); "*It's so-so. There are no problems*." (P09). Three of the 14 participants reported perceiving stress as reducing their SWB. Two of them perceived anxiety about homelessness and lack of income that reduced their SWB levels. For example: "*The only thing troubling me is the house falling apart*." (P01). One of them felt lonely because no children came to visit. It was a source of perceived stress in the participant's view as follows: "*I'm alone. I have children, but...unless they can come home, nobody really visits since they are all caught up in their careers. Nobody visits*." (P03).

12) Social support was not a selected factor in this quantitative study. However, the qualitative collection and analysis found the participants perceived social support as relevant to SWB. Ten of the 14 participants (P01) (P03) (P04) (P05) (P06) (P09) (P10) (P11) (P12) (P13) recognized feeling cared for from questions about well-being and health concerns. Caregivers presented warm feelings, and the older persons received care and attention from their children, relatives, and neighbors.

Examples of these sentimental expressions were: "*Yesterday, my younger sibling visited me, so I was very happy.*" (P01); "*My children visit sometimes, and sometimes my neighbors visit*." (P12).

Nine of the 14 participants provided information that social support brought life comforts to (P03) (P06) (P07) (P01) (P05) (P09) (P10) (P13) (P12) in the sense of providing food, useful things, and money. For example: "*For my happiness, my children make things or buy things for me. That makes me happy. Whatever it is, they provide for me. They provide everything. They bring water or carry water for me. They make me happy.*" (P05). Three participants (P05) (P06) (P12) felt peaceful due to having good children and friends to talk to. For example: "*I have friends to talk to or discuss issues with.*" (P08). One participant (P04) was provided with work assistance from her colleagues as in the following quote: "*My friends help me well. They see that I'm an older member of the group, so they help me out when there are heavy things*." (P04).

4.3 Integrative results

The integrated results present the data of the quantitative and qualitative results of personal factors, followed by psychosocial factors

4.3.1 On personal factors, quantitative findings found that economic status and functional status correlated with SWB among older adults living alone. Whereas age, gender, marital status, length of living alone, and educational attainment were not correlated with SWB and could not predict SWB, consistent with the qualitative findings. The followings are qualitative findings that confirmed or not confirmed quantitative data.

4.3.1.1 Thirteen of the 14 participants (P01) (P02) (P03) (P04) (P05) (P06) (P07) (P08) (P09) (P10) (P12) (P13) (P14) confirmed the quantitative findings; economic status (income sufficiency to spend) correlated with SWB among the participants ($r = 0.22$, $p<0.01$). Income sufficiency led to comfort and convenient life. The following quotes support this view: "*If I want to eat snacks, go to worship, take a bus, go to the mall, check out beautiful clothes, I have money. I can.*" (P03).; "*No*

debt; I eat what I want, and travel as I need. That makes me happy." (P04); "*I keep it, buy medicine.*" (P05). In contrast, no income sufficiency made them feel worried. The example quotes were: "*Not enough to spend, so think so much*." (P08); "*At times without money, I sometimes want to buy something, but I don't have money."* (P08); "*Edgy."* (P08).

4. 3. 1. 2 Fourteen participants confirmed the quantitative findings; functional status was correlated with SWB among older adults living alone (r= 0.26, p < 0.001). High functional status induced peaceful feelings from doing things independently. The example quotes were: "*Doing things myself makes me happy*." (P02); "*If I depend on others, how can they be happy? For buying things, I have to depend on them because I don't know how to drive, so I have to be considerate of them*." (P02); "*If I can do it myself, I am happy. If it's something I can't do myself, I'm not happy*." (P07); "*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*." (P10).

4.3.1.3 Nine of the 14 participants confirmed the quantitative findings: 1) age was not correlated with SWB and 2) age did not predict SWB among older adults living alone (P02) (P03) (P04) (P07) (P08) (P09) (P11) (P13) (P14). The participants perceived age had nothing to do with SWB. Some quotes were presented as follows: "*I don't have to think about age. It is not related to this*" (P02); "*Age is just a number*." (P08); *"It has nothing to do with age*." (P09).

4.3.1.4 All 14 participants confirmed the quantitative findings: 1) gender was not correlated with SWB, and 2) gender did not predict SWB among older adults living alone. They perceived gender had nothing to do with SWB and were satisfied with their gender. The example quotes were: "*Unrelated."* (P02) (P05) (P06) (P09) (P11) (P13); "*I am very proud of myself. At this age, I have sometimes done a job well that men cannot compare.*" (P03); "*I am happy with my female sexuality*." (P04).

4. 3. 1. 5 Nine of the 14 participants confirmed the quantitative findings: 1) marital status was not correlated with SWB and 2) marital status did not predict SWB among older adults living alone (P01 (P03) (P06) (P07) (P08) (P09 (P10) (P11) (P12). They perceived marital status had nothing to do with SWB. The example quotes were: "*I feel so indifferent*." (P01); "*Not relevant, just lack of a partner*." (P09); "*As usual*." (P12).

4.3.1.6 Ten of the 14 participants perceived length of living alone had nothing to do with SWB, which confirmed the quantitative findings: 1) length of living alone was not correlated with SWB and 2) length of living alone did not predict SWB among older adults living alone (P01) (P02) (P05) (P06) (P09) (P10) (P11) (P12) (P13) (P14). The example quotes were: "*It is, as usual, every day*." (P09); "*Always staying like this has no effect.*" (P10); "*As usual, nothing has changed*." (P11).

4.3.1.7 Nine of the 14 participants perceived educational attainment had nothing to do with SWB in older adults living alone, which confirmed the quantitative findings: 1) educational attainment was not correlated with SWB, and 2) educational attainment did not predict SWB among older adults living alone. (P01) (P02) (P06) (P07) (P08) (P09) (P10) (P11) (P13).The example quotes were: *"Unrelated."* (P01) (P02) (P07) (P08) (P09) (P11); "*It has nothing to do with education. Even I have little knowledge, but I'm comfortable*." (P13); "*I'm out of time for thinking about it."* (P06)

4.3.2 On psychosocial factors, the quantitative findings found resilience and sense of coherence to be significant predictors of SWB in participants. Social participation and perceived stress were correlated with SWB. The qualitative findings confirmed the quantitative findings that resilience and a sense of coherence contributed to felt peace. Perceiving not being in a stressful situation and being involved with social participation generated positive feelings. Moreover, social support was not a selected factor in the part of the quantitative study but the qualitative study. Twelve of the 14 participants agreed that social support was relevant to SWB. The followings are qualitative findings that confirmed quantitative data.

4.3.2.1 Five of the 14 participants felt peaceful (P03) (P04) (P07) (P11) (P13), and nine of the 14 participants reported their situation as normal due to no overthought and no problems (P01) (P02) (P05) (P06) (P08) (P09) (P10) (P12) (P14). These findings confirmed the quantitative findings; 1) a sense of coherence was correlated with SWB ($r = 0.44$, $p < 0.001$), and 2) a sense of coherence could predict SWB ($\beta = 0.34$, $p < 0.001$) among older adults living alone by creating peaceful feelings. The example quotes were: "*When I solve it, I feel peace in my heart, right? But if I can't solve it, it will constantly trouble me*." (P03); "*I feel happy, and I don't stress about it*." (P07); "*If I don't stress over it, I will feel happy, right? If I can't solve it, I'll*

keep fixating on it and then feel stressed." (P11); "*I feel contented after solving problems."* (P13)

4.3.2.2 Nine of the 14 participants confirmed the quantitative findings; 1) resilience was correlated with SWB ($r = 0.38$, $p < 0.001$) and 2) resilience could predict SWB ($\beta = 0.18$, $p<0.05$) among participants by creating peaceful feelings (P01) (P03) (P04) (P05) (P07) (P11) (P12) (P13) (P14). The example quotes were: *"If I can't solve it, I am suffering, right? I wait for what to do better. If I can solve it, I am all clear*." (P04)."; "*After I'm done stressing about things, and I have nothing else, I just let go. After I let go, there's no impact on my happiness.*" (P05); "*I come to terms with it and don't get stressed over it. I'll just be indifferent to it*." (P07); "*Everything is peaceful.*" (P13); "*I'm not stressed*." (P14).

4.3.2.3 Eight of the 14 participants confirmed the quantitative findings; social participation was correlated with SWB among participants ($r = 0.32$, $p < 0.000$) by providing positive feelings and new experiences (P02) (P04) (P05) (P07) (P08) (P09) (P12) (P13). The example quotes were: "*Do activities, it's fun, we talk to each other and have fun.*" (P07); "*I went to join activities, and I was comfortable*." (P13); *"It is a comfortable, relief to have traveled, and seen something new.*" (P04); "*Going for an activity like making salted eggs or doing some kind of cooking. I feel comfortable and get knowledge.*" (P13).

4.3.2.4 All 14 participants confirmed the quantitative findings; perceived stress was correlated with SWB ($r = 0.30$, $p < 0.000$). Eleven of the 14 participants were not in stressful situations (P02) (P04) (P06) (P07) (P08) (P09) (P10) (P11) (P12) (P13) (P14). Three of the 14 participants perceived stress-induced negative feelings viz anxiety and loneliness (P01) (P03) (P05). The example quotes were: "*There's nothing to think about right now.*" (P06); "*Right now, everything is normal*." (P12); *"I don't have to take responsibility for anything right now, so I have no problems that I have to solve.*" (P12); "*The only thing troubling me is the house falling apart*." (P01); *"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*." (P03); *Before, I was selling things, selling sweets. Lately, these two hands I use to carry two baskets...ever since the two waves of COVID outbreaks, I haven't sold anything*." (P05).

4.3.2.5 Twelve of the participants perceived social support as relevant to SWB. Social support provided life comforts, work assistance, feeling cared for, and feeling peaceful. (P01) (P03) (P04) (P05) (P06) (P09) (P10) (P11) (P12) (P13).The following quotes support this view: "*A dog bit me the other day, so people gave me money for my transportation*." (P01); "*For my happiness, children make things or buy things for me. That makes me happy. Whatever it is, they'll provide for me. They'll provide everything. They'll bring water or carry water for me. They make me happy*." (P05); "*They give me good instructions, so nothing bad will happen to me. Whatever food it is they want me to eat, it is the best*." (P05); "*If I get sick, they have to help take me to see a doctor.*" (P06). "*Sometimes it's for three months at a time, three months. If they don't come to visit, then they transfer money into the bank account*." (P09).

4.4 Quantitative discussion

This descriptive research aimed to 1) examine the relationships between selected factors and SWB and 2) examine the predictive factors of SWB in older adults living alone in metropolitan regions of Thailand. Questionnaires were used to collect data from 198 respondents. The researcher discusses the quantitative results as follows:

4.4.1 The respondents had SWB at a moderate level (mean = 4.91, SD=1.15), as shown in Table 4.2. The psychosocial factors namely resilience (β = 0.18, $p < .05$) and sense of coherence (β = 0.34, $p < .01$) were the predictive factors of SWB (Table 4.4). Social participation and perceived stress were significantly correlated with the SWB of older adults living alone ($r = 0.32, 0.30$, respectively, $p < 0.01$), as shown in Table 4.3.

Sense of coherence was a perception in different aspects of the lives of older adults living alone. It was also able to face and respond to stressful situations with comprehensibility, manageability, and meaningfulness (Antonovsky, 1987). Therefore, a sense of coherence was a factor that encouraged older adults living alone to face problems or stressful situations with confidence. This finding can be explained in that the older adults living alone utilized their life experiences together with other resources from themselves or others, including children, friends, colleagues, and

health workers in the face of stressful situations. As a result, they understood situations, managed, and perceived what would be happening to them. This finding corresponded with the findings that a strong sense of coherence was a predictor of SWB among older adults in the community (Elovainio & Kivimäki, 2000; von Humboldt et al., 2015) and associated with better life satisfaction among older adults (Kocjan, 2017).

Resilience is a person's ability to deal with stressful situations effectively (Wagnild & Young, 1993). The older adults living alone in this study were those who independent living. They were accustomed to being alone in a context with familiar people and environments. Therefore, they lived independently and had the self-confidence to deal with and respond appropriately to their adverse situations. They did not have stress from work because they worked independently, such as gardening and selling groceries. Some people were unemployed but received social support in terms of money, things, advice, and visits from family members, public health workers, village health volunteers, and welfare assistance. This finding corresponded with the research findings that resilience was significantly and positively correlated with SWB (Aboalshamat et al., 2018; Kim et al., 2016; Mahmood & Ghaffar, 2014). Resilience was a predictive factor of SWB in older adults and adult age groups (Chang & Lim, 2007; Rossi et al., 2007; Togonu-Bickersteth et al., 2018; Wagnild & Young, 1993; Xing & Sun, 2013).

Participation in social activities reduced stress by improving cognitive reappraisals that made the situation less stressful, thereby leading to enhanced well-being (Lazarus & Folkman, 1984, Lim & Taylor, 2004, as cited in Adams et al., 2011). Stress is perceived as an individual's response to an event that triggers negative emotions (Lazarus & Folkman, 1984). Individual perception of stress levels depends on an assessment of the general situation in terms of whether or not harm is caused. In this study, perceived stress was correlated with the SWB of older adults living alone (Table 4.3). This finding corresponded with previous findings in that perceived stress can lead to a decline in well-being (Gillett & Crisp, 2017; Mitsonis et al., 2009).

4.4.2 Personal factors, namely functional status, and economic status, were significantly correlated with the SWB of older adults living alone ($r=.22$, $r= 0.26$, $p < 0.01$).

Age, gender, marital status, length of living alone, and educational attainment were not correlated with the SWB of older adults living alone (Table 4.4).

Functional status was related to SWB in older adults living alone. Although increasing age causes deterioration of the body and mind, the findings found 59.1 percent of older adults living alone to be able to perform activities independently, resulting in learning and familiarity with living alone. Since performing daily tasks independently directly and positively affected older adults' well-being (Chimjinda, 2012; Gao, 2018). Low physical function increased depressive symptoms and reduced life satisfaction (Hsu, 2009).

Older adults with income sufficiency were able to afford more privacy by living alone. Low income or poverty caused stress, unhappiness, anxiety, insecurity, and a loss of control in their lives, leading to declining emotional well-being among community-dwelling older adults living alone (Allen, 2008; Galiani et al., 2016; Han & Hong, 2011; Horner, 2014; Russell & Taylor, 2009; Stepler, 2016). Income insufficiency was associated with mental distress among Thai older adults living alone (Phatharapreeyakul et al., 2016; Teerawichitchainan et al., 2015). These findings also correspond with Chimjinda (2012), who found income related to the SWB of community-dwelling elderly in Nakhon Pathom Province.

The findings found 83.3 percent of the participants have completed primary education. All of the participants received an elderly allowance. In addition, each participant had different sources of income, and some had more than one source, including grocery sales, gardening, pensions, disabled allowance, state welfare, children, grandchildren, and siblings. These sources of income did not require a high level of education. In addition, the older adults who lived alone had similar characteristics, despite being single (never married) or previously married (divorced, widowed, separated). They did not perform family responsibilities, did not have the role of marital status, and did not have a partner to share their emotions, experiences, and thoughts or take care of them.

The findings were consistent with Kruaaem (2018), who found age and gender to not be related to the happiness of the elderly in the Elderly Club, Ratchaburi Province. There were no significant relationships between age and gender

and well-being in Taiwanese people aged over 70 years (Gao, 2018). Older adults who lived with their spouses were more positively related to SWB than those who had never married and previously married status (Jivraj et al., 2014; Knodel et al., 2015; Román et al., 2017; Suksai et al., 2018). Since the spouse could provide material, social, and emotional support, such as personal care during illness (Jivraj et al., 2014; Knodel et al., 2015; Román et al., 2017; Suksai et al., 2018). Therefore, the never-married and previously married participants were no different in terms of SWB.

According to the above discussion, the SWB of older adults living alone should be promoted by using a sense of coherence and resilience. The remaining 68.8% that this study cannot explain might be due to other factors affecting SWB that were not studied in this quantitative research.

4.5 Qualitative discussion

The following two themes were revealed in the qualitative findings: 1) meaning of SWB in older adults living alone and 2) perspectives of older adults living alone on selected factors involved subjective well-being, as follows:

4.5.1 Meaning of subjective well-being from the perspectives of older adults living alone

The participants defined a person with SWB as consisting of the following three categories: health status, economic status, and social support.

4.5.1.1 The older adults in the present study perceived health status as having good physical and mental health. Being good in health involves self-ability to perform activities in daily life and move the body agilely. Having no illness is the perception of one's health as not suffering from acute and serious disease. Good mental health means no overthinking, no chaos, no troublesome feelings, and no trouble from people. According to Maslow's Hierarchy Behavior (1943), older adults living alone who receive a response to physical needs have feelings of happiness. This finding can be explained in that the perceived health status reflected the older adults' feelings in this study regarding the state of their physical and psychological health status affecting their perceptions and

feeling about SWB (OECD Health Statistics 2016, 2016). Based on a theory of stress and coping developed by Lazarus and Folkman (1984), stress can negatively impact individuals' well-being or function negatively only when individuals perceive the situation as stressful and when their resources are inadequate to deal with stimuli. In addition, having good mental health indicates that individuals already have met the basic human needs of living, including food, housing, and rest. This generated a feeling of living comfortably and feeling no troubles.

4.5.1.2 Economic status involves income sufficiency for spending as needed and being someone others can depend on financially. Income sufficiency is also used to meet basic needs. It causes pleasure and does not cause worry about necessary expenses.

4.5.1.3 The older adults in the present study perceived social support as having someone, especially children coming, to visit, asking about all sufferings and happiness, buying things, and giving money, which caused a feeling of warmth and received attention.

4.5.2 Perspectives of older adults living alone on selected factors involving subjective well-being

The qualitative findings showed that the participants viewed economic status (income sufficiency to spend), functional status, social participation, resilience, sense of coherence, perceived stress, and social support to be relevant to SWB, whereas age, gender, marital status, length of living alone, and educational attainment were not relevant to SWB.

A sense of coherence made older adults living alone feel peaceful. They were happy, relieved, and contented after successfully solving problems. In contrast, failing to solve problems caused emotional troubles. The resources to manage a stimulus came from self and others including, friends, children, siblings, health workers, and village health volunteers. Previous research yielded similar results. A strong sense of coherence is a predictor of SWB among community-dwelling older adults (Elovainio & Kivimäki, 2000; von Humboldt et al., 2015).

Resilience was relevant to SWB in older adults living alone. The participants' perspective of resilience generated peaceful feelings. Resilience is the ability

to face adversities, reduce adverse reactions, and bounce back to normal life. Its outcomes reduce the negative consequences of difficult situations (Scoloveno, 2016; Wagnild & Young, 1993). In addition, resilience is a predictive factor of SWB in older adults and adult age groups (Chang & Lim, 2007; Rossi et al., 2007; Togonu-Bickersteth et al., 2018; Wagnild & Young, 1993; Xing & Sun, 2013).

Social participation was relevant to SWB in the participants. Participating in social activities allowed the participants to meet other people to do activities, express opinions, exchange ideas, and share resources. These were opportunities for older adults living alone to maintain social roles and positively affect life satisfaction as described by the activity theory of aging (Diggs, 2008).

Perceived stress was relevant to SWB in older adults living alone. Based on a theory of stress and coping developed by Lazarus and Folkman (1984), stress is how individuals interacted with their environment and were events that trigger negative emotional responses. Stress could impact individuals' well-being negatively only when individuals perceived the situation as stressful and could not deal with stimuli (Roddenberry, 2007). In other words, perceived stress could lead to a decline in well-being (Mitsonis et al., 2009).

Economic status (income sufficiency for spending) was relevant to SWB in the participants. Income sufficiency for spending gave opportunities to seek useful, necessary things to meet basic needs such as medicines, food, clothing, and amenities. In contrast, insufficient income for spending caused negative feelings, such as dismal moods, overthinking, and edginess.

Functional status was relevant to SWB in older adults living alone. The participants agreed that they were peaceful in doing things independently. They also earned money from their jobs, and this inferred good health status. According to Leidy (1994, as cited in American Thoracic Society, 2007), an individual's ability to perform daily activities independently fulfills usual roles and maintains good health and well-being. On the contrary, the participants would feel bad if they depended on others. Then negative consequences became an additional disability, increased dependence, and increased the use of health services, thereby leading to depression and stress (Giddens, 2017). The

elderly who lived alone with any disability and had low daily living activities had significantly lower perceived life satisfaction for both genders (Banjare et al., 2015).

Social support arises from the conduct of personal relationships (Gottlieb & Bergen, 2010). Sources of social support in older adults living alone were their children, neighbors, health workers, and village health volunteers. Support was in the form of money, things, advice, and visits. One older adult who was still working got work assistance from her colleagues. Social support leads to life comforts, feelings of being cared for, and a sense of peace. Social support allowed the older adults living alone in the present study to receive assistance in various ways promoting SWB. The above finding is consistent with the results of a study by Nanthamongkolchai et al. (2009), who found that social support significantly influenced life happiness in female elderly. In addition, social support might be a factor that encouraged older adults living alone to sense no problems. When there was a problem, however, they could bounce back.

Age was not relevant to SWB in older adults living alone. The participants felt that current and previous lifestyles were no different. They still stayed in good health and felt at ease as in the past. They were satisfied with their gender. This might have been because all participants were in the same living arrangements as before, i.e., alone. Both men and women did everything by themselves. Therefore, feelings towards SWB were not different. Marital status was not relevant to SWB. This finding can be explained in that the participants remained alone, which was true for both those who had never married (single) and those who had previously married (widowed, divorced, separated). The participants had no family responsibilities, no burdens, no family problems, and freedom in their lives. Therefore, SWB was different from married persons but did not differ among the participants.

Length of living alone was not related to SWB in older adults living alone. Although the length of living alone was different, ranging from 1.5 - 45 years, the participants were able to do activities by themselves, work, and receive social support from children, friends, siblings, relatives, colleagues, health workers, and village health volunteers. Therefore, SWB was not different. Educational attainment was not relevant to SWB in older adults living alone. This finding can be explained in that the older adults living alone were retirees. Income came from work such as

gardening and merchandising that did not require an academic degree. And with social support, they did not get into trouble.

4.6 Integrative discussion

The quantitative results showed the strongest predictors of SWB to be a sense of coherence and resilience, which together significantly predicted SWB in older adults living alone and accounted for 31.20% of the variance (R^2 = 0.312, F=7.00), as shown in Table 4.4. The qualitative findings corresponded with the quantitative results. A sense of coherence and resilience were relevant to the participants' SWB.

A sense of coherence reflected the participants' perception of their life and capacity to respond to stressful situations. They used their experiences to face life events and determine the appropriate coping with confidence and flexibility in dealing with problems or stressful events (Antonovsky, 1987). The qualitative findings found a sense of coherence to be relevant to SWB by creating peaceful feelings. The participants felt happy, relieved, and content after solving problems; they did not feel stress anymore. In contrast, if they could not solve the problems, they would keep fixating on them and then felt stressed because they had failed to solve the problems that caused emotional troubles. It has also been said that a sense of coherence is a perspective contributing to successfully coping with stress. In the same way, resilience was an adaptation to the situation and helped participants find useful resources to face life events, which resulted in less stress. Participants were able to cope with adversity, thereby resulting in peaceful feelings.

The participants were aged 61 - 93 years and had lived alone for 1.5-45 years. According to Wells (2010), higher age and more resilience led to self-reliance with a willingness to take responsibility and manage life events independently. The older adults learned to live alone with familiar people and environments. Therefore, their way of life did not require adjustment, and life was not a difficult situation. They had the self-confidence to deal with and respond appropriately to their adverse situations, thereby resulting in the ability to bounce back to normal life and feel peaceful (Antonovsky, 1987).

The qualitative findings found eleven of the 14 participants to report no stressful situations. This finding can be explained in that, although the participants were older adults, they had good health status, independent living, freedom to participate in social activities, income sufficiency (Tariga & Cutamora, 2016), resilience, and social support. Thus, the less perceived stress (Moore et al., 2015). Three participants perceived feelings about the uncontrollability of homelessness, no income, and loneliness. Due to the COVID-19 pandemic, the participants' income insufficiency affected their SWB (Tariga & Cutamora, 2016). One participant felt lonely since she had children who worked elsewhere; since the COVID-19 pandemic had occurred, they had been unable to visit her. This outcome emphasized the significant influence of strong emotional support relationships on SWB in older adults living alone (von Humboldt et al., 2015). One participant was troubled by the fact that her house was falling apart. Even though the sub-district administrative organization's officers had inspected to fix it, her child invited her to stay with him. However, she still felt worried because she did not want to stay elsewhere.

In addition, the participants were independently participating in social activities, which provided opportunities to exchange information and access useful resources in controlling or managing stimuli, which led to coping with confidence. The participants who participated in social activities had positive feelings such as joy and pleasure. Participating in social activities maintained health status, social roles, and a social support pathway (Lazarus & Folkman, 1984, Lim & Taylor, 2005) while preventing social isolation and reducing loneliness (Mahem et al., 2020). Social participation could reduce stress by improving cognitive reappraisals that made situations less stressful while providing emotional closeness, social support, a sense of value (Adams et al., 2011), and enhanced well-being (Lazarus & Folkman, 1984, Lim & Taylor, 2005). However, seven participants did not participate in social activities due to the COVID-19 situation, did not want to have problems, and found participation inconvenient. One participant reported that she did not participate in social activities because she could not sit for a long time.

According to healthy aging trajectories, the body and mind deteriorate with age. The consequences are illness, disability, and rapidly declining health (Moreno-

Agostino et al., 2020), which was a limitation in performing activities. However, most participants could do activities independently. The participants felt comfortable being able to do things on their own and were satisfied with the results. In contrast, depending on others was a burden, caused trouble and fretfulness, possibly led to not having needs met as desired, and resulted in fear of being denied assistance. Consistent with previous studies, there was a positive relationship between functional status and SWB in older adults (Chimjinda, 2012; Gao, 2018; Simone & Haas, 2013). Low functional status increased depressive symptoms and reduced life satisfaction (Hsu, 2009), especially in very elderly adults (Jopp & Smith, 2006). Previous studies showed growing older and having independent living to be associated with high resilience (Hardy et al., 2004). In addition, they did relaxing activities to avoid overthinking and stress, including cutting grass, watching television, and finding work. These relaxing activities also brought enjoyment and relaxation.

Living alone was a state of high self-reliance. Economic status was related to obtaining the necessities to meet basic human needs of living, convenience, and access to health services as needed. The participants perceived that they had sufficient income for spending. The sources of income were from welfare assistance, children, grandchildren, siblings, and personal earnings. Thus, the participants felt self-esteem, confidence, and comfort. On the other hand, income insufficiency made them worry.

Social support was not a selected factor in the quantitative part of the study. However, the qualitative results found social support to be related to SWB. The findings found 12 of the 14 participants to report that social support provided life comforts through receiving food, useful things, and money in addition to feeling cared for, being peaceful, and receiving work assistance. Social support arose from both formal and informal personal relationships (Gottlieb & Bergen, 2010). The participants received social support from their children, neighbors, and colleagues with welfare assistance regarding necessary things for a living, visiting, giving advice, and accessing health services linked to health and well-being (Brown et al. 2003; Mahem et al., 2020; Siedlecki et al., 2014; von Humboldt et al., 2015). At the same time, social support provided self-confidence and was a source promoting resilience in the process of overcoming adversity (Grotberg, 1995; Parayat et al., 2016; Sornkla et al., 2019). This

finding corresponded with previous studies finding social support to be able to predict resilience among older adults (Parayat et al., 2016; Sornkla et al., 2019).

In addition, social support had a potential effect on the following three components of sense of coherence: comprehensibility, manageability, and meaningfulness (Antonovsky, 1987). Older adults living alone who got social support had the confidence to control, manage and predict stressful situations; they were also less stressed when confronted with suffering (Moore et al., 2015; Parayat et al., 2016; Siedlecki et al., 2014; Sornkla et al., 2019). In conclusion, the qualitative findings advocated that social support was related to a sense of coherence (Wolff& Ratner, 1999), resilience, perceived stress (Moore et al., 2015), and SWB in older adults living alone.

The qualitative results confirm that marital status was not correlated with SWB. The older adults who lived with their spouses had higher SWB than those who had never married and had previously been married (Jivraj et al., 2014; Knodel et al., 2015; Román et al., 2017; Suksai et al., 2018). Since spouses could provide material, social, and emotional support such as personal care during illness (Jivraj et al., 2014; Knodel et al., 2015; Román et al., 2017; Suksai et al., 2018). Nevertheless, the participants were had never married, and those who had previously been married had similar characteristics such as living alone and having no partner to share their emotions, experiences, and thoughts. Therefore, their SWB was not different.

Educational attainment was not correlated with SWB in older adults living alone; 83.3 percent of those living alone had graduated from primary education (Table 4.1). The participants were retirement-aged and did not use educational qualifications for livelihood. They had enough money to spend on necessities and did not feel that they were in trouble. Therefore, the educational background was not related to their way of living. Similarly, Mahm et al. (2020) found older adults living alone to prefer being alone because it became familiar and comfortable.

Therefore, promoting SWB among older adults living alone in metropolitan regions should consider programs that enhance a sense of coherence and resilience, together with social support, and maintenance of health status, particularly among females living alone.

CHAPTER 5
CONCLUSIONS AND RECOMMENDATIONS

This chapter presents a conclusion and recommendations for further research and utilization.

5.1 Conclusions

The number of older adults living alone is increasing around the world, including in Thailand. These people are not only confronted with physical deterioration but may suffer from the consequences of living alone. This might lead to decreased SWB. Promoting SWB in older adults living alone will benefit them and positively impact the economy and society. The quantitative findings indicated that income sufficiency for spending (economic status) , functional status, social participation, perceived stress, sense of coherence, and resilience were associated with SWB. The strongest predictors of SWB were a sense of coherence and resilience, which account for 31.2% of the variance in SWB in older adults living alone, whereas the findings from the qualitative data revealed that the older adults living alone interpreted SWB as having good health, income sufficiency, and social support. In addition, the qualitative data showed that age, marital status (single) , length of living alone, educational attainment (higher education), economic status (income sufficiency), functional status, social participation, resilience, a sense of coherence and perceived stress were also relevant to SWB in participants. Emerging factors in social support reduced the impact of stressful situations and conduced SWB.

5.2 Recommendations

5.2.1 Implications for future practice

5.2.1.1 Public health agencies should focus on determining policy to continuously promote a sense of coherence and resilience for older adults living alone to increase subjective well-being in older adults living alone. Increasing a sense of coherence and resilience in older adults living alone would involve thinking adjustments to be conscious of thoughts and not overthink.

5.2.1.2 Organizing knowledge management activities between older adults living alone with high sense of coherence, the resources for managing stimuli include friends, children, siblings, health workers, village health volunteers, and older adults living alone. Exchanging experiences and opinions can enable older persons living alone to learn and practice thinking about dealing with situations, such as defining situations, goal-setting, problem-solving, and how to deal with situations. This may be through the storytelling of situations leading to learning about a situation, its meaning, and managing it together.

5.2.1.3 Organizing activities to promote resilience allow older adults living alone to bounce back from adverse situations by bringing social support together, such as consulting activities and home visits.

5.2.1.4 Establishing proactive actions to promote good health status and maintain healthy conditions to maintain physical function, independent living, and SWB among older adults.

5.2.1.5 The government agency should gather information about the older adults living alone in their database.

5.2.2 Implications for future research

5.2.2.1 Studies should be undertaken to develop an appropriate sense of coherence and resilience promotion programs for the older adults who live alone.

5.2.2.2 Studies of other predictive factors that affect SWB in older adults living alone should be conducted in other contexts since this study was conducted in metropolitan areas. The findings were that a sense of coherence and resilience accounts for 31.2% of the variance in SWB in older adults living alone.

According to qualitative findings, economic status, functional status, social participation, perceived stress, and social support were relevant to SWB.

5.2.3 Implications for Future Nursing Education

Include a sense of coherence and resilience in the nursing course, and the older adults living alone in this study can provide information about the factors related to subjective well-being. Therefore, these participants are appropriate for providing knowledge to nursing students.

5.3 Strengths and limitations

The strength of this study was the qualitative findings confirmed the quantitative results. The qualitative findings provided an in-depth understanding of the older adults living alone 's perspective that a sense of coherence and resilience causing perceiving no stressful situations, no overthinking, feeling free from problems, and producing peaceful feelings, which created a higher SWB.

The limitations were that most of the participants were women, and data were collected during the COVID-19 pandemic. Therefore, the majority of the findings were obtained from women, which may differ from men. To obtain equal data from both genders, the proportions of males and females may be random in similar numbers for further studies. Conducted research during the COVID-19 pandemic resulted in data collection limitations, which delayed accessing the subjects because the sub-district, health hospital officers, and village health volunteers were needed to help prevent COVID-19.

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APPENDICES

APPENDIX A

CERTIFICATE OF APPROVAL

ScF 03_01 (Eng)

The Human Research Ethics Committee of Thammasat University (Science), (HREC-TUSc)
Room No. 110, Piyachart Building, 1st Floor, Thammasat University Rangsit Campus,
Prathumthani 12121, Thailand, Tel: 0-2986-9213 ext.7358 E-mail: ecsctu3@Staff.tu.ac.th

COA No. 134/2563

Certificate of Approval

Project No. : 135/2563
Title of Project : PREDICTIVE FACTORS OF SUBJECTIVE WELL-BEING IN OLDER ADULTS LIVING ALONE: MIXED METHOD APPROACH
Principle Investigator : MISS KORAWAN SUWANNASARN
Place of Proposed Study/Institution: Faculty of Nursing, Thammasart University

The Human Research Ethics Committee of Thammasat University (Science), Thailand, has approved the above study project in accordance with the compliance to the Declaration of Helsinki, the Belmont report, CIOMS guidelines and the International practice (ICH-GCP).

Signature:..... Signature:.....
(Assoc. Prof. Jinda Wangboonskul, Ph.D.) (Assoc. Prof.Laksana Laokiat, Ph.D.)
Chairman of the Human Research Ethics Committee of Thammasat University (Science). Secretary of of the Human Research Ethics Committee of Thammasat University (Science).

Date of Approval: 15 December 2020 **Approval Expire date:** 14 December 2021
Progressing Report Due: 14 December 2021

The approval documents including
1) Research proposal
2) Patient/Participant Information Sheet and Informed Consent Form
3) Principal investigator's Curriculum Vitae
4) The personal data questionnaire
5) The Lawton Instrumental Activities of Daily Living Scale (L-IADL)
6) The Mini-Mental State Examination-Thai (MMSE – Thai 2002)
7) The Social Participation Scale (SPS)
8) The Resilience Scale short version (RS 14)
9) The 13-item of the Orientation to Life Questionnaire (OLQ-13)
10) The Perceived Stress Scale 4 (PSS-4)
11) The Subjective Happiness Scale (SHS)
12) Interview guidelines

APPENDIX B

CERTIFICATE OF APPROVAL WRITTEN PERMISSION FROM THE PROVINCIAL PUBLIC HEALTH MEDICAL DOCTOR, NAKHON PATHOM PROVINCE

ที่ นฐ ๐๐๑๒/ว ๓๖๒

สำนักงานสาธารณสุขจังหวัดนครปฐม
๑๓๐ ถนนเทศา ตำบลพระปฐมเจดีย์
อำเภอเมือง จังหวัดนครปฐม ๗๓๐๐๐

๒๑ มกราคม ๒๕๖๔

เรื่อง ขอความอนุเคราะห์การเก็บข้อมูลงานวิจัย

เรียน สาธารณสุขอำเภอนครชัยศรี / สาธารณสุขอำเภอพุทธมณฑล

สิ่งที่ส่งมาด้วย ๑. หนังสือคณะพยาบาลศาสตร์ มหาวิทยาลัยธรรมศาสตร์ จำนวน ๑ ฉบับ
ที่ อว ๖๗.๑๔ / ศธ. ๑๒๑๑ ลงวันที่ ๒๑ มกราคม ๒๕๖๓
๒. เอกสารจริยธรรมการวิจัย (Certificate of Approval) จำนวน ๑ ฉบับ
๓. เครื่องมือวิจัย จำนวน ๑ ฉบับ

ด้วยนางสาวกรวรรณ สุวรรณสาร นักศึกษาปริญญาเอก หลักสูตรปรัชญาดุษฎีบัณฑิต สาขาพยาบาลศาสตร์ (หลักสูตรนานาชาติ) คณะพยาบาลศาสตร์ มหาวิทยาลัยธรรมศาสตร์ ได้ทำการศึกษาวิจัยเรื่อง "ปัจจัยทำนายความสุขเชิงอัตวิสัยของผู้สูงอายุที่อาศัยอยู่ลำพัง: การวิจัยแบบผสมผสาน" โดยเก็บข้อมูลในโรงพยาบาลส่งเสริมสุขภาพตำบล (รพ.สต.) ช่วงระยะเวลา กุมภาพันธ์ - กันยายน ๒๕๖๔ ซึ่งมีกลุ่มเป้าหมายเป็นผู้สูงอายุที่อาศัยอยู่เพียงลำพัง ในพื้นที่เขตอำเภอนครชัยศรีและอำเภอพุทธมณฑล

ในการนี้ สำนักงานสาธารณสุขจังหวัดนครปฐม ขอความอนุเคราะห์ท่านในการเก็บข้อมูลการวิจัยดังกล่าว รายละเอียดตามสิ่งที่ส่งมาด้วย

จึงเรียนมาเพื่อพิจารณาดำเนินการต่อไป

ขอแสดงความนับถือ

(นายสุภัทร กลัญญูชิดา)
นิติกรชำนาญการพิเศษ (ด้านบริการทางวิชาการ) ปฏิบัติราชการแทน
นายแพทย์สาธารณสุขจังหวัดนครปฐม

กลุ่มงานพัฒนาคุณภาพและรูปแบบบริการ
โทร ๐ ๓๔๒๕ ๑๕๑๑
โทรสาร ๐ ๓๔๒๕ ๑๕๕๐

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APPENDIX C

CERTIFICATE OF APPROVAL WRITTEN PERMISSION FROM THE PROVINCIAL PUBLIC HEALTH MEDICAL DOCTOR, PATHUM THANI PROVINCE

คณะพยาบาลศาสตร์ มธ.
รับที่ 162/64
วันที่ 28 ม.ค. 2564
เวลา 15.00 น.

ที่ ปท ๐๐๓๒/ ๕๖๒

สำนักงานสาธารณสุขจังหวัดปทุมธานี
๑๙ ถนนรัฐอำนวย อ.เมือง ปท ๑๒๐๐๐

๒๕ มกราคม ๒๕๖๔

เรื่อง อนุญาตให้เก็บข้อมูลประกอบการวิจัย

เรียน คณบดีคณะพยาบาลศาสตร์ มหาวิทยาลัยธรรมศาสตร์

อ้างถึง หนังสือคณะพยาบาลศาสตร์ ม.ธรรมศาสตร์ ที่ อว ๖๗.๓๙/ศข.๑๒๓๒ ลงวันที่ ๒๙ ธันวาคม ๒๕๖๓

สิ่งที่ส่งมาด้วย สำเนาหนังสือจังหวัดปทุมธานี ที่ ปท ๐๐๓๒/ว ๖๔๐๕ ลงวันที่ ๒๕ มกราคม ๒๕๖๔

ตามหนังสือที่อ้างถึง คณะพยาบาลศาสตร์ มหาวิทยาลัยธรรมศาสตร์ ขออนุญาตเก็บข้อมูลประกอบการวิจัยนั้น

สำนักงานสาธารณสุขจังหวัดปทุมธานี พิจารณาแล้ว เห็นว่าการวิจัยดังกล่าวเป็นประโยชน์ต่อการพัฒนางานด้านสุขภาพของจังหวัดปทุมธานี จึงอนุญาตให้ผู้วิจัยสามารถลงพื้นที่ เพื่อรวบรวมข้อมูลประกอบการศึกษา/วิจัยดังกล่าว ระหว่างวันที่ ๒๒ มกราคม - ๒๓ กรกฎาคม ๒๕๖๔ โดยมิให้รบกวนระบบการให้บริการปกติ โดยได้แจ้งให้พื้นที่เป้าหมายการวิจัยทราบแล้ว รายละเอียดตามที่ส่งมาด้วย อนึ่ง ขอให้สถาบันต้นสังกัดของผู้วิจัยหรือผู้วิจัย ส่งรายงานผลการวิจัยฉบับสมบูรณ์ (Full Paper) พร้อมแผ่นบันทึกข้อมูล (CD) จำนวนอย่างละ ๒ ชุด ให้สำนักงานสาธารณสุขจังหวัดปทุมธานี ไว้ใช้ประโยชน์ในการพัฒนางานด้านสุขภาพระดับจังหวัด ภายใน ๙๐ วัน หลังการศึกษา/วิจัยดังกล่าวสิ้นสุดลง ซึ่งหากไม่ดำเนินการ สำนักงานสาธารณสุขจังหวัดปทุมธานี อาจไม่รับพิจารณาจริยธรรมการวิจัยหรือไม่อนุญาตให้เก็บข้อมูลประกอบการศึกษาของสถาบันหรือตัวบุคคลดังกล่าวในคราวต่อไป เนื่องจากเห็นว่าการที่สถาบันต้นสังกัดของผู้วิจัยหรือผู้วิจัย ไม่คืนข้อมูลผลการศึกษา ให้พื้นที่วิจัยทราบนั้น เป็นการรบกวนระบบการทำงานและการให้บริการด้านการแพทย์และสาธารณสุข โดยไม่ก่อให้เกิดประโยชน์ใดๆ ต่อการพัฒนางานด้านสุขภาพของจังหวัดปทุมธานี

จึงเรียนมาเพื่อทราบและแจ้งผู้วิจัยดำเนินการตามแนวทางที่กำหนด

ขอแสดงความนับถือ

(นายสุรินทร์ สืบซึ้ง)
นายแพทย์สาธารณสุขจังหวัดปทุมธานี

กลุ่มงานพัฒนายุทธศาสตร์สาธารณสุข
โทรศัพท์ ๐ ๒๕๘๑ ๖๘๕๔ ต่อ ๔๐๓
โทรสาร ๐ ๒๕๘๑ ๗๐๑๕

หมายเหตุ : ๑.ติดต่อผู้ประสานงานวิจัยระดับจังหวัด : คุณประกาศ เปล่งพาณิชย์
๒.โปรดแสดงหนังสืออนุญาตฉบับนี้ทุกครั้ง เมื่อติดต่อพื้นที่เป้าหมายการศึกษา/วิจัย

APPENDIX D
CERTIFICATE OF APPROVAL WRITTEN PERMISSION FROM THE PROVINCIAL PUBLIC HEALTH MEDICAL DOCTOR, SAMUT SAKHON PROVINCE

FROM : FAX NO. : 1 Jan. 2000 12:18AM P1

คณะพยาบาลศาสตร์ มธ.
รับที่ 478/64
วันที่ 08/มี.ค./2564
เวลา 11.30 น.

บันทึกข้อความ

ส่วนราชการ สำนักงานสาธารณสุขจังหวัดสมุทรสาคร กลุ่มงานพัฒนายุทธศาสตร์ฯ โทร. ๐ ๓๔๘๓๗ ๔๒๓๖

ที่ สค ๐๐๓๒/ว ๑๐๔ **วันที่** ๔ มีนาคม ๒๕๖๔

เรื่อง การเก็บข้อมูลการวิจัยของนักศึกษาสาขาวิชาพยาบาลศาสตร์ ในโรงพยาบาลส่งเสริมสุขภาพตำบลในสังกัด สำนักงานสาธารณสุขอำเภอบ้านแพ้ว จังหวัดสมุทรสาคร

เรียน สาธารณสุขอำเภอบ้านแพ้ว

ด้วย นางสาวกรวรรณ สุวรรณสาร นักศึกษาหลักสูตรปริญญาดุษฎีบัณฑิต สาขาวิชาพยาบาลศาสตร์ (หลักสูตรนานาชาติ) คณะพยาบาลศาสตร์ มหาวิทยาลัยธรรมศาสตร์ ได้แจ้งความประสงค์ขอเก็บข้อมูลการวิจัย เรื่อง ปัจจัยทำนายความสุขเชิงอัตวิสัยของผู้สูงอายุที่อาศัยอยู่ลำพัง : การวิจัยแบบผสมผสาน ณ โรงพยาบาลส่งเสริมสุขภาพตำบล ในสังกัดสำนักงานสาธารณสุขอำเภอบ้านแพ้ว จังหวัดสมุทรสาคร โดยการเก็บข้อมูลระยะที่ ๑ การวิจัยเชิงปริมาณ จะดำเนินการระหว่างเดือนมีนาคม ถึง เดือนพฤษภาคม ๒๕๖๔ และการเก็บข้อมูลระยะที่ ๒ การวิจัยเชิงคุณภาพ จะดำเนินการระหว่างเดือนมิถุนายน ถึง เดือนกรกฎาคม ๒๕๖๔ ทั้งนี้ โครงร่างการวิจัยได้ผ่านการรับรองจริยธรรมการวิจัยในมนุษย์จากมหาวิทยาลัยธรรมศาสตร์แล้ว

ในการนี้ สำนักงานสาธารณสุขจังหวัดสมุทรสาคร อนุญาตให้เก็บข้อมูลการวิจัยดังกล่าวข้างต้นได้ จึงขอความร่วมมือท่านพิจารณาให้ความอนุเคราะห์ในการเก็บข้อมูลการวิจัยของนางสาวกรวรรณ สุวรรณสาร ณ โรงพยาบาลส่งเสริมสุขภาพตำบล ในสังกัดสำนักงานสาธารณสุขอำเภอบ้านแพ้ว จังหวัดสมุทรสาคร ตามช่วงเวลาการวิจัยที่ได้แจ้งไว้ต่อไป

จึงเรียนมาเพื่อทราบและพิจารณาดำเนินการในส่วนที่เกี่ยวข้องต่อไป

(นายนเรศฤทธิ์ [illegible])
นายแพทย์สาธารณสุขจังหวัดสมุทรสาคร

ส่งแล้ว : นางสาวกรวรรณ สุวรรณสาร (ผู้วิจัย)
ติดต่อสำนักงานสาธารณสุขอำเภอบ้านแพ้ว โทร. 034866247-8

APPENDIX E

PARTICIPANT INFORMATION SHEET

ScF 05_01

เอกสารข้อมูลสำหรับอาสาสมัครโครงการวิจัย

ชื่อโครงการวิจัย ปัจจัยทำนายความสุขเชิงอัตวิสัยของผู้สูงอายุที่อาศัยอยู่สำพัง: การวิจัยแบบผสมผสาน

ชื่อโครงการวิจัย Predictive factors of subjective well-being in older adults living alone: Mixed method approach.

ผู้วิจัย นางสาวกรวรรณ สุวรรณสาร

ตำแหน่ง นักศึกษาระดับปริญญาเอก สาขาวิชาพยาบาลศาสตร์ (หลักสูตรนานาชาติ) คณะพยาบาลศาสตร์ มหาวิทยาลัยธรรมศาสตร์

สถานที่ติดต่อ คณะพยาบาลศาสตร์ มหาวิทยาลัยธรรมศาสตร์ อาคารปิยชาติ 99 หมู่ 18 ถนนพหลโยธิน ตำบลคลองหนึ่ง อำเภอคลองหลวง จังหวัดปทุมธานี รหัสไปรษณีย์ 12120 โทรศัพท์ 0 2986 9213 ต่อ 7328 โทรสาร 0 2516 5381 โทรศัพท์มือถือ 062 464 6993 E-mail Address: skorawan@rocketmail.com

อาจารย์ที่ปรึกษา ศาสตราจารย์ ดร. ประนอม โอทกานนท์

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แหล่งทุนวิจัย ไม่มี

ท่านได้รับเชิญให้เข้าร่วม**โครงการวิจัยนี้** เนื่องจากท่านเป็นผู้สูงอายุตามเกณฑ์การวิจัย คือ ท่านมีอายุตั้งแต่ 60 ปีขึ้นไป และอาศัยอยู่คนเดียวในบ้านเป็นเวลาเกิน 6 เดือน โครงการวิจัยนี้ได้คัดเลือกผู้ที่ได้ตามเกณฑ์เข้าร่วมการศึกษาเป็นจำนวนทั้งสิ้น 198 คน

ก่อนที่ท่านจะตัดสินใจว่าจะเข้าร่วมโครงการวิจัยนี้หรือไม่ โปรดใช้เวลาในการอ่านเอกสารฉบับนี้อย่างละเอียดรอบคอบ ซึ่งจะช่วยให้ท่านเข้าใจสิ่งต่าง ๆ ที่ท่านจะมีส่วนร่วมในโครงการ และท่านสามารถสอบถามข้อมูลเพิ่มเติมหรือข้อมูลที่ไม่ชัดเจนได้ตลอดเวลา ผู้วิจัยขอเน้นว่าการตัดสินใจเข้าร่วมโครงการวิจัยนี้ขึ้นอยู่กับ**ความสมัครใจ**ของท่าน (ดู**กรอบที่ 1**) หากท่านไม่สมัครใจเข้าร่วมโครงการ จะไม่มีผลใด ๆ ต่อการดูแลทางการแพทย์หรือสิทธิที่ท่านได้รับอยู่ (ดู**กรอบที่ 2**)

กรอบที่ 1 การเข้าร่วมโครงการวิจัยนี้ขึ้นอยู่กับความสมัครใจของท่าน

☐ ท่าน**สามารถ**ปฏิเสธการเข้าร่วมโครงการวิจัยนี้ได้

☐ ท่าน**สามารถถอนตัว (ถอนความยินยอม)** จากโครงการนี้เมื่อใดก็ได้ โดยจะไม่กระทบต่อสิทธิการรักษาและอื่น ๆ ที่เกี่ยวข้อง

กรอบที่ 2 ทางเลือกสำหรับแนวทางการรักษาในกรณีที่ท่านไม่เข้าร่วมโครงการวิจัยนี้

ไม่มี

ข้อมูลที่เกี่ยวข้องกับการศึกษา

เหตุผลของการทำวิจัยครั้งนี้ เนื่องจากผู้ที่มีความสุขมักเป็นผู้ที่มีสุขภาพดี เจ็บป่วยน้อย มีอายุยืนยาว แต่ยังไม่มีข้อมูลระบุว่าอะไรเป็นปัจจัยที่ทำให้

ผู้สูงอายุที่อยู่คนเดียวมีความสุข ผู้วิจัยจึงจะศึกษาว่ามีปัจจัยอะไรบ้างที่ทำให้ผู้สูงอายุที่อยู่คนเดียวมีความสุข ซึ่งจะนำไปสู่การสุขภาพดี และมีอายุยืนยาว

กรอบที่ 3 วิธีทำการวิจัย/ วิธีการเก็บข้อมูล

การวิจัยครั้งนี้จะเก็บข้อมูล**สองครั้ง**

ครั้งแรก อาสาสมัครทั้งหมดประมาณ 198 คน เก็บข้อมูลโดยใช้แบบสอบถาม ประกอบด้วยคำถาม 8 ส่วน จำนวนข้อคำถาม 70 ข้อ

ครั้งที่สอง อาสาสมัครประมาณ 10 คน ที่มีประสบการณ์ความสุขสูง เก็บข้อมูลโดยการสัมภาษณ์ ผู้วิจัยจะนัดสัมภาษณ์ครั้งละ 1 ท่าน ซึ่งท่านอาจจะเป็นผู้หนึ่งในการสัมภาษณ์ครั้งนี้

การเก็บข้อมูล**ครั้งแรก**จะใช้เวลาประมาณ 60 นาที การเก็บข้อมูล**ครั้งที่สอง** ใช้เวลาท่านละประมาณ 30 นาที - 60 นาที ตามวัน เวลาที่ท่านสะดวก ในระหว่างการตอบคำถามท่านสามารถหยุดให้ข้อมูลเมื่อใดก็ได้ และหากพร้อมเมื่อใดจึงค่อยให้ข้อมูลเพิ่มเติม สำหรับสถานที่ที่ใช้ในการสัมภาษณ์จะมีความมิดชิด เป็นส่วนตัว ผู้วิจัยอาจนัดสอบถามข้อมูลเพิ่มเติมเพื่อให้ได้ข้อมูลที่ถูกต้อง ครบถ้วน ในระหว่างการสัมภาษณ์ผู้วิจัยจะทำการบันทึกเสียงและนำไปบันทึกเป็นข้อความลงบนกระดาษ เพื่อนำไปใช้สรุปผลการศึกษา หากท่านตัดสินใจเข้าร่วมโครงการนี้ ผู้วิจัยขอให้ท่านปฏิบัติตามตารางการศึกษา (**ดูกรอบที่ 4**)

กรอบที่ 4 ขั้นตอนการทำวิจัยในอาสาสมัคร

เก็บข้อมูลครั้งแรก	เก็บข้อมูลครั้งที่สอง
- คัดกรองเข้าร่วมโครงการวิจัย	- การสัมภาษณ์
- ตอบแบบสอบถาม	

โครงการวิจัยนี้มีวัตถุประสงค์เพื่อ ศึกษาประสบการณ์ในชีวิตของท่าน เพื่อทราบว่ามีปัจจัยอะไรบ้างที่สามารถทำให้ท่านมีความสุข

ผู้วิจัยได้สรุปผลข้างเคียง/ความเสี่ยง และการป้องกัน/ การรักษา จากการเข้าร่วมโครงการวิจัยนี้ไว้ใน **กรอบที่ 5**

กรอบที่ 5 ผลข้างเคียงหรือความเสี่ยงที่อาจเกิดขึ้นได้จากการเข้าร่วมเป็นอาสาสมัครและแนวทางการป้องกัน/รักษา

ผลข้างเคียง/ ความเสี่ยง	การป้องกัน/ การรักษา
-การตอบคำถาม อาจกระทบกระเทือนจิตใจท่าน	-ท่านสามารถหยุดให้ข้อมูลเมื่อใดก็ได้ และหากพร้อมเมื่อใดจึงค่อยให้ข้อมูลเพิ่มเติม ผู้วิจัยจะอยู่เป็นเพื่อนและให้การช่วยเหลือตลอดในช่วงที่เกิดเหตุการณ์ดังกล่าว หรือท่านต้องการจะยุติการเป็นอาสาสมัครผู้ให้ข้อมูลในโครงการวิจัยนี้โดยขึ้นอยู่กับการตัดสินใจของท่าน ซึ่งจะไม่มีผลกระทบใด ๆ ต่อการเข้ารับบริการรักษาพยาบาลที่ท่านจะได้รับทั้งสิ้น

ผู้วิจัยได้สรุปประโยชน์จากการเข้าร่วมโครงการวิจัยนี้ไว้ใน **กรอบที่ 6**

กรอบที่ 6 ประโยชน์ที่จะคาดว่าจะได้รับจากการเข้าร่วมโครงการวิจัยนี้	
ประโยชน์ทางตรง	**ประโยชน์ทางอ้อม**
ไม่มี	ในการศึกษาครั้งนี้ท่านอาจไม่ได้รับประโยชน์โดยตรง แต่การแบ่งปันเรื่องราวของท่านจะช่วยให้หน่วยงานและเจ้าหน้าที่รัฐที่เป็นผู้เกี่ยวข้องในการดูแลผู้สูงอายุที่อยู่คนเดียว เช่น แพทย์ พยาบาล อาสาสมัครสาธารณสุขประจำหมู่บ้าน สมาชิกองค์การบริหารส่วนตำบล และผู้ใหญ่บ้าน เป็นต้น มีข้อมูลพื้นฐานและนำไปจัดทำโครงการ การพัฒนาระบบการจัดการดูแลและให้การช่วยเหลือผู้สูงอายุที่อยู่คนเดียว เช่นเดียวกับท่านต่อไป

ผู้วิจัยสรุปแนวทางการปฏิบัติหรือการดูแลต่อสถานการณ์ต่าง ๆ ที่อาจเกิดขึ้นระหว่างการวิจัยไว้ใน **กรอบที่ 7**

กรอบที่ 7 สถานการณ์ที่อาจเกิดขึ้นระหว่างการวิจัย	
สถานการณ์	**แนวทางการปฏิบัติ**
หากท่านเจ็บป่วยในระหว่างการเก็บข้อมูลวิจัย	ผู้วิจัยจะดูแลและประสานงานส่งต่อให้ท่านได้รับการดูแลรักษาตามมาตรฐานปกติที่ท่านควรได้รับ

หากท่านถอนความยินยอมระหว่างการวิจัย	ผู้วิจัยจะทำลายข้อมูลของท่านทันที ดังนั้นข้อมูลของท่านจะไม่ถูกนำมาใช้เป็นส่วนหนึ่งการวิจัย
เมื่อมีข้อมูลใหม่ที่สำคัญที่อาจมีผลต่อการตัดสินใจของท่าน	ผู้วิจัยจะแจ้งให้ท่านทราบโดยเร็ว โดยท่านสามารถตัดสินใจได้ว่าท่านจะร่วมอยู่ในโครงการวิจัยนี้ต่อหรือไม่
เกณฑ์การยุติการเข้าร่วมวิจัย ได้แก่ อาสาสมัครย้ายออกจากพื้นที่ทำการศึกษา และถึงแก่กรรมระหว่างการเก็บข้อมูลวิจัย	ผู้วิจัยจะนำรายชื่อออกจากการศึกษา

หลังจากจบโครงการ ท่านจะได้รับการดูแลรักษาตามมาตรฐาน **ข้อมูลของท่านที่เกี่ยวข้องกับการศึกษาจะถูกเก็บเป็นความลับ** การนำเสนอผลของการศึกษาในที่ประชุมหรือวารสารวิชาการจะไม่มีการระบุชื่อของท่าน อย่างไรก็ตาม **คณะอนุกรรมการจริยธรรม ผู้มีอำนาจในการกำกับดูแลการวิจัย จะสามารถเข้าดูข้อมูลของท่านได้** เพื่อตรวจสอบข้อมูลและขั้นตอนการวิจัย

ข้อมูลที่ได้จากท่านจะถูกเก็บเป็นความลับ ผู้วิจัยจะใช้รหัสแทนชื่อและนามสกุลจริงของท่านลงในแบบบันทึกข้อมูลและเทปบันทึกเสียง โดยมีเฉพาะนักวิจัยและอาจารย์ที่ปรึกษาเท่านั้นที่สามารถเข้าถึงข้อมูลนี้ได้ ผู้วิจัย

จะดำเนินการทำลายข้อมูลเอกสารข้อมูลด้วยการย่อยเอกสารทั้งหมดเป็นชิ้นเล็ก และลบไฟล์ถาวรในเทปบันทึกเสียงทันทีที่เสร็จสิ้นการวิจัย

ผู้วิจัยได้สรุปเกี่ยวกับค่าเดินทาง ค่าเสียเวลา และค่าใช้จ่ายต่าง ๆในการเข้าร่วมการวิจัยดังกรอบที่ 8

กรอบที่ 8 ค่าเดินทาง ค่าเสียเวลาและค่าใช้จ่ายในการเข้าร่วมเป็นอาสาสมัคร

ในการเข้าร่วมโครงการวิจัยในครั้งนี้ ท่านจะได้รับค่าชดเชยในการเดินทางมาพบนักวิจัย เป็นจำนวน 100 บาทต่อครั้ง (หนึ่งร้อยบาทถ้วน) หลังเสร็จสิ้นการตอบแบบสอบถาม/ การสัมภาษณ์ในแต่ละครั้งทันที รวมถึงมีอาหารว่างให้รับประทานในแต่ละครั้ง

หากท่านมีข้อสงสัยทั้งก่อนหรือระหว่างเข้าร่วมการวิจัย หรือมีอาการข้างเคียงเกิดขึ้นระหว่างเข้าร่วมการวิจัย ท่านสามารถสอบถามได้ที่บุคคลในกรอบที่ 9

กรอบที่ 9 บุคคลที่ท่านสามารถติดต่อเพื่อสอบถามรายละเอียดเพิ่มเติม

1. นางสาวกรวรรณ สุวรรณสาร

โทรศัพท์ (ที่ทำงาน) 02-986-9213 ต่อ 7316-8 โทรศัพท์มือถือ 062 464 6993

E-mail: skorawan@rocketmail.com

2. ศาสตราจารย์ ดร. ประนอม โอทกานนท์

โทรศัพท์ (ที่ทำงาน) 02-986-9213 ต่อ 7316-8

โทรศัพท์มือถือ 081 659 5730

E-mail: otpranom@gmail.com

หากท่านไม่ได้รับการปฏิบัติตามข้อมูลดังกล่าว สามารถร้องเรียนได้ที่คณะอนุกรรมการจริยธรรมการวิจัยในคน มหาวิทยาลัยธรรมศาสตร์ ชุดที่ 3 ห้อง 110 ชั้น 1 อาคารปิยชาติ มหาวิทยาลัยธรรมศาสตร์ ศูนย์รังสิต โทรศัพท์ 02 986 9213 ต่อ 7358

หากท่านมีข้อสงสัยให้สอบถามเพิ่มเติมได้โดยสามารถติดต่อผู้วิจัยได้ตลอดเวลา และหากมีข้อมูลใหม่ที่เกี่ยวข้องกับโครงการวิจัย ผู้วิจัยจะแจ้งให้ท่านรับทราบ **เพื่อให้ท่านทบทวนว่ายังสมัครใจจะอยู่ในงานวิจัยต่อไปหรือไม่**

APPENDIX F

INFORMED CONSENT FORM (FOR PARTICIPANTS COLLECT DATA USING QUESTIONNAIRES)

หนังสือแสดงความยินยอมเข้าร่วมการวิจัยของอาสาสมัครวิจัย

(Informed Consent Form)

สำหรับอาสาสมัคร เก็บข้อมูลโดยใช้แบบสอบถาม

ทำที่.....

วันที่.....เดือน.....พ.ศ. .....

เลขที่ อาสาสมัครวิจัย.....

ข้าพเจ้า ซึ่งได้ลงนามท้ายหนังสือนี้ ขอแสดงความยินยอมเข้าร่วมโครงการวิจัย

ชื่อโครงการวิจัย ปัจจัยทำนายความสุขเชิงอัตวิสัยของผู้สูงอายุที่อาศัยอยู่ลำพัง: การวิจัยแบบผสมผสาน

ชื่อผู้วิจัย นางสาวกรวรรณ สุวรรณสาร

ที่อยู่ที่ติดต่อ คณะพยาบาลศาสตร์ มหาวิทยาลัยธรรมศาสตร์ อาคารปิยชาติ 99 หมู่ 18 ถนนพหลโยธิน ตำบลคลองหนึ่ง อำเภอคลองหลวง จังหวัดปทุมธานี รหัสไปรษณีย์ 12120

โทรศัพท์ 062 464 6993

ข้าพเจ้า **ได้รับทราบ**รายละเอียดเกี่ยวกับที่มาและวัตถุประสงค์ในการทำวิจัย รายละเอียดขั้นตอนต่าง ๆ ที่จะต้องปฏิบัติหรือได้รับการปฏิบัติ ความเสี่ยง/ อันตราย และประโยชน์ซึ่งจะเกิดขึ้นจากการวิจัยเรื่องนี้ โดยได้อ่านรายละเอียดในเอกสารชี้แจงอาสาสมัครวิจัยโดยตลอด และ**ได้รับคำอธิบาย**จาก**ผู้วิจัยจนเข้าใจเป็นอย่างดี**แล้ว

ข้าพเจ้าจึง**สมัครใจ**เข้าร่วมในโครงการวิจัยนี้ ตามที่ระบุไว้ในเอกสารชี้แจงอาสาสมัครวิจัยโดยข้าพเจ้ายินยอมสละเวลา ตอบแบบสอบถาม จำนวน 70 ข้อ 1 ครั้ง รวมเวลาที่ใช้ประมาณ 60 นาที เมื่อเสร็จสิ้นการวิจัยแล้วข้อมูลที่เกี่ยวข้องกับอาสาสมัครวิจัย ได้แก่ แบบสอบถาม จะถูกทำลายทันที

ข้าพเจ้ามีสิทธิ**ถอนตัว**ออกจากการวิจัยเมื่อใดก็ได้ตามความประสงค์ **โดยไม่ต้องแจ้งเหตุผล**ซึ่งการถอนตัวออกจากการวิจัยนั้น จะไม่มีผลกระทบต่อการเข้ารับบริการดูแลรักษาต่อข้าพเจ้าทั้งสิ้น

ข้าพเจ้าได้รับคำรับรองว่า ผู้วิจัยจะปฏิบัติต่อข้าพเจ้าตามข้อมูลที่ระบุไว้ในเอกสารชี้แจงอาสาสมัครวิจัยและข้อมูลใด ๆ ที่เกี่ยวข้องกับข้าพเจ้า ผู้วิจัยจะ**เก็บรักษาเป็นความลับ** โดยจะนำเสนอข้อมูลการวิจัยเป็นภาพรวมเท่านั้น ไม่มีข้อมูลใดในการรายงานที่จะนำไปสู่การระบุตัวข้าพเจ้า

หากข้าพเจ้าไม่ได้รับการปฏิบัติตรงตามที่ได้ระบุไว้ในเอกสารชี้แจงอาสาสมัครวิจัย ข้าพเจ้าสามารถร้องเรียนได้ที่: คณะอนุกรรมการจริยธรรมการวิจัยในคน มหาวิทยาลัยธรรมศาสตร์ ชุดที่ 3 ห้อง 110 ชั้น 1 อาคารปิยชาติ มหาวิทยาลัยธรรมศาสตร์ ศูนย์รังสิต โทรศัพท์ 02-986-9213 ต่อ 7358

ข้าพเจ้าได้ลงลายมือชื่อไว้เป็นสำคัญต่อหน้าพยาน ทั้งนี้ข้าพเจ้าได้รับสำเนาเอกสารข้อมูลสำหรับอาสาสมัครวิจัย และสำเนาหนังสือแสดงความยินยอมเข้าร่วมการวิจัยของอาสาสมัครวิจัยไว้แล้ว

ลงชื่อ.....	ลงชื่อ.....
(.....)	(.....)
ผู้วิจัยหลัก	อาสาสมัครวิจัย
วันที่...../...../.....	วันที่...../...../.....
ลงชื่อ.....	ลงชื่อ.....
(.....)	(.....)
พยาน	พยาน
วันที่...../...../.....	วันที่...../...../.....

APPENDIX G

INFORMED CONSENT FORM (FOR PARTICIPANTS COLLECT DATA USING INTERVIEW)

หนังสือแสดงความยินยอมเข้าร่วมการวิจัยของอาสาสมัครวิจัย

(Informed Consent Form)

สำหรับอาสาสมัคร เก็บข้อมูลโดยการสัมภาษณ์

ทำที่.....

วันที่.....เดือน.....พ.ศ. .....

เลขที่ อาสาสมัครวิจัย.....

ข้าพเจ้า ซึ่งได้ลงนามท้ายหนังสือนี้ ขอแสดงความยินยอมเข้าร่วมโครงการวิจัย

ชื่อโครงการวิจัย ปัจจัยทำนายความสุขเชิงอัตวิสัยของผู้สูงอายุที่อาศัยอยู่ลำพัง: การวิจัยแบบผสมผสาน

ชื่อผู้วิจัย นางสาวกรวรรณ สุวรรณสาร

ที่อยู่ที่ติดต่อ คณะพยาบาลศาสตร์ มหาวิทยาลัยธรรมศาสตร์ อาคารปิยชาติ 99 หมู่ 18 ถนนพหลโยธิน ตำบลคลองหนึ่ง อำเภอคลองหลวง จังหวัดปทุมธานี รหัสไปรษณีย์ 12120

โทรศัพท์ 062 464 6993

ข้าพเจ้า **ได้รับทราบ**รายละเอียดเกี่ยวกับที่มาและวัตถุประสงค์ในการทำวิจัย รายละเอียดขั้นตอนต่าง ๆ ที่จะต้องปฏิบัติหรือได้รับการปฏิบัติ ความเสี่ยง/ อันตราย และประโยชน์ซึ่งจะเกิดขึ้นจากการวิจัยเรื่องนี้ โดยได้อ่านรายละเอียดในเอกสารชี้แจงอาสาสมัครวิจัยโดยตลอด และ **ได้รับคำอธิบาย**จากผู้วิจัย**จนเข้าใจเป็นอย่างดี**แล้ว

ข้าพเจ้าจึง**สมัครใจ**เข้าร่วมในโครงการวิจัยนี้ ตามที่ระบุไว้ในเอกสารชี้แจงอาสาสมัครวิจัยโดยข้าพเจ้ายินยอมสละเวลา ให้สัมภาษณ์ตอบข้อซักถามและบันทึกเสียง จำนวน 1 ครั้ง ครั้งละ 30-60 นาที เมื่อเสร็จสิ้นการวิจัยแล้วข้อมูลที่เกี่ยวข้องกับอาสาสมัครวิจัย ได้แก่ แบบบันทึกขณะทำการสัมภาษณ์ แถบบันทึกเสียง และแบบบันทึกจากการถอดเทปบันทึกเสียง จะถูกทำลายทันที

ข้าพเจ้ามีสิทธิ**ถอนตัว**ออกจากการวิจัยเมื่อใดก็ได้ตามความประสงค์ **โดยไม่ต้องแจ้งเหตุผล**ซึ่งการถอนตัวออกจากการวิจัยนั้น จะไม่มีผลกระทบต่อการเข้ารับบริการดูแลรักษาต่อข้าพเจ้าทั้งสิ้น

ข้าพเจ้าได้รับคำรับรองว่า ผู้วิจัยจะปฏิบัติต่อข้าพเจ้าตามข้อมูลที่ระบุไว้ในเอกสารชี้แจงอาสาสมัครวิจัยและข้อมูลใด ๆ ที่เกี่ยวข้องกับข้าพเจ้า ผู้วิจัยจะ**เก็บรักษาเป็นความลับ** โดยจะนำเสนอข้อมูลการวิจัยเป็นภาพรวมเท่านั้น ไม่มีข้อมูลใดในการรายงานที่จะนำไปสู่การระบุตัวข้าพเจ้า

หากข้าพเจ้าไม่ได้รับการปฏิบัติตรงตามที่ได้ระบุไว้ในเอกสารชี้แจงอาสาสมัครวิจัย ข้าพเจ้าสามารถร้องเรียนได้ที่: คณะอนุกรรมการจริยธรรมการวิจัยในคน มหาวิทยาลัยธรรมศาสตร์ ชุดที่ 3 ห้อง 110 ชั้น 1 อาคารปิยชาติ มหาวิทยาลัยธรรมศาสตร์ ศูนย์รังสิต โทรศัพท์ 02-986-9213 ต่อ 7358

ข้าพเจ้าได้ลงลายมือชื่อไว้เป็นสำคัญต่อหน้าพยาน ทั้งนี้ข้าพเจ้าได้รับสำเนาเอกสารข้อมูลสำหรับอาสาสมัครวิจัย และสำเนาหนังสือแสดงความยินยอมเข้าร่วมการวิจัยของอาสาสมัครวิจัยไว้แล้ว

ลงชื่อ.....	ลงชื่อ.....
(.....)	(.....)
ผู้วิจัยหลัก	อาสาสมัครวิจัย
วันที่...../...../.....	วันที่...../...../.....
ลงชื่อ.....	ลงชื่อ.....
(.....)	(.....)
พยาน	พยาน
วันที่...../...../.....	วันที่...../...../.....

APPENDIX H

EXPERTS EXAMINE RESEARCH INSTRUMENTS

EXPERTS' NAME LIST

1. Associate Professor Dr. Sunuttra Taboonpong	Independent scholar
2. Assistant Professor Dr. Sakul Changmai	Head of Master of Nursing Science Program (Adult and Gerontological Nursing) Christian University of Thailand
3. Assistant Professor Dr. Phachongchit Kraithaworn	Community Health Nursing Program, Faculty of Medicine, Ramathibodi Hospital, Mahidol University
4. Dr. Chalida Trakulsoontorn	Mathematics Program, Faculty of Science and Technology, Nakhon Pathom Rajabhat University
5. Mr. Supawich Jantipwong	Public Health Technical Officer, Professional Level (responsible for elderly workgroup)